Re-covering suburbia: An investigation into the reconfiguration of the suburban landscape

by

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Candidate's Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of the author's knowledge, it contains no material previously published or written by another person, except where due reference is made in the text.

Andrew MacKenzie

Thursday 24 May 2012

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Abstract

The latter half of the twentieth century has seen a dramatic change in the way modern Australian suburbs develop. In as little as 40 years, the Australian home has transformed from modest cottages to conspicuous palatial rendered houses often referred to as McMansions. The impact of this shift has resulted in a reconfiguration of the suburban landscape, as open spaces on blocks of land are no longer synonymous with the traditional backyard, but are reduced to residual ribbons of green circumscribing the perimeter fence.

This shift has occurred in a period of increasing awareness of the environmental challenges created by resource depletion, climate change and rapid urbanisation. Yet as architecture, planning and design professions embrace and promote sustainable development practices the built outcomes are suburban homes that are larger than ever with fewer people per household than in any other point in Australia's history.

The major consequence of this shift is twofold. Firstly, the goals of planning and development professions to achieve a more sustainable urban form appear to be in contrast to the design and development of detached dwellings in suburbs. Secondly, as a result of this shift, the socio-cultural view of the home and the suburb has also changed. This thesis asks what these spatial changes reveal about our attitudes towards the suburb, the home and living in a world that is at odds with the environmental challenges we face. It explores how the suburb has altered as a socio-cultural space in the early twenty-first century.

Recovering suburbia reflects on planning and architecture's role in reframing the suburb from what Boyd referred to as 'the mundane aspects of creature comforts and irritatingly austere approach to architecture' (Boyd, 1963, p.192), to today's pervasive view of new conspicuous forms manifested through a real estate lens.

This thesis examines the recovery of a suburb, after bushfires in 2003, through a landscape lens. It presents the landscape as a conceptual framing tool to explore how society negotiates the appropriation of space and formation of community in a suburban context. It seeks to understand how this case study dramatises some of the changes occurring in western suburban cities undergoing suburban renewal and uncovers contemporary understandings of land, landscape, property and home. In turn it proposes that landscape's role in framing the twenty-first century suburban city has diminished in our pursuit of a sustainable urban form.

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List of acronyms and abbreviations

ACTPLA	Australian Capital Territory Planning and Land Authority
DA	Development Application
EER	Energy Efficiency Rating
EM	Ecological Modernisation
GFA	Gross Floor Area
GIS	Geographic Information Systems
HQSD	High Quality Sustainable Design
NCA	National Capital Authority
NCDC	National Capital Development Commission
NCOSS	National Capital Open Space System
NCP	National Capital Plan
NCPA	National Capital Planning Authority
NVDI	Normalised Vegetation Differentiation Index
PALM	Planning and Land Management
SD	Sustainable Development
TAMS	Territory and Municipal Services

Preface

The suburb in Australia is ubiquitous. It occupies a significant social, symbolic and cultural place in our national psyche. For most of the twentieth century, living in the suburb was strongly linked to living in the landscape, be it a backyard, a bush setting or simply an abundance of open space. During the twentieth century, rapidly growing urban populations lived in low density suburbs and Australian cities, as with most other cities in the industrialised west, sprawled across the landscape. Today these cities are overwhelmingly suburban and the topic of enduring debate.

The modern suburb has been the subject of academic and popular critique as long as it has evolved from the first utopian experiments of the late nineteenth and early twentieth centuries. The suburb is a term associated with spatial, social and cultural accounts of urban typologies in cities. It provokes polarising and passionate reactions among a range of professional fields. They are both loved and derided by architecture and design professions as urban utopias or homogenising isolating cultural wastelands (Allon, 2008; Boyd, 1963; Freestone, 2000; Jacobs, 1961; Mumford, 1968; Stretton, 1970). The science of town planning has, through land use zoning, created vast suburban areas that define the spatial characteristics of modern western cities. Some sociologists have argued the benefits of suburbs for providing housing to the middle class while others have seen suburbs as a form of social stratification (Davis, 1990; Gans, 1967, 1988). In Australia, for most of the twentieth century, suburban growth has occurred on inexpensive greenfields land on the edge of cities to provide affordable housing and opportunities for families to improve their lives though a healthy suburban lifestyle (Troy, 1996, 2004).

While suburbs are predominantly used for residential purposes, they have also become places of retail, commercial and light industrial centres. This has made suburbs increasingly difficult to classify with defining characteristics (Gleeson, 2006; Sandercock, 1990). This thesis identifies the suburb as generally a land use category predominantly zoned for low density residential detached housing.

Typically, the suburb in Australia is characterised by a single detached home on a large block of land ranging from 400 to 1,000 square metres, otherwise known as the quarter acre. Originally, the size of the block accommodated the necessary functions of daily life such as a sewerage tank for waste disposal or a vegetable patch to supplement the family diet. More prosaic functions of the suburban backyard included a play space for children on a large lawn, or a garage for home mechanics (Troy, 2004). It was these activities and rituals, as much as the physical form of the suburb, that embodied our national sense of self; democratic, classless and lovers of the

outdoors. Today, the suburban layout of most Australian cities is far more diverse and our society more complex, and yet the suburban quarter acre block still occupies a prominent place in our national identity. This celebration of cultural expression of the suburb on the world stage was most visible at the opening ceremony of the 2000 Olympic Games in Sydney. Cultural icons representing Australian culture on that evening included the lawn mower, the Hills Hoist clothesline, and a corrugated iron shed – all representative of Australia's affinity with suburban everyday life. While some commentators at the time criticised the over-expression of suburban life at such an event, most saw it as appropriate precisely because around 90% of Australian citizens live, or have spent a significant amount of time living, in a low density suburb (Davies, 2012).

During the last quarter of the twentieth century, the design of new suburbs began to change, so much so that by the early 1990s, greenfield developments on the urban fringe of our major towns and cities were significantly and profoundly different from the low density suburbs that preceded them. The shift from modest houses on large blocks surrounded by gardens to large conspicuous homes on much smaller blocks was dramatic. The new greenfield estates looked and felt dramatically different compared to the gradual change in suburban configuration that had occurred in the previous century (Hall, 2010). Explanations for this change have been attributed to a broad range of complex social and economic factors to do with the role and function of local planning authorities, the organisation of the housing construction industry, and reforms to fiscal policies at state and federal level, as well as changes in the work–life balance (Hall, 2008, 2010; Timms, 2006; Troy, 1996, 2004).

Most recently, the social, environmental and economic costs of urban growth have prompted a more strategic approach to controlling the spread of cites on a national level. Since 2000, all major Australian cities have revisited their metropolitan plans including Melbourne 2030 (State of Victoria, 2002), Metropolitan Plan for Sydney 2036 (NSW Government, 2010), South East Queensland Regional Plan (Queensland Government, 2010), Perth's Network City (WAPC, 2005), Adelaide Strategic Plan (Adelaide City Council, 2010), Canberra Spatial Plan (ACTPLA, 2004b), and Hobart Planning Scheme (Hobart City Council, 2009). These plans have promoted containment and consolidation strategies to accommodate increasing urban populations without extending the urban edge of the city. The main objective of a containment strategy is to create an urban boundary to stop the outward expansion of the suburban fringe. This has two effects; firstly, it limits future greenfield development replacing productive non-urban land on the fringes of the city, and

secondly, it encourages local governments to adopt a more aggressive consolidation strategy to accommodate growing populations.

Consolidation aims to increase the density of dwellings in an existing urban area. This is achieved by redeveloping existing housing stock to increase the number of homes and theoretically the number of residents living in established suburbs. This has been seen as a sustainable solution to addressing pressing social, environmental and economic challenges facing Australian cities. It is also seen as preferable to constructing new residential areas which place increasing pressure on existing resources (Smith, 1997). Both consolidation and containment strategies are well documented and their benefits are promoted widely in the current suite of metropolitan planning strategies for major Australian cities (ACTPLA, 2004b; Adelaide, 2010; Hobart City Council, 2009; NSW Government, 2010; Queensland Government, 2010; State of Victoria, 2002; WAPC, 2005). Yet these strategies are placing new pressures on existing low density suburbs by state governments who have been increasing population targets in these areas as a means of achieving these consolidation and containment goals.

Yet housing the growing population in this way has not necessarily achieved its aim. The rapid increase in the average size of homes, along with corresponding decrease in the number of occupants per dwelling, is well documented in Australian cities (ABS 2006). New houses in Australia are, on average, 30% larger than houses built 25 years ago, and the average number of occupants per dwelling has declined from 2.8 to 2.1 in the same period (ABS, 2008; Blair, 2003). This suggests that a widening gap exists between the theory and practice of delivering a more sustainable urban form. The impact of this type of housing development, the changes in household mix, and the pressure to accommodate the growing urban population in existing suburbs have placed significant strain on residual suburban landscapes on private blocks of land, as backyards disappear, to be replaced by houses with rooms often unused by the home owners. The change to the spatial configuration of suburbs as houses increase in size and lots of land become smaller has been variously linked to a range of social and environmental problems, from localised flood risk to childhood obesity, psychological health and social isolation (Banks & Brack, 2003; Brown, 2005; Dixon & Hinde, 2005; Tranter, 2006; Verheij, Maas, & Groenewegen, 2008).

However valid these concerns are, very little is understood about how the residents themselves perceive this changing landscape character; what the mechanisms are that have resulted in this change, and how this changes the communities' ways of living in the suburbs. As the abundance of outdoor spaces diminishes and increasingly larger houses are built for fewer people, what impact has this had to the way we

embody and appropriate the suburban landscape? Much of the redevelopment of existing suburbs is influenced by market mechanisms and anticipated improvements in property values, collectively known as 'gentrification'. However, in Australia, natural disasters such as flood and fires have also become catalysts for large-scale reconstruction of suburban areas. It seems that despite the scale of redevelopment that has been taking place over the last quarter of a century, we are yet to discover how the community perceives these changes. Few studies have focused on the post-occupancy impact on suburban communities let alone those undergoing renewal (Hurlimann, 2010). Little is known about how communities change as the spatial configuration of their suburbs change and what this means for the built environment professions such as planning, architecture and building design. This thesis will examine how these social actors became agents of change through their decisions and actions. In this context *Recovering suburbia* will explore:

- In what ways and to what extent does the physical landscape of the suburb change as a result of the development?
- What were the social and cultural forces that contributed to the reconfiguration of the suburb?
- How was the landscape embodied, contextualised and ultimately reconfigured through this process?

My background in landscape architecture practice has significantly influenced how I have framed my research questions. In particular, I am interested to explore the link between the spatial and socio-cultural world that exists in the Australian suburb. I have chosen to use the concept of landscape to provide a theoretical framework that sets the research design (Blaikie, 2007). However, instead of defining landscape based on my own knowledge and research, I have explored and developed the concept throughout the thesis. This allows for multiple views of landscape to be used to examine the research questions and thus avoid a single view based on a technical definition. A single view, I believe, would be unduly limiting to meaningfully communicate to such a diverse range of research participants. As such, the landscape is the organising concept to provide a point of reference from which we can negotiate and make sense of how people experience and interpret changes to the suburb.

I. Research proposition

Recovering suburbia explores the social and cultural mechanisms that contribute to the profound and rapid reconfiguration of the suburban landscape and the communities' changing attitudes to the home, the block, the street and the suburb. It draws on an example of rapid redevelopment in a suburb after major fires in 2003 and focuses on the social actors' engagement in the redevelopment process, their narratives of change and renewal, and their connection to the landscape. The aim of this thesis is to examine the stories of recovery in and through the recollection of events, relationships and narratives of change.

The short title of this thesis, *Recovering suburbia*, comes from the findings from a case study of the post-fire recovery of a suburb in Canberra, Australia's national capital. It alludes to three landscape phenomena occurring in suburbs undergoing rapid change as a result of redevelopment. To 'recover' has multiple meanings that focus the readers' attention on the social and spatial changes occurring through suburbs in flux as a result of new planning polices and shifts in market conditions that bring about redevelopment, or, more dramatically, communities rebuilding after natural disasters. Table 1 describes the three phenomena based on the research. The first phenomenon is the rallying of social actors to come together to participate in the recovery of a community to a normal state, be it a community undergoing consolidation or gentrification or rebuilding after natural disasters such as flood and fire. The second is the physical re-covering of the ground, or the land, by built structures such as driveways, garages, pavements, and, in particular, new homes. The third is the recovery of the physical and the conceptual landscape of the residents' lived experience during and after development; these phenomena are the subject of this thesis. It explores the interplay between the physical manifestation of the suburb and the social and cultural processes that occur during this process.

Phenomena	Description
The recovering suburban community	The community rallying to come to terms with, and act on, the changes in the suburb
The re-covering of the land	The spatial reconfiguration of built and un-built spaces through rebuilding the suburb
The recovery of the landscape	The re-establishing and resettling of the material and conceptual landscape to a new stable state

Table 1: The phenomena of landscape change

This thesis uses landscape as an organising concept to explore these unfolding themes of recovery in a Canberra suburb that experienced large-scale redevelopment as a result of a natural disaster and the subsequent redevelopment. It examines how this suburb exemplified the national trends in house sizes and occupancy rates. In doing so, it explores what occurred in the *recovery* and *recovering* processes and how the landscape was contextualised in the narratives of social actors, including residents, ACT government planners, local architects and building designers, as well as other bureaucrats involved in this process. It explores the decisions and actions taken by various social actors and identifies the cultural influences on those decisions and how the relationships between these social actors contributed to the physical and design outcomes of the new homes, gardens and streetscapes, all of which contributed to the new and different suburban character.

It also investigates the way in which generalised critiques of suburban cultural life are intertwined, but not critically examined, with broader social concerns to do with consumption of green technology, sustainability, and communities coming to terms with uncertainty and change. Finally, this thesis does not propose to disprove rational economic or socio-cultural arguments about the reasoning for the bloating of the family home. Rather it will develop new knowledge about the interplay between social and cultural forces that give effect to the spatial reconfiguration of the low density suburb brought about by redevelopment.

II. Why landscape? The organising concept used to examine the recovering suburb.

Landscape is used as the organising concept and central theme to explore these phenomena. It presents a conceptual framing tool to explore how society negotiates the allocation and appropriation of space in a suburban context. By this I suggest that the landscape context contains a double meaning. Firstly, the landscape means ‘land’. That is, the decisions by the homeowners, designers and planners concerned with the amount of land on the block dedicated to built forms, as well as more pragmatic design issues relating to house orientation and site coverage, access and circulation. The second meaning identifies landscape as a construct of cultural practices that occur over longer periods of time and larger spatial scales, namely the block, the street and the suburb. In turn, the landscape is defined by the social actors’ decisions and actions that have cumulatively contributed to the suburbs’ continuous recovery.

In this way, the landscape is described through tacit understandings, embodied in stories, recounted by social actors engaged in the recovery process. These are not definitive and do not lead to a measurable outcome; however, the changes that

occurred are a product of multiple processes undertaken by a diverse group of people making decisions and actions at differing spatial and temporal scales in a cultural environment that reflected the societal values of the time. In this way, 'the landscape represents *Landschaft [which]* was considered to be unique to each place, incarnating the experiences and aspirations of its people, giving it history and meaning' (Olwig, 2002, p. 215).

Lastly, the right to owning the landscape is not only an enduring metonym for the appropriation and expansion of the suburban landscape (Cosgrove, 2008); it also needs to be problematised in the context of how planning aspires to develop an urban form that reflects the values of a free, democratic and sustainable society (Thompson, 2007).

Property rights have played a significant role in the way in which cities have developed in the twentieth century. This right is expressed in and through the development of the modern suburb and reflects some of the changing attitudes to how we live in Australia. In short, the suburb is a density pattern that expresses societies' attempts to reconcile the conflict between the desire for access and the desire for space (Alexander, 1966; Chermayeff & Alexander, 1965). It is also important to acknowledge that my interest in the way suburban development has occurred in Duffy is not motivated by a desire to advocate for the preservation of an imagined suburban Utopia from the past, but rather an investigation into the mechanisms and motivations that have produced the new suburban form. By examining the landscape in this way, this thesis explores what is occurring in the *recovery* and *re-covering* processes and the social actors' contributions that emerge through their accounts of those processes.

III. Why Canberra? A case for examining the twentieth century planned capital of Australia

The persistent theme of housing in twentieth century spatial politics has embodied the citizens' right to their own dwelling on a block of land. This was seen as good for both the physical, moral and social health of the community (Fishman, 1982; Freestone, 2000; Jackson, 1985). While many of the planning outcomes in cities around Australia have varied over the twentieth century, the intentions of the early professional planners were to design cities that were substantially suburban (Freestone, 1989). The detached houses on individual lots separated from the street by a strip of lawn containing a street tree was synonymous with the garden city principles exported from Britain at the time. This form not only became the norm for municipal authorities, developers and home owners; it was acculturated into the Australian

identity and exemplified by Canberra, the twentieth century planned national capital (Freeman 1996).

In Canberra, as with all other Australian cities, the quarter acre block was, for the most part, a myth perpetuated by advocates for home ownership. Yet it symbolised the right of Australian families to own and occupy a parcel of land. This democratic expression, more than any other aspiration, defined the nation's capital. Despite the enduring popularity of this style of suburban form amongst planners and developers, it has been subject to considerable criticism for almost as long as it has existed. These criticisms are broad, ranging from cultural and aesthetic failings to environmental and feminist critiques (Boyd, 1963; Farrelly, 2007; Horne, 1964; Jacobs, 1961, 1970; Mumford, 1968). There were also advocates for Australian suburbia (Sandercock, 1990; Stretton, 1970; Troy, 1996), yet the loudest cultural criticisms preferred to denigrate rather than celebrate the suburb.

Canberra itself has a particular planning history that is very different from other Australian cities. It was a product of a master plan, or at least a vision resulting from the fathers of Federation, and through them the Australian people who embodied the idea of a national capital that expressed the symbolic union of the states to form the Commonwealth. The new capital was of such importance that the federal senate committee for choosing a site for a new city and the commissioning of an international design competition felt that the city should mirror the ambition and optimism of the nation in its infancy (Freestone, 2000; Headon, 2003; Vernon, 2006). The conception of a national capital for Australia also occurred at a time when key protagonists of urban and spatial planning were developing a professional language and advocating for a role in urban governance and administration at a local and state level (Freestone, 2000; Sandercock, 1990). As the twentieth century city of Canberra transformed from aspiration to vision and then reality, town planning was developing an intellectual and professional standing.

The garden city planning principles were important in establishing the City's early garden city character paving the way for low density residential layouts of the 1950s and 1960s. While framework and landscape vernacular of the city was established in the inter-war years, the majority of urban development in Canberra occurred after World War II (Freestone, R. 1989). The form and configuration of suburbs, developed under the direction of the National Capital Development Commission (NCDC), was typified by a small brick bungalow on a large lot surrounded by vegetation and separated from the street by a large grass verge that contained an avenue of street trees. The style of domestic properties was substantially low density and dominated by open spaces containing lawns, gardens and trees, and

this design remained largely the same until the last quarter of the twentieth century. Today, not only do most Canberrans live in the low density suburbs designed during the NCDC period of 1958–1988 (Figure 1), they also occupy most of the land that makes up the physical urban footprint of the city. Therefore, these suburbs play an increasingly important role in the provision of housing and open space in the future as the city looks to the planning and architecture professions to meet the challenges of future housing demand. The suburb of Duffy on the western urban edge of Canberra is typical of these suburbs. It is the case study suburb for this thesis.

During the last quarter of the twentieth century, the planning and design of the suburb changed in Canberra as it did in other Australian cities. The major changes included a reduction in block sizes, an increase in house sizes and an overall increase in density both in the number of dwellings per hectare and also in the amount of built form covering the ground. This was a rapid shift in practice compared to the more evolutionary changes that occurred in the previous century (Hall, 2010). As with the preceding dominant low density suburban form, this new compact urban form has also been subject to considerable criticism. The newer compact suburbs, built on the edges of Canberra, reflect a more contemporary socio-political era dominated by neo-liberal thought and this style of denser development has also been adopted in older lower density suburbs. The advocates of this increased density have promoted the virtue of such housing, yet it is having a substantial impact on the configuration of the suburban landscape without necessarily increasing the number of dwellings or residents living in these low density suburbs, and this in counterintuitive to the objectives and aspirations of modern planning theory.

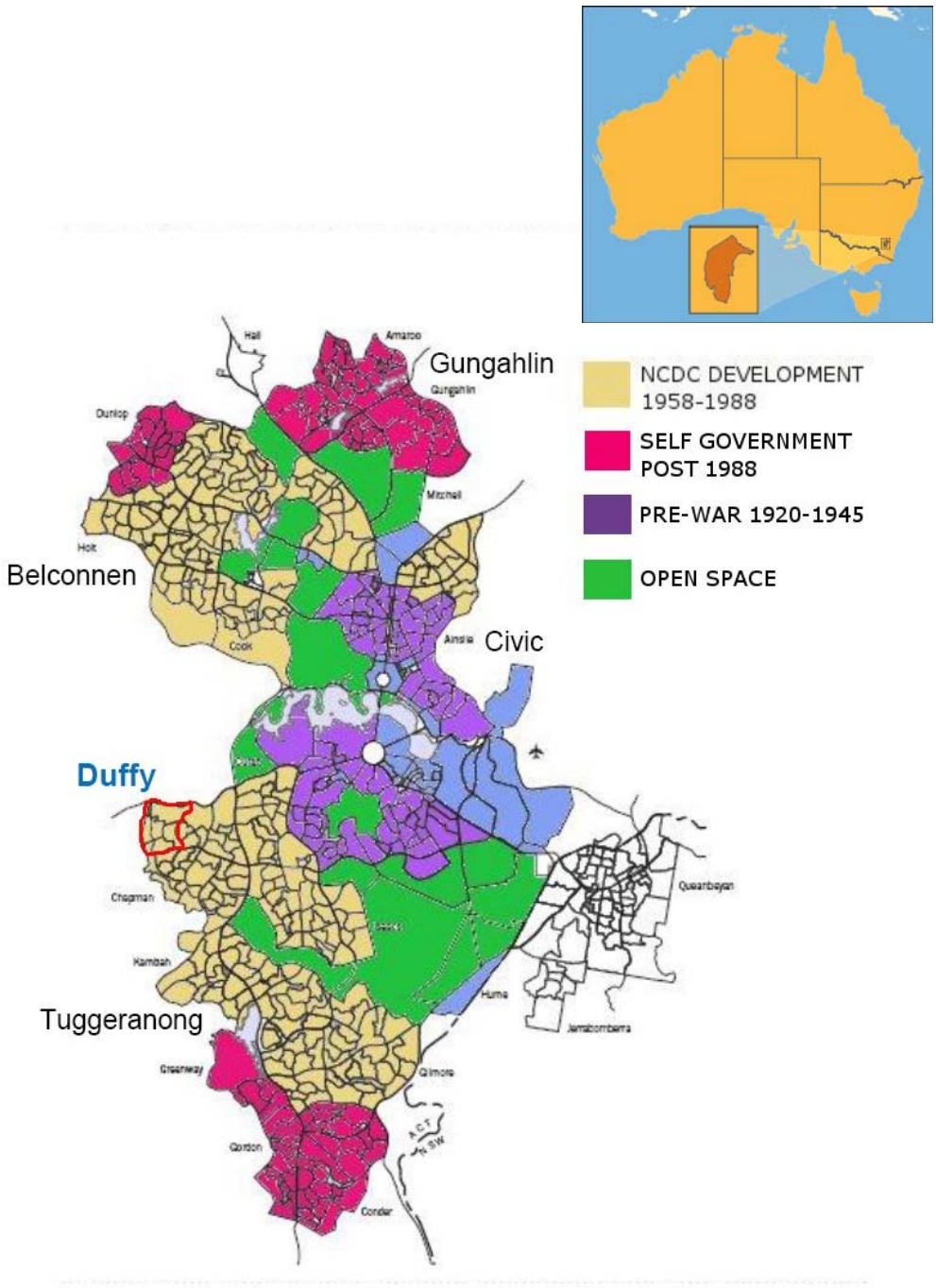

Figure 1: Location of Duffy and classification of suburbs designed during the NCDC period of 1958–1988

IV. *Why Duffy? A case study of a recovering suburb*

Canberra's suburbs such as Duffy were planned under the direction of the NCDC and inspired by the Garden City Movement exemplified by the British new towns of the early and mid-twentieth century (Freestone, 2007; Reid, 2002). The low density landscape character typified by Duffy is synonymous with development found in the middle ring suburbs of Australian cities today.

Duffy is also different from other Australian suburbs as it has been substantially impacted on by bushfires. On 18 January 2003 a fire that had been burning in the Namadgi National Park south west of Canberra broke containment lines and rapidly spread to the western urban edge of the city. Duffy was the first major urban area to be engulfed by the fire front. By late afternoon, over 200 properties were destroyed or damaged beyond repair, and large tracts of urban bushland, local parks and many street trees were also destroyed. The scale of damage and loss of property were unprecedented in Canberra. The community and the Australian Capital Territory (ACT) Government were completely unprepared for its impact and aftermath.

In 2012, evidence of change resulting from the fires is significant. Fire damaged vegetation has been removed, houses have been rebuilt and a grassy plain, once a pine plantation, now borders the suburb. In particular, the scale, form and design of the new houses are significantly different from those that they replaced. These changes are not only a significant part of the recovery from such a catastrophic event; they also reflect the values, attitudes and practices of housing and redevelopment at the beginning of the twenty-first century.

The damage to property and public infrastructure created a demand for development unusual in scale and context in two ways. Firstly, the scale of damage caused by the fires was unforseen. Consequently, ACT Planning and Land Management (PALM), other government agencies and the community had no preconceived strategy to cope with the loss of so much infrastructure or to manage the rebuilding of private dwellings and public amenities. Secondly, the number of applications to rebuild houses was unprecedented in an existing suburb in Canberra. Suburban development of this magnitude usually occurs on greenfield sites and relies on a master planning process to achieve desired outcomes. In the case of Duffy, no master plan existed and therefore redevelopment occurred using the planning codes designed for a different scenario in a suburb planned and built under different policies in the 1960s and 1970s.

The social actors in the recovery of Duffy included the planners, building designers, architects and landscape architects working in a market buoyed by a glut of vacant land as 40% of fire-affected residents sold their land and moved away. Others included residents who had lived in the suburb for most of their lives and merely wanted to return to the suburb, albeit a permanently reconfigured one. New residents bought in after the fires and built new houses on blocks of land. The combined effects of a coordinated government response to expedite the recovery and the flow of capital from a buoyed market resulted in rapid reconfiguration of the suburb, the community and the landscape.

This thesis investigates the events and decisions of social actors that occurred as a result of the fires and subsequent redevelopment. It explores how the different respondents engaged in the change process, the kinds of choices of redevelopment that emerged, and how the changes reflect the social and cultural forces that conditioned and influenced their decisions. The reasons that residents rebuilt homes substantially different from those lost were not only responses to economic opportunism, but also included complex understandings about the suburb, the landscape, and the home. Respondents from the development professions also constructed different suburban identities; in particular, how the design and planning professionals should have produced a more environmentally efficient and socially engaged suburban form.

The case study presented a unique opportunity to explore the more complex and nuanced decisions of social actors engaged in this process. It represented an opportunity to investigate current trends in the redevelopment of existing suburbs, in particular the increase in house sizes at a time when the number of occupants per dwelling is decreasing in Australia. It observed the changing choices of residents, resulting in the diversity of architectural forms and increased interest in environmentally sustainable or green technology. I believe that the case study has dramatised and uncovered some of the processes occurring in other low density suburbs subject to redevelopment in low density cities. Principally, the scale and speed of reconstruction in Duffy was ‘gentrification on steroids’ and, as such, the processes that occurred in Duffy may also occur in other gentrifying suburbs but appear less dramatic and noticeable due to the much longer timeframes; yet the outcome remains the same: a profound reconfiguration of the suburban landscape.

V. Thesis structure

This thesis comprises three parts. Part 1 presents the theoretical framework. It includes a review of the relevant literature to establish the critical framework used to explore the research questions. Part 2 discusses the methodological issues, the method, design and data collection and analysis. Part 3 presents the results of the interviews with respondents, discusses the findings, and presents a new knowledge towards a theory of recovering the suburban landscape.

Chapter 1 establishes the landscape as an organising concept for this enquiry by examining how landscape has evolved to illuminate the way societies have framed political structures and notions of identity. Chapter 2 focuses more specifically on the city, the suburb and how spatial planning has evolved concurrently with the rapidly urbanising populations in the industrialised west. It uses Canberra as an historical example of the synthesis of many of the competing values and ideas behind urban planning. Chapter 3 further develops this cultural association with the suburb and the way in which the landscape, the suburb and society have developed in Australia. It explores the interplay between the social, environmental and economic factors that contributed to a particular cultural milieu of contemporary suburban Australia.

Chapter 4 introduces the case study and examines in detail the spatial and demographic changes occurring in the suburb between 1996 and 2006. Chapter 5 introduces the methodological position taken by this study. It frames the epistemological foundations of what can be gained from adopting the data collection and analysis method. Chapter 6 presents the results from the data collection and analysis.

Chapter 7 discusses the findings of the data from the perspectives of the architects, planners and building designers. This thesis describes these participants as ‘the producers’. Chapter 8 discusses the findings from the perspectives of the residents, also referred to as ‘the consumers’. Chapter 9 provides an interpretation of the empirical research and draws conclusions as to the nature of the changes to Duffy since 2003 and in doing so proposes a theory pertaining to the social and cultural ‘recovery of the suburb’. In doing so it reflects on how, in the face of climate change uncertainty, the community enacts a ‘good society’ (Olwig, 2005, p. 159) through daily ritual on the landscape stage.

Part 1: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Chapter 1: Why landscape?

1.1 *Introduction*

> Is the country a polity, defined by political, legal, or ethnic criteria, or is it a landscape, defined by the scenery of a geographical body? How do these meanings relate to one another? (Olwig, 2002, p. xxii)

This chapter presents a survey of the literature to identify conceptual origins that frame the way that landscape is perceived and embodied in contemporary western culture in the context of suburban life. The purpose of this chapter is to present a range of conceptual understandings of the landscape that are embodied in the residents' stories of living in the suburb. By doing this, it will expand interpretations beyond the Anglo-centric tradition of scenic landscapes that have substantially influenced the planning and design of the twentieth century suburb (Freestone, 2000). This thesis adopts a broad understanding of landscape. It draws upon recent literature from geography, landscape architecture, and cultural studies to include definitions of landscape as a cultural construct that frame notions of identity, community, and self. Through the examination of landscape in the context of the case study, this thesis proposes a way of exploring meaning in time and space rather than relying on a single definition.

Landscape is used in this thesis as an organising concept to understand broad sociological and cultural associations with the land, identity and community (Oakes & Price, 2008). In this context, landscape represents many of the complex associations and representations of suburban life. The origins of the term are explored in more detail in this chapter; in particular the Germanic term *Landschaft* that inspired thinking for centuries about what is now called community (Olwig, 1996, 2002) or place (Olwig, 2002). This link is explored in terms of the suburb. It suggests that the dominant suburban form in Australia is predominantly, but not exclusively, an evolution of a limited Anglo translation of the seventeenth and eighteenth century scenic pastoral landscapes and the associated painting, writing and poetry of the time. However, the suburb also emerged out of a broader claim to a socio-political identity (Gans, 1967, 1990) and aesthetic concept of nature embodied in the landscape itself (Olwig, 2002). In this context, the landscape has socio-political value beyond the administrative land use category used by planners and designers to allocate landscape spaces in the modern suburban city.

The physical landscape setting of the suburb is a fragmented mix of built and unbuilt spaces dominated by the regular layout of detached houses on separate blocks of land (Antrop, 2000, 2004a, 2004b). This is a legacy of late nineteenth and twentieth centuries' thought on how cities should develop; a form that is substantially suburban (Freestone, 2007; Troy, 2004). The suburb is defined in this project as regions of the city predominantly designed for housing.

While this is a simplification, it does highlight the utilitarian approach historically adopted by planning regulations to zone land for specific and separate uses (Thompson, 2007). As a result, this planning legacy, particularly in the post-war period in Australia, has contributed to a dominant view of what constitutes a typical Australian suburb. The case study for this project, the Canberra suburb of Duffy, represents a particular type of suburb that is a product of the planning ideology and the cultural and socio-cultural milieu of Canberra during the NCDC period 1958–1988. Duffy is on the south western urban edge of Canberra and contains design features that are specific to this particular period of development in the nation's capital. Yet it also contains enduring characteristics synonymous with suburban development in Australia during the post-war period. This is discussed further in Chapter 2.

The twentieth century suburban landscape in Australian cities is emblematic of contemporary theories concerned with planning and design of cities for social justice and wellbeing. This has been expressed throughout the nineteenth and twentieth centuries through aspects of utopian literature, and, in practice, as master-planned communities (Fishman, 1982; Pinder, 2005). The theory and practice of developing the ideal suburban space has also been subject to the cultural view of the value of landscape as a setting or a stage for community formation, rather than embodying the identity of the community itself.

Landscape research is a vibrant and evolving field given the scope of current writing in the area (Cosgrove, 2003, 2006; Wylie, 2007). Yet within the context of landscape research, the study of the suburban landscape from a socio-cultural perspective has received little attention. Resurgent interest in phenomenological approaches has also complemented traditional empirical and discursive studies in landscape theory (Oakes & Price, 2008). Recent thinking about landscape has also included efforts to spatialise social theory in order to reclaim landscapes as 'real' phenomena and to interpret 'ordinary' landscapes that offer more than visual iconography of twentieth century hypermodernity (Cosgrove, 2006; Olwig, 1996; Williams, 2002). Hall (1995) argues that in order to allow novel meanings (of landscape) to emerge, older meanings need to be incorporated or allowed to simply fall away if they are useless for communicative exchange through a lack of relevance to a changing situation. Such an approach allows the researcher to 'understand the changing shape of the cultural map in the most recent phase of the age of globalisation' (Hall, 1995, p. 266).This research intends to investigate the production of suburban landscapes in such a manner.

The physical setting of the suburban landscape has generated interest among researchers concerned by the social and environmental impacts of the increased size and density of built form in established suburbs (Banks & Brack, 2003; Gleeson, 2006; Hall, 2010; Thwaites & Simpkins, 2008; Tranter, 2006; Troy, 1996, 2004; Wiesel, Freestone, Pinnegar, & Randolph, 2011). These researchers have, by and large, defined landscapes by their physical component

parts and rely on a material understanding of landscapes by categorising different arrangements of structures, vegetation and landform.

More recent research into urban ecology also enriches the theoretical inquiry into landscape, including contemporary investigations that have emerged with the advent of high resolution satellite imagery (HRSI). The application of HRSI in Geographic Information Systems (GIS) has allowed researchers to explore complex interactions in suburban landscapes (Antrop, 2000, 2004a). Such landscapes are both fragmented and heterogeneous and in order for the lay communities to interpret and understand these spaces it requires both two dimensional and three dimensional modes of representation such as sketching, photography and digital modelling (Al-Kodmany, 2000). As a result, more recent attempts to understand the spatial impact of development has focused on developing metrics that delineate built and un-built surfaces (Van de Voorde, Jacquet, & Canters, 2011). Such research relies on quantitative measures to determine ecological impacts and spatial changes (Antrop, 2000, 2006). This in turn reflects our understanding of the meaning of landscapes in an urban setting, as component parts of the land: a multitude of territories surveyed into measurable parcels and subject to individual ownership (Cosgrove, 2008; Olwig, 2002).

This project seeks to complement this work by exploring a more culturally driven, nuanced relationship to living with this fragmented landscape. The purpose of this project is not to pre-determine how landscapes should be understood, but, rather, give context to the way in which people tell stories about the places where they live. It posits that because the suburban landscape is both fragmented and heterogeneous, residents adopt an equally fragmented, rather than a holistic, view of landscape. As a result, the concept of landscape changes at the block or street scale, to the suburban or neighbourhood scale and then again at the urban or city scale.

The suburban landscape also changes at different temporal scales. Memory has a particular way of enduring myths and themes about landscape, and in doing so shapes institutions such as the suburb (Schama, 1995). As such, the way the landscape is perceived has not only framed the ideal suburban life, but also continues to endure in the development of new suburbs despite its dramatic re-configuration. This contemporary suburban form has endured for over a century in Australia. The detached dwelling on a block of land facing a verge planted with a tree leading to a paved road contains vestiges of the quarter acre myth so jealously guarded by the dream of home ownership. I propose that telling residents' stories of living in the suburban landscape over differing spatial and temporal scales will illuminate the vestiges of the suburban life that are neither products of an Arcadian myth nor a predetermined palette of ideals perpetuated by the design development profession.

By exploring the cultural understandings of the landscape, this thesis generates new understandings of landscape in the suburb. The examination of landscape in this chapter has a

particular focus on the territoriality of the term and the politics of occupation and belonging that has framed the concept. It considers the origins of the estate, and how landscaping the land not only improved the scenic beauty of the landscape, but also legitimised the control of territory (Carter, 1987; Olwig, 2002). This emerging dialogue concerning occupation, use and ownership of land was infused with equally compelling notions of identity and community and it is in these overlapping concepts that we see the ideas of the modern suburban landscape emerge.

1.2 *Landschaft to the signified landscape: An etymological perspective on an elusive term*

> Today's successors to 18th-century pundits who prated of the Sublime and the Picturesque are not landscape gardeners or city planners; they are cultural theorists and social scientists, historians and anthropologists, who seize on 'landscape' as a trendy catch-all term, not least because the word suggests a down-to-earth reality absent from their appropriations of it. (Lowenthal, 2007, p. 638)

Landscape is a concept with a long history. The origins of the term are contested, and subsequent interpretations of its influence on society and culture vary according to the particular view of researchers (Wylie, 2007). Indeed, Lowenthal cautions the researcher who uses landscape as a theoretical framework to proceed with a sound argument for appropriating such a term to describe social phenomena. In doing so, a researcher must be aware of the risks associated with conflating meanings leading to deterministic approaches that obscure the substantive meaning of landscape (Olwig, 1996).

This chapter includes an exploration of the pictorial or scenic interpretation often accredited to eighteenth century romantics, particularly from England, and the socio-cultural interpretation of landscape concerned with the formation of community and citizenship and civic order (Olwig, 1996, 2002; Schama, 1995). Other contemporary interpretations of landscape are concerned with representation, imperialism and power (Cosgrove, 2008; Daniels & Cosgrove, 1988; Mitchell, 1994), and cognitive and cultural understandings and perceptions of landscape and nature (Marcus, 1979; Kaplan, 1983; Kaplan & Kaplan, 1989). Such research has contributed significantly to understandings of the meaning and value of landscapes in urban settings, in particular, for mental and physical health benefit, and the importance of ecological integrity in the development of the landscape (Antrop, 2000, 2004a; McHarg, 1969). However, by adopting a narrower survey of the literature, this thesis will examine the role of landscape in the development of narratives that form part of a larger meta-discourse concerning the relationship between space, place and the body that constitute the socio-cultural landscape in question.

To study landscape is to study a word. By gaining an understanding of its evolution we can better understand how its use in language is tied to its meaning. The examination of landscape

has covered a range of understandings of cultural connections to the land. Historical and cultural research into landscape ranges from romantic notions of morality and citizenship to more pragmatic examinations of polity, economy and property rights (Schama, 1995). It is, however, important to consider why a thesis concerning landscape should examine the etymological evolution of the term. The prevailing misappropriation of the landscape theory in spatial planning prefers the scenic interpretations of the sixteenth century English or Dutch painting of natural scenery over other meanings. Olwig (1996, 2002) argues that such interpretations, as with the paintings themselves, were illusions. The paintings represented a convincing representation of a rustic but upstanding healthy country life, yet disclose the territorial division based on different customs and laws. As a result, a duplicity existed where the landscape picture represented an idealised nation-state, at the same time disguising the local, specific and particular customs and conventions of community and local identity (Olwig, 2002, 2005; Schama, 1995). In this way, embodied cultural practices of the community literally reconfigured the landscape to redefine nature, beauty and the laws that constitute a good society (Olwig, 2002, 2005).

1.2.1 Understanding the unknown landscape

Historically, the landscape has been recorded, managed and read as traces of human endeavour, and, more specifically, vestiges of occupation that were understood as measurable units. Some of the earliest European depictions of landscape were depictions of dialogue between the known and unknown territories of Central and Eastern Europe (Cosgrove, 2008; Schama, 1995). The first century historian Tacitus (AD56–AD117) distinguished Roman civility from that of the barbarian tribes they conquered by the way they occupied the land. To Tacitus, a pleasing landscape was one that showed signs of being formed by man's 'civilising and fructifying mark' (Schama, 1995, p. 81), whereas the Germanic forests were *informem terries* which meant both 'shapeless' and 'dismal' (Schama, 1995). Therefore, landscape could only be pleasing if it were civilised by recognisable patterns of human endeavour and ownership that directly correlated with Roman methods of territorial occupation. The patterns of human endeavour and occupation have become a consistent theme of landscape expression since the early Roman Empire, and mathematical tools of the grid and the survey have been used to articulate the landscape ever since (Mitchell, 1994).

In Europe, the landscape achieved its greatest potency in symbolising political and social identity during the seventeenth and eighteenth centuries. Nature and landscape were one and the same. Rules by which the old world occupied the countryside were governed by timeless custom, unquestioned, and blindly followed (Schama, 1995), whereas the settlers of the New World occupied the wild and were motivated by the desire to create a new community in their

own image by conquering the landscape and its people with a certain boldness and arrogance (Olwig, 2002). The New World 'occupied landscape' rationale sat comfortably with enlightenment thought by portioning the land into geometric grids thus overcoming the chaotic and organic processes of landform, soils and water.

The landscape concept predates individual ownership of land that emerged under feudal law. Prior to this change in land tenure, customary law was defined by conventions and narratives that were memorised rather than written down. The earliest expressions of landscape as a moral ideal were exemplified by Henry Penchman's *Rura Mlhi et Sitentium* (1612) (Figure 2), where rustic life was idealised and depicted as 'a moral corrective to court and city' (Schama, 1995, p. 10), despite the oppressive conditions under which the subjects of such art and literature existed.

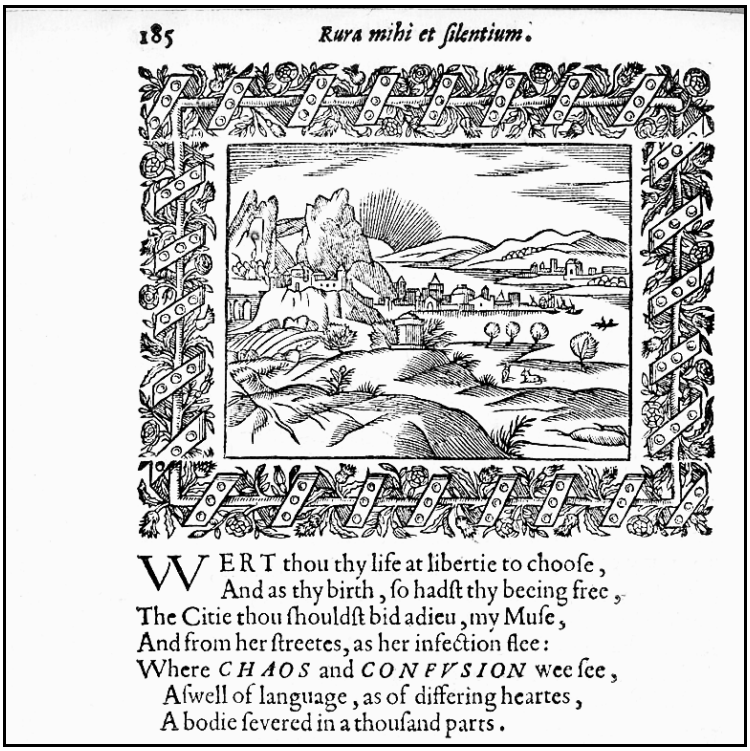

Figure 2: Henri Peacham, *Rura Mihi et Silentium* from *Minerva Britannia*, 1612

The theoretical framing of landscape in this thesis draws on the work of Ken Olwig, philologist and geographer, whose work explores the relationship between landscape, land, country, community and place. Most notably he explores how terms such as *Landschip* and *Landschaft* share an etymological origin that extended the notion of rights and certainty of ownership to embody notions of citizenship and community identity. Olwig argues that the origins of the term 'landscape' extend beyond cartographic descriptions of territory. In doing so, landscape can be seen as both land and the law of the land through 'an analogic process of

symbolic abstraction and extrapolation' (Olwig, 2002, p. 19). Such approaches to examining customs of appropriation and community formation provide an alternative to the universal Roman law, which was an expression of the time during which it was authored. Customary law provides an alternative interpretation of our relationship to landscape as it was 'time out of mind' (Olwig, 2002, p. 54), continually up to date and constantly reinterpreted in narratives passed down through generations.

In Europe, the artistic expression of landscape painters such as Pieter Brueghel (c.1525–1569) or Joachim Patiner (c.1485–1524) were much more than scenic representations. They were 'imbued with meaning, etched by custom in the land that were at the heart of major political, legal and cultural issues of the time' (Olwig, 1996, p. 635). Such paintings represented a practice of transmitting geographical and social knowledge (Olwig, 2002). Therefore, examinations of the territorial importance of the term, in particular the political significance of the depictions of landscape since the court of James I, provide a significant orientation point. The appropriation of landscape in eighteenth century estates such as Stourhead in Wiltshire, England, to the evolution of the modern suburb in the West exemplifies this continually shifting polity.

Landscape's Anglo-centric origins can be traced to the English landscape movement that emerged in the seventeenth century and peaked in interest in the mid-nineteenth century (Mitchell, 1994; Relph, 1987). 'Landscape made its dramatic entrance onto the English stage, and into the realms of Modern English discourse, through the vehicle of a fabulously expensive and prestigious court masque' (Olwig, 2002, p. 3). The masque was a stage setting, a theatrical illusion that, once applied to the land itself, changed the landscape of England at the hand of landscape gardeners in the eighteenth century (Olwig, 2002). In time, the landscape became the subject of painting, poetry and prose coinciding with a nationalistic fervour to assert British colonial power through a form of cultural imperialism (Mitchell, 1994). This was most evident in the way that landscapes were recorded and described not only in colonised countries, but also in England (Carter, 1987).

The height of the poetic and artistic interest in landscape came two centuries after the term entered the language in Europe and the political discourse surrounding landscape was well established. It was in the nineteenth century that English romantic landscape painter John Constable exemplified the natural landscape perceived as scenery (Schama, 1995). The popularity of this style conflated the concept of landscape with sublime nature and the embodiment of the nation-state (Olwig, 2002; Schama, 1995). Consequently, scenic depictions of natural landscapes, contrived by the 'supreme architect' (Olwig, 2002, p. 192) have, for over a century, been considered the primary subject material of landscape until relatively recently (Wylie, 2007).

1.2.2 The picturesque suburban landscape

> Writing about the urban milieu at the turn of the twentieth century can be understood in part as an attempt to negotiate between the two competing depictions of the urban experience, which produce a tension described as that between picturesque-ness and pain … the ethical dimensions of poverty that [are] most difficult to aestheticise the urban experience. (Bramen, 2000)

While the description of the picturesque varies according to its application in research, there are three persistent themes that are consistent among scholars. Firstly, the term originated in the eighteenth century; secondly, it was originally associated with the countryside rather than the city; and thirdly, it was central to the aesthetic vocabulary of British landscape literature and painting at this time (Bramen, 2000). However, the use of the term to describe the landscape of the garden suburb highlights the problems associated with incorporating the picturesque landscape into the nineteenth century city.

One of the earliest references to landscape in a suburban context occurred in William Dean Howell's *Suburban Sketches* in 1871 (Bramen, 2000). He referred to the aesthetic experience of the town as a form of 'human weakness crav[ing] some legendary charm, some grace of uncertain antiquity, in the picturesque-ness it sees [?]' (Howell, 1871, p. 107). Indeed, country field and urban factories were nothing but hard work and those who appreciated landscapes in the picturesque way 'were attractive only to the devotees of decay' (Lowenthal, 2007, p. 642). This translation of the picturesque from the country to the city did not translate well. As such, taking the genteel expressions of the picturesque in English grand parks such as the Stourhead estate into the smaller suburban estate took on a moral rather than an aesthetic imperative.

The earliest versions of the modern suburb mimicked the architecture and layout of large estates in the rural areas close to England's largest cities. These suburban estates allowed wealthy merchants to live close enough to the city to commute, but in the countryside so that they may benefit from the virtues of a non-urban lifestyle (Nicolaides & Weise, 2006). Such estates were inspired by eighteenth century English landscape gardeners who were described as producing picturesque park-like scenes more consistent with the term to describe landscape paintings. This landscape expression literally reconfigured the English landscape through the influence of eighteenth century landscape designers such as Lancelot 'Capability' Brown (1716–1783) and Humphry Repton (1752–1818). The contrived landscape settings typified the treatment of landscape as a romantic construction of nature, retelling the heroic ancient narratives of empire (Olwig, 2002). These expressions of landscape through a picturesque lens by Brown and, to a lesser extent Repton, were filled with allegory that looked for laws of God in nature.

Strong connections existed between improvements to one's estate and the ability to govern in imperial Britain; yet there was also the political dimension of the agricultural land reformation that took place where peasants lost their rights to access land to produce their own food through the Enclosures Act. So there was no one picturesque and the debate has become caught up in the ideas of beauty and aesthetics that clouded the issues of the time (Macarthur, 2007). Eighteenth century liberal philosopher and statesman Edmund Burke was less enamoured with the re-conceptualisation of a picturesque nature into productive estates such as Stourhead at the hands of an 'oligarchy of country gentry who were landscape improvers' (Olwig, 2002, p. 159). He suggested that the picturesque offered 'a more domestic satisfaction of mild surprise' (Bramen, 2000, p. 86). Picturesque scenes were replete with notions of roughness and sudden variation found in small and often crowded spaces.

The debates around the picturesque were framed around how the landscape was represented as an aesthetic space, and also as a political space. Perspectives from the likes of Burke suggested that it represented the ordinary, even peripheral, while others, particularly landscape gardeners such as Repton and Brown, preferred the term to describe panoramic vistas replete with natural beauty and sublime scenery, if not contrived by their own hand. Such representations emphasised the pictorial appreciation of nature and became a universal mode of representing the 'art of landscape' (Ross, 1987). Yet the political dimensions of picturesque reading of the landscape were most potent in the recording of new territories occupied by English settlers.

Carter (1987) argues that the language of the picturesque was central to the exploration and subsequent occupation of colonial landscapes in New Zealand, South Africa and Australia by pioneers. Explorers' journals in colonial Australia automatically resorted to the picturesque literary convention in order to impose systems of land appropriation consistent with the English imperial practice of occupation and settlement (Carter, 1987). The right to land and the right to property were intertwined with the way that picturesque language represented the landscape. The use of the term in this way was not restricted to describing domestic settings, but its use in art and poetry was central to the expansion of the British Empire. Landscape was land, and by recording its colonies in text and image, through a picturesque lens, Britain legitimised the occupation of both occupied and unoccupied territory, along with the enclosing of the English countryside (Bermingham, 1986).

The appropriation spatial and moral order by the new science of town planning to describe the ideal suburban form replaced Burke's more modest definition. Subsequently, English country houses and estates described as picturesque, in turn, redefined the term. During the eighteenth century, these estates were the precursor to the modern suburb and were increasingly located for aesthetic not practical reasons (Hoskins, 1955). Control over resources including

water, trees and labour permitted individuals to display social standing and unprecedented wealth. The idea of living in the country was not merely a desire to escape the immediate physical health problems associated with living in the industrial cities, but also demonstrated a moral virtue (Bermingham, 1986). Frank Jessup Scott's *American suburban idyll* (1870) described carpets of front lawns undivided by fences expressing social solidarity and community, a phantom suburban meadow providing the neighbourhood with the 'graces of nature' (Schama, 1995, p. 573). Morality and suburban living was a recurring theme in the literature, and this aesthetic of the suburb as an ideal landscape for living persists today. Despite many attempts to promote alternatives, the scenic qualities of a picturesque setting are still the dominant landscape types in low density suburbs today and remain strong in the communities' attitudes towards redevelopment and urban renewal (Dovey, Woodcock, & Wood, 2006).

1.3 *Modernity: graphic order and the grid*

> The geographic reading of landscape has sought to disclose a graphic order across contingent haphazard terrestrial spaces. (Cosgrove, 2008, p. 33)

Poetic and artistic interest in landscape was all but exhausted by the end of the nineteenth century (Relph, 1987). Landscape offered no new challenges compared to the emerging technological and scientific discoveries of the time. Modern attitudes to technology and production, driven by efficiencies in operation and production, saw the expansion of problem solving professions concerned with improving human environments (Relph, 1981, 1987). The twentieth century, as with the nineteenth, was marked by the constant revolutionising of such modes of production, consumption and communication as the flow of goods and services became increasingly global.

The Cartesian grid was a way of seeing the world that was accessible and communicable, and gave certainty in the way that the landscape was ordered and named, and property rights over the land could be allocated or surveyed for future settlement (Carter, 1987; Cosgrove, 2008; Olwig, 2005). Such decoding practices revealed a moral imperative to realise the vision and order in the arranging of the landscape into organised space. This method for surveying and converting unsettled space into land ownership drove the exploration of North America and Australia (Carter, 1987; Cosgrove, 2008). The efficient centralised mapping of the landscape in the 1785 Township and Range survey in the USA not only symbolised a democratic rationality; it stood for reason over the organic landscape on a continental scale. In effect, the use of the survey and the map was the most pertinent trace on the landscape of Europe's 'territorial inscription' over the colonised world in the last 500 years (Cosgrove, 2008). Yet the development of landscape theory remained overwhelmingly preoccupied with concepts of

nature and remained resolutely local in the face of the ‘heroic capitalism’ of modernity and the increasingly dominant globalisation discourse (Mitchell, 2001).

As artistic and poetic expressions of landscape began to wane, other more modern and scientific approaches emerged. Landscape became a principal object of concern to geographers for most of the twentieth century (Cosgrove, 2008, p. 1). Principally, Carl Sauer’s morphological approach became the dominant theory in cultural geography through the founding of the Berkeley school in the early 1930s (Oakes & Price, 2008). Arguably, Sauer’s approach heralded a rekindled interest in the European roots of the term as he was deeply influenced by the socio-political dimensions and systematic approach of German nineteenth century geographers (Oakes & Price, 2008). Sauer emphasised the need to interpret local and regional variations uncovered by adopting an historical understanding of human relationships with nature. A critic of environmental determinism, Sauer argued that present landscapes were shaped over time by people and natural processes (Olwig, 2003). Expressing the landscape by the grid was equally evident in the plans of western cities, in particular, the suburban city.

In Australia, decoding of landscape has not been characterised by the rigid class structure of Britain; nor has it experienced the complete transformation of terrestrial space by the powerful landowning class. Australians have not organised nature into parklike scenes although some isolated attempts have occurred. Nature has, however, become inculcated. Australian cultural identity associated with living with nature, in the twentieth century, is both the myth of the bushman and the quarter acre block and this has particular resonance in the design of the post-war garden suburb. The grid carved in the landscape was the principal method used to plan the structure of the suburbs designed according to garden city principles, that is, the blocks of land were laid out in the landscape in a formal or rectilinear pattern, regardless of site-specific topographical and geographical features (Boyd, 1963). Similar to the particular English version of the picturesque aesthetic, the use of the grid to appropriate land has become the dominant, although not universal, mode of suburb design and plan. In many cases such layouts were imposed universally and often compromised opportunities for better environmental and social design outcomes.

1.3.1 Landscape and citizenship in the suburb: contested territory

> In the eighteenth and nineteenth centuries, a class view of landscape embodied a set of socially and, finally, economically determined values to which the painted image gave cultural expression. (Bermingham, 1986, p. 88)

Criticism of landscape as a key concept in geography as argued by Richard Hartshorne (1939) led to a second decline of interest in landscape among geographers in the United States

and Britain until the 1950s. David Lowenthal effectively rekindled research into landscape by reconciling the differences between Sauer's and Hartshorne's approaches. Lowenthal's (1985) *The past is a foreign country* illuminated his early thinking on the contextualisation of landscape from an historical perspective (Lowenthal, 1985). Lowenthal was most interested in geographical concepts such as landscapes as products of their time and people's perception and understanding of the past. He argued that landscapes as objects of inquiry were uninteresting, but what they tell us about our environment, individuals and society was meaningful (Olwig, 2003). Lowenthal had re-framed landscape as a concept, and extended Sauer's work to contextualise it in a social and political framework and this opened the door to new critical interpretations by landscape scholars such as Ian McHarg, Stephen Daniels, and Denis Cosgrove.

McHarg's seminal work *Design with Nature* (1969) popularised landscape modelling and became a precursor to the development of Geographic Information Systems (GIS) in landscape research. McHarg's work opened up the field of landscape analysis to increasingly complex and detailed understandings of landscapes that, with the advent of satellite technology, dramatically expanded the available tools for examining landscapes from an ecological as well as a geographic perspective. This approach, popular today in ecological and natural sciences, is deeply embedded in measurable data and relies heavily on computer systems and software design. However, this approach was not designed to interpret the experiential, affective and perceptual dimensions of landscape (Wylie, 2007). It seems ironic that toward the end of the twentieth century the enduring image of the earth from the Apollo moon flights between 1968 and 1972 showed an organic biological non-patterned geometric planet. An 'unstable, shifting planetary organism; the earth reduced to the scale of a landscape painting' (Cosgrove, 2006, p. 31).

In the 1970s and 1980s, research into such interpretive approaches to everyday aspects of landscape as cultural practices and textual interpretations of landscape helped to foster new theoretical understandings (Wylie, 2007). These more qualitative approaches developed alongside the GIS-based methods remained quite separate in all but their shared commitment to working in the field until the end of the twentieth century (Antrop, 2000). During the early twenty-first century, remote sensing and satellite imagery technology introduced landscapes to ecological researchers at a finer grain urban scale, more the domain of cultural geographers and other social researchers (Antrop, 2006). Antrop has, over the past 15 years, examined more complex mixes of built and unbuilt forms of urban landscapes using GIS based methods. In doing so, he introduced a new language to geographic and geological interpretations of cultural landscape discourse, more familiar to the social and cultural research fields.

While the impact of urban settlement on rural and other non-urban landscapes has gained popularity, it is Antrop's overlapping of seemingly distinct research fields of ecology and cultural heritage that provide the most useful and interesting theoretical developments relevant to this thesis. In particular, it illuminates the competing impacts of occupation, and the politics of contested territory between urban and non-urban land use.

1.3.2 Urbanising landscapes: contemporary interpretations in the 21st century

Antrop's research primarily concerns the shifting dynamics of landscapes undergoing urbanisation in Europe (Antrop, 1998; 2000b; 2004a, 2004b, 2006), whereas his theoretical framework concerns explore the shifting nature of human and non-human impacts. Antrop's analytical methods seek a meaningful scale to quantitatively examine the structural aspects of landscape change, hence his interest in holism and gestalt theory of perception (Antrop, 1998, 2000). Such research views landscape ecology as an overarching discipline that integrates other related fields of landscape research through shared understandings, concepts and language (Fry, 2004). These methods are not merely a refinement of Sauer's morphological approach, Lowenthal's historiographic contextualising nor McHarg's analytical mappings, but rather a new way to understand the landscape impact of social and political drivers mobilised by development.

This merging of research fields, even within a single paradigm such as landscape, produces new concepts and discourses. The development of such language also factors in contemporary ethical issues facing society such as globalisation, climate change and sustainable development. These issues, in turn, contextualise the way that landscape is conceptualised and requires a critical analysis in the face of contemporary political rhetoric. In doing so, Antrop (2006) examines the concept of landscape in two important and relevant ways. Firstly, he argues, landscapes are both a material reality originating from continuous interplay between human intervention and natural processes, and also possess existential values of which the physical landscape is the signifier (Antrop, 2006; Lynch, 1960). Secondly, different landscapes can be recognised and in turn, define regional variations. However, they also should be considered holistically and in the context of total human ecosystem services perspectives (Antrop, 2006; C. Waldheim, 2006).

Examining the contests over landscape meaning resulting from urban development, often results in an examination of the term through dualisms such as nature versus culture, local versus global, political versus apolitical, and yet the complexity of the terms as well as the longevity of its gestation in society would render such comparisons meaningless. However, the popularity of such an approach should be taken into consideration. Mitchell (2001) provides a

survey of literature over the past quarter of a century that contributed to broader examinations of landscape theory, and considers global implications as well as localised expressions of landscape change. Mitchell argues that however meaningful the local examination of landscape holds, 'it must become one of a number of understandings about how such landscapes fit into larger, more complex matrices that themselves fit into defining the agenda about the world we live in' (Mitchell, 2001, p. 270). The merits of incorporating landscapes into globalist discourses can disguise many of the contested values and undermine rather than facilitate community confidence in achieving global environmental goals (Le Du-Blayo, 2011; Olwig, 2011). Thus the complex emotional and political argument about the status of the 'local' in an increasingly complex global society (Lippard, 1997 in Mitchell, 2001) should be examined in relation to the advances in technologies available to researchers, planners and the general public. More recent research into the use of high resolution satellite images has shown that there is considerable scope to improve strategic planning by analysing land coverage and land use categories, especially in combination with urban growth modelling (Van de Voorde, et al., 2011). However, intended planning objectives are rarely achieved, and the resulting changing dynamics of the landscape are more or less chaotic, and also reflect the conflicting non-urban and urban ways of life and associated practices of land organisation (Antrop, 2004b). In short, cultural practices and perceptions have led primarily to the spatial patterning of the landscape; therefore, the merging of qualitative and quantitative research traditions have much to offer contemporary landscape research.

This section has highlighted one important way in which landscape as a theoretical concept has been considered in this thesis. It identifies the conceptual framing of the term in scales of time and space that serve to highlight the contested nature of the term. The language used to determine landscape practices as well as the language used to describe the concept of landscape in the twenty-first century are important signals of the multiple challenges that have always faced landscape research. The most contemporary critical examinations of the concept raise many of the questions pertinent to this thesis and highlight the need for a multidisciplinary approach. This thesis examines the narratives of landscape recovery, change and renewal in and through social actors' experiences and stories, and is considered in a broader socio-cultural context. Therefore, it is necessary to understand the interpretation of landscape as a cultural practice.

1.4 *Contemporary cultural explanations of landscape*

The study of landscape from a cultural perspective in Anglo-centric countries has concerned itself with reading the history of landscape representation in order to develop a

narrative toward a ‘purification of the visual field’ (Mitchell, 1994, p. 1). More recent approaches have attempted to decentre the dominant pictographic methods and examine other aspects of the relationship between culture, society and landscape. Critical perspectives emerging from social theory have politicised the study of landscape. Such research concerned with environmentalism, feminism and Marxism has broadened critical enquiry into landscape as an effectual, emotive space and led to a range of ecocentric and egocentric examinations of human nature relationships (Marcus, 1979; Kaplan & Kaplan, 1989; Thwaites, 2001; Williams, 2002).

Much of this work emerged from a shift in thinking among cultural geographers in the late twentieth century described by Wylie (2007) as a ‘material anxiety’. Until the late 1970s, the focus of attention lay in the emphasis on large-scale processes, notions of national over local conceptions of society, iconic representations and the detachment of people from place (Cosgrove, 2006; Daniels & Cosgrove, 1988; Mitchell, 1994; Wylie, 2007). In short, subsequent thinking about landscape moved beyond what Mitchell (1994) described as a preoccupation with the consumption of ‘visual scenic’ landscapes and endeavoured to understand how landscapes were produced (Mitchell, 1994). Such research is both contested and polarised around debates concerning the legitimacy of landscape as an organising concept for studying geography (Muir, 1998; Oakes & Price, 2008) and subsequent postmodern interpretations that were considered a ‘de-materialisation of the discipline’ (Olwig, 1996, p. 630).

As with many fields of social research during the last part of the twentieth century, landscape research has been influenced by critical scholars particularly concerned with post-structuralism. Barthes, Baudrillard, and de Certeau’s scholarly work contributed to the development of theories of the productive and consumptive activity inherent in everyday life. This research focused on critical examinations about how space is represented in speech, vision, sound and text, as well as other representational and non-representational forms (Porter, 2006). Such contributions to landscape studies can be broadly defined by the development of theories relating to ‘place’ and the interpretation of landscapes as meaningful systems, symbols and representations in and through text.

This semiotic approach best represents the late twentieth century preoccupation with landscape’s role in an increasingly digitised information economy. More recent research into the interpretive approaches to everyday aspects of landscape as a cultural practice and interpretation of landscape as text has helped to foster new theoretical understandings surrounding connection to place (Wylie, 2007). However, such attempts to reconcile non-representational methods to enrich existing interpretations of landscape have led to an exhaustion of the post-structuralist enquiry into the field (Van-Dyke & Lauermann, 2010). Attempts to reposition the aesthetic values of landscape in the face of reductive ecological functionalist approaches have raised the

question of the value of landscape as a source of identity and nourishment in the face of an increasing urgency to comprehend the uncertainty connected to climate change (Meyer, 2008).

1.4.1 Aesthetics: the performance of landscape

To examine how the substantive aspects of the concept of landscape have evolved beyond post-structuralist enquiry, this section identifies how different constructs have influenced the way landscape has been incorporated into the fields of architecture and design.

Aesthetic appreciation of designed landscapes can be traced back to the eighteenth century, where moving through a picturesque garden was considered an aesthetic experience. To Burke, the aesthetic experience of the landscape was akin to experiencing beauty, not as a platonic abstraction of desire but from the physical object itself (Olwig, 2002). To the American transcendentalists, the beauty of nature was elevated to embody a scenic representation of national identity. By experiencing the natural landscape one could envision that ‘the landscape belonged to the individual transcendent man’ (Olwig, 2002, p. 192).

Aesthetics has troubled landscape architects, planners and environmental managers, as it has often been unsuccessfully used to quantify an individual’s perception of aesthetic beauty for the purpose of allocating resources to manage the landscape (Meyer, 2008; Punter, 1982). The planning and design of landscape spaces, by and large, is concerned with physical processes, social and economic impacts and local cultural considerations, yet aesthetics plays an important role in the way the landscape is experienced (Kaplan & Kaplan, 1989; Meyer, 2008; Punter, 1982).

Perceptual research into landscape aesthetics has relied on studying a visual response to external stimuli to determine aesthetic quality; however, this has corrupted the original meaning of perception as determined by psychology (Kaplan & Kaplan, 1989; Punter, 1982). Yet aesthetics has been used to frame intangible and subjective values ascribed to landscapes. It is often used to attempt to explain the essence of a space, otherwise known as ‘genius loci’ (Thwaites, 2001). While these terms in isolation are unhelpful, they suggest that the experience of landscape is meaningful. Aesthetics, however, remains problematic in terms of the practice of landscape interpretation and evaluation.

Assessing visual quality exerts an unusually strong influence on the practice of landscape planning, and landscape architecture; yet this preoccupation with ‘visual quality’ suggests that primary concerns about the formal qualities of the landscape override ‘associated emotional and aesthetic effects’ (Punter, 1982, p. 108). The disengaged practice of assessing formal visual features in turn leads to a naïve interpretation that ignores social, cultural and political implications of decision making in planning, thus leading to unimaginative and unresponsive strategies to social needs.

Punter's critique of measuring landscape aesthetics highlights some common ground among professions. He suggests that the most significant by product of this form of measuring landscape value has been 'the extent to which questions of meaning have become the major concern of landscape researchers, even for those who have sought objective evaluations over qualitative measures' (Punter, 1982, p. 109). He suggests the cognitive interpretation of aesthetics adds a counterpoint to the 'two traditions of looking at the dynamics of the perception process and the material landscape for their own sake' (Punter, 1982, p. 110). At best, it provides another dimension to the complex and irreducible phenomena of the landscape experience. At worst, the quantitative visual assessment methods are further weakened by the absence of contemporary theory that supports this practice. So the ambiguities and uncertainties of measurable values in the formal assessment process lend themselves to criticism and ultimately render visual quality assessment as 'too superficial to be of value' (Punter, 1982).

Such references to landscape aesthetics invoke debate as to whether beauty is intrinsic in nature or associated with a viewer's emotional response (Meyer, 2008). In order to bridge the conceptual divide between aesthetics and appearance in the context of landscape design, scholars have acknowledged that interpretations of aesthetics are subjective, and argue that these multiple interpretations are not important in themselves, but the performative function of landscape to affect an individual's experience of a space is valid and meaningful (Meyer, 2008). From an urban landscape perspective, experiencing certain kinds of beauty is necessary for fostering community interest, and the embodiment of aesthetics is a key component to developing sustained public support for the environment (Meyer, 2008).

Meyer's critique of landscape architecture's preoccupation with ecological functionalism over aesthetics is a commentary on the uncritical application of sustainability theory in design practice. However, the value of such an examination positions the practice of valuing landscape in the context of normative references to sustainability rhetoric. For example, sustainability in design is criticised by Meyer as a 'form of reductive ecological functionalism' (Meyer, 2008, p. 14). Landscape design has become ambivalent about beauty, preferring to refer to designed landscape's 'possessing a powerful form' (Meyer, 2008, p. 15). Despite the difficulties associated with articulating theoretical perspective in relation to the performance of landscape, it is meaningful in a social research context. This is explored in Chapters 8 and 9.

1.4.2 Place – belonging and identity: a cultural interpretation of landscape

More recent examinations of landscape have concerned themselves with the way in which users read the landscape and make sense of it in the context of their own values, beliefs and identities. Understanding landscapes as 'place' attempts to overcome some of the shortcomings

of formal quantitative analysis (Punter, 1982) and reinsert the experiential values of landscape (Marcus, 1979; Thwaites, 2001). 'Place' is defined as the connection or emotional bond between a person and a space (Williams, 2002). It is a complex concept, layered with meanings that are not immediately understandable and requires skill in its interpretation (Armstrong, 2003). 'Place incarnates the experiences and aspirations of a people' (Tuan, 1974 in Olwig, 2002, p. 215). From a landscape perspective, place can be expressed by *Landschaft* which refers to a particular polity defined by customs rather than a territory and fits this definition of place (Olwig, 2002).

The examination of landscape in this thesis has a particular focus on the territoriality of the term and the politics of occupation and belonging that frames the concept. To use Pierre Bourdieu's term, the concept of *habitus* reinterprets the customary definition of *Landschaft* and uncovers many of the persistent cultural constructs of landscape that exist in suburbs today (Olwig, 2002). *Habitus* interprets architecture as a form of knowledge, not unlike Heidegger's use of the term 'dwelling' to define architecture's goals as the nature of things rather than the thing itself (Heidegger, 1971). Therefore *habitus* is not consciously understood but internalised and embodied as a 'dialectical relationship between the body and space as a form of "structural apprenticeship" through which we at once appropriate our world and are appropriated by it' (Bourdieu, 1977, p. 89). Therefore *habitus* offers an understanding of the individual's place and role in one's lived environment. It is both an embodied and cognitive 'sense of place' and this provides an intellectual foundation for understanding how the landscape is inhabited and in turn defined.

Like landscape, theories pertaining to place cross a range of disciplines. Understood as a cultural system, place gives meaning to life and allows us to position ourselves in certain definitive ways within society and its belief system (Hall, 1995). Williams (2002) captured the extent of emotions and feelings that individuals have for places by evaluating the psychometric properties of a respondent's attachment to a place (Williams, 2002).

When we consider place as a cultural system defined by shared meanings and understandings expressed in and through language and in the context of this study, suburban landscape narratives can be discursive realms where contested values, ideologies, and beliefs can be negotiated (Armstrong, 2003). Belonging to place establishes 'boundaries around a culture, marking off those who belong and those who don't' (Hall, 1995, p. 268). This social construction diminishes the idea of the geographically-bound place in the traditional sense; however, we still think of suburbs as if they depend on stable relationships with physical, rather than cultural, boundaries. The symbolic guarantee of belonging is not necessarily geographically located; it preferences shared language and understandings that operate in social as well as physical spaces. The growth of online social networking sites is an example of the

community of belonging and they are of growing interest in social research, yet how they challenge the notion of community, identity and the suburb itself is yet to be examined.

When place is associated with a physical location, it is used to examine how many different relationships have overlapped over time (Hall, 1995). In this case, culture is dependent on stable bonds with the same people in the same location. However, in this thesis, the property damage in Duffy caused by the fires fractured many of these stable bonds as almost half of the residents who lost houses left the suburb and were replaced by new residents who bought the vacant blocks and redeveloped new homes.

Landscape architecture, architecture and planning arguably reconcile the meaning of place on behalf of a community through an objective and rigorous form of interpretation of rules and guidelines such as planning codes (Armstrong, 2003). In the context of the suburb, theories pertaining to place and with specific reference to landscape are most useful for examining the social dynamic of social actors making decisions as residents, or professionals acting on behalf of residents. Yet the concept of landscape as place reveals underlying tensions that sharpen debates around how suburbs should be planned.

As previously described, contemporary planning logic in the ACT promotes the densification of both new and existing suburbs. Many of the reasons for this logic rest with theories and principles associated with contemporary urban planning theory. Yet Australian research has shown that fierce resistance to densification, or any change for that matter, is driven by residents' objections under the pretext of preserving existing urban character (Dovey, et al., 2006). This in itself is unproblematic, as planning authorities endeavour to alleviate residents' fears by mandating the protection of the suburban character. However, in the absence of an adequate understanding of character, or an expanding of narrow legalistic interpretations the term, resistance is to be expected without actually coming to terms with a deeper understanding of how residents negotiate their own sense of place and respond to changes occurring in their suburb.

Not only is the slippery nature of the term 'character' a problem, so too is the scope by which planning authorities determine character. Significant bias exists in the formulation of codes and regulations towards buildings, rather than landscapes. The next chapter examines the role that planning has played in the development of the suburb.

1.5 *Contemporary suburban landscape values*

There is an increasing body of empirical evidence establishing a relationship between spatial distribution of landscapes, other environmental influences, levels of physical activity and other health determinates in urban areas (Tzoulas, et al., 2007). Contemporary concerns prevail about the changing health patterns and links to community attitudes towards the landscape

(Dixon & Hinde, 2005; Verheij, et al., 2008). This is, in part, attributed to the change in the configuration, size and distribution of available open spaces in urban areas (Hall, 2010). Changes to cultural attitudes toward housing have also produced unintended consequences for the configuration of urban landscapes (MacKenzie, 2007). Similarly, increased environmental pollution has been attributed to urban densification, creating institutional impediments to effective water management (Brown, 2005). Empirical evidence also shows that changes to the development patterns in existing urban areas has lead to a cumulative loss of urban forest (Banks & Brack, 2003) and increased urban heat island effects (Whitford, Ennos, & Handley, 2001). While the positive social benefits of green space in urban areas are known, but difficult to quantify, the effects of fragmenting and diminishing the urban landscape have measureable negative environmental impacts (Tzoulas, et al., 2007). Such social and environmental effects resulting from urban development practices highlight the need for strategic assessment of landscape values in cities. Consequently, research into urban landscape values has enjoyed a resurgence of interest in the last decade (Wylie, 2007). Terms such as urban ecology, environmental services, green infrastructure and urban resilience all appear to signal a renaissance of landscape objectives in the metropolitan plans of the twenty-first century.

Canberra, often both celebrated and derided for its ‘bush capital’ identity, has a long history of consciously incorporating landscape objectives into the city’s metropolitan plan (MacKenzie, 2007). While the spread of low density suburbs in Canberra was informed by the neighbourhood planning principles of the British New Town movement, individual champions ensured that the landscape played a prominent role in the development of the city’s identity (Freestone, 1989). Landscape architects and scholars employed by the NCDC such as Richard Clough and George Seddon were largely influenced by the concept that landscapes were products of their time and people’s perception and understanding of time and space. This thinking was largely inspired by Ian McHarg and later David Lowenthal. However, this approach was not able to capture broad narratives to do with increasing global environmental concern.

1.5.1 Measuring urban landscape values

Until the twentieth century, urban landscape interventions usually represented the baroque power of city state governments. Yet for centuries, landscapes have been consciously valued for their role in contributing to the health of the city and its citizens. City planners have long acknowledged the environmental and social benefits of the corridors of green and public open spaces (Ignatieva, Stewart, & Meurk, 2011). The most significant shift in the planning of public urban landscape networks in the twenty-first century has been the multidisciplinary approach

that governments have adopted to incorporate landscape elements in the face of significant pressures to accommodate a rapidly growing urban population. Once the domain of spatial planning and landscape architecture, urban landscape planning now includes engineers, ecologists, sociologists and economists evaluating the potential value of urban ecological spaces at the city scale (Ignatieva, et al., 2011). This is unsurprising given the high value placed on residual urban spaces facing development pressures. Hence establishing metrics to value landscape spaces in cities has become an important feature of modern urban planning. More recent attempts to understand the spatial impact of development on landscape values has focused on complex metrics (Van de Voorde, et al., 2011). These methods of quantifying landscapes, along with changing governance models, have resulted in a new language of urban landscape values (Hubbard, 1996). The most salient feature of this change has been the incorporation of economic narratives in urban landscape planning.

Strategic planning documents have increasingly referred to urban landscapes using terms such as green infrastructure (AILA, 2012), ecostructure (Ignatieva, et al., 2011), and resilient socio-ecological systems (Walker & Salt, 2006). These terms all point to an increasing need for urban planners to argue that the component parts of the landscape have a quantifiable value that should be captured by an accounting method tied to infrastructure investment. Thus the landscape has become a form of infrastructure that can be quantified alongside other forms of infrastructure, so much so that the never-ending drive for numbers has required planners and developers to acquit their decisions and advocacy for landscape preservation against a set of measurable outcomes (MacKenzie, 2012). However, many tacit values embodied in the landscape cannot be captured in the redevelopment process and as such landscape elements risk becoming ‘value managed’ out of major urban developments. As a result, the way in which landscapes are accounted for, rather than experienced and consumed, dictates how they are valued from a planning perspective. This approach has stripped meaning from the urban landscape in a way that creates a stage or *Masque* (Olwig, 2002) but without political value or meaningful identity contained in *Landschaft.*

1.6 *Conclusion*

This chapter has outlined a range of disciplinary traditions in the field of landscape scholarship. Landscape has been interpreted beyond the nature and culture divide to incorporate a broader socio-political focus. It has posited that the western suburb shares conceptual similarities with the socio-political claim to landscape that was first inscribed into the English language through the scenic and perspective illusion of the *Masque of Blackness* in the court of James I (Olwig, 2002). The territorial importance of landscape shifted as it moved from a non-urban to a suburban concept in the nineteenth and twentieth centuries. In Chapter 1 this thesis

explores the role of planning in the formation of the suburb and, in doing so, looks at the way that the meaning and value of landscape has shifted according to social and cultural flux associated with modern challenges of urban growth. These shifting values of landscape are also considered in the light of new ways of seeing, measuring and cataloguing landscapes that have emerged in the latter part of the twentieth century.

The emergence of the garden suburb, and its impact on the form and structure of Australian cities in the twentieth century, suggests an enduring relationship with living in a detached house surrounded by open space, be it gardens, outdoor workshops, a barbeque area or a large lawn. However, landscapes are not just backyards, patios and gardens, and while people may not have changed their affinity with the Australian landscape, their lifestyles and the cost in time and money prevents them from looking after gardens (Hall, 2010). As a result, suburban residents redesign their homes to reflect a preference for other modes of entertainment and relaxation notionally connected with indoor rather than outdoor activities (Mead, 2000).

This sets up a simple binary between inside and outside spaces on a privately occupied lot and this is overly simplistic as it does not take into consideration the tacit values that landscape contributes to people's preferences for living in the suburbs. By drawing on the multiple perspectives of landscape, this thesis uses the term as a point of orientation to undertake this research. The research questions focus on the changes occurring in the suburb from the perspective of the respondents. Similarly the analysis of the data looks at how the changes to the suburb are articulated as well as how these changes are embodied in the lived experience.

These overlapping and sometimes contested interpretations of the evolution of landscape argue for a more substantive account of the meaning of landscape in the formation of suburban communities and identities. In this way, the landscape is a useful tool for understanding the social and cultural interplay between the events and actions that frame the lived, everyday experience of many suburban Australians, at a time of rapid physical change to the suburban pattern.

This chapter has shown that the suburban landscape is contested territory and is played out on spatial and temporal scales from the local to the global. While professions such as landscape architecture claim 'special knowledge and accumulated experience' dealing with landscape systems, other disciplines are increasingly using landscapes as models for understanding urban development (Waldheim, 2006). Yet the history of the development of landscape has not only shaped the discipline and institutions that participate, regulate and profit from such activity, it has also shaped the land itself, physically, culturally, and in ways that represent societal values. Therefore, the case for a contemporary understanding of the twenty-first century version of the suburban landscape is developed in this thesis to uncover the relationship between social actors

and the multiple interpretations of landscape. In relation to the case study, landscape is explored in and through the way that individuals are engaged in the redevelopment process.

The next chapter examines how, in Australia, the suburb has become the physical and conceptual place where contests over meanings and values of landscape have played out as the science of planning came to terms with its role in the development of modern cities in the twentieth century. Specifically, it explores the convergence of values between contemporary concepts of the modern suburb and those of the pre-industrial village. It identifies how the anti planning neo-liberal approach has promoted a particular suburban pattern that seeks to recover some of the community values more akin to *Landschaft.* In doing so, planners and urban designers have sought political legitimacy for their anti-suburban views by borrowing forms of the contrived pre-industrial European village (Troy, 1996).

Chapter 2: Towards the post-sprawl city

2.1 *Introduction*

This chapter explores the ideas underpinning the twentieth century expansion of suburbs in Australia. It examines the ways in which the landscape and the home have intertwined to create the modern suburb. It looks at how planning and development have become politicised in an attempt to reconcile the competing social, economic and environmental values that have emerged over the post-war period. Lastly, it looks at Canberra's first 100 years of development, in particular, how the utopian zeal to create a modern city has been tempered by political and economic realities. It concludes by synthesising the two themes of this thesis, the suburb and the landscape, to examine how Canberra has incorporated the landscape into its metropolitan plan.

Suburbs have existed since the formation of cities, yet the modern suburb really only emerged in the last 150 years. The origins of the modern suburb are both transnational and elite in their construction (Nicolaides & Weise, 2006), and they are distinguished from the original suburban or subordinated spaces occupied by people not belonging to town or country. By the mid-eighteenth century, the suburb became a 'conceptual' space occupied by the most privileged rather than the most marginalised (Jackson, 1985). The suburb embodied the ideal way of raising a family and the exodus of the wealthy elite from the city to the first modern suburbs was not merely a desire to experience nature as part of daily life. The benefits of nature to improve physical and moral wellbeing were certainly promoted, but there was also preoccupation with the social mix of neighbourhoods, where the income and moral standing of the residents were of more importance (Loudon, 1835). So why did the idea of suburban living change and what role did landscape play in this shift? Certainly the suburban ideal was influenced by the romantic view of landscape as nature in both the USA and England.

The early twentieth century marked an important shift in the settlement patterns of western democratic societies. Some time between the late nineteenth century and the 1920s, Britain, Australia and the USA became nations of city dwellers. That is, the population in the cities exceeded that of the rural areas and this began 'a long process of territorial transformation' (Rowe, 1991, p. 6). A result of this transformation has seen western cities expand over the twentieth century at a greater rate than any previous period in history. However, post-World War II construction in the West did not deliver the social benefits that it had promised, and as such, considerable effort was put into establishing a critical framework to determine what went wrong. Critics led by the free marketeers believed the deterministic mechanisms and modernist philosophy of architecture had failed the ambitions of centralised planning. They believed that

the ‘planning profession could only ever be a functionary of the capitalist state apparatus’ (Gleeson & Lowe, 2000, p. 100).

The last quarter of the twentieth century saw the resurrection of the laissez fare approach to planning in preference to the post-war system that was created to protect citizens from the deep social inequalities of the unregulated city (Gleeson, 2006). This combined with a depletion of funding to planning authorities and a devolution of planning power under the guise of neo-liberal reform, has been largely responsible for the privatisation of planning responsibility (Thompson, 2007).

The ongoing reform processes that began in the 1980s have seen the dilution of statutory planning authorities and the reinterpretation of zoning controls to reflect notions of design performance, flexible building standards and integrated development control (Gleeson, 2006; Gleeson & Lowe, 2000; Taylor, 2008). Consequently, major housing construction companies, supported by industry associations including the Property Council of Australia, the Planning Institute of Australia and the Australian Institute of Architects, have sought to negotiate a new role for planning (Thompson, 2007). This included the standardisation of building codes, the privatisation of development certification and the removal of legislation that restricts competition in the provision of government business. Planning codes now reflect notions of ‘green’ design performance, flexible building standards and integrated development application and approval processes. In effect, the process of planning from strategic design to building approval has been diminished and resembles ‘a processing system whose inputs and outputs can be objectively quantified and measured with all the certainty enjoyed by the manager of a factory production line’ (Gleeson & Lowe, 2000, p. 129).

2.2 *The modern suburban landscape*

The earliest conceptions of the suburb emerged independently of the state and had very little to do with social justice, equity or satisfying the housing demand of the emerging middle class (Jackson, 1985). The suburb originally represented subordinate space on the edge of a town; it was a space occupied by people who were neither rural nor residents of towns. The identity of suburban dwellers did not constitute a group who had political agency or identity, whereas the town shaped the body politic of the township and being a good ‘townsman’ was the condition of fellowship under which a body of law was constituted (Olwig, 1996), whereas the rural identity existed outside of individual land ownership and relied on customary law operated in the absence of defined property rights. In the country, conventions and narratives were memorised rather than written down and linked to the law the land. Rural identity was intimately linked to a landscape law, a nexus of law and cultural identity (Olwig, 2002, 2005;

Schama, 1995). The advent of the modern suburb not only marked a separation of the rural, residential and the mercantile spaces; it also reframed the concept of identity with the landscape.

The early versions of modern suburban communities were exclusive domains of the wealthy at the time when the writings of Emerson, and Thoreau popularised ideas of living in nature. Utopian novels such as Edward Bellamy's *Looking Backward 2000–1897* (1898) and W.H. Hudson's *A Chrystal Age* (1878) influenced social reformers such as Ebenezer Howard. Howard's *Garden Cities of Tomorrow* (1902) represented a shift of such utopian writing from philosophy and experiment toward a general theory of planning (Fishman, 1982) and the modern suburb, in the ideal city, was born.

2.2.1 Spatial utopias and social reformers

The nineteenth century utopian writings on cities also took cues from the landscape. Like utopia, Arcadia was a subject of literary and artistic exploration, rather than geographic discovery (Cosgrove, 2001). Similarly, the moral imperative to realise the vision of the socially-just space was given expression in the Euclidean grid, manufactured by the cartographic survey, laid over the organic forms and processes of the landscape (Cosgrove, 2001, 2008). The grid and the survey expressed urban democracy, 'dispensing space into equal portions to convert land into property' (Cosgrove, 2008, p. 174). It was also extended to create parks, squares, plazas and suburbs. The use of the grid was a persistent theme of both utopia and the cities it was designed to improve. As a result, a tension existed between the right to property, community identity or *Landschaft*, and notions of social justice through the imagining of ideal spaces in the urban landscape.

The late nineteenth century marked the emerging new democratic states advocating a right to freedom of choice and the emerging individualism that followed. This ideology sat at odds with utopian writings and city mapping that became the catalysts for the beginnings of town planning as a science and later a profession (Cosgrove, 2006, 2008). Howard's *Garden City of Tomorrow* (1902) is recognised as the one of the most significant literary works that gave rise to planning as a profession (Freestone, 2007). Yet suburban development had occurred for at least 150 years previously. By the early twentieth century, both in the USA and England, the modern suburb was well formed in the minds of developers and city officials (Jackson, 1985). Improved transport, manufacturing and construction methods meant that large-scale residential estates very quickly became the preferred means of housing provision. Early twentieth century experiments in suburban development fostered considerable interest in planning for improvements to the quality of life for urban residents. Two of the most significant experiments were the city of Letchworth in 1903, designed by Architects Parker and Unwin and inspired by Ebenezer Howard's Garden City Movement and, in the USA where Clarence Stein's Radburn

was praised with equal enthusiasm 20 years later (Fishman 1982). In both cases, the proponents sought to provide a setting that consciously incorporated urban landscape elements into the design, a feature not seen in the industrial cities of the nineteenth century. They also sought to overcome the laissez faire approach to urban growth through providing a plan that endured and inspired the virtues of centralised planned development for social good.

In effect, the Garden City Movement was not only reacting to the vices and poor living conditions of the industrial city, it was also coming to terms with rapid suburban sprawl following transport corridors extending way beyond the city centre. *Garden Cities of Tomorrow* outlined what Howard hoped could be achieved, and as such fits the description of a utopian text (Fishman, 1982). Howard preferred the urban form to express 'notions of organic unity and co-operation that looked back to traditional design and the example of the medieval village' (Pinder, 2005, p. 42); however, Parker and Unwin preferred to 'create a synthesis of visual and social elements so that the view could again induce a feeling of order' (Pinder, 2005, p. 43). The design and building of Letchworth compromised many of Howard's ideas from the beginning. Many of the changes were pragmatic: reducing costs, maintaining the confidence of the financial backers and design considerations. The architects' conservative, anti-urban view reflected the legacy of their English preoccupation with the scenic landscape movement (Fishman, 1982), as if the provision of landscape could overcome the ills of the city. The mixing of landscape elements and urban structure in Letchworth was a hallmark of the early Garden City Movement. Parker and Unwin disagreed with Howard over the utopian master-planned approach; they preferred to think of the residents living a 'small corporate life' where individuals would share common interests and co-exist in a village. Howard's view demanded a design arrangement that organised a whole view in which resident behaviour and social norms were influenced by rational holistic layout and structure (Fishman, 1982). His vision gained popularity during the early twentieth century among social reformers. Garden City societies were established in Australia, such as in Daceyville in Sydney (Pinder, 2005).

The term Garden City was used to explain many variations on Howard's vision, of which he believed Letchworth was the only example that had, in part at least, paved the way for solving key social problems such as housing, public health and transport. Unsurprisingly, these watered down versions of the Garden City became urban planning responses to the demands of capitalist modes of productions rather than vehicles for social change (Pinder, 2005). Yet the problems of housing, transport and health remained the greatest challenge for cities as the modern modes of production, and the increasing urban middle class, placed unprecedented demand on services.

2.2.2 Modernity and the growth of the suburban city

The rapid suburbanisation of cities in Australia created development patterns that closely followed the development of road and rail infrastructure, commonly referred to as sprawl. The suburbanisation of the rural landscape on the edges of cities was an inevitable consequence of such growth; however, the reconfiguration of the cities themselves was just as significant. While the residential suburbs spread along the transport corridors, the services remained in the city areas, thus setting up a flow of goods and services into centralised areas. This was 'as much to do with the centralised nature of decision making in the first half of the twentieth century as it was to do with rational spatial planning based on needs' (Troy, 2004, p. 3).

It was the intersection of the railway suburb and the car-dependant suburb that modernised Howard's Garden City model to accommodate the impending competition for space between pedestrians and vehicles. In effect, the development of the USA garden city experiment of Radburn in New Jersey from 1927–1929 was not only an endorsement of the car-dependant community, but also a response to the need for social as well as physical planning (Lee & Stabin-Nesmith, 2001). The devices introduced to overcome the conflict between the car and the pedestrian included the superblock, the cul-de-sac and pedestrian paths connecting parks with pedestrian-only pathways through the suburbs (Stein, 1951). These were not just physical planning responses to the challenge of integrating the car into the suburban environment, but also social ideas to foster interaction and community formation. As with the Garden City model, there was some expectation that citizens would give up some private space in order to facilitate the provision of public open spaces, and this trade-off was seen as key to good community formation.

At the same time, suburbs themselves became the subject of critical research. Lewis Mumford (1922) was most notable in his criticism of the idealised utopian thinking behind master-planned communities as he saw similar mistakes being made both in the theoretical and the practical expression of ideal ways of living (Mumford, 1922). Mumford highlighted the superficiality of creating a 'one size fits all' approach to community formation.

> These utopias were so concerned to alter the shell of the community's institutions that they neglected to pay attention to the habits of the creature itself – or its habitat (Mumford, 1922, p. 252).

Mumford argued that the creation of new suburban communities was as much about the reorganising of labour, streamlining of manufacturing processes, improvement in prefabrication technology and a general move toward a fordist approach to construction, as it was about the democratisation of property ownership. Consequently, the rapid growth of cities on the fringes was also a product of innovations in transport and the desire of those who could afford to live away from the industrial core. Cheap land could be developed to meet the demand for housing

of the emerging middle class and the car-liberated homeowners from the restriction of access to trolley, tram and train networks (Jackson, 1985).

As the motor car became more affordable, living the commuter life become more desirable. Prior to the twentieth century, the suburb was still the domain of relatively few, However, with the mass production of the motor car, the suburb served as a means of increasing ordinary people's rights to property ownership, and so, politically, the suburb represented a level of autonomy that had never been available before (Gans, 1988). In western democracies such as Australia, the USA and UK, this phenomenon was to fully realise its potential after World War II. As the motor car became affordable, so too did access to a suburban home, and developers became very attuned to this emerging market. Mumford viewed this style of development as deeply concerning.

Criticisms of the early suburban models follow the persistent themes of poor structure and form – homogenising, uniform and isolating spaces – and the social and cultural problems associated with living in these spaces. Persistent in his criticism was the tendency of suburban estates to stratify society. The mixing of classes in particular was an important way to increase channels of communication and interaction, thereby decreasing mistrust, and class antagonism. As Mumford suggested, the spirit of kindly neighbourliness had been destroyed by the mechanical age (Mumford 1968).

The developers of one of the first post-war suburban estates in the USA were aware of the emerging critical appraisal of their developments. Levitt and Sons, the developers of Levittown in New Jersey in the 1950s, were particularly sensitive to criticisms of their previous developments by Mumford. He argued that developments such as Levittown were expressions of an individual's or an organisation's vision, and that the planned suburb was a product of institutions which operated to modify behaviour. 'The changing nature of these institutions – politics, education and the church – would change the perception and understanding of the community affected' (Mumford, 1968, p. 248). This reflected the cultural view of Adorno and Horkheimer in the 1940s who believed that consumers were neither active nor creative, but rather responding to cultural objects in a predictable uniform manner (Harrington & Bielby, 2000). Such debates brought into question: who were the clients in such a mass produced master-planned development, and how could such a deterministic approach to development respect the needs and aspirations of the residents buying into their little piece of America or quarter acre dream as it was known in Australia?

The utopian vision for the city continued throughout the twentieth century and was highlighted by architectural theory. Most notably, Le Corbusier's radiant city and Lloyd Wright's broad acre city, and these sustained the debate on utopian and urban philosophy for much of the twentieth century. Henri Lefebvre, towards the end of his life, had some trepidation

that society viewed itself as ‘beyond utopias’, and this in itself was not good as it partitioned such thinking as a period of naïve optimism that also symbolised many failures of authoritarian ideals associated with failed totalitarian states (Pinder, 2005). Lefebvre argued that successful spaces could not be discovered without experimentation of which utopias was one of those modes of practice. He lamented that we no longer plan the ideal city, but tolerate the adequate city (Lefebvre, 1996). This legacy of utopian thought in the planning and development of twentieth century cities has few examples as comprehensive and complete as Canberra. This will be discussed in section 2.4.

2.3 *The single dwelling in Australia: the pervasive ideology*

Research into Australian suburbs largely focuses on the twentieth century (Allon, 2008; Armstrong, 1989; Boyd, 1963; Dowling, 1997; Freestone, 2000; Gleeson, 2006; Greig, 1995; Gwyther, 2004; Hall, 2010; Murphy & Probert, 2004; Sandercock, 1990; Stretton, 1970, Timms, 2006). The modern suburb in Australia emerged from the confluence of social and cultural values pertaining to the national preoccupation with landscape and home. It was expressed in the single family dwelling and the belief in dominance over one’s physical surrounds (Keane, 1993). This persistent ideology was founded on the powerful social idea of home ownership yet it was unlike so many other cultural practices in Australia that were directly adopted from England. While architects, sociologists and historians have debated the merits of the growth of the detached dwelling as the dominant form of housing, few would dispute the role of the free-standing house in the development of the national culture. This suburban legacy was borne out of a desire for economic independence and social improvement and this implied a mutual relationship between home ownership, social improvement and the moral and physical benefits of urban landscapes.

2.3.1 The national agenda to meet housing demand

The post-war residential boom in Australia was as much socio-political as it was an economic instrument of recovery. The historical cultural interplay that gave birth to the suburban ideal was complex and evolved over the 100 years since white settlement (Keane, 1993). Additionally, the social reformers of the early twentieth century endeavoured to improve workers’ wellbeing by addressing the uncertainty of the labour market and unhealthy living conditions. They advocated for a suburban housing solution provided and controlled by a central administration. This theme also re-emerged in the post-war period largely as a response to housing shortages after World War II.

The literature concerning housing provision between 1945 and up to the mid-1980s illuminates some of the structural, socio-political and cultural forces that profoundly impacted on the structure and form of suburbs during this period. Greig (1995) explores in detail the socio-political and cultural forces contributing the post-war phenomenon of home ownership and its consequences for Australian cites. Troy and Lloyd (1981) and Troy (1996) identify the administrative and regulatory framework that established the political landscape for housing and land development. Sandercock (1990) provides a critical account of the planning history of major cities in Australia during this period.

The recurring theme in these works includes the failure of the reformist ambitions of the federal administration after World War II to realise their planning visions in the interplay between the welfare and housing policies in a period of increasing wealth, market influence and private sector control of land development, and the ongoing tension between left and right ideologies concerned with centralised planning. These themes also established the primary factors that resulted in a significant shift in urban planning and design philosophy from the mid-1980s to the present that produced suburbs manifestly different in form and structure from the preceding post-war period.

For most of the twentieth century in Australia, reformist governments from the left have addressed housing and, to a lesser extent, urban design at a federal level. Federal government interest in housing is, on the whole, an exception in Australian politics as most of the responsibility for this policy area lies with the states. Yet the forces contributing to the intermittent interest in housing by the federal government were the seemingly intractable problems of housing shortage, as well as the political opportunity evolving from this demand, that of nation building.

The two themes of housing provision and nation building intertwined after the War, and these themes are just as relevant today. Seventy years previously, housing was a major preoccupation for governments concerned with post-war nation building and reconstruction. New ideas based on proper planning and land release were eagerly pursued by federal administrations committed to full employment and buoyed by enhanced Commonwealth powers partially inherited after the War under the auspices of the Commonwealth Housing Commission (Greig, 1995; Troy & Lloyd, 1981).

Federal housing policy was divided along the lines of the political ideologies of incumbent administrations during the first three decades after World War II. The first was the Australian Labor Party administrations of John Curtin and Joseph (Ben) Chifley between October 1941 and December 1949; the second, the Liberal Party administration between December 1949 and December 1972 of which Robert Menzies was prime minister for 16 years.

The Chifley Labor administration pursued a reform agenda as part of its strategy to prepare for recovery after World War II. The reconstruction strategy relied on exploiting substantial Commonwealth powers vested during the War, but this approach was defeated in the 1944 'powers' referendum when the electorate rejected the continuation of constitutional powers for reconstruction (Troy & Lloyd, 1981). The reform agenda of the Labor administration continued to be weakened through lack of support during this period. The resistance to state control reflected Australia's liberal democratic roots and had voted consistently for a market-based society rather than a socialist society (Sandercock, 1990). While there was popular consensus around the themes and recommendations for a post-war housing strategy, the means by which this would be achieved were very different.

The 1949 election of the Menzies government 'effectively destroyed the spirit of national planning that the Chifley government had encouraged' (Troy & Lloyd, 1981, p. 13). Menzies focused on macro issues of government and adopted a typically liberal approach to development by encouraging private investment and reducing government intervention. However, Menzies retained a Commonwealth–State housing agreement in order to permit and assist the 'little capitalists to own their own home' (Menzies in Troy & Lloyd, 1981).

The shift in thinking between the two governments describes the fundamentally different attitudes to housing provision in Australia; however, the long boom of the 1950s and 1960s, combined with the tenure of the Menzies Government, substantially fermented the Australian dream of home ownership that still exists today. Menzies extolled the virtues of the Conservatives' policies to stimulate home building and the rapid growth of home ownership which it had encouraged. Menzies believed in the power of private ownership to promote public spirit through motivated self-interest; above all Menzies believed in 'a home-owning democracy' (Troy & Lloyd, 1981, p. 42).

However, Menzies's most significant contribution to urban development relevant to this study was to support the setting up of the National Capital Development Commission (NCDC) in 1958, following the recommendations of a Senate Select Committee investigating the development of Canberra (NCDC, 1972). The internationally-renowned planning expert Sir William (Lord) Holford, in his report to the committee, recommended that Canberra should remain a garden city, and this not only had a significant influence on the development style of residential suburbs in Canberra, but it would influence the way that suburbs were built in many towns and cities in Australia.

2.3.2 Whitlam's decentralising agenda and the NCDC

The 1960s saw resurgence in federal government interest in housing policy, in part, as a reaction to the Labor party leader Gough Whitlam's persistent advocacy for a national housing

strategy. This policy also corresponded with two phenomena of post-war housing that would dominate debate about urban planning and design for the rest of the twentieth century, still major issues today. The first was housing affordability. In 1963 the government introduced a subsidies and insurance scheme designed to increase affordability by encouraging motivated self-interested individuals to increase private investment in property without interfering in the market. The second was urban sprawl. The government's 1963 scheme favoured new house construction on cheap land on the edges of the cities, contributing to the sprawl phenomena, and this was recognised by the emerging green movement as a major environmental problem (Troy & Lloyd, 1981).

Whitlam recognised the shortcomings of Menzies's hands-off approach and argued throughout the 1960s for direct federal intervention in urban and regional development. He also viewed housing as a social issue, and many of his arguments for improved access to services, environmental amenity and affordable housing invoked many of the arguments put forward by the nineteenth and early twentieth century reformers in the Garden City Movement. This was hardly a coincidence, as Whitlam often credited his interest in urban issues to his memories of the planned environment of Canberra where he spent much of his youth. This experience was a counterpoint to his experience of the raw unplanned post-war environment of his outer western Sydney electorate where he raised a young family.

> Whatever one thought of the place-bleak, remote, [and] embryonic as it was in those days, one shared the excitement of seeing a city grow, literally watching a new city being planned and made … I have vivid memories of bringing up a family in the far south and south-west of Sydney, and experience, for better or worse, shaped my political beliefs. The austerity and inconvenience of outer suburban life in Australia has few parallels in the world. (Whitlam in Lloyd and Troy 1981, p. 56)

The deprivation and inequality of poorly planned growth, particularly on the edge of major Australian cities, became a major theme of Whitlam's speeches and formed part of the Labor Party's national platform (Troy & Lloyd, 1981). A key part of the platform was the principle of decentralisation, and this was consistent with the Party's interest in social justice and increasing concerns for environmental issues. Decentralisation proponents favoured the growth of towns and cities inland rather than continuing to meet housing demand in the major coastal cities. It also promoted the decentralising of business activity away from the city centre, to locate places of work closer to residential areas and reduce congestion in inner city suburbs.

Such policies have since become conflated and confused with other anti suburban growth strategies such as consolidation and densification, which effectively replaced the decentralisation. However, decentralisation was distinctly pro-suburban and many of the ideas of the ALP housing policy were influenced by Hugh Stretton and in particular, his book *Ideas for Australian Cities* (1970).

Stretton was explicit in identifying the role of government in urban planning. He argued that city planning could not be separated from general economic policy (Stretton, 1970). His defence of the suburb, both on social and cultural grounds, as well as economic and political grounds, was intertwined with an examination of policy failures of which decentralisation became one of the most spectacular. Stretton's central argument supported the view that housing forms a greater social compact to secure social and economic security as part of a wider notion of citizenship linked to the promotion of the welfare state (Stretton, 1970; Troy, 1996).

The development of Canberra's suburbs in the post-war period under the NCDC followed Stretton's approach and influenced much of the thinking on urban and regional development in the rest of Australia. While many of the planning principles that underpinned such development did not penetrate into national housing strategies, some did with varying degrees of success (Reid, 2002).

In 1964 Duffy was gazetted in the district of Woden as part of the NCDC program of land release. This development strategy was outlined in the 1964 report *The Future Canberra*. The objectives of the plan were to determine future strategies for a city that had outgrown the gazetted 1925 plan. By the end of the 1950s, development had spread beyond the area designated in the plan and the population projections had also far exceeded that of the 1925 plan (NCDC, 1964). During the 1950s and early 1960s the growth rate ranged between 9% and 14% per annum, and while much of this growth was attributed to the forced relocation of administrative arms of the federal government, it was also attracting many others because 'the city grows so attractive that people *want* to live in it' (Stretton, 1970, p. 29). The central thrust of the NCDC macro-planning strategy during this period was to decentralise the city. By the mid- sixties the NCDC was showcased by the ALP as an example of what national government could achieve if the will and the resources were sufficient (Troy & Lloyd, 1981).

2.3.3 Consolidation and neo-liberal environmentalism

Australian planning theory and practice during the twentieth century imported many of its underlying principles from England and later, the USA. Paradigm shifts in the logic of planning and development had been initiated as a result of persistent theoretical critiques from the abovementioned countries. Usually, such critiques have been transferred to Australia without substance (Gleeson & Lowe, 2000). Such shifts occurred following a period of antipathy toward a national housing agenda from incumbent, usually conservative, governments such as Menzies in 1949 and Fraser in 1975. Other shifts in global politics, macroeconomics and cultural trends also contributed to these changes in thinking. Few were as ideologically driven as the free marketeer's attacks on centralised planning led by Milton Friedman. Friedman was credited with repopularising classical economic thought following Maynard Keynes who had challenged

the orthodoxy of classical economic theory following the great Depression. Friedman believed that planning was a profession without foundation, technocratic and objective in its reasoning, yet it was not able to address the failings of nineteenth century capitalism (Gleeson & Lowe, 2000).

The neo-classical economists were not the only critics of the centralised autocratic nature of post-war planning; environmentalists, feminists and communitarians believed the 'top down' autocratic approach was, above all, an attack on the liberty of the individual. However, these groups held different views about the potential value of planning. Environmentalists believed that planning could help manage and protect environmental amenity. Lewis Mumford had argued this point long before organised environmental groups emerged. Feminists primarily criticised the authoritarian nature of planning as a white male view of the world but saw great potential in correcting structural inequality caused by industrialisation that essentially condemned women to low paid or unpaid labour (Sandercock, 1990).

Many of these criticisms were popular in Australia. In fact the most ardent criticism of the planning system lay in the failure of the bureaucracy to stem corruption, ineptitude and duplicity. The common thread of these critiques centred on the state's inability to 'liberate the plethora of community values and interests that had been either ignored or actively suppressed by rational instrumental forms of planning' (Gleeson & Lowe, 2000, p. 106). This opposition led to the erosion of state power over the planning of cities. While this criticism had been persistent since the War, it was not until the end of the long boom in the 1970s, combined with the oil shock and rise in unemployment, that the neo-classical market view of planning and development gained momentum. One of the major strategies of such administrations to pursue was consolidation.

Post-war planning authorities focused on suburban development with varying degrees of service delivery and planning success; for example, Canberra was developed under a single authority with the skills and vision to deliver a coordinated well serviced suburb, whereas Sydney and Melbourne accommodated the majority of post-war immigration and growth without the necessary funding to pursue such a single agency approach in the way Canberra had achieved (Troy, 1996). Consequently, the poor planning and delivery of services, rather than decentralisation strategies, compounded the sprawl of those cities. However, consolidation was attractive to state and local governments as it reduced, or at least delayed, the cost of public infrastructure associated with new housing, and appeased the increasing vocal voices in the environmental movement (Troy, 1996) .

The emerging environmental movement in the 1960s in part created the demand for a more compact city and this desire to improve environmental outcomes created a renewed interest in local environmental activism and accountability of local authorities to ensure that environmental

justice was seen to be pursued (Gleeson & Lowe 2001). As a result, the environmental debate became oversimplified and served to diminish broad scale planning.

The housing construction industry also advocated for a reduction in centralised planning control and supported a free market approach to improved environmental outcomes in the planning and development of suburbs. The free market environmentalists argued that the use of scarce resources was far better disciplined by the market than the planning authority (Pennington, 1999). This promotion of free market environmentalism put faith in the market to allocate environmental values to prevent both the exhaustion of resources and collapse of ecological systems. This view also sat comfortably with the emerging neo-liberal political thinking of the time. The absence of empirical evidence proving the success of such consolidation strategies created an uneasy partnership between environmental planning and the neo-liberal 'anti-planning' view (Gleeson & Lowe, 2000).

From the mid-1970s, consolidation was considered the most desirable means for achieving these environmental and housing goals in Australia's towns and cities (Smith, 1997; Troy, 1996). As a result, development codes for house setbacks, verge widths and provision of open space were pared back under political pressure to achieve often dubious sustainability and efficiency targets (Gleeson & Lowe, 2000; Troy, 1996). This resulted in the construction of new suburbs with narrow streets, minimal public open space and smaller lots with reduced setbacks. The change in planning focus to favour consolidation highlighted some of the conflicting social and political pressures to meet demand for new housing through the redevelopment of existing low density suburbs of Australia. Consolidation advocates promised an alternative to decentralisation and in doing so wanted to solve many of the resulting problems associated with sprawl. Yet the advocates of consolidation focused on a spatial reorganising of the city instead of addressing the core political shortcomings of resourcing and service delivery of planning authorities (Troy, 1996). Duffy was built during the 1970s but planned in the late 1960s and the logic behind the spatial layout and suburban pattern had not changed substantially since the first suburbs were designed and developed after World War II. The priorities of planners across Australia in the development of low density suburbs was the provision of sufficient private open space to cater for domestic activities to do with food production, child rearing and home maintenance, and houses remained resolutely austere and constrained in their design despite the rise in Australia's economic fortunes since the War (Troy 2004). Themes such as house design, planning and development of Duffy are discussed in more detail in Chapter 4.

2.3.4 Containment boundaries: Post-2000 metropolitan planning in Australia

The main objective of the post-2000s containment strategy in metropolitan planning is to create an urban boundary in order to stop the outward expansion of the suburban fringe by mandating an arbitrary edge to the city, thus preventing further greenfield development. As discussed previously, this creates additional pressure on existing suburbs to provide new affordable housing. Advocates for minimal centralised planning have argued that this type of redevelopment of existing low density suburbs and the expediting of the development process will address housing affordability by increasing the supply of housing. However, the housing shortage is part of a more complex part of boom/bust cycles created by fiscal policies and overconfidence in the market to supply housing-especially affordable housing (Troy, 1996).

The rewriting of development codes in planning regulation reflects this shift in market power to the private sector. Consequently, market distortion has created a speculative real estate market, rather than allowing the productive capacity of the housing industry to meet the structural need of the market (Taylor, 2008). Additionally, under reforms to streamline the development process,[1] the approval application procedures have been progressively standardised in Australia to reflect a universal approach to design that focuses on reducing red tape and expediting development. This standardising of development codes has had the effect of diminishing local planning authorities' roles to regulators of development control rather than providing a strategic planning function (Gleeson 2006) and without reducing the overall cost of housing (ABS 2008).

2.3.5 Designing urban policy for sustainability

Since the publication of *Silent Spring* (Carson, 1989), concepts of sustainability and sustainable practice in development have become central platforms of the planning and built environment professions. The literature on sustainable development is extensive and the resulting changes to environmental legislation, building codes and the blossoming of green technologies reflect this. The two key concepts that have driven these global changes to environmental practice have highlighted the different ideological approaches to addressing the challenges faced by environmental degradation, resource depletion and climate change. The concepts of sustainable development (SD) and ecological modernisation (EM) are two different approaches and features of the way development occurs in Australian cities. To this end, it is important to understand how these approaches illuminate some of the rationales adopted by

[1] The Development Assessment Forum (DAF) was formed in 1998 to recommend ways to streamline development assessment and cut red tape without sacrificing the quality of the decision making. The Forum's membership includes the three spheres of government (Commonwealth, State/Territory and Local); the development industry; and related professional associations. www.daf.gov.au accessed 3 August 2011

different advocates in reconciling their commitment to environmental improvement in planning and development. An examination of these concepts also provides a conceptual framework to understand how tools for measuring green performance of buildings are theoretically framed in this thesis.

The most popular definition of sustainable development (SD) was in 1987 by the World Commission on Environmental Development in its publication Our Common Future (WCED, 1987) which has 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987 p.10). Ecological modernisation (EM) on the other hand is a belief system that emerged from the development of environmental policy in Germany and the Netherlands (Weale, 1992). EM was an 'ideology' borne out of the unsatisfactory pollution control strategies of the 1970s in Europe largely because the command and control mechanisms of government were ineffective in the flourishing capitalist market economy (Langhelle, 2000). Environmental management at the time was viewed as with any other government responsibility and could be dealt with by an instrument of the state. This was not the case; in fact government was in the business of displacing pollution rather than solving the problems via prevention or minimisation. The proponents of EM saw it as a market solution to institutional failure and convinced governments that pollution was not a burden on the economy but rather a source of future growth. This interpretation and implementation of the EM not only appeared to make good economic sense, but it also helped control the inefficiencies of state controlled environmental policy (Gunningham & Sinclair, 2002).

EM implies a 'no limits' ideology; that is to say, that EM will be able to meet the needs of environmental policy as well as satisfying demand for the growth of goods and services, whereas SD is more concerned with the environmental cost of 'no limits' development. SD focuses on the need to achieve equity and limits to prevent exhaustion of resources. It is primarily concerned with the causes of global environmental damage that correlate to an unequal impact on the poor over the rich who are more capable of protecting themselves from environmental damage (Langhelle, 2000). EM and SD are both anthropocentric concepts and this has led a number of commentators to suggest that EM is a market based belief system that aspires to achieve the goals of SD (Langhelle, 2000). Other commentators support the notion that EM and SD are conceptually different but overlap considerably, thus producing similar policy implications. From a development perspective, the environmental goals of EM and SD appear to be very similar and yet the means to achieving those goals are different. This has led to a conflating of the two concepts and this is particularly apparent when design and development practices in the case study are examined in Chapter 10.

State legislation designed to improve environmental performance of the development industry contains features of both EM and SD. Examining the design and application of these regulatory tools provides insight into how both design and planning negotiate the gap between the rhetoric of SD and the practice of achieving those goals largely through an EM approach. This is discussed further in the next chapter.

2.4 *Canberra: The twentieth century urban experiment*

The design and planning of Canberra is well documented, from both an historical perspective (Headon, 2003; Reid, 2002; Vernon, 2006), and its town planning legacy (Freestone, 2007). The rapid urbanization experienced in the major cities during the 1880s showed that the orderly and effective development of towns and cities could only be achieved with some overall vision, regulation and collaboration between the established professional fields of architecture, surveying and engineering (Freestone, 1989). In Australia, the enthusiasm for town planning responded to the perceived failure of Sydney's disorderly development resulting from rampant property speculation during the nineteenth century (Freestone, 2000). Consequently, the expectations of the new capital for Australia were very high and internationally important as utopian theories of ideal suburban form and the promise of a new modern city converged (Headon, 2003). Canberra came to represent the optimism of the technological age and the modern state as the colonies of Australia sought to gain political and economic security though the Constitution of the Commonwealth. Ideas and visions for the new Commonwealth capital were well in place before the launch of the competition to design Canberra in 1911. Advocates for a low density garden city were seen to reflect our English heritage and the nationalistic preoccupation with landscape at the time (Vernon, 2006).

The second part of this chapter traces the changing fortunes of the suburb in Canberra from a political perspective. It looks at how utopian thinking fell short of its aspirations, in part because of early twentieth century conservatism, but also the shifting priorities of governments at all levels to meet short term political and economic pressures. By the end of World War II, suburban growth had become central to federal government policy in rebuilding and repatriating retuning soldiers and, like other western economies, saw a shift to a consumer economy based around the suburban life (Troy & Lloyd, 1981).

It is worth understanding the role of the design competition for Canberra to uncover the competing design philosophies and dominant ideologies. The City Beautiful Movement and the Garden City Movement were the dominant philosophies influencing the protagonists for the new national capital. In the context of Australia's suburban identity, this collision of ideologies

reflects the political and social context that gave rise to the Australian version of the twentieth century garden suburb.

American landscape architects Walter Burley Griffin and Marion Mahoney Griffin won the competition to design Australia's national capital with a dramatic interpretation of the city beautiful (Reps, 1997). Their design exemplified the City Beautiful Movement with classically detailed assemblages of monumental buildings on grand boulevards. The separation of commercial, residential and recreational zones appeared to be both artistic and scientific (Keane, 1993). The popularity of the beaux arts-influenced City Beautiful style among urban designers at the time was so influential that almost all competition entries for Canberra contained significant beaux arts elements (Reid, 2002; Reps, 1997).

However, Griffin's grand vision conflicted with the more pragmatic views of key government officials, namely John Sulman, Australian architect and advocate of Howard's Garden City Movement. This impasse ultimately led to the Griffins' departure from Canberra. Tension between the Griffins' City Beautiful vision and local planners' ambition for a low density garden city marked Canberra's first decade; ultimately the advocates for the Garden City model won. Consequently, Walter Burley Griffin's tenure as federal capital director was frustrated by department bureaucrats until his contract expired in 1920 (Reid, 2002).

Sulman replaced Griffin and was a strong advocate for the Garden City approach. This, however, was not merely a sentimental attachment to scenic landscape sensibilities adopted from England. Sulman was a pioneer of housing reform and founder of the New South Wales Town Planning Association. He was more concerned with the pragmatic concerns of providing housing that promoted the individual as a product of the environment in which he lived (Keane, 1993). The contribution of Sulman to housing reform at the turn of the century in large part was his advocacy for environmental determinism to solve social housing issues. Civic reformers such as Sulman believed Australia could avoid the congestion problems of Victorian England; however, the progressive planning ideas also emerging from the 'old country' promised a brighter future. Just prior to World War I, around the same time the national capital design competition was coming to realisation, housing reformers were fortifying their theory on housing reform by espousing the virtues of the British Garden City Movement (Keane, 1993).

The Griffins' influence on the Australian version of the garden suburb somewhat ironically gained prominence almost half a century after they left Canberra. The Griffins pioneered the concept of the bush suburb in Australia when they took control of the subdivision of Castlecrag in the early 1920s. Only seven kilometres from the Sydney CBD, the suburb was to be a haven for living in the natural landscape surrounded by a sea of red roofed Californian bungalows (Seddon, 2005). Their ambition was to design a suburb where the natural bushland could regenerate to form a 'continuous garden' in the Prairie School tradition, a design philosophy

they brought to Australia from the mid-west of the USA. The Griffins' radical vision for Castlecrag could only be realised by imposing restrictive covenants on lots, design controls on housing and requirements to maintain internal bush reserves (Seddon, 2005). The Griffins had come to Castlecrag having left Canberra in frustration, but their ideas would influence the Sydney Bush School Movement that gave rise to Canberra suburbs such as Duffy some 50 years later.

The suburb as a social space as understood by the Griffins was an idealistic experiment of living in landscape exemplified by Castlecrag. They were not completely at odds with the garden city mould, nor were they entirely successful in achieving their outcomes (Seddon 2005). However, their legacy in the development of suburbs in Australia was significant, in the context of our cultural fascination with the Australian landscape typified by the bushman, the influence of Howard's Garden City legacy and the influence of state socialism in the provision of housing. These influences combined to create a particular suburban typology and are detailed in the next section and provide an insight into the landscape legacy of the post-World War II garden suburb.

The Australian suburban identity was well established by the time Australia became a Commonwealth in 1901. So the idea of a national capital, located away from the coast that also aspired to be an international exemplar of modern city planning, always had the potential to challenge the well established Australian ideals of urban settlement, community and identity. As a migrant-settler capitalist society, Australia was able to exploit new technologies for urban growth without coming to terms with pre-industrial and early industrial city forms (Hogan, 2003). With an abundance of land available for expansion, the major cities were able to sprawl along the coastlines providing urban dwellers with plenty of space to raise their families. As a result, the majority of the population lived in towns and cities by the turn of the century.

The presence of nature in the Australian suburban consciousness was also pervasive. However, the approach to development and the design of these sprawling suburbs stripped away the very nature that embodied the Australian cultural identity of the time (Boyd, 1963). The mythologising of the lonely bush settlers overcoming nature romanticised Australia's cultural relationship to the landscape and in doing so established a paradoxical fascination with the bush 'out there', while stripping it away to forge a suburban frontier so vehemently criticised by social commentators on Australian identity (Hogan, 2003).

2.4.1 Canberra's relationship with the urban landscape

Canberra itself has a particular landscape planning history. The landscape played a central part in this new national identity through the extensive plantings by Charles Weston along with the development of the garden suburbs by Sulman and the eventual adoption of the Griffins'

plan, gazetted in 1925. However, while the framework and landscape vernacular of the city was established in the first 30 years, the majority of urban development in Canberra occurred after World War II.

For most of the twentieth century, Canberra planners have paid significant attention to the landscape setting in the city, yet the formal recognition of landscape elements into the regulatory planning framework did not receive attention until the 1960s. In the same year that Lake Burley Griffin was completed, the NCDC's special report to the Cabinet on the planning of the national capital identified areas of special national concern that included the inner hills surrounding the city and Lake Burley Griffin (NCDC, 1964). This report initiated further planning work to recognise and protect the values provided by the landscape. It was another decade before the NCDC formalised the landscape structure of the ACT by recognising the National Capital Open Space System (NCOSS). The NCDC emphasised the national importance of Canberra's landscape setting by the creation and formal adoption of the concept of the NCOSS in the metropolitan Y plan of 1984. The hills and ridges within and around the urban area of Canberra were to be kept free of urban development, both to act as a backdrop and setting for the city as well as providing a means of separating and defining the towns (NCDC, 1984).

The major concerns about the implementation of a NCOSS into the metropolitan plan were pragmatic issues to do with ownership, access for recreation, environmental management and planning responsibility. Land management became a priority concern as the NCDC anticipated the division of land tenure that would result from the Territory's move to self-government. As the main beneficiaries of the NCOSS would be the permanent residents, the NCDC believed that the ACT government should pay for the cost of land management, and this decision more so than any other has troubled both levels of government grappling with the challenge of valuing the landscape.

The investigation into the proposal to formalise the NCOSS by George Seddon in 1977 raised a number of questions relating to landscape value and the purpose of an identified open space system. He emphasised the importance of understanding the NCOSS as more than a land use category and argued that 'land is by its very nature, is a non-homogenous commodity, and sites differ greatly in their attractiveness' (Seddon, 1977, p. 24). He was most concerned about how the landscape would be valued for both recreation and visual amenity. However, managing the visual impact of development remained an integral principle of the NCOSS objectives, in particular, how the visual setting or view from certain points around the ACT would represent the lineage to the original Griffin design. Seddon was also concerned how the landscape setting invoked meanings of national significance.

Protecting environmental values in Australian cities during the 1970s became politically charged under the activism of the organisations such as the Builders' Labourers Federation in NSW who fought to protect many residual open spaces from development. However, in Canberra the problem of open spaces was quite the opposite. Seddon was aware of the public criticism of the city's lack of density. He rather prosaically alluded to this when, in the introduction to the 1984 policy and development plan, he quipped that the problem for Canberra was not finding the landscape among the buildings, but rather, finding the buildings between the landscape (Seddon, 1984). However, this only reinforced his view that the city was planning for the future. As the city grew, the division between the urban and non-urban spaces would become more prominent and pressure from users would increase. He suggested that a future territory government should adopt a 'honey pot' approach to land management and identify a few areas to be intensively used and managed. He believed that largely-dispersed medium-intensity use of the NCOSS would be damaging both ecologically and economically.

By the early 1990s, the ACT became a self governing territory and the focus of both the new National Capital Planning Authority (NCPA) and the ACT government revolved around division and transfer of land management responsibilities. The NCPA also continued to investigate how to promote and make meaningful the NCOSS values to the Australian people (Parliament, 1992). This included an investigation of how NCOSS areas could be managed and classified to reflect conservation values as well as examining development potential for recreation and tourism. This legacy of urban landscape planning meant that the NCOSS now defined the spatial structure of Canberra as a polycentric city. Today, each town centre is surrounded by predominantly low density suburban development and each of these 'towns' has a clear urban edge, a desirable goal of contemporary urban planning.

The landscape structure of the city – its physical setting – has not changed substantially over the last century. The original vision of a capital city surrounded by natural hills and bordered by the Murrumbidgee River corridor can be traced back to the deliberations of the Senate committee for the site selection of the capital in the first decade of the Commonwealth (Headon, 2003). Over the twentieth century, the language used to account for the landscape values on the other hand has changed as the expectations of decision makers and the community have changed. Perhaps Seddon anticipated the future challenges facing Canberra's landscape legacy when he oscillated between romantic narratives of scenic beauty to more pragmatic questions to do with allocation of resources. As the city grew and emphasis changed from building a capital to maintaining an urban design legacy, the landscape has been incorporated into different planning and management.

For the first 70 years of the development of Canberra, the landscape was consciously incorporated into the metropolitan plan of the city in a way that reflected the Anglo-centric

preoccupation with the visual and scenic aspects of the term (Figure 3). While the ecological values of urban landscapes began to emerge at this time, they were, in effect, a justification to preserve the existing layout of Canberra at all scales from the block, to the street, the suburb, and the city as a whole. As a result this strategic planning approach had also inculcated a national perception of Canberra as a city in the landscape. Residents today value the easy access to 'nature' that weaves throughout the city, and at the same time value the low density leafy character of their suburban streets (ACTPLA, 2004). Landscape therefore has multiple meanings to Canberra residents that have emerged as a result of the 'top down' scenographic urban design approach imbibing local citizens with a sense of identity related to living in the landscape. In 2003 the affinity was tested for residents of the suburbs on the western edge of the city.

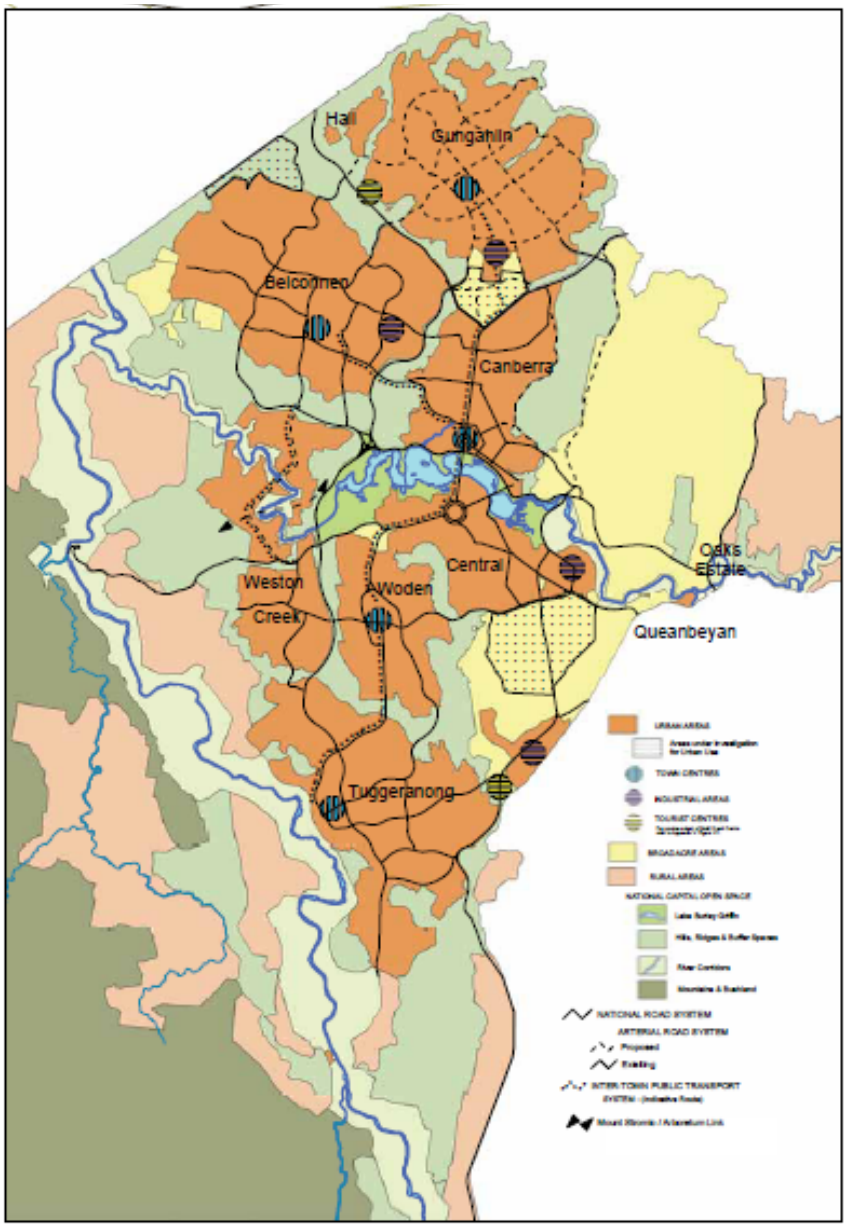

Figure 3: The Canberra Metropolitan Policy Plan (2010)
The NCOSS is represented in green.

2.4.2 Shifting landscape values in a climate of uncertainty in the ACT

In the twenty-first century the landscape plays a duplicitous role in the formation of the modern city. Attempts to realise landscape value from an aesthetic, territorial or econometric perspective have become further complicated by the challenges faced by resource depletion and climate change. In the Australian Capital Territory (ACT) landscapes are again thought of, from a planning perspective, as a contest between two opposing values; the apparent contradictions between landscape as a source of national identity and a liability from a management and fire risk perspective. This is discussed further in this thesis but worth mentioning here to understand how a modern state such as the ACT has embodied the landscape into the planning process.

In 2003, after the Canberra bushfires, the ACT government prepared *Shaping our Territory: Options and Opportunities for Non-Urban ACT* (TAMS, 2003). The report provided the most comprehensive study of future uses for peri-urban landscapes in the ACT since self government. It was the first study by the ACT government that substantially focused on land use in the peri-urban landscapes surrounding the city. While the territory has management plans in place for up to 50 Canberra nature parks, this report presented a vision for future land use in and around the city's extensive landscape network. For the first time, environmental narratives to do with the mitigation of carbon emissions, biodiversity conservation and resilience, particularly in relation to fire risk, emerged as a priority.

A year later, the ACT government released the Canberra Spatial Plan which set out principles for the growth of the city over 30 years including, for the first time, a key metropolitan planning objective of preserving biodiversity. While this was an important goal of the spatial plan, there was little supporting evidence to show how it could be implemented. More importantly, biodiversity drew the attention of community members wanting to see such global environmental narratives incorporated into local development goals.

In 2006, the ACT parliamentary Standing Committee on Planning and Environment recommended that the ACT should be nominated as a UNESCO Biosphere Reserve (ACT, 2007). The committee recommended that the ACT develop and implement an effective communication and consultation strategy so that stakeholders better understand the benefits of biosphere reserve listings. The aim of the listings was to promote solutions to balance the conservation of biodiversity and sustainable land use. The listing was broadly supported for various reasons including the need for landscape scale land use planning and the recognition of the city as an international exemplar of urban design. It may have been ahead of its time and required a more concerted political effort to see the nomination succeed; however, the listing

positioned the landscape within a global discourse at a time when the city was coming to terms with chronic water shortages, drought, and the aftermath of the 2003 fires.

In December 2009, the ACT Planning and Land Authority commissioned a Territory Plan Urban Principles Review. It reinforced the symbolic and aesthetic values of the landscape by identifying the significant features of the Canberra fabric (SGS, Economics and Planning, 2009). However, the thrust of the report included that the most significant challenges facing the city included the retention of the peri-urban landscape corridors as an integral part of the city's setting. In attempting to reconcile measurable costs and global environmental benefits, the report listed the landscape values in terms of its contribution to the city's sustainable performance.

> Canberra has a significant advantage and opportunities compared to other cities; urban landscape[s] support biodiversity, sequestration of carbon; organic waste disposal, food production, regulating local and micro climate, purifying urban water and air, wildlife habitat, alleviating flood and managing water retention. There are significant ecological services that can be performed by Canberra's urban environment while contributing to sense of place and character. Quantification and assessment of the effectiveness of these aspects of the landscape needs to be integrated into the overall planning framework to inform decisions about the extent, species selection and character of the landscape desired. (SGS. Economics and Planning, 2009, p. 26)

The report highlights both the difficulty that policy makers have incorporating and managing landscape values into metropolitan planning. These reviews place the challenge of managing the landscape legacy of the city in the context of climate change. It suggests that the Intergovernmental Panel on Climate Change projections on global carbon emissions and associated temperature increase present climate change scenarios that will impact on the landscapes of South Eastern Australia (TCI, 2011). These impacts on the landscape are still unknown and as modelling and information processing improves, new information and impact scenarios will come to light. Over the twentieth century the language used to account for the landscape values on the other hand have changed as the expectations of decision makers and the community have changed.

At the beginning of the twenty-first century, accounting for landscape values has become increasingly complex. Dealing with climate change uncertainty has added another dimension to the way that landscapes are incorporated into metropolitan plans. As cities come to terms with increased risks associated with extreme weather events, it is possible that urban landscapes such as those that thread Canberra's urban form together will be viewed through a new set of cost accounting metrics. This approach is further complicated as symbolic landscape values take on a national significance dimension. The merging of the fields of urban planning and global

environmental and economic narratives, even within a concept such as landscape, has produced new discourses in the way that cities are understood.

2.5 *Conclusion*

The development of Canberra as a twentieth century city represents many of the dominant ideas and political approaches to housing, urban development and metropolitan planning. In many ways Canberra is unique as a city entirely conceived and constructed in the last century. Yet many of the unfolding urban forms in the nation's capital reflect the development of other modern cities in Australia. The low density suburb, more than any other urban form, exemplifies a persistent urban typology of the post-war period up to the 1980s. Despite the variations in road configurations, hierarchy of public space and changing architectural styles, the detached dwelling on a rectilinear block of land has persisted for most of the twentieth century. As a result, most Australians live this type of suburban life and the low density suburb occupies the greatest land use type by area of all Australian cities. Therefore, the reforms to planning and development of such suburbs continue to have a significant social and environmental impact on contemporary suburban life.

Major housing construction companies, supported by industry associations including the Property Council of Australia, the Planning Institute of Australia and the Australian Institute of Architects, have sought to negotiate a new role for planning. This includes the standardisation of building codes, the privatisation of development certification and the removal of legislation that restricts competition in the provision of government business. This move to a national regulatory system that fosters basic standards favours a land use system designed to facilitate the needs of the development industry first, and the end users represented by the municipal authorities second. The increasing political legitimacy of the anti-planning neo-liberal view has promulgated a suburban pattern that borrows the mythological legacy of the contrived pre-industrial European village rather than the picturesque landscape that gave expression to the first suburbs. In the case of urban redevelopment, this has resulted in building densification without the densification of the population; a primary goal of consolidation.

Through the devolution of strategic planning away from the state and the drain of funds toward the centre and periphery of cities, the post-war Australian suburbs have become the antithesis of the social objective they were designed for (Gleeson, 2006). The combination of these trajectories combined with the continuing uncritical enthusiasm for place making objectives positions this new suburban landscape in a direct conflict with the values of the post-war Australian suburb.

In Canberra, the landscape occupies a place in the identity of the city that is resolutely visual; it symbolises the nation's interest in the capital in and through the Australian

Constitution.[2] National significance of the landscape is usually expressed in and through references to the Griffins, as if the construction of a city on a landscape stage was their singular vision for a new capital. Yet, to the Griffins, aspects of nature were to be incorporated into the city structure as part of a social and moral order that gave interesting precursors to contemporary concepts of sustainable living. Indeed the Griffins left Canberra for Sydney seeking to develop a suburban community that embodied their progressive ideals of living in nature. Perhaps ironically, suburbs such as Duffy, designed 50 years later by a federal administration, embodied this vision more so than the central avenues and formal layout of the city, so synonymous with the Griffin legacy.

[2] Section 125 of the Commonwealth of Australia Constitution Act 1901 identifies the creation of a new capital city.

Chapter 3: The suburb as a cultural space

3.1 *Introduction*

This chapter examines the spatial practices of social actors in the development process to understand the dialectic relationship between the landscape, the consumers and the producers in the recovery of the suburb. In doing so it explores the production of the new suburban form from a cultural perspective. It interrogates how the residents, designers, planners, and other social actors perceive the home and the suburb and what theories can be drawn on to explain their relationship to the changes occurring around them. This thesis focuses on the particular dynamic between social actors in the formation of identities in suburbs undergoing renewal. Herbert Gans's (1967) study of the planned estate of Levittown in the USA is an enduring and influential body of work relevant to this research. In his study of Levittown, Gans proposed that the consumer-producer dynamics determined many of the design outcomes of the suburban estate.

Finally, this chapter examines the suburb as a cultural space and the criticisms that followed. While it focuses on the Australian critiques of suburbia, references are made to British and United States examples, such as Letchworth, Radburn and William Levitt and Sons' Levittown which have all contributed significantly to the critical enquiry into the twentieth century suburb.

3.2 *Producer and consumer dynamics*

Two major themes overlap with field of landscape scholarship and dominate research into suburbs. The first examines the physical form and function of the suburb (Alexander, 1966; Chermayeff & Alexander, 1965; Dowling, 1997; Hall, 2010; Jacobs, 1961; Lynch, 1981; Mumford, 1938, 1968; Relph, 1976, 1987) and the second explores the social and cultural attitudes of residents (Allon, 2008; Boyd, 1963; Davis, 1990; Farrelly, 2007; Ferber, Healy, & McAuliffe, 1994; Gans, 1967; Greig, 1995; Murphy & Probert, 2004; Ross, 1999; Timms, 2006). Important urban design questions emerged from such research, yet the generalised critique of suburbia has held favour over sound empirical research into the lives of suburbanites. This chapter argues that consistent findings based on empirical research show that changes in people's lives were, on the whole, better when moving from an urban to a suburban lifestyle (Gans, 1967; Ross, 1999). However, the critical view of suburbia as an alienating, oppressive space has continued to prevail and the myth that suburbia is a cultural waste land is just as persistent today.

Suburban development has also attracted considerable interest in the development of social theory (Gans, 1967). Herbert Gans, an American sociologist, cultural theorist and urban scholar

of the late twentieth century, argued that community formation and social dynamics should provide the focus of the research rather just than the design of the structures and features of the suburb itself (Gans, 1967). In fact, Gans concluded that his research was as useful to planning authorities in developing planning theory as it was for the development of social theory. He argued that suburban developments were a combination of producer motivations and consumer demand. Residents' reasons for moving to the suburban estate essentially came under two categories: those who saw an opportunity for improvement, more space and the desire to own their own home. This group influenced the decisions of developers through their choice of homes; they were pulled to the suburb and their consumer choice drove demand. The other group who moved were pushed. Their motivations were largely driven by the inadequacy of their previous accommodation, in which case the choice of residence was more focused on affordability, and the developer choice drove demand (Gans, 1967).

Gans developed this theory further to examine popular culture generally. He argued that the features of this dynamic are found in both specific relationships to do with suburban development and more generally in terms of the everyday life of residents. This is particularly relevant as it supports the notion that the renewal processes examined in this research are embedded in the practices and motivations of the residents in a dynamic tension with the producers in a particular cultural space.

3.3 *The suburb as a cultural lens*

The suburb has been an idealised living space, in nature and separate from the city, but it has also represented a conceptual fragmenting agent in the process of transformation of the city during the twentieth century (Lefebvre, 1996). As a result, cities have undergone both conceptual and spatial transformations and this is important to acknowledge when considering how the city continues to change in response to socio-economic and cultural influences.

Cultural studies have traditionally focused on more fluid objects of popular culture such as television programs, advertising campaigns and consumer products (Harrington & Bielby, 2000). Similarly the attention of cultural research has tended to focus on the consumer of the goods and services. However, more recent interest has broadened as scholars focus more on the interpretation of meaning making systems concerning the producer-consumer dynamic rather than definitions of cultural objects per se. The previous chapter argued that landscapes are both a visual reality and embody a sense of identity for the community. As such, landscapes influence cultural practice and are shaped by such practices in the same way that suburbs are shaped by such dynamics (Gans, 1967). While this potentially broadens the net of objects, experiences and places that can be examined from a cultural perspective, such research into landscapes in particular, is limited. Consequently, measuring the spatial reorganisation of the

twentieth century suburb is relatively straightforward; to understand its re-conceptualisation though a cultural lens is somewhat more complex, although no less important.

The design of post-war suburbia in the USA, the UK and other western democracies contributed to a radical rethinking of planning theory, architecture and urban design. Jacobs (1961) challenged planners and architects to understand what the fundamental principles were that constituted a good city, rather than focusing on how the component parts of the city fit together. She argued that cities should not operate to provide a list of services but rather facilitate social interactions, and, through those connections, neighbourhoods are formed. Jacobs's contribution to theories on social formation in suburbia was significant. She argued that neighbourhoods should be defined by their 'fabric and the intricate cross use they generate, rather than by formal boundaries' (Jacobs, 1961, p. 138). Many sprawl developments were 'cures irrelevant to the disease' (Jacobs, 1961, p. 156) because suburbs created spaces that were intermittently occupied. They were vacated during work hours and did not provide a sufficient and reliable supply of consumers to make social life meaningful, let alone make commercial and retail operations viable. Jacobs's work uncovered the institutional failings of modernist planning and architecture to develop suburban cities, and also shifted the attention of researchers to a more socio-cultural examination of the suburban experience.

Contemporary social, psychological and cultural research into suburban life in Australia is extensive (Hogan, 2003), yet empirical research into residents' experiences of both new and developed suburbs in Australia is limited, despite a demonstrated need for such research (Hurlimann, 2010). This is unsurprising, given the popularity of the literature on the subject matter in Australia during the post-war period, most notably Boyd (1963) and Greig (1995) who detail the political, social and cultural circumstances that combined to produce the particular Australian suburban vernacular of the post-war period.

Australian architect and social critic Robyn Boyd's book, *The Australian Ugliness* provides an enduring thesis on the Australian cultural identity in the 1960s and set the tone for future commentaries that ranged from denigration to celebration of the ordinary, the average and the underwhelming. The suburb was described by Boyd as the frontier of Australia's 'second period of pioneering' (Boyd, 1963, p. 94).

More recent research has also explored contemporary attitudes to national identity linked to home-ownership and the suburban consumer dream (Allon, 2008). Similarly, the role of landscape and landscape elements in the Australian suburb has received some attention. These include cultural examinations of suburban gardens (Timms, 2006), more recent interest in the contribution of suburban gardens in the formation of community identity (Morgan, Rocha, & Poynting, 2005) and changing attitudes to landscapes in relation to sustainable practices (Drescher, Holmer, & Laquinta, 2006; Head & Muir, 2006).

3.3.1 New discourses for suburban form

The political and economic circumstances that led to the significant shift in development trends in Australian suburbs are detailed in the previous chapter, namely, the broad acceptance of consolidation policies and the reduction in the states' role in planning and development (Gleeson, 2006; Troy, 1996). Subsequently, these political, social and environmental pressures led to changes in design outcomes that resulted in a more compact urban form and this legacy dominates urban planning practice in Canberra and Australia today.

As with any new design movement, the compact city and its variants, including new urbanism and smart growth, have been promoted as the new way to design with all the positive outcomes espoused by advocates. Yet like all movements before, the compact urban form is, in part, a response to consumer demand and a product of strategic and coordinated responses to economic pressures and market opportunities by organisations engaged in the development of suburbs. Just as Gans argued in the 1960s, today, large home-building and product-manufacturing companies that dominate the housing industry have as much to do with this cultural shift as do the consumers who live in them.

The change in language accompanying this shift also contributed to the normalising of the discourse used and promoted by such design movements. For example, the archetypal suburban phrase for the post-war period was known as the quarter acre dream. Yet the quarter acre block equated to 1012 square metres, which was a large, relatively uncommon block in suburbs developed up to the early 1980s. Contemporary subdivisions now promote large blocks up to 600 square metres, almost half that of the quarter acre. In the ACT, current planning codes refer to large blocks as 500 square metres and above, and their site coverage rules apply accordingly.[3]

Other such language has been used to describe suburban developments and these related to the 'shrinking' suburb. Terms such as 'village' and 'community' draw references from the neo-traditional influences of new urbanism. However, one of the most persistent descriptors of ideal contemporary suburban development that has illuminated some of the thinking behind the compact urban form is the term 'walkable'. This term is a common adjective used by planners and developers alike to describe their aspirations for ideal suburban form. The term originated out of legitimate health concerns resulting from physical inactivity of residents, especially children in residential areas.

Such concerns gave rise to the reconceptualising of the residential street as pedestrian territory rather than merely modes for efficient transportation (Appleyard, 1978). This symbolic recovery of the street to become community territory was a turning point in the way suburban

[3] ACTPLA residential code for development is under review and the definitions of blocks determines the site coverage rules allowed; this has a significant impact on the size of houses built in established suburbs (www.actpla.act.gov.au) accessed 25 May 2010.

space was organised. Urban design researchers such as Jacobs (1967), Appleyard (1978), Marcus (1979), and Calthorpe (1989), through their work legitimised the urban village ethos that proceeded. As a result, walkable communities became a dominant and persistent theme of urban planning and development rhetoric.

The term ‘walkable’ has become an organisation tool for planners to set out residential areas. As such, suburbs are organised to meet walkable distances up to 500 metres between residential areas, local commercial centres and public transport stops. Streets are arranged in interconnected grids instead of the cul-de sacs, a legacy of the Radburn style. House frontages form part of the streetscape with reduced front setbacks and careful choices of materials to create seamless transitions between the road, verge, nature strip, front garden and front door. The outcome is a new urbanism strategy of developing prescriptive aesthetic codes to regulate urban form (Weller, 2008).

Walkable is not merely a discrete measurement tool to support the shrinking of the suburb’s spatial dimensions such as lot sizes, road and verge widths. It also pertains to a set of aesthetic principles, or ‘place codes’ and this limits the capacity of consumers to determine choice and the ability of individual producers to exert control over built form (Ang, 1990). In the same way, aesthetics is not merely a term referring to standards of beauty and taste, but also a range of values and emotions that people express or satisfy when they make choices (Gans, 1974).

The same planning and construction regulations governing development apply to all types of suburban housing, yet the level of control over design outcomes differs between master-planned estates on greenfield sites and redevelopment in existing suburbs. Similarly the social actors range from representatives of public and private institutions, as well as individuals whose interactions produce the resulting built form. Pennington rather pessimistically predicts the consumer is the loser in such an interaction.

> (…) consumers pay higher prices for new residential development and the mass of the urban population suffers from increased congestion and air pollution as development is ‘crammed’ into the towns and cities. In each of these ‘losing’ cases, the interest groups are so large and diffuse that they are absent from organised politics and have insufficient incentive to become politically mobilised. (Pennington, 1999, p. 52)

Alternatively, Gwyther (2005) believes that the consumer is not passive and homogenised in the process of consumption. She suggests that the mobilisation of such language operates to serve two functions in the process of development. Firstly, that the design and development practices have an influence on the formation of community, and secondly, that a relationship exists between the resulting community and the formation of a social code that protects

economic interests and social norms (Gwyther, 2005). In each case, the physical outcomes of the redevelopment are influenced by broader social, cultural and economic interests that are brought into the producer-consumer relationship, and in the case of Duffy, these influences will continue to affect the way the suburb recovers long after the building of homes is completed.

The assertion of such aesthetic control in and through such language is worth reflecting on in this thesis for two reasons. Firstly, I argue that the suburb is both a cultural object and a product of the meaningful interactions between residents and other social actors who engage in the practice of daily life in that space. Secondly, terms such as 'walkable' act as an economic instrument to rationalise public infrastructure design and a means to exert aesthetic control. Subsequently, this has implication for relationships between the various social actors in the development process and this is examined further in Part 3.

The previous chapter identified the conceptual origins of the suburb, the influence of utopian thought and the maturing of democracy and citizens' rights as expressed in the layout and patterns of Australian suburbia. Similarly the notion of a utopian space, projecting into the future, was a radical insight at the turn of the century (Relph 1987, p. 24) and this conceptual shift played out in the production and design of the modern suburb over the twentieth century. In this thesis, I explore the interplay between the complex process of production and consumption in the redevelopment process.

Herein lies the question as to whether the houses built in Duffy represent cultural objects that are much the same as assembly line products in which the activity of redevelopment is reduced to a series of standardised and interchangeable processes, or whether they are more complex associations where social resources are mobilised, and as a result of the activity, sociological phenomena is uncovered (Harrington & Bielby, 2000). Ross (1999) argues the latter and concludes that suburban communities are the embodiment of an actively engaged, not passive, community whose formation is not a product of standardised design, but rather a realisation of the gap between the consumer dream and the reality of daily life (Ross, 1999).

3.3.2 Cultural planning: a narrow view of suburban culture

The form of new suburbs in Australian cities is most visibly different from those built in the post-war period by the disappearance of the backyard (Hall, 2008, 2010) and that has been explained by a deliberate paring back of planning regulations to allow such development to occur (Taylor, 2008). However, it is worth considering that, while this may provide evidence of a surrendering of private open space for economic reasons, it is also a legacy of a long held view that the twentieth century suburb was a social and environmental pariah, precisely because of the abundance of open space surrounding the detached homes and this created low density sprawl. Alexander (1965) recognised this paradox when he suggested that the density of the city

was a result of millions of people reconciling their desire for space and their desire for access. The policy shift toward compact cities and containment would suggest that the community's desire for access is replacing their desire for space. It is, of course much more complex than a simple binary between two competing forces and planning has sought to come to terms with this complexity by examining the socially constructed notions of space.

Cultural planning and 'place making' entered the planning literature in Australia in the latter part of the twentieth century (Dowling, 1997). Emerging from community arts programs in the mid-1980s, cultural planning recognised the opportunities for social and economic improvement in and through access to the arts. At the same time, local authorities were increasingly interested in attracting capital investment into their region as a means of underpinning their revenue base. Cultural planning transformed cultural institutions into industries attuned to the economic opportunity promoted by the entrepreneurial state (Dowling, 1997; Hubbard, 1996). Cultural resources and developments created distinctive images of place and helped to attract business into a local area (Dowling, 1997). Subtle but distinctive variations on cultural planning emerged in the development of housing and housing estates, and the development industry was quick to realise the value adding benefits of providing cultural plans and other interventions in a social 'compact' with the community (Gwyther, 2004). Terms such as place making and place branding are now common place in planning and development rhetoric.

Gwyther argues that a 'community compact' is the primary device for differentiating master-planned communities from other forms of residential estate. The 'community compact' is a combination of legally sanctioned restrictive covenants which underpin 'code of pecuniary beauty' and informal covenants that govern the way in which people conduct themselves, that constitute a community ethic (Gwyther, 2004). Although the community compact, as defined by Gwyther, is peculiar to master-planned estates, the question is whether aspects of this social code are present in the redevelopment of Duffy.

Place making and place branding are often used inappropriately to articulate the role of cultural planning in the development of master-planned communities and other housing developments. Place making privileges a narrow interpretation of culture and focuses on the physical manifestations and design features of a project rather than the goal of community formation (Dowling, 1997; Gwyther, 2004). Subsequently 'place' is assumed to embody sites with local cultural significance, usually with narrow nostalgic interpretations of the past (Dowling, 1997). This is unsurprising in the case of master-planned developments where developers' motivations to foster cultural capital for the purpose of securing high returns are expressed thorough specific design features. It is the lack of master planning and strategic place making approaches that mean redevelopment in existing suburbs provides a particular insight

into community formation. In the case of such redevelopment, individual projects are not seen to be strategically linked to an overall cultural plan. However, I would suggest that there is an element of cultural production or a de facto place making in the absence of a cultural plan that forms a ‘community compact’ in redeveloping suburbs (Gwyther, 2005).

3.3.3 Translating social spaces into physical spaces

This thesis argues that a community ‘compact’ exists in all forms of suburbia. As a result, the activity of redevelopment renegotiates that compact at the same time as the physical space is reconfigured. Therefore, a relationship exists between the social and physical space called the suburb and that relationship constitutes part of communities’ social capital. Social capital is widely accepted as a meaningful theoretical perspective for understanding the social norms and relations embedded in the social structures of society (Narayan & Cassidy, 2001) and the concept of social capital is present in contemporary practice of master planning and residential development (Gwyther, 2005). The efficacy of the planners’ endeavours to incorporate social capital into the physical suburban space depends on the constitution of a social space, which, according to Bourdieu, is necessary for the formation of social groups (Bourdieu, 1983; Gwyther, 2005)).

Social capital has gained political and academic interest over the last 20 years, particularly in terms of governance and public policy formation. Put simply, it is broadly defined as the investment in social relations in the anticipation of expected returns (Lin, 2001). However, the concept has developed to examine its economic advantages in a socio-political context, particularly in relation to neo-capitalist economic theory (Lin, 2001). Most significantly Bourdieu (1983) suggests that a form of ‘social labour’ exists in communities and this allows for the conversion of one form of capital into another, and this includes infrastructure such as property measured by real estate value. Despite the potential for power struggles over exchange value and examinations of equitable return, the convertibility of this social labour presents interesting possibilities in regards to the capacity and motivations of social actors to enact on opportunities and make decisions that enhance their ‘investment return’ and, in turn, see their own suburb through a real estate lens (Dowling, 1997).

3.4 *Conclusion*

This chapter has examined those elements that frame some of the thinking behind the suburb as a cultural space and draws a connection between the landscape as a physical space and the cultural values reflected in the way that the landscape is portrayed in suburban life. The case study represents an opportunity to investigate particular phenomena relating to the circumstances that unfolded in the period of significant redevelopment in Duffy since 2003. It

presents the landscape as a cultural space imbued with community values. It questions what sort of new suburban space emerges when the controls of the master plan do not exist. Such a question needs to consider the legacy of the suburban cultural vernacular in Canberra and Australia. It has examined those elements that frame some of the thinking behind the suburb as a cultural space and draws in the connection between the landscape as a physical space and the cultural values reflected in the way it is portrayed in suburban life.

The purpose of this review of literature has been to develop a theoretical argument for using landscape as an organising concept for exploring the interplay between the social and cultural forces that operate in a dynamic tension between producers and consumers in the redevelopment of suburbs. Chapter 1 established that landscape is a broad and multifaceted concept, steeped in the history of both community formation and national identity. It allows for a wide-ranging exploration of the interplay between social and cultural drivers of change and their physical manifestation. Chapter 2 recognises that this change does not happen in a vacuum; it explores how political and socio-cultural drivers strongly shape the decision making spaces of the social actors. Chapter 3 examines the dynamic tension between the consumers and producers operating in the physical and cultural space called the suburb in the twenty-first century.

The question of who controls the planning and design of suburbs is a persistent one and has shifted over the years to incorporate an increasingly complex mix of professional, media and cultural influences. Regardless, the tension between the producer and consumer dynamic continues to serve as a sound theoretical field for exploring this question. This dynamic is also present in the rebuilding effort in Duffy and this thesis seeks to unpack who those actors are, what were their aspirations, and why they made the decisions they did.

Part 2: METHODOLOGICAL ISSUES

Chapter 4: The case study background

4.1 *Introduction*

This chapter gives detail to the broader spatial and social Canberra landscape in relation to its manifestation in the case study of the suburb of Duffy. It provides a background to the rationale for selecting the suburb as a case study suitable for addressing the research questions and discusses how the changes observed in the case study are meaningful in the broader context of suburban redevelopment in Australian cities.

The examination of the landscape in Duffy has uncovered social relations, everyday practices, struggles and material values that reproduced a new suburban space in the recovery process. According to Lefebvre (1991), space embodies three nested elements that this thesis explores in and through the landscape. The material space includes the physical landscape components and how they are composed and arranged, and how representations of space produce knowledge about the landscape through decisions and actions and the subjective practices that are attached to space in and through acts of belonging to a community of recovering residents (Eizenberg, 2011). Lastly, the lived space is explored, referred to in this thesis as the phenomenological union between dwelling spaces and past experience (Bachelard, 1969). As a result, the landscape is 'at once a physical environment to be perceived, a semiotic abstraction that informs both common and scientific knowledge and a medium through which the body lives out its life in interaction with other bodies' (Eizenberg, 2011, p. 4).

Figure 4 identifies the approach for examining the socio-spatial changes that occurred in four stages. It diagrammatically describes the landscape as an encompassing whole, an organising concept in which change has occurred. The top of the diagram represents the first stage of analysis that focuses on quantifiable changes to the physical or material landscape. Material change refers to the reconfiguration of the spatial pattern of the suburb. The material landscape is categorised into built and unbuilt spaces (Antrop, 2000). Within the realm of the material landscape, the first stage of data analysis indentifies the extent of spatial changes using High Resolution Satellity Imagery (HRSI). The second stage identifies the demographic changes over time and space resulting from the fires. The third stage uses qualitative data analysis to develop a detailed understanding of the motivations and decisions of social actors to uncover the relationship between the changed physical landscape and the inhabited landscape. The process arrives at the bottom of the diagram where the socio-cultural and the spatial landscapes changes are explored concurrently over time and space. The intersections between these realms are explored further in this chapter.

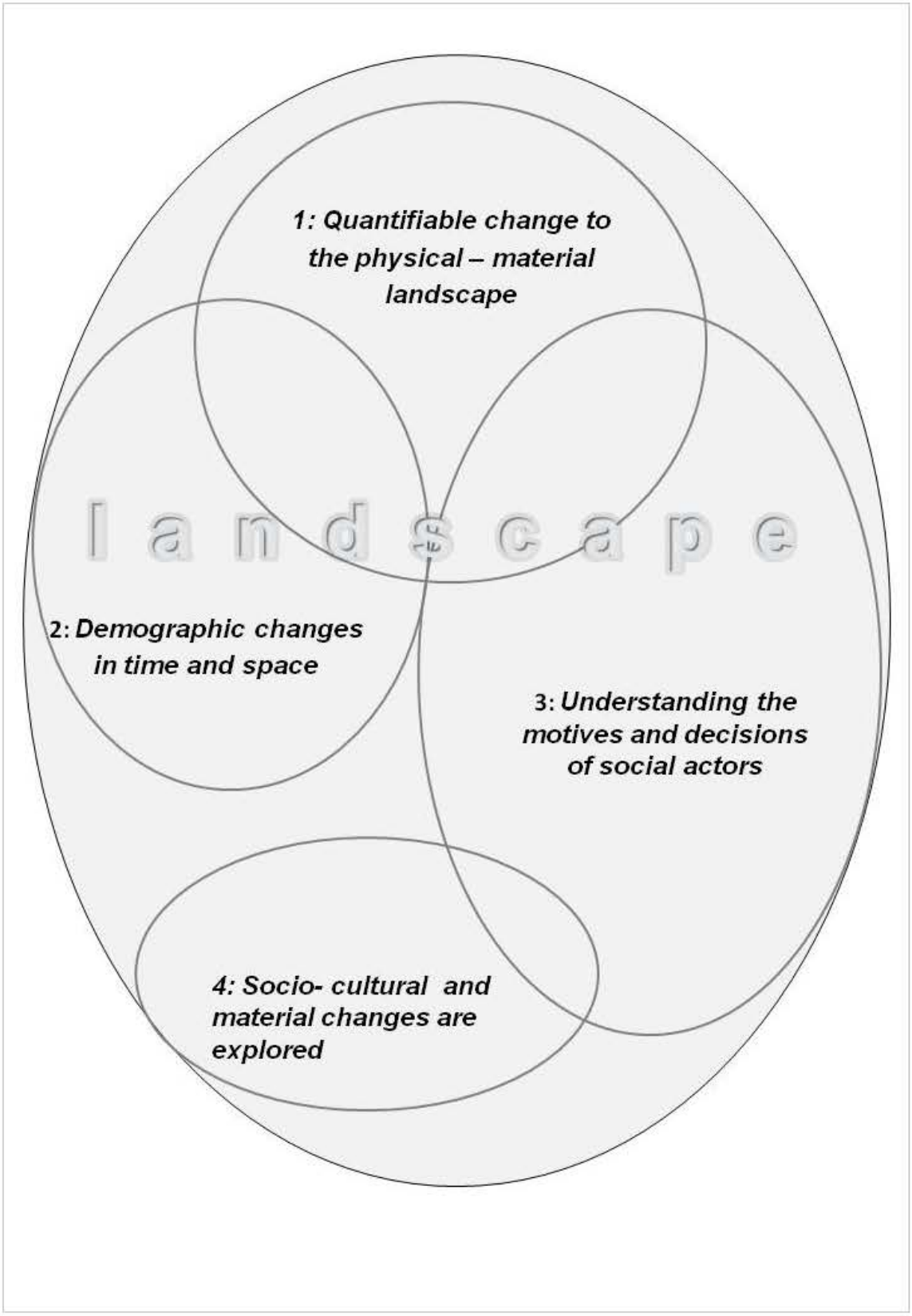

Figure 4: The research rationale for examining the socio-spatial changes in Duffy

4.2 *Duffy: A case study of suburban recovery*

Duffy is a low density residential suburb on the south western urban edge of Canberra (Figure 1). It is typical of suburbs built in Canberra during the 1960s to 1980s, the greatest period of suburban expansion in the city's short history (Reid, 2002). What is remarkable about these suburbs is their similarity rather than their distinction from other suburbs developed in Australia at the same time.

Despite the cultural cringe associated with suburbia in the post-war period, this style of suburban housing reflected the public's preference for a particular suburban typology. As Donald Horne argued, 'Australians know what they want and it includes a house set in its own garden, a considerable amount of privacy, domestic comfort and an involvement in family life' (Horne, 1964, p. 21).

Between 1958 and 1978, political pressure to meet housing demand to accommodate incoming public servants meant that the NCDC had to implement a significant program of land release. The primary concern for the NCDC was to regulate the release of land to meet the demand for housing, as well as minimise land speculation in order to maintain housing affordability. The extent of control over land supply by the NCDC presented a unique situation in Australia. The state exercised its will to keep land costs downs by only recovering the cost of subdivision development in the setting of reserve land prices (NCDC, 1972). During the NCDC period, the neighbourhood planning principle, adopted from the British New Town movement, was used to plan suburban areas. A typical neighbourhood, or suburb, would accommodate 4,000 to 5,000 people with more than 1,000 residential blocks, each 7,500 to 12,000 square feet or 700 to 1,100 square metres in area. The average density would be 12 persons per hectare (NCDC, 1972). Threats to the ubiquitous quarter acre in the 1970s led to a comprehensive empirical study supporting Horne's assertion (Halkett, 1976) which was and continues to be at odds with the state planning objectives to promote consolidation in the low density suburbs around Australia.

Most Canberra suburbs built during this period were homogenous both in street layout, architecture and open space design. This was a legacy of the centralised and coordinated approach of the NCDC between 1958 and 1988. Today, the majority of these suburbs from this period have seen very little redevelopment and this can be explained by a number of factors. Firstly, the housing stock is still relatively young and so demand for redevelopment is minimal. Normally, no more than two or three development applications (DA) were submitted per year in suburbs such as Duffy prior to 2003 (pers. comm.. ACTPLA). Secondly, state fiscal policy and the land release system in the ACT historically favours housing development in greenfield estates. In the last 20 years, the majority of detached housing development in Canberra has

occurred in the towns of Gungahlin to the north and Tuggeranong in the south. Such greenfield development has been a typical strategy for meeting housing demand in most major Australian towns and cities since the mid-1980s.

Until recently, in the ACT, greenfield development has dominated the market because the land supplied for new housing is released by the government. This is a product of the leasehold system in the Territory that allows the Government, rather than private landholders, to capture the improved land value resulting from change of use purpose. As a result, greenfield land sales contribute up to 4% of the consolidated revenue of the ACT.[4] In effect, the government is the monopoly land owner of greenfield land and is often accused by the private development sector of setting policies around retaining that monopoly. This, more so than any other factor, skewed the housing supply market toward greenfield sites. Since the release of the Canberra Spatial Plan in 2004, the mix of infill and greenfield development has changed to approximately 50% of each type, which is broadly similar to other major cities in Australia (ACTPLA, 2009a).

More recently, large-scale redevelopment of existing suburbs has occurred in the areas closest to the CBD in the inner north and the Parliamentary zone in the inner south. This redevelopment has largely occurred as part of the ACTPLA's consolidation policies through the rezoning and strategic planning objectives set out in the Garden City provisions of the Territory Plan.[5] However, the majority of the mid twentieth century suburbs have not experienced any significant renewal through gentrification or other non-market means of updating housing stock. Only the suburbs affected by the bushfires in 2003 have seen large-scale redevelopment.

These fire-affected suburbs are most visibly different because of the loss of street trees and front gardens and the redevelopment of new houses. In suburbs such as Duffy, Rivett and Chapman, the new houses are concentrated along the urban edge. Up to 40% of houses along the roads bordering the western urban edge have been rebuilt. Redevelopments in other suburbs such as Holder and Kambah were more dispersed through streets and usually adjacent to urban bushland that weaves through the suburbs. Almost all redevelopment in these suburbs was a direct result of the damage caused by the fires. In fact, no other development applications were submitted in Duffy between 2003 and 2006 for rebuilds of non-fire-affected houses. However, since 2006 an increasing number of rebuilds were observed in streets with the highest number of homes reconstructed after the fires.

[4] In 2004–2008 the ACT treasury land sales target contributed around 4% of consolidated revenue to the annual Territory budget.

[5] The Garden City provisions were introduced into the Territory Plan in August 2003 and restrict the redevelopment of single and multiple residential dwellings to maintain Canberra's suburban character.

4.3 *Development history pre–2003 bushfire*

By 1975 Duffy covered an area of 300 acres and was designed for a population of 4,700. There are 1,078 standard building blocks, and in 1972, 9.4 acres was set aside for flats and town houses, and 26.8 hectares for dedicated recreation and urban open space (NCDC, 1972). The internal layout for Duffy was designed with the aim of providing safe pedestrian access and 'a pleasant living environment with such features as pedestrian walks and children's play areas' (NCDC, 1972).

The average block size in Duffy was 830 square metres and the typical house floor area for detached dwellings in 1974 was 120 to 150 square metres with an average site coverage of 15-25% (Noble, 1975). Siting of houses, road layout and block design for optimum solar access, and environmental amenity, were also important planning considerations but not always achieved. In addition, the NCDC coordinated an extensive forward planning and construction of major infrastructure, including the planting of the public open spaces long before any houses were built (Taylor, 2008).

Duffy was established on the north western edge of the Woden district, adjacent to the long established commercial forestry plantations at Stromlo. Although the western edge of Duffy was bordered by a two lane edge road, the prevailing winds in summer from the north west immediately presented a fire risk to the new suburb. Despite the known risks, Duffy was built. However, other cultural factors also contributed to the risk from the suburb's inception. During the late 1960s and 1970s, native plants gained favour for both public landscapes and private gardens. Eucalypts were extensively planted as fast growing street and park trees as part of the NCDC's endeavour to establish vegetation in the new suburbs. The government-owned nursery at Yarralumla gave new residents up to 30 local native plants per household to help establish gardens (NCDC, 1964).

It was unsurprising that suburbs such as Duffy had such an abundance of open space on private and public land. The NCDC was not concerned about site coverage or loss of private open space and did not restrict the sizes of houses on the blocks, as it was not considered necessary, given the relatively generous block sizes and small houses. The NCDC continued to implement the planning, design, and regulation of suburbs in Canberra until the late 1980s and the design of houses reflected the austerity and conservatism of the time (Greig, 1995). The housing industry was still largely made up of small owner-operators. However, the planning of suburbs such as Duffy allowed for new project home companies to mass produce standard design government-owned houses, known as 'govvies'. The goal of the NCDC was to achieve a 50/50 mix of private and publicly developed homes and yet the designs for both types were very

similar. The typical houses were small brick cottages set six to eight metres back from the street and aligned to the kerb (Greig, 1995).

This housing typology reflected the persistent themes of social equality, citizenship, and home ownership that dictated house design during the NCDC period (Freestone, 2000). Many of Canberra's suburbs, including Duffy, reflected this landscape character, and today you can travel across the city and see the evolution of the garden city concept and in particular, the post-war influence of the NCDC. The underlying emphasis on landscape settings for the design of suburbs in Canberra endured until the 1980s. This was achieved through an integrated approach to civil engineering and landscape planning that demanded a holistic approach to suburb design (Reid, 2002).

4.4 *Development history post–2003 bushfire*

The case study represented an opportunity to investigate particular phenomena relating to the circumstances that unfolded in the period of redevelopment in Duffy since 2003. Therefore a detailed examination of the spatial changes complements the broader examination of the major cultural, social and political influences during this period. This, in part, may explain the cultural influences acting on various social actors, as well as offering a contextual framework to understanding what had occurred during the three years after the fires.

In January 2003, Canberra was in the grip of drought and midway through another summer of water restrictions. Yet for most, the environmental hardship was not matched by economic hardship. Today we can reflect that Australia was at the end of a long boom, not seen since the end of World War II. Since 1992, Australia had enjoyed a strong and continuous rise in real net disposable income per person (ABS, 2005). Politically, economic prosperity was promoted as the most significant indicator of national wellbeing. However, new interpretations of wellbeing attracted public attention in the face of growing global social and environmental urgency (Hamilton & Denniss, 2005). Global NGOs such as the World Wildlife Fund and World Economic Forum introduced additional aggregate indicators for wellbeing such as ecological footprints and environmental sustainability indices to complement gross domestic product as a nation's measure of wealth (ABS, 2005). This rising concern for other measures of prosperity interested researchers who examined the ill effects of unprecedented wealth over consumption and its consequences for society (Hamilton, 2003; Hamilton & Denniss, 2005). Such examinations were part of a broader attempt to reconcile the dominant political neo-liberal ideology manifested by both sides of parliament.

While the 'fetish' of consumption became popular rhetoric in some circles, it was certainly not a topic of mainstream media. Climate change, on the other hand, was quickly shifting to become a major policy issue as Australia's population was still divided between the sceptics and

believers. In the context of suburban development, state and territory governments had begun to incorporate more restrictive policies in terms of energy and water consumption in an attempt to recognise the need to adapt to future climate uncertainty, but urban design and development did not gain the attention of the Federal Government until recently. In October 2009, Prime Minister Kevin Rudd announced in Parliament that the Federal Government's commitment to housing was the biggest in Australian history and the major form of infrastructure development essential for productivity growth in Australia (Hansard 16:2009:11237).

Although not as topical in mainstream media, the change in the demographic makeup of households and the resultant implications for suburban planning and development was as influential as the move towards more restrictive development codes in keeping up with the sustainability objectives of the states and territories. The decline in the number of residents per household was continuing to fall, and expected to average at 2.2 to 2.3 persons per household by 2021 (ABS, 2005). This projected decline reflected the fundamental shift away from the nuclear family model that formed the majority of households when Duffy was originally built. This change reflected a rise in lone person households, and couples without children. In 2003 the ageing population, increased rate of divorce and the delaying of marriage and childbirth were all contributing factors to the growth of the one and two person households (ABS, 2005). Notwithstanding, in 2003 the two-parent family household still represented the majority of households in Australia and was expected to remain so for the next 15 years. The implications for planning agencies around Australia was that the reduction in the number of persons per dwelling had created an additional pressure on housing demand on top of immigration levels and the natural rate of population increase.

4.5 *Policy approaches to achieving sustainable urban development in the ACT*

By the end of the twentieth century, planning legislation began to incorporate measures to address the challenges of climate change adaptation and mitigation. The ACT addressed the challenge of meeting its aspiration of achieving a more sustainable urban form by adopting two key policy approaches. These included a tool for assessing the environmental performance of a building, and a policy goal of achieving good environmental outcomes through design. Energy efficiency ratings (EER) were first introduced into Australia in the ACT in 1998 and formed part of the requirements for the sale of residential properties. EER is a ratings tool designed to provide the market with a theoretical measure of the energy performance of a residential building and it remains the most comprehensive mandatory disclosure scheme for energy efficiency ratings of private dwellings in Australia (ACTPLA, 2009b).

The EER ranks the environmental performance of buildings on a scale of zero to six in two ways. Firstly, existing buildings are ranked by an accredited assessor on a building's orientation, use of materials and the type of energy efficient inclusions such as solar hot water heaters[6]. The second approach is to determine a ranking based on the Building Code of Australia (BCA) specifications of design features which, when adopted in the design of a building, are sufficient to meet the required EER rating (BCA, 2006). A minimum number of stars are required for new developments depending on the circumstances and goals of the planning legislation (ACTPLA, 2012).

Policy designed to achieve environmental performance based on design assessment operates in a similar way to EER tools but relies on a more 'top down' approach from planning authorities to ensure that performance standards are met. Where EER tools are assessed using software tools and administered by accredited contractors, the policy approach looks at buildings on a case by case basis. Statutory planning assessors determine whether each development application meets the required environmental standard.

Between 2001 and 2005 the ACT government adopted such an approach. The goal of the policy was to achieve sustainable development through design and an appropriately named policy High Quality Sustainable Design (HQSD). The goal of HQSD was to minimise the total carbon footprint over the lifetime of a building, to avoid premature obsolescence, and to maximise value in the long term (Lesser, 2011). However, the policy experiment was short lived. In 2002 the Master Builders Association (MBA) of the ACT, in its submission to the ACT government's Business Regulation Review task force argued that the HQSD process added substantial extra costs which were eventually passed on to the consumer (ACT, 2002). The MBA lobbied the ACTPLA to establish criteria which would allow a consistent approach from industry and would also assist the statutory planners when they assessed applications (ACT, 2002). In light of an ACT Legislative Assembly Standing Committee on Planning and Environment report, the 2003–2004 ACTPLA annual report showed that the HQSD process required refinement to improve its application and efficiency (ACTPLA, 2004a).

In 2004 the HQSD policy was dropped by the ACT government under considerable pressure from the Property Council and the Master Builders Association. In June of that year the CEO of the Property Council reinforced the need to reduce red tape and recommended a self-regulation approach to maintaining environmental standards.

[6] http://www.actpla.act.gov.au/topics/design_build/siting/energy_ratings accessed 15 June 2011

> The Property Council's interpretation of the [new] guides is that the onus is on industry to the level of detail provided in the design phase. This is a welcomed change from the previous High Quality Sustainable Design system that was incredibly complex and time consuming. (Madew 2004, p.12)

By the following year's ACTPLA annual report, the references to HQSD as a policy had disappeared (ACTPLA, 2005). The term was continued to be used as an aspiration for good outcomes in design guidelines and standards for certain types of infill development but the enforceability of HQSD had become considerably watered down.

In 2007, ACTPLA released a review of the provisions for retaining the suburban character of the city, while at the same time allowing the development of a more compact city under the broader objectives of the Canberra Spatial Plan (ACTPLA, 2007). This discussion paper recognised the need to balance specific concerns of residents with broader environmental goals. It provided evidence in the form of development codes to identify how the character of suburban areas would be protected through building controls. By establishing tools for regulating built form, ACTPLA endeavoured to regulate how the landscape would be impacted on. Preserving the character of the suburbs was an explicit if not ill defined goal of the discussion paper and yet the codes designed to achieve this only focused on placing restrictions on the building envelope and in doing so provided very few controls over how the landscape would be affected at a block or suburban scale.

By 2010, ACTPLA had released a draft variation to the Planning and Development Act (2007) concerning residential zones development codes (ACTPLA, 2010). The draft proposed that blocks of land over 600 square metres in size would be classified as large, and set back rules would apply accordingly. This proposed change represented a significant departure from the garden city provisions in two ways. Firstly, the classification of blocks of land reflected the development typologies associated with new greenfield developments. In the newer suburbs developed after 1990, a 600 square metre block was above average. However, suburban blocks developed in the post-war era averaged over 800 square metres and the application of codes for development in established areas has resulted in single storey houses up to 400 square metres on an average block of land. Secondly, the tools for development do not reflect the goals of the planning authority of a more compact city as such development effectively eliminates the possibility of increasing density of an area. As a result, the tools designed to regulate development and the broader goals for future urban form seem to be diametrically opposed, resulting in both a diminishing of garden city values and environmental goals.

The history of the planning and development policy instruments highlights the difficulty faced by planning authorities in achieving environmental standards based on targets. Increasingly, the pressure from industry for flexibility, certainty and control over the

development process has created a mix of policies that include features of both sustainable development and ecological modernisation (Langhelle, 2000). However, in practice, the reliance on green technology to meet standards without unduly inhibiting the normal operation of the market has led to unintended consequences. This is discussed in Chapter 10.

4.6 *Conclusion*

Duffy presents a sound case study for examining socio-cultural and spatial change to a suburban landscape for two reasons: the physical changes to the suburb over time and space, and the circumstances under which development occurred after the 2003 fires. The physical changes to the suburb as a result of the fires and post-fires reconstruction represents a visible shift in the approaches to development between two distinctive periods in the history of Duffy. When the suburb was first established in the 1970s, planning regulations were designed to mandate a minimum size house (pers. comm. Eric Planner). Thirty years later the new development codes are concerned with regulating the maximum size home (ACTPLA 2012). This reflects the increase in the average size house and the extent of change to the percentage of the block covered by built form which changes the shape of the residual landscape. The second reason concerns the circumstances under which the redevelopment occurred. The damage to property and public infrastructure created a demand for development unusual in scale and context in two ways. Firstly, the scale of damage caused by the fire was unforseen. Consequently, ACTPLA, other government agencies and the community had no preconceived strategy to cope with the loss of so much infrastructure or to manage the rebuilding of private dwellings and public amenity. Secondly, the number of applications to rebuild houses was unprecedented in an existing suburb in Canberra. Suburban development of this magnitude usually occurs on greenfield sites and relies on a master planning process to achieve desired outcomes. In the case of Duffy, no master plan existed and therefore redevelopment occurred using the planning codes designed for a different scenario in a suburb planned and built under different policies in the 1960s and 1970s.

The social actors in the recovery included the planners, building designers, architects and landscape architects working in a market buoyed by a glut of vacant land. Others included residents who had lived in the suburb for most of their lives and merely wanted to return to a suburb, albeit a permanently reconfigured one. New residents bought in after the fires and built new houses on blocks of land. The combined effects of a coordinated government response to expedite the recovery and the flow of capital from a buoyed market resulted in rapid reconfiguration of the suburb, the community and the landscape.

The statistical and historical data available allows for a detailed study of the material and demographic changes to the suburb between the periods surrounding the fires. The cooperation

of ACTPLA in providing data relating to redevelopment has allowed me to develop a detailed analytical framework around who was involved in the changes. Interviews with the social actors provide the substantive research material for the qualitative parts of the data collection and analysis. The issues, concepts and strategies to achieve this in a methodologically sound way are discussed in the next section.

Chapter 5: Methodology, research design and methods

5.1 *Introduction*

Landscape is used in this thesis as a conceptual framing tool to examine the relationship between the social actors' appropriation of spaces and the way they live in their suburb. It examines the space between narratives of the community and the design and planning professions in relation to broader social concerns to do with consumption, sustainability and identity, and how these concerns are manifested in the recovery of the suburb. The landscape presents both a physical and conceptual space to examine the gap between rhetoric and practice in the way in which we, as a society, identify appropriately, and then reflect on, the way we produce contemporary Australian suburbia.

This thesis does not critically examine individual expression in and through the built form, or attempt broader critical examinations of individualism and its impact on society. Rather, it uncovers cultural norms expressed in the multiple narratives that re-formed the suburb. Individualism is often criticised as a corrosive force on social formation (Gans 1988). However, little empirical evidence exists to suggest that such an explosion in individualistic behaviour has occurred in the latter part of the twentieth century nor has it resulted in a collapse of communities (Gans, 1988).

The previous sections have shown that this research uses a detailed case study of the Canberra suburb of Duffy to examine these phenomena for four reasons. Firstly, the events and actions that occurred in Duffy are well documented in time and space and these present an opportunity to examine the social and cultural forces acting on that community over a defined period. Secondly, these events and actions happened over a very short time compared to other similar suburbs undergoing renewal, as previously mentioned earlier in this thesis. Thirdly, the physical layout of Duffy is typical of a suburb built in Australia in the post-war period up to the 1990s. The physical plan represents a similar landscape setting to many suburbs in Australian cities and, by inference, represents many Australians who have an affect on, and are affected by, changes brought about through urban renewal. Finally, Duffy is a typical low density suburb in Australia under pressure. Suburbs such as Duffy are subject to development demands to accommodate more new housing as city planners look to reconfigure urban growth away from sprawling greenfield estates on the urban fringes to infill urban compact forms within the existing urban footprint.

The spatial data focuses on data that explains the reconfiguration of the suburb using high resolution satellite imagery (HRSI). The qualitative data focuses on the narratives of social

actors engaged in the recovery process. The analysis uses data visualisation of the participant interviews to broadly identify emerging themes and correlations with the different built outcomes. It then focuses on a detailed analysis of interview data to examine findings that explain the correlations and anomalies identified in Stage 2. Finally, the data analysis uses these findings to understand the respondents' conceptions of change, both embodied and articulated through narratives.

In this way, the landscape is not only the organising concept by which the spatial data is analysed; it is also the analytical tool for understanding the participants' decisions and actions in the change process in four ways.

Firstly, the material change to the landscape in Duffy was reflected in the way that values were expressed through decision making and design outcomes of those decisions. It examines to what extent this was a trade-off between value and instrumental rationality (Flyvbjerg 2010). In Duffy, decision making required interplay between the values, embedded in held personal perceptions and norms about daily practices, and the instrumental rationality, where the focus is on the perceived marginal emotional and financial cost of those decisions. Secondly, the designs are physical manifestations of cultural norms, that cumulatively reflected the held values in the community and are expressed in the design of houses and gardens (Flyvbjerg, 2001).Thirdly, the social actors reconciled the rights of the individual against those of the community in and through the way they embodied landscape values into their own individual values. Finally, examinations of individual decisions and behaviour, explored in the context of the producer–consumer relationship affected the socio-spatial reconfiguration of the physical character of the suburb. Figure 5 explains the relationship between the collection and analysis of spatial and interview data.

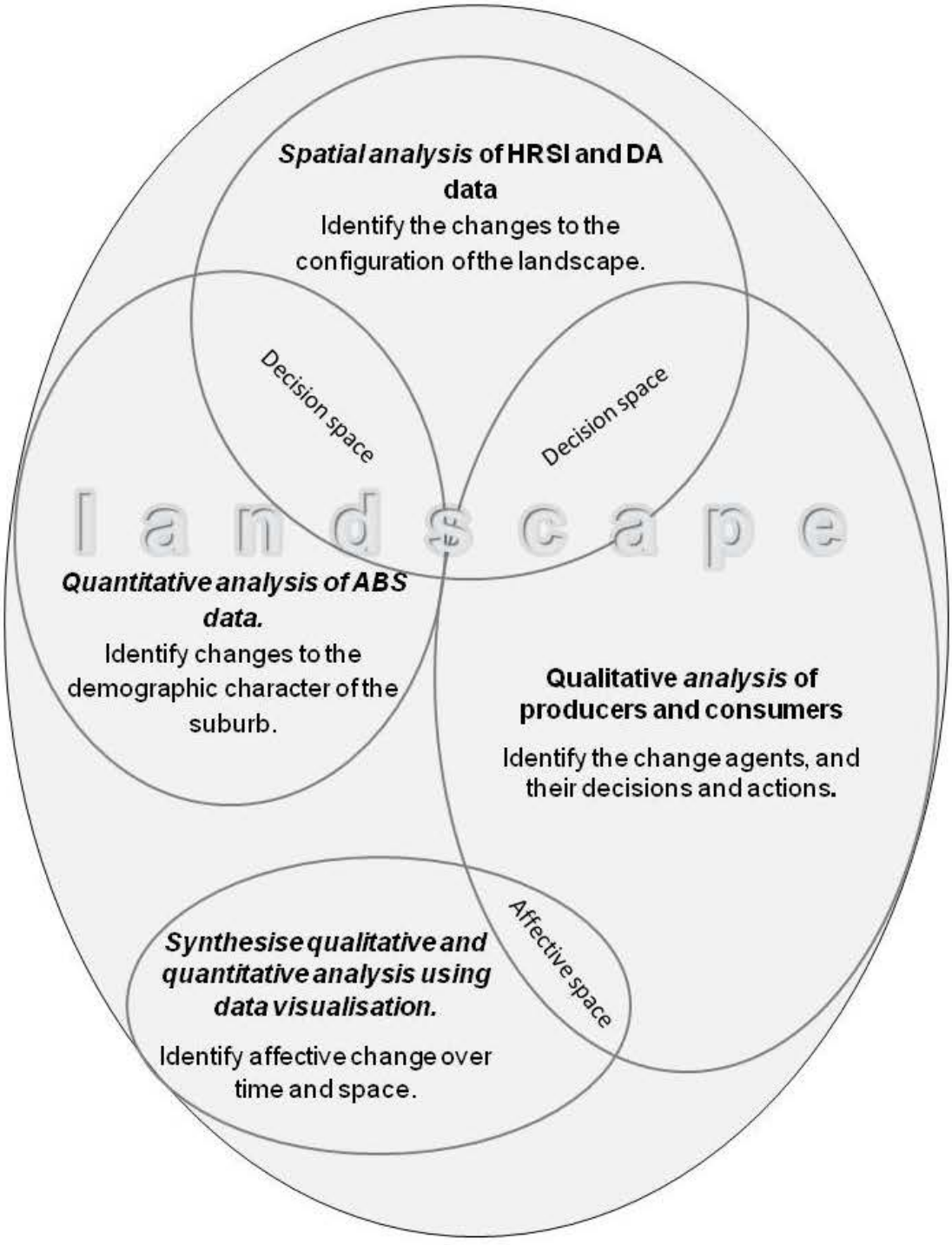

Figure 5: Diagrammatic description of the data collection and the analysis method

5.2 *Research foundations: Meaning and action – idealism and realism*

Landscape is the central organising concept in the development of the research method both as a material reality that can be observed objectively and as a lived experience, collectively constructed in and through the events, decisions and actions of the participants as they are told in the interview process. To this end, the research explores the gap between the idea and the reality of environmental policy goals, suburban development and suburban living and the consequences for the configuration of the suburban landscape. It proposes that when social actors embody the suburban landscape in decision making, they operate between a realist and idealist ontology.

Blaikie (2007) describes ontology as the 'science of being' and develops this for the social sciences to encompass 'claims about what exists, what it looks like, what units make it up and how these units interact with each other' (Blaikie, 2007, p. 92). Where the social actors interchange between ways of understanding the landscape, it is important for the researcher to understand the research strategy that relates to the idealist ontological assumptions used to describe the landscape by interview respondents. In order to explore the ontological space between meaning and action, this research method uses an abductive reasoning perspective. Abductive reasoning seeks to discover how society constructs reality. 'The main access a researcher has to these constructions is through knowledge that social actors use in the production, reproduction and interpretation of the phenomenon under investigation' (Blaikie, 2007, p. 10).

Social actors see the landscape as the material reality; the outside space and the physical setting for the home on a block of land in a suburban street. They also identify with an inhabited or idealist landscape linked to a lived experience in time and space. When social actors recount their stories of occupying, appropriating and ultimately changing the landscape, they oscillate between these idealist and realist ontological positions. This is made visible by the way that the different social actors operated and negotiated their roles in the recovery process. In order to understand the relationship between meaning and action more broadly and in a socio-cultural sense, the research explores the way in which those decisions and actions incorporate both the material and ideal landscape.

This research is grounded in social science which is not good at contributing new knowledge through Kuhnian science and predictive theory, but rather 'develops knowledge through the reflective analysis of goals, values and interests' (Flyvbjerg, 2001, p. 53). Adopting an abductive research strategy offers a solid theoretical ground for designing a research method

for this thesis. This is consistent with an approach to interpreting knowledge that is largely unarticulated, but is used and modified in and through social interaction (Blaikie, 2007).

The research questions seek to identify the extent and nature of the socio-cultural change to the suburb and the community as a result of development. Landscape is used as an organising concept to uncover tacit, mutual knowledge that forms symbolic rules, providing the orientations to the social actions, and this sort of knowledge is constantly used and modified through social interaction (Blaikie, 2007). We draw on tacit knowledge all the time without being aware that we hold it (Brown, 2008). Advocates of this abductive research strategy are largely concerned with explaining the process of making knowledge clear and meaningful to a broader audience. This project also explores the research questions from the perspectives contained in social actors' stories through language, meaning and accounts (Blaikie, 2007).

5.2.1 Social construction of place

The relationships between social actors operate in the landscape on a number of levels that encompass the material and ideal landscape. These relationships result in a reconfigured physical space, as well as a reconfigured social and cultural space. Hall (1995) argues that cultural space is one of the principal means of how identities are constructed, sustained and transformed. It is through language that 'we give meaning and classify the world meaningfully, and cultural formation in a particular space can be understood as a place' (Hall, 1995, p. 266). Therefore, the case study is examined as a place of cultural exchange. In this way, place represents a cultural system; it 'gives meaning to life and allows us to position ourselves in certain definitive ways within society and its belief system' (Hall, 1995, p. 267). Subsequently, cultures are understood as 'placed' in at least two ways, firstly through membership and secondly through a symbolic guarantee of belonging through a shared language and culture.

Membership of a culture is traditionally thought of as based on the 'stable interaction of the same people, doing the same sorts of things, over and over again, in the same geographical location. We think of cultures as strongly placed, not because all cultures are, but because that is how we imagine them' (Hall, 1995, p. 268). When we think of, or imagine, cultural identity, we tend to see it in a place or setting, as part of an imaginary landscape; we give it a background and put it in a frame in order to make sense of it. However, in Duffy at least 100 residents left the suburb to be replaced by new residents and the physical setting dramatically changed as a result of the fire. Consequently, the place is continually reinterpreted in and through social interaction of residents and the physical reconfiguration of the space called the suburb.

5.3 *Research strategy: understanding events and actions in a suburban context*

This research is context oriented and, as such, takes its reference point from the perspectives and values of the social actors in relation to a particular event or set of circumstances. The social actors' rationality is central to understanding the decisions made in the context of the case study. That is, to what extent is the agency of individuals conditioned by persistent social norms embedded in the discourse of housing choice, community formation, sustainability and eco-efficiency in design and development? It is also particularly relevant in the social research of urban processes (Gwyther, 2004).

The structure of the research design relies on the assumption that cultural meaning is a product of the social practices in a community that produce shared understandings. By examining those social practices, we can learn about cultural drivers of change. Culture is one of the principal means by which communities are constructed, sustained and transformed (Hall, 1995). Therefore, the decisions and actions of the research participants construct a socio-spatial reconfiguration of the suburb and there is a dialectic relationship between those social practices and the changes to the spatial relationship between the house and the landscape.

The social actors are broadly defined into two groups using Gans's definitions of consumers and producers as described in Chapter 3. These groups are further broken down by their roles and circumstances in the recovery process, but the distinction between the producers and consumers is important in order to understand their relationship to the case study.

5.3.1 Operating across scientific disciplines

This research employs a range of methods over a sustained period and reflects on the data collected to test assertions from the previous method. 'This refinement illuminates difference in the detail, and allows a more nuanced more complete picture to emerge' (Thwaites & Simpkins, 2008, p. 545). The purpose of this approach is to reveal subtly different layers of information rather than testing the repeatability of previously tested results.

Using multiple methods allows different dimensions of social practice to emerge, and in doing so accommodates the multiple interpretations of landscape by the social actors. By integrated multiple methods the researcher overcomes the temptation to examine and advocate a specific view about the way people should operate in certain settings, which is particularly common way for urban design professionals to critique social practice (Gwyther, 2004). Revealing the spatial characteristics of place in and through the accounts of research participants is analogous to 'increasing the visual resolution of a digital image' (Thwaites & Simpkins, 2008, p. 544).

By exploring the complexity and diversity of the social and cultural practices that unfolded in Duffy over the study period, I have examined the agency of those individuals and the implications that these practices have had on the way the suburb redeveloped. This is not to say that categorisation or codification is, in itself not meaningful, but rather, such methods of research need to be designed and considered in the context of the social practice. I believe that the integration of qualitative and quantitative methods to communicate the spatial reconfiguration of the suburb produces the most meaningful findings from a planning policy perspective.

5.4 *Research design*

Landscape research has a long and rich history in the social sciences and has been undertaken by using both qualitative and quantitative methods. Such investigations have been dominated by expert interpretation, perception-based approaches and philosophical investigations of aesthetics (Daniel, 2001). Quantitative methods are usually concerned with the discovery of an assumed fixed reality using data analysed by deductive reasoning (Armstrong, 2000). More recently, high resolution satellite imagery (HRSI) and aerial photography have been used to develop complex metrics to quantify fragmentation, heterogeneity and spatial dynamics in mixed urban and non-urban landscapes (Antrop, 2000). Qualitative methods in landscape research are designed to describe the nature of complex systems rather than quantifying the systems characteristics. Such an approach is useful for answering questions of a complex nature with a goal to understand or describe the viewpoint of people intimately involved in the study. This research adopts both approaches at different and discrete stages.

The research design relies on two key theoretical propositions; firstly, that cultural meaning is a product of the social practices that produce shared understandings. It is one of the principal means by which collective identities are sustained and transformed (Hall, 1995). Secondly, there is an association between those social practices and the changing relationship between the house and the landscape. The social actors are broadly defined into two groups using Gans's definitions of consumers and producers. These groups are further broken down by their roles and circumstance in the recovery process, but the distinction between the producers and consumers is important in order to understand their relationship.

The objective of this research design is to examine the changes to the suburb over time and space using a mixed method of data collection and analysis. I have used a multi-stage process described in Figure 5 to systematically integrate and interpret both spatial and socio-cultural changes that have occurred during the recovery process. This diagram shows the abductive reasoning approach to undertaking the research. Figure 5 (p.73) is a diagrammatic representation of the different stages of data collection and analysis, and how progressive

interpretations of the phenomena from differing perspectives unfold to provide a more holistic understanding of the nature of the changes that have taken place.

The task of quantitatively measuring and visually representing the physical changes to Duffy is relatively straightforward. However, the challenge is to understand how and why this physical change also represents a socio- cultural transformation. The research method begins by making sense of the changes to the material landscape that is the landscape of vegetation, materials, structures and spaces, and it concludes by understanding the relationship between changes to the material and socio-cultural landscape. In this way, the landscape is explained by tacit meanings, shared nuanced understandings and emotional connections to the lived experience. The research explores the interplay between the landscape undergoing material change and the changes to the social actors' inhabited landscape resulting from socio-cultural change.

5.4.1 Data collection and analysis: interpreting the material and socio-cultural changes to the landscape

The interpretation of data to understand the phenomena was done using an abductive reasoning research strategy. Figure 6 describes how the data was interpreted in the context of a question to do with the stages of data collection and what they might reveal about the changes to the suburb. The diagram identifies the landscape as a holistic concept and an organising principle for examining these questions in four stages.

The aim of Stage 1 of the data collection and analysis was to understand what material changes occurred between 2002 and 2006. This stage used quantitative methods to provide empirical evidence of the changes to the material landscape. These observations served as a basis for understanding how the residents made sense of the spatial changes to the suburb to the residents affected. In this way, the landscape was used as an organising concept to understand how social actors' decisions and actions operate at different spatial and temporal scales. I have a particular interest in how the respondents interpreted and expressed the landscape character and how their own values were placed on the landscape at these differing scales.

Stage 2 explored how and why the social actors became agents for landscape change. Through the collection and analysis of qualitative material, this thesis examines how their decisions and actions impacted on the suburban landscape, and interprets the unfolding relationship between the changing spatial configuration and the perceptions of change by those actors. The basis of this research assumes that the social actors are active change agents and the concept of agency and decision, in relation to residential development, draws on the work of Gans as described in Chapter 3.2.

Stage 3 focused on qualitative data that was collected in two phases of interviews. In Phase 1, I interviewed a range of social actors professionally engaged in the redevelopment process including architects, planners, landscape architects, building designers and bureaucrats associated with the recovery. The purpose of these interviews was to understand the themes, ideas and principles that guided their decisions and actions during the recovery process. The interviews were also designed to gain a better understanding of how the property developers, including residents, participated to rebuild their homes. Phase 2 of the interviews was then designed to examine, from a consumer's perspective, a more nuanced understanding of the relationships that unfolded to embody their decisions along with the events and actions creating that change. A copy of the interview questions is contained in Appendix A.

This stage was designed to create narratives-based individual life stories located in the landscape. This allows the researcher to explore the phenomenological union between dwelling spaces and past experience (Bachelard, 1969; Marcus, 1979). The focus of this method included the residents' life histories in Duffy by framing their experiences into coherent narratives in the context of their lived space. Developing a story based on topoanalysis links the individual to a sequence of events over time and space and, as a result, provides a relationship between the individual and the landscape. Data was collected using a two-part interview process. Part 1 consisted of semi-structured interviews with a broad range of respondents from the planning, architecture and design professions. These social actors were classified as producers in this study. Part 2 included in-depth interviews with residents, classified as consumers. The questions were based on themes emerging from the producer interviews. Through the interviews, the consumers were also asked to reflect on the changes over time and space. These consumer interviews examined more thoroughly the lived experience of the residents as the suburb changed around them. This form of environmental autobiography examined how the changes to the suburb that occurred were embodied in narratives about the development process.

The recollection of these experiences did not necessarily render each event as a discrete quantifiable unit of measurement, but rather a series of critical reflections that articulated how residents responded to changes in their environment over time, and how they expressed the totality of their experience in that changing environment. Such an approach identified incremental change in the landscape as residents returned after the fires, or changes to life experiences such as those who moved from Duffy since the fires.

In this stage, landscape's double meaning was considered. That is, the landscape as land; the decisions for the homeowners, designers and planners concerned with the amount of land on the block dedicated to built forms, as well as more pragmatic design issues relating to house orientation and site coverage, access and circulation. The second meaning identifies landscape as a product of cultural practices and a source of identity that manifests itself over longer

periods of time and varying spatial scales, namely the block, the street and the suburb. In turn, the landscape was embodied in the pragmatic and intangible decisions and actions that cumulatively contributed to the suburb's continuous recovery.

Stage 4 compared two households' perspectives of the changes that occurred between 2003 and 2010. These two perspectives represent the two diametrically opposite approaches to redevelopment. These households share similarities including household demographics, histories associated with the fire, and use of a commissioned architect to redevelop. The built outcomes are dramatically different despite both houses receiving the same energy efficiency rating. It considers how these residents embodied the changes to their suburb across differing spatial and temporal scales. This is discussed in detail in Section 9.3.

This research approach has examined the relationship between the landscape, the communities involved and the changes occurring in and through their actions. It extends landscape research beyond critical examination of how landscapes are represented, to interpret how landscapes are produced using methods sensitive to the materiality of landscape sedimented in time and space (Van-Dyke & Lauermann, 2010).

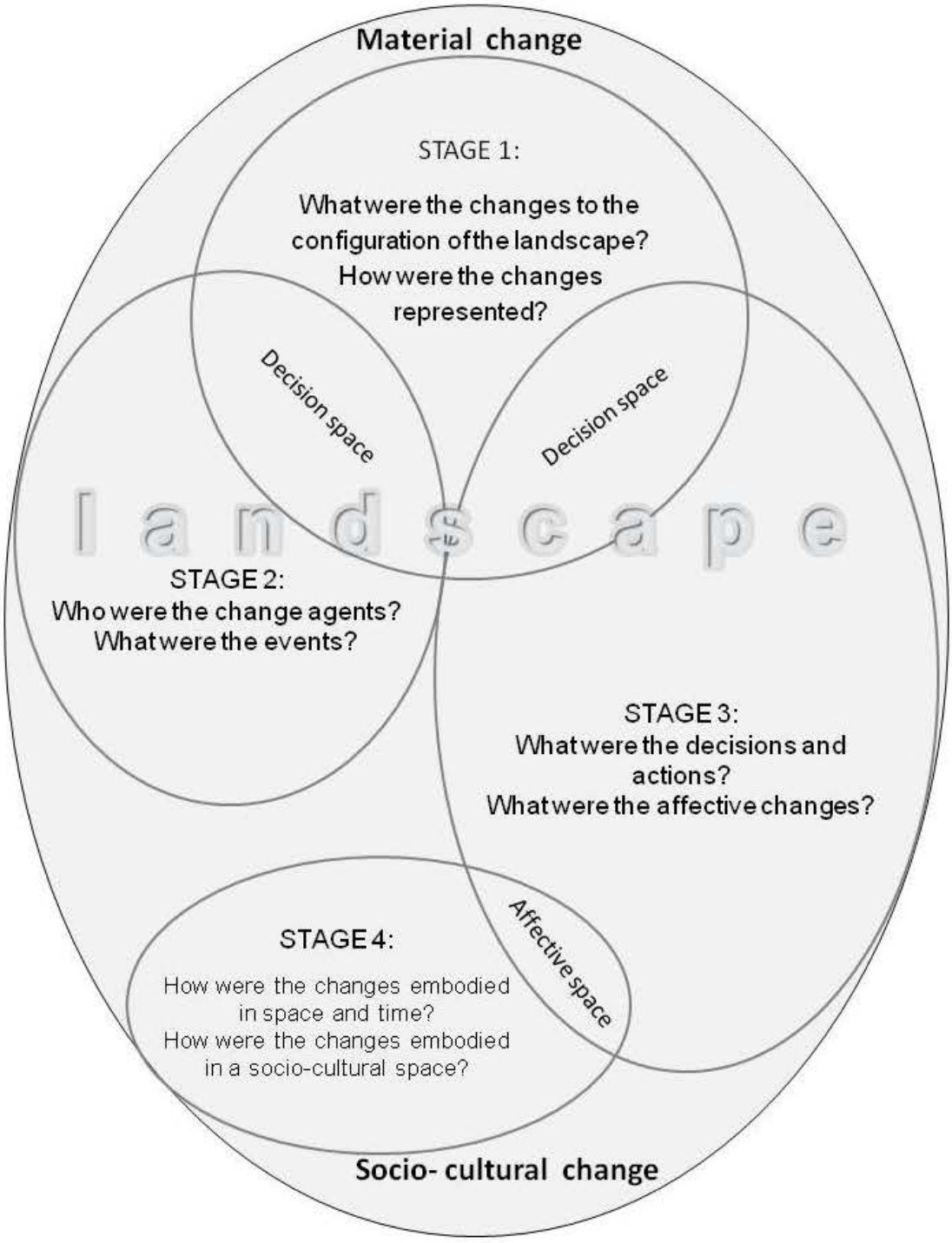

Figure 6: Diagrammatic description of the abductive reasoning method

5.4.2 Narrative analysis: understanding change in and through stories

To understand the agency of social actors in the redevelopment of Duffy required a method of data analysis that examined the social actors' accounts and how individuals reinterpreted their decisions, practices and experience through story telling. The interview questions followed a pattern of recollection of events, the respondents' contributions to those events, and their reflections on the consequences of the changes that had taken place (Appendix A). These changes may have occurred either through individual consumer-producer relationships or as part of a larger organisation, such as the planning bodies and other coordinating authorities.

The telling of the story allowed the interviewee to make meaning of a series of events, and the narrative allowed for a reflective interpretation of the individual's agency in the phenomena. It was a performance, and the teller faced the problem of trying to convince a listener that something relevant or important happened to them and, as a result, the teller crafted their story in collaboration with the listener (Riessman, 1993). The interviewer was then aware that the data was the collaboration between themselves and the interview participants, and the narrative became a means of shared understanding. The narrative also revealed how the interviewees made meaning of their experiences rather than trying to uncover the truth of what happened.

The interview data was analysed using a narrative analysis method. Narratives are discrete units within the data that deal with first person accounts of an experience containing a clear beginning and end (Riessman, 1993). Individuals related their experiences using a variety of narrative genres. In most cases, the form of the narrative contained some consistent features that offered meaningful comparison. The narratives contained a sequence, although not necessarily chronological and often iterative. Thematic sequences, based on episodes rather than events, included an abstract, an orientation, a complicating account, a resolution and a coda (Bell, 1988). The abstract introduced the story in a short sentence or phrase; it contained a subject material of the story, such as an event, object or individual. The orientation identified the elements to the story necessary to explain the narrative, such as who was involved and where and when it occurred. The complicating action put context to the narrative; it told of relationships and orienting actions that gave substance to the events. The resolution was the narrator synthesising the information to reflect on what the story meant as part of a broader narrative. Coda ended the story; it was a concluding statement although not necessarily providing a definitive resolution in the mind of the narrator (Riessman, 1993).

The interviewees were organised into two groups using Gans's producer and consumer agency to categorise social actors in the development process. The interviews with the producers and consumers were designed to examine how those changes were reconciled and reasoned from a socio-cultural context. The producers in this case study were those engaged in

the decisions about the production of infrastructure including the designers, architects, and planners. The consumers, on the other hand, were residents who exercised choices and made decisions that affected the decisions of the producers. Gans (1967) argues that residents' preferences for choosing to live in a particular area were the result of a number of factors that can be attributed to choice or necessity. Some consumers were 'pushed' by need for more space, a larger home, or a lower price, and some were 'pulled' by desire for factors such as feel, character, scenic views as well as more pragmatic factors to do with price, house size and investment opportunity (Gans, 1967, 1990).

To develop a method of analysis of narratives in the interview, the researcher should understand the process of narrating. Riessman (1993) argued that in order to deal with the ambiguous representation of another's experience, the researcher and interviewee undertake a five-stage process as follows. Attending to an experience suggests that the interviewee selected what they noticed based on their own interests and biases. It is expected that a planner, an architect and a resident will choose what they notice from the totality of unreflected experience based on their professional world view. Therefore, the interviewee constructed realities at this level of representing the world in a way that was most relevant to that individual. Telling the story was re-presenting it in a compressed way, leaving out data that the teller forgot or deemed irrelevant, and the telling created a narrative of the 'self', what was important to tell, what was meaningful.

The narrative was inevitably a representation of the self in a socio-spatial context (Goffman 1959 in Riessman 1993). Transcribing the experience for the researcher was driven by theoretical assumptions about what could and should be recorded. Decisions about what to include and how to record in either text or images depended on the nature of the questions asked and how the reader understood the narrative. It was important to understand that the method of transcribing was one of many methods of representing the spoken language. The interviewer was guided by the type of data they were looking for rather than the types of answers they hoped to hear. Narrative analysis created a metastory about the experience and the act of editing, reshaping and recontextualising created a hybrid story because the interviewers' values, theoretical commitments and agency entered the new story in and through the analytical method (Riessman, 1993). Finally, the reading of the story was the final representation of the experience. As the writer was unable to tell the entire story, the reader could only focus on how they interpreted the text.

Interviews were conducted at either the participants' work places or homes. The interviewee was asked a series of questions related to their recovery experience framed around the redevelopment process. The interviewee was asked to retell their experience and encouraged to recall events, individuals associated with those events, and circumstances that arose during

the decision making process. The researcher encouraged the interviewee to reflect on those events and circumstances in relation to the project or house they were engaged in, either as a producer or consumer.

In the end, the participants in the research brought their agency into the composition of the narrative, and the interviewer was made aware of the limits of representation of the narrative. The researcher endeavoured to develop a consistent method of representing the data. Questions were designed to be open-ended and further questions were tied to comments and themes by repeating ideas and words emerging from the responses (Bell, 1988). These narratives were used to identify how the social actors reflected on their contribution to the change and how they made meaning of the changes to the suburban landscape over different temporal and spatial scales.

5.5 *Documenting the spatial reconfiguration of the landscape*

The aim of the spatial data collection and analysis was to make sense of and communicate the physical changes to the distribution of structures during this period. The changes were examined at a holistic or suburban scale to identify the patterns brought about by the redistribution of built and unbuilt spaces. This method extends Antrop's (2006) examinations of complex mixes of built and unbuilt forms using GIS-based methods. In doing so, it integrates the spatial and geographical understandings of landscapes within the social and cultural research fields. The examination of material change was then tested at a block scale against the policy objectives of the planning authority in order to understand the relationship between planning objectives and spatial practices. This achieved the two aims: the spatial analysis provided empirical evidence of material change, and some of the underlying trends in practice gave effect to the spatial reconfiguration seen on a holistic suburban scale.

This involved vegetation mapping using geographic information software (GIS) to develop object-oriented image analysis using Quickbird imagery (Beaty, in print). The first stage measured types of surface cover as a means of categorising built and non-built structures in the landscape.

5.5.1 High resolution satellite imagery analysis

Quickbird multispectral imagery was used to identify different surfaces types by calculating the Normalised Difference Vegetation Index (NDVI), a measure of the vigour of plant growth to distinguish between areas with a low reflective index in the near infra-red spectrum. These areas were typically covered by perennial vegetation such as trees and shrubs. This was distinguished from areas covered by roof, pavement and other sealed surfaces with a

high reflective index. Figure 7 shows a graphic comparison of the distribution of vegetation and sealed surfaces between 2002 and 2006. The two images' different resolutions and seasonal variations distort the data too much to provide a numerical value of change; equally the shadow effect of the trees, particularly in the 2002 image, distorts the vegetation cover values. However, at a suburb scale, changes to the distribution of built and non-built surfaces was clear. The pattern of regularity of house roofs street trees roads, gardens and driveway breaks down in the 2006 image.

Figure 7: Quickbird multispectral imagery showing the changed distribution of vegetation between 2002 above and 2006 below (SKM 2009).

To overcome this, the 2006 image was sampled at a Census Collection District (CCD) level (Figure 8). The CCDs 8021601 of East Duffy, and 8021603 of West Duffy were compared between 2002 and 2006. East Duffy experienced minimal property loss with 1% of properties rebuilt, and West Duffy experienced significant property loss with 39% of properties rebuilt after the fires. East Duffy was used as a base line between 2002 and 2006, and West Duffy was measured to compare changes in surface configuration. This method showed the relative increase in sealed surfaces and relative loss of unsealed surfaces between the two CCD areas. The results are discussed in Chapter 7.

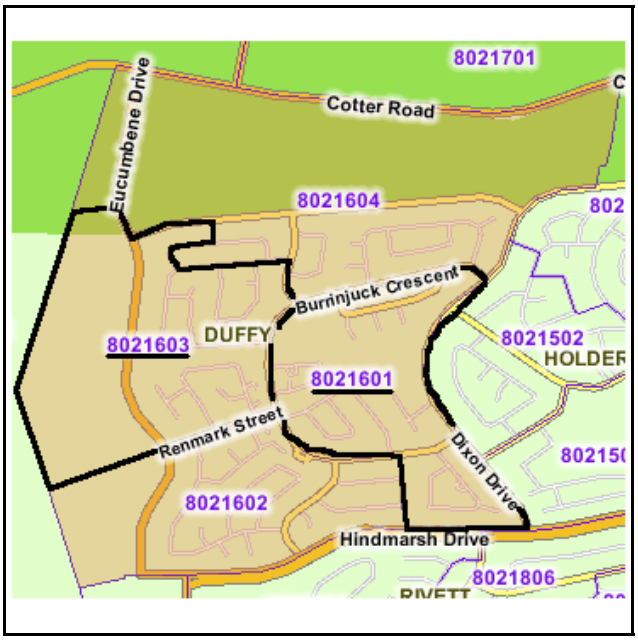

Figure 8: Map indicating the spatial boundaries of the two census collection districts used for comparison of ABS and spatial data (ACTMapi 2012)

5.5.2 Development application analysis

Analysing changes at an individual block level provided further information about the extent of suburban development after the fires. This analysis identified a finer grain understanding of the distribution of unbuilt spaces on private land in the fire-affected areas. Data collected from the ACTPLA provided empirical evidence of the changes to the size of houses consistent with the literature. It also provided more detailed information about the nature of the shift in population over the ten-year period, in particular, the three-year period after the fires. This information identified structural changes to the suburb resulting from the fires as well as meaningful insights into how the spatial changes to the suburb intertwined with the socio-economic changes.

Seventy randomly selected development applications (DAs), approved for construction between 2003 and 2006, were analysed to determine the extent of site coverage by built forms

such as houses, garages, driveways and other paved surfaces. This sample represented 35% of all DAs submitted from Duffy between 2003 and 2006. The DAs selected included only houses fully destroyed as a result of the 2003 Canberra bushfires. The DA site plans were scanned and inserted into a vector-based CAD program. Each sample was scaled to match the block in question. Figure 9 shows the method of calculating the roof area of the house and other sealed surfaces as a portion of the total block area. The data was entered into a simple spreadsheet program to analyse the percentage of space covered by built structures. The overall coverage of built structures was used as a key indicator of the extent to which the development had maximised the opportunity to cover the block as permitted by the planning legislation.

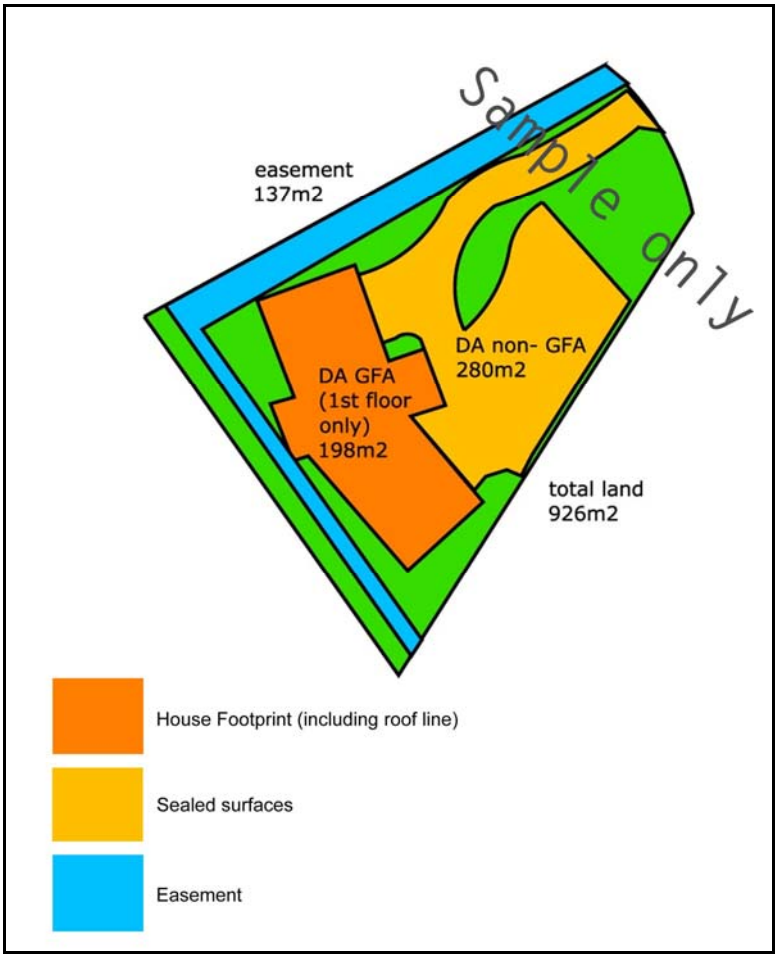

Figure 9: Diagram indicating the spatial classification of surface coverage of submitted DA plans (MacKenzie, 2007)

The amount of ground space was determined as a percentage of the total block area, less the area of the building footprint and other sealed surfaces. The total built surface area included the following criteria:

• The total roof area was used as a measure of building site coverage. The house footprint was chosen instead of the gross floor area (GFA)[7] as recorded by ACTPLA, as it more accurately represented site coverage by buildings.

• Other sealed surfaces, including paving, pools, driveways, retaining walls, pergolas and other structures that covered the ground, preventing the planting of vegetation.

The data revealed the percentage of site coverage as a portion of the total block area. The maximum percentage of site coverage allowed by the planning authority (ACTPLA) in 2006 was 50%. The results are discussed in the next chapter.

5.6 *Conducting interviews with the producers*

The suburb became visibly different between 2002 and 2006. The satellite and DA data showed a measurable increase in built form, primarily through the increase in house sizes. The demographic data also showed that changes had occurred to the household mix. I wanted to understand why such a significant increase in house size without a corresponding increase in population occurred. Why was it that householders, often single occupants or couples with no children, built houses large enough for families with multiple children? To what extent did their relationship to the designers, architects, planners and other bureaucrats influence their decisions? What was the outcome of the development process and how was the landscape factored into their decision making?

Fifty-two designers were identified and contacted from the 70 development applications submitted to the planning authority between 2003 and 2006. Thirteen of those designers agreed to an interview. ACTPLA staff and a landscape architect were directly approached because of their involvement in the redevelopment process. In all, 20 semi-structured interviews were undertaken from the following categories:

• N. 7 participants from the Planning and Land Authority (ACTPLA), including development assessment staff working on the development applications for Duffy during the 2003-2006 period, and senior planners in the urban design and the strategic planning sections.

• N. 13 participants from the private sector including building designers and architects commissioned by individual clients to redesign and/or project manage the reconstruction of homes, and a landscape architect commissioned to design and project manage both private gardens as well as public infrastructure works.

[7] Gross floor area (GFA) means the sum of the area of all floors of the building measured from the external faces of the exterior walls, or from the centre lines of walls separating the building from any other building, excluding any area used solely for rooftop fixed mechanical plant and/or basement car parking (ACTPLA 2007).

5.7 *Conducting interviews with the consumers*

Stage 2 respondents were selected using a purposive sampling technique. Purposive sampling is a method of selecting respondents with a purpose in mind. Twenty seven in-depth interviews were recorded and transcribed. The participants were classified using the established system created by the ACTPLA team managing the development applications. Table 2 shows the relative changes in floor area between different participant categories which included:

- N. 7 (C2) Category 2 were residents who lost homes in the fires and returned to build a home less than 15% larger in floor area compared to the destroyed home.
- N. 12 (C3,) Category 3 residents who lost homes in the fires and returned to build a home greater than 15% larger in floor area compared to the destroyed home.
- N. 8 (CTR) New residents who purchased land after the fires and redeveloped or bought into the suburb since the fires, but did not develop the property.

Consumer category	N. Development Applications	Average GFA m_2
C2	31	240
C3	86	276
CTR	95	309

Table 2 Average gross floor area of new houses by Category of DA

Participants in the second stage were asked to participate in a detailed interview designed to create individual life stories based on topoanalysis (Bachelard in Marcus 1979). This method was designed to understand the respondents' embodied experiences of the events and occurrences over the study period and their lives in the suburb generally. Its aim was to gain an understanding of how the socio-spatial changes to the suburb reflected in their own experiences (Marcus, 1979). This was important because the in-depth interview allowed for a fuller understanding of responses by the researcher and brought hidden or tacit meanings to the surface (Armstrong, 2000).

The interviews and environmental autobiography avoided focusing on the trauma of the fire. Although no less important, the fire event related to a different set of circumstances that were not central to answering the research questions. However, the interviewees' relationships to changes in time and space were mediated by the memory and recollection of the experience and could not nor should not be separated from the fires (Wilson, 1995). The retelling of the events and experiences of the redevelopment process broadly follows five steps (Krall, 1988). These steps were used to design the interview by taking the residents through the following stages.

1. Venturing by reconstructing the past experience, relating to the lived space, as much as possible
2. Remembering by critically reflecting on, episodes and events
3. Comprehending recurrent themes propositions and comparisons
4. Embodying experiences by reflecting on original perceptions from a distanced viewpoint and comprehending those perceptions
5. Restoring by searching for an original essence of connection to the lived space

Such an approach naturally leads to introspection on the part of the interviewee and that allowed the researcher to enable a 'reconstruct[ion] of their past experience into a more unified and comprehensible and thus more harmonious and integrated view of the present' (Krall, 1988, p. 469). Interviews for the both the producers and consumers were conducted at their homes or work places. The interviews lasted between 30 and 90 minutes. All interviews were digitally recorded and transcribed. The details of consent and information statements are included in Appendix B.

5.8 *Data analysis: negotiating multiple data sets through visualisation*

> Current visualisation practice is a broad and growing field spanning information technology, the digital humanities, design, and art. In tandem with this broadening of visualization comes a growing recognition that science is not alone in generating ever-increasing volumes of data, or in needing to access and interpret that data effectively. (Whitelaw & Hinton, 2010)

This project explored the relationship between spatial change, social change and the agents of that change. This required synthesising different data sets at an appropriate level of detail to find meaningful information. The data collected was used to analyse respondents' narratives across different categories. Data visualisation was used as a tool to systematically and iteratively uncover emerging themes in conjunction with a deeper reading of the data to confirm intuitive findings and to disregard tentative assumptions that might have clouded the researcher's analytical approach.

Data visualisation is a relatively new process that uses interactive computing techniques to produce user-friendly visual representations of complex materials. This method visually represents data by allowing the users to design their own parameters. It has become popular among interdisciplinary research teams (Whitelaw & Hinton, 2010). The program used to develop the data analysis method is an open source programming language and environment

called *processing*, built on Java platform[8]. Figure 10 shows a sample of how the programming code was adapted to take imported data, split into individual words, sorted by frequency and displayed in a word cloud in alphabetical order and with font size based on frequency. Filters were applied to sort by question, respondent and house type.

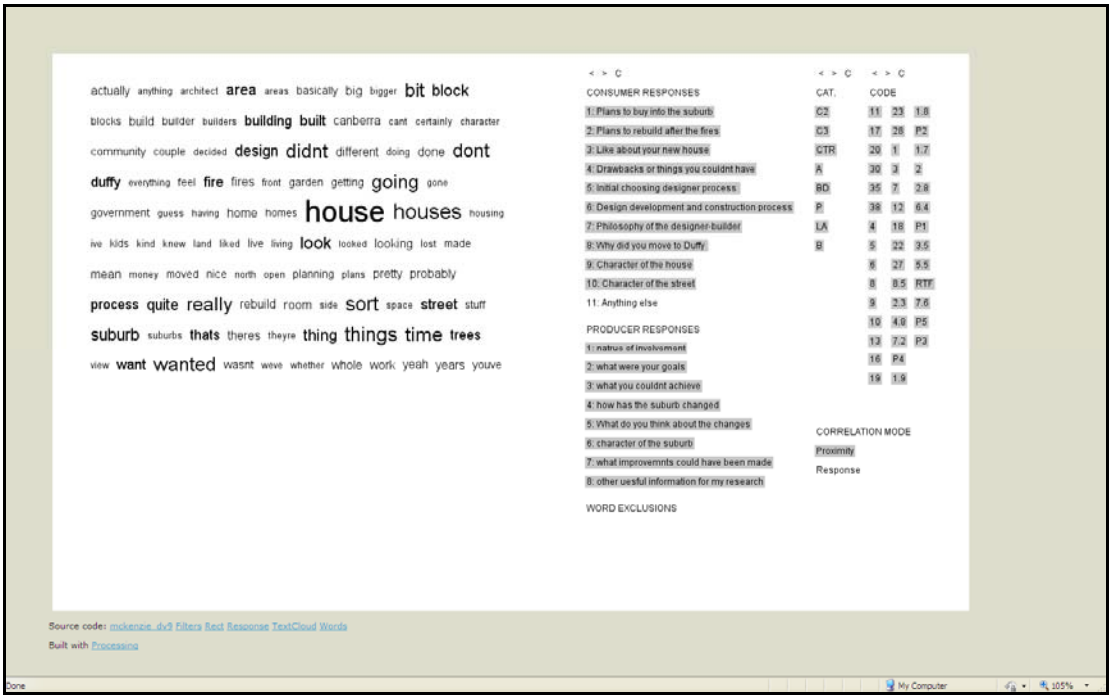

Figure 10: A word cloud frequency diagram for data on the left and a list of codes for respondent categories and response categories on the right (Processing.org 2012).

The first level of analysis was to identify the most frequently used terms. This was achieved by generating a word cloud frequency diagram (Figure 10). Frequency by itself was not taken as the best method for finding the common themes but presented a starting point to understand the data. The frequency word cloud was generated for all respondent data, and then broken down to different participant groups. The next level of analysis was to examine word associations. Figure 11 shows an example of the use of relationships to the word 'suburb'. This was useful for understanding how respondents from different categories embodied notions of space, both as a physical space, but also as a social and cultural space.

[8] http://processing.org/ accessed 23 June 2010

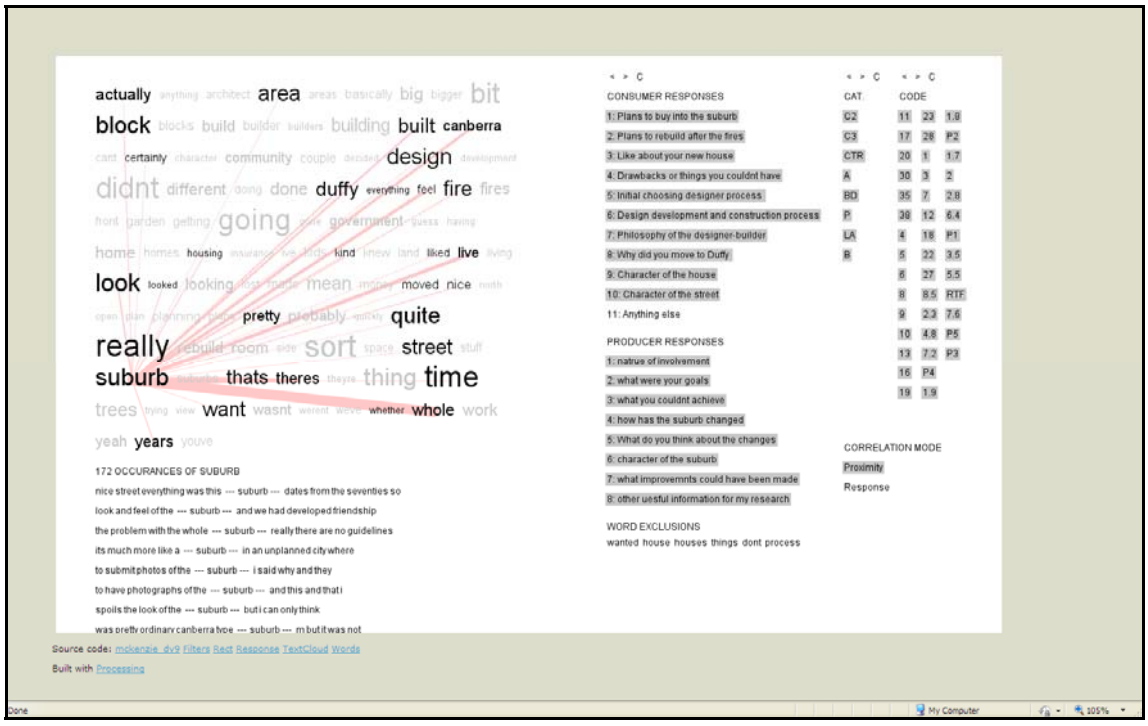

Figure 11: Word cloud identifying words associated by proximity
The left of the screen shows the relationships and the right shows frequencies of occurrences and the words' relationship to the data (Processing.org 2012).

Figure 12 shows how the next level of data identified the individual consumer responses and how words correlated with the categories relating to the sizes of the new houses. This was achieved by incorporating both the text and Google aerial images of the house concerned. This established relationships between the respondent's account of how their house occupied the space on the block and how it was represented in an aerial view to the researcher.

This guided the researcher to look for emerging themes in participant groups and across those groups to examine correlations between decisions, actions and perceptions of change in the process. The program allowed for systematic comparisons across a range of respondents and respondent groups and enabled a more targeted approach to identifying themes in the data at the level of individual narrative analysis.

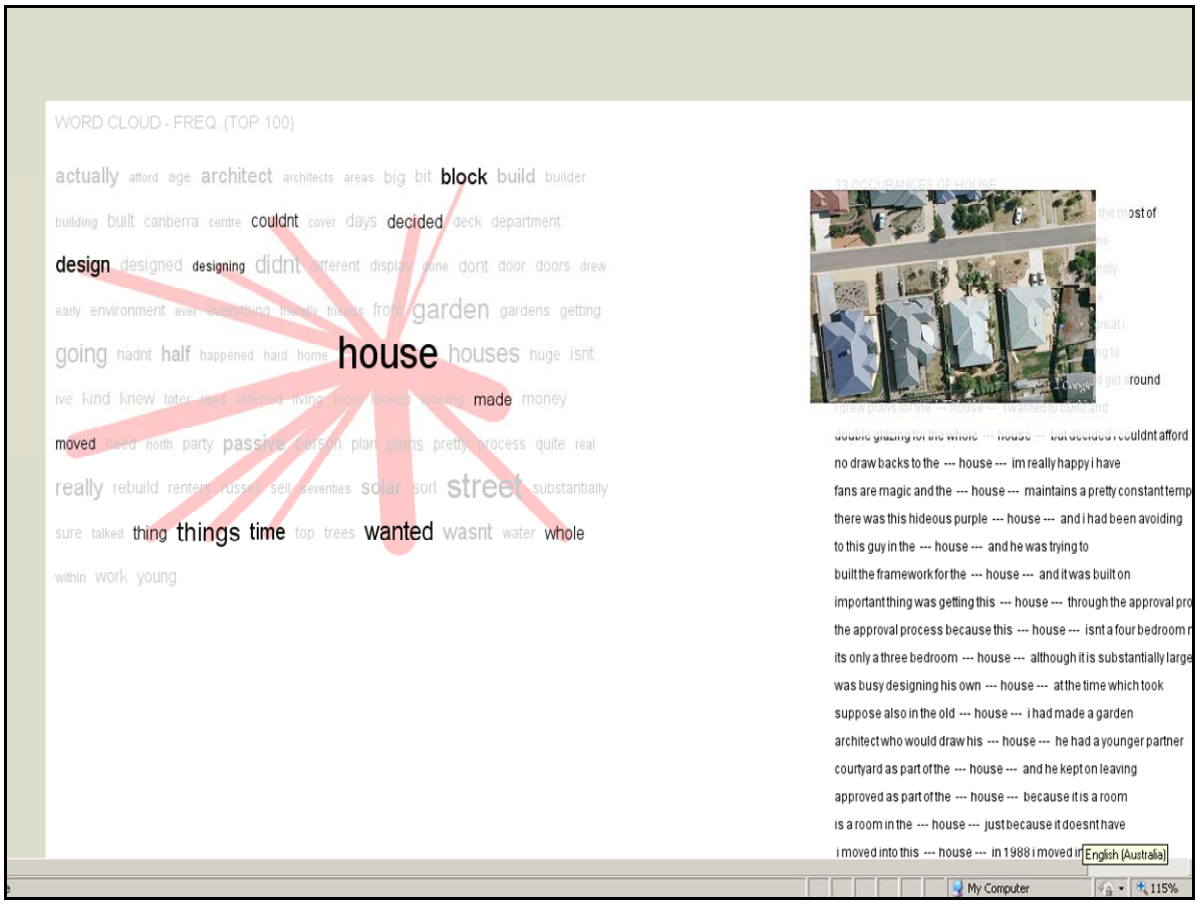

Figure 12: This example is for a C2 resident. The house is shown in the top right corner and the frequency of references to the terms house and its relationship to other terms is shown in the right corner (Processing.org 2012).

5.9 *Narrative analysis of the producers and consumers*

The aim of the narrative analysis objective was to identify how the emerging themes were contextualised in the respondents' experiences in the landscape. I focused on the redevelopment process and the respondents' reflections on the outcomes from that process. The analysis method sought to uncover the perspectives and values of the social actors in relation to a particular event or set of circumstances (Flyvbjerg 2001).

The producers' data was analysed to understand what themes emerged and how this related to the broader research questions. I decided not to compare different categories of producers as their contributions to the changes to the suburb were very particular to their role. It was also too difficult to establish a meaningful relationship between their professional role and their overall impact on the changes to the suburb. Many of the designers and architects could not recall how many houses they had designed. In fact most of the house designers interviewed had designed

more than one house and in one instance a building designer claimed to have submitted at least 88 development applications in the fire-affected suburbs. For this reason, the producers' data was analysed by the way they recalled their role and what governed those decisions and actions, rather than attempting to determine the extent of their impact through their designs.

Comparing the different consumer categories was straightforward as they were clearly defined in terms of their contribution to the recovery of the suburb. By using the emerging themes and identifying how the producers explained their decisions and actions in the context of those themes, I was able to compare how those themes were explained by the consumers.

All respondents were asked to reflect on how the suburb had changed over time. The questions sought to investigate the perception of change over different temporal and spatial scales depending on the lived experience or professional contribution of the interviewee. I was able to identify how the respondents constructed their own idea of landscape; whether that was a material reality or a social- cultural reality and the interplay between the two in and through the stories they told.

5.10 *Conclusion*

This chapter has described the mixed method approach to data collection and analysis. It explains a systematic iterative approach to understanding the data. It uses a variety of methods over a sustained period of time to create a picture of a socio-spatial change to the suburban landscape. The iterative approach reveals the characteristics of change itself in a way that increases the visual resolution of the image (Thwaites & Simpkins, 2008), in order to reveal a nuanced recovery taking place. The next chapter presents the results for the research by systematically taking the reader through the material and the socio-cultural changes.

Chapter 6: Quantitative results

6.1 *Introduction*

The material change to the suburban landscape is the basis for understanding the socio-cultural change in Duffy because the spatial reconfiguration of the suburb provides a tangible guiding concept for interpreting the social and cultural changes through changes to the material landscape. It is easy to see the change in the configuration of the landscape in Duffy in 2011. While individual residents may have waited years to return to their homes, the scale and scope of the reconstruction was rapid by normal market standards. In effect, the fire became a catalyst for gentrification. The agents for change in this landscape were the residents, developers, planners, architects and landscape architects working in an opportunistic market buoyed by a glut of land flooding the market. Some of the residents had lived in the suburb for most of their lives and merely wanted to return to a suburb, albeit a permanently reconfigured one. Only years after the event could the effect on the landscape be measured. As such, the first task as a researcher was to document the changes to the physical reconfiguration of the suburb.

This section examines the change in spatial pattern of the landscape in Duffy between 2003 and 2006 using high resolution satellite imagery to reveal the changed landscape pattern resulting from the fires and post-fire redevelopment.

The aim of analysing all the external spaces was to identify changes to the pattern of the suburban landscape rather than attempt to measure the loss of components that make up the landscape such as trees, shrubs, grass and other vegetation. This was seen as preferable because the aim of the project was to reveal consequences of the changes in the landscape pattern resulting from redevelopment. In this context, landscape was easier to understand as a whole because the elements in the spatial structure of the landscape were interrelated and form one complex system (Antrop, 2000; Kaplan & Kaplan, 1989). Subsequently the suburban landscape, which was a fragmented and heterogeneous mix of built and non-built structures, was more legible when understood as a coherent whole (Alexander, 1977; Antrop, 1998, 2000; Lynch, 1960).

Changes to the residual landscape pattern resulting from redevelopment of destroyed homes not only led to measureable loss of open space on private lots, but the nature of these changes also severely inhibited the opportunity for regeneration and regrowth of vegetation. During the design and reconstruction of houses, the landscape significantly reconfigured, and this was evidenced by the extent to which new home builders in Duffy took full advantage of the planning laws to build maximum allowable house size on blocks of land up to 800 square metres, and these houses were up to 30% bigger than those they replaced (ACTPLA 2006). These findings support the well documented trend toward building larger houses in the last 20

years. The average floor area of new houses built in Australian capital cities has increased from 188.7 square metres in 1993-94 to 222.6 square metres in 2002–2003 (ABS, 2005).

6.2 *The spatial reconfiguration of Duffy*

The high resolution satellite imagery shows a visible change in landscape pattern. The major contributing factor to the changed pattern was the loss of tree canopy directly resulting from the fires. In addition, the 2006 image was taken in summer during a drought and so some of the open spaces show an absence of vegetation. Figure 13 shows the difference in landscape patterns by highlighting the spectrum with a low reflective index which indicates vegetation. However, when the NVDI showing built and paved surfaces was highlighted, the increased sealed surfaces in the fire-affected parts of the suburb were clear. Figure 14 shows the difference in built form by highlighting the spectrum with a high reflective index which indicates rooves, paved areas and other surfaces.

Figure 13: NVDI comparative distribution of vegetation 2002 above and 2006 below (SKM 2009).

Figure 14: NVDI comparative distribution of built structures with 2002 above and 2006 below; red indicates the increase in reflective surfaces or built structures (SKM 2009).

To overcome the differences in the data sets between 2002 and 2006, the relative increase in built form between the fire damaged West Duffy census collection district was compared to the relatively unscathed East Duffy census collection district (Figure 15). By comparing the spatial data using East Duffy as a base line, we can determine that the relative increase in built form in West Duffy was 15.4% as a result of the increase in house size and increased pavement resulting from redevelopment. As the reported development of public infrastructure was entirely due to the replanting of trees and grass during this period, it can be assumed that all the increase in built form occurred on private land.

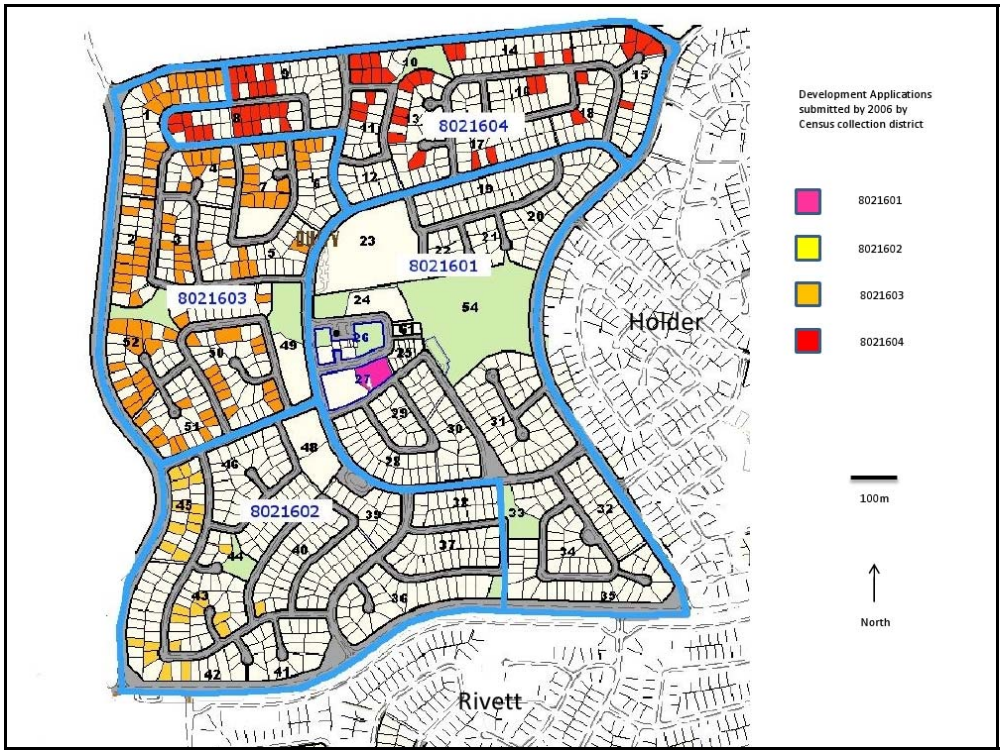

Figure 15: Map indicating CCD boundaries and DAs submitted for rebuilds between 2003 and 2006 (MacKenzie 2007)

The results show that the change in the total amount of vegetation as well as the configuration of the landscape at a suburban scale have profoundly changed. This was consistent with data collected by ACTPLA in 2006 that revealed only two DAs between 2003 and 2006 showed no increase in the gross floor area (GFA) from a sample of 120 DAs submitted after the fires. Eighty-six showed an increase in GFA of 15% or more (ACTPLA 2006). The following results give an indication of the extent of these changes.

The average block size of the sample was 844.6 square metres, the average house area was 238.5 square metres, and the average paved area was 109.5 square metres. The average site coverage by sealed surfaces was 41.9%. When the blocks over 800 square metres were removed

from the sample, the average site coverage increased to 44.1%. Therefore the residual open space that remained uncovered by sealed surfaces was as little as 55% on blocks up to 800 square metres. This is consistent with practices to develop the maximum area up to 50% of a block regardless of the size. Other cost and design factors do come into play for blocks over 800 square metres; however, more than half of the homes occupied the maximum area permitted by planning codes.

6.2.1 Spatial comparison of Duffy

Identifying the visibly different characteristics of Duffy between 2002 and 2006 helps to understand the effects of the changes caused to the suburb resulting from the fire and subsequent redevelopment. It is also useful to understand how the changes to landscape character is understood and embodied by the narratives of the interview respondents.

The case study described two different and distinctive suburban typologies defined by the pre-fire and post-fire development. Broadly speaking, the main differences in the unaffected and affected parts of the suburb were the house and garden designs and the size and distribution of vegetation in streets and other public spaces. The change to the configuration of the landscape in Duffy was a result of a number of cultural and social factors that are the subject of Part 3 of this thesis. However, the planning codes that control the size and site coverage of built structures reflect the increase size of homes built after 2003 that were directly attributable to the loss of residual landscape after the new houses replaced those built in the 1970s (Figure 16 is a typical 1970s home).

In addition, the visible change in the visual character of the suburb also correlates to the physical boundaries of the census collection district (CCD) used for data analysis from the 2006 census data. In short, West Duffy lost up to 40% of its houses and street trees and East Duffy lost less than 1% (Figure 15). The CCD in the western part of the suburb (West Duffy) contains n. 111 of n. 285 or 39% of homes that were rebuilt. The CCD in the eastern part of the suburb (East Duffy) contains n. 3 of n. 313 or 1% of homes that were rebuilt. In East Duffy, these included a multi-unit development next to the local shopping centre and the replacement of two units in an adjacent unit complex. This distinction was used to identify demographic changes to household characteristics between the two districts to determine the demographic impact of the fires on the community.

6.2.2 Characteristics of CCD 8021601 or East Duffy

East Duffy (CCD 8021601) is dominated by well vegetated lots with single storey brick veneer detached houses. A small local retail centre is located off Burrinjuck Crescent and two medium density developments border Tantangara Street. It contains an irrigated sports oval

surrounded by a large open space with non-irrigated grass and groupings of *Eucalyptus bridgesiana* and a mixture of other large Eucalyptus species.

The streetscape is characterised by a mixture of large eucalyptus and deciduous exotic street trees planted in irregular rows creating informal avenues along the suburban streets. Private gardens are typically large lawns and a mixture of deciduous and exotic trees similar in size and character to the trees in public spaces. The open spaces and pocket parks are planted almost exclusively with eucalyptus species. Some remnant *Eucalyptus mannifera* and *Eucalyptus melliodora* have been retained as street and park trees and dominate the urban forest canopy.

The original houses are typically single storey with brick facades and grey or brown concrete tiled gabled roofs. The front of the houses align with the street with no particular design modifications to take advantage of solar access (Figure 16). Single steel carports sit adjacent to the sides of the properties or, in many cases, larger steel garages are located at the rear. The houses are set back between six and eight metres from the street kerb with a variety of front garden styles, although mostly informal plantings of a mixture of native and exotic shrubs and perennials. Perimeter fences are predominantly hardwood timber paling fences on the sides and rear. No front fences were permitted in the suburb; however, some formal hedges exist but are not a dominant feature of the streetscape.

Figure 16: A typical house type developed in the 1970s (Andrew MacKenzie 2010)

6.2.3 Characteristics of CCD 8021603 or West Duffy

West Duffy (CCD 8021603) is noticeably different from other parts of the suburb because of its elevated position with views to the north and north east. The buildings are detached single and double storey houses on separate blocks. Both the redeveloped and original houses tend to

be larger than those in the eastern part of the suburb, particularly on the urban edge along Eucumbene Drive. The street layout is typical of the rest of the suburb.

The streetscape is characterised by extensive planting of immature eucalyptus and deciduous exotic street trees often no taller than two metres. Original plantings of *Eucalyptus bridgesiana* and *Eucalyptus mannifera* are interspersed among the new plantings. Private gardens are typically smaller and more formal in the new developments, and there is a general absence of trees on private land, although they are more likely to occur on unaffected blocks.

The redeveloped houses are clearly distinguishable from the original houses by the different design styles, orientation and construction materials. Figure 17 shows typical designs for the new houses that are dominated by rendered facades, steel roofs and a mixture of different architectural styles and unusual roof lines. The new houses are also larger, and generally oriented to maximise solar access.

Figure 17: Typical house types developed between 2003 and 2006 (Andrew MacKenzie 2010)

The next section describes the demographic changes to Duffy over time. It considers the possible effects that the fire and subsequent redevelopment had on the demographic characteristics of the suburb. This section looks in more detail at the demographic changes of the redevelopment by comparing the two census collection districts known as East Duffy and West Duffy. As mentioned previously, 39% of houses in West Duffy were rebuilt, whereas 1% of houses in East Duffy were redeveloped. In fact, the East Duffy redevelopments were part of a unit complex, so no actual detached dwellings were redeveloped in this collection district.

6.3 *Demographic character of Duffy*

In 2006 Duffy was a typical Anglo-Saxon middle class suburb in Australia (ABS, 2006). The average age of residents was 36 years, 52% of residents were married, 63% were in the labour force, and 46% of households were married with children (ABS, 2006). For other indicators, Duffy is atypical: the suburb had a much higher portion of Australian-born residents at 80%, and English speaking residents totalled 90%.

In Duffy, the median weekly individual income for persons aged 15 years and over who were usual residents was $791, compared with $466 in Australia. The median weekly household income was $1,624 compared with $1,027 in Australia. The median weekly family income was $1,861 compared with $1,171 in Australia (ABS, 2006). A closer examination of demographic data indicated that the demographic changes both over time and as a result of the fire revealed results that reflected national trends but were also counter-intuitive to what changes were expected to occur as a result of the fires.

6.3.1 Time series comparison of Duffy

Duffy was originally planned for 4,700 residents, and an average household size of 3.5 to 4 persons. By 1991 the population was 3,549 and declined to 2,942 by 2006 (ABS, 2006). This was consistent with the national trends of decreasing household sizes. The annual rate of decline in population of Duffy between 1991 and 2001 was 5.95% but slowed to 1.72% between 2001 and 2006 (Figure 18). The fire affected the slowing of the population decline, but it could also be explained by the household size reaching a natural minimum. By comparison, Canberra was experiencing an annual 5% increase in population and a 7% growth in the number of households between 1996 and 2006. Suburbs such as Duffy did not accommodate the increased housing demand in the ACT caused by net immigration and net reduction in household size.

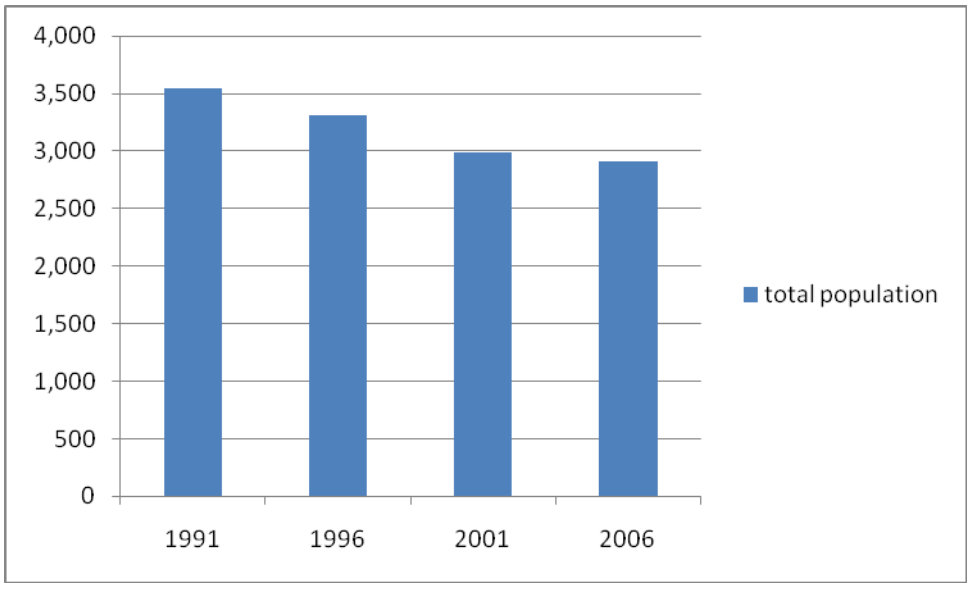

Figure 18: Duffy Population 1991–2006 (ABS 2006).

Not only was Duffy declining in population in 2006, it was also increasing in average age, which was consistent with the ACT average over the same period (ABS, 2006). This trend also typified the national trend of an ageing population in Australia. The fire effect between 2001

and 2006 did not appear to have had the effect of bringing young families into the suburb, contrary to the perception of some planners and designers, and this is discussed in the following section. Figure 19 shows an ageing of the population between 1996 and 2006. Figure 20 shows that the suburb was dominated by couples and had seen a marginal increase in households with no children since 1996, but a decrease since 2001.

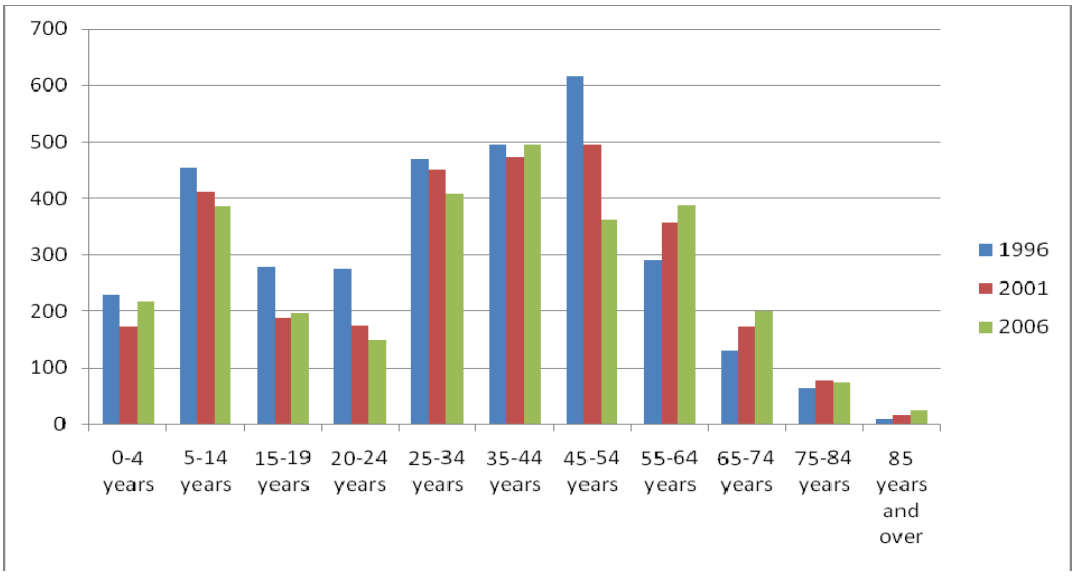

Figure 19: Age structure in Duffy 1996–2006 (ABS 2006).

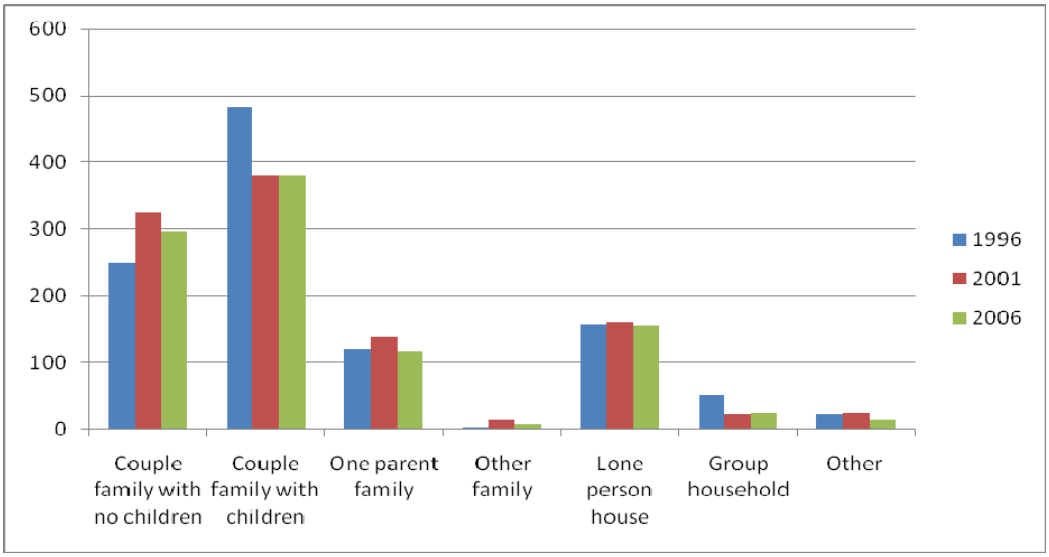

Figure 20: Household structure Duffy 1996–2006 (ABS 2006).

The level of teriary education is also an indicator of demographic character. Canberra generally has a high percentage of adults with tertiary qualtifications and the increase in the number of tertiary qualified adults in Duffy is consistent with national trends. Since 2001, the proportion of people with a tertiary qualifications has increased in Australia by 13% (ABS

2009). Another assumption that has not appeared in the data is known as the ‘aspirational battler’ effect. The 2004 election of a conservative government was seen as the arrival of a new aspirational and entrepreneurial society. Journalist Paul Kelly claimed that ‘in Australian politics “the battlers” are now rallying behind Howard’s vision of a successful Australian economy, family values and cultural conservatism’ (Bramble, 2004, p. 6). The aspirational battlers included self-employed non-professionals, particularly in the construction industry, taking advantage of the shortage of skilled labour in a construction and housing boom. These young families of aspirational battlers were the emerging entrepreneurial class (Gwyther, 2005). While this may have been a feature of demographic shifts into new residential developments in master-planned estates on the edges of major Australian cities, it does not appear to be a factor in the repopulation of Duffy. In fact the income and professional background of residents in the suburb remained in the higher income brackets and in the professional clerical and manager categories (Figure 21).

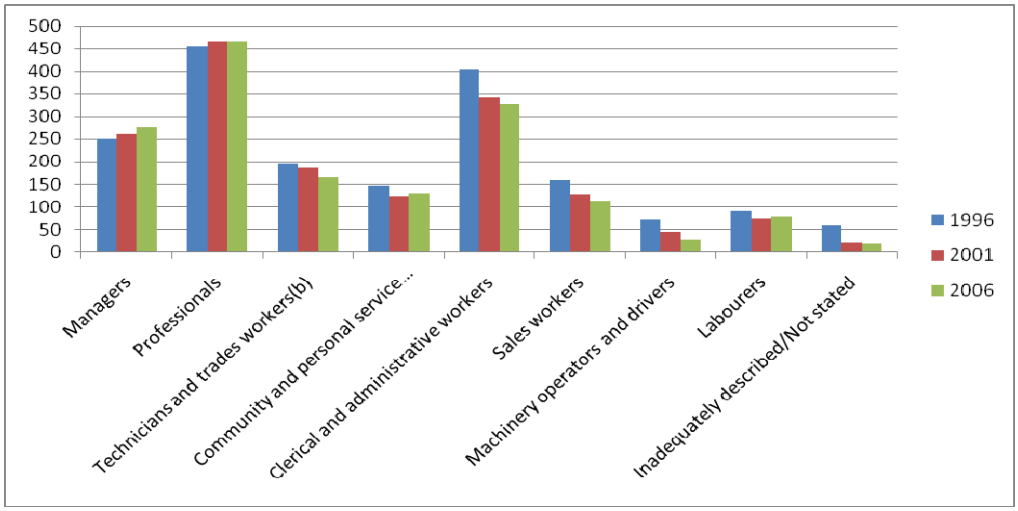

Figure 21: Population by occupation in Duffy 1996–2006 (ABS 2006).

Duffy also represented the manifestation of the Australian dream of home ownership (Figure 22). Over the previous decade, ownership in Duffy remained high and the proportion of rental properties had reduced by almost half. The trend of ownership had reversed, but only marginally between 2001 and 2006. The number of houses fully owned dropped by 69 whereas the number of houses being purchased increased by 36. This was explained by the owners refinancing or taking out mortgages as a result of the increased costs of reconstructuon and the underinsurance of houses prior to the fires. What was also noticeable was the reversal of trend in the mortgagees market but not in the investor market as the downward trend in rental accommodation continued after the 2003 fires. Again, this does not concur with some of the

assumptions made by planners concerned with the amount of speculative redevelopment prompted by the flood of vacant blocks after the fires.

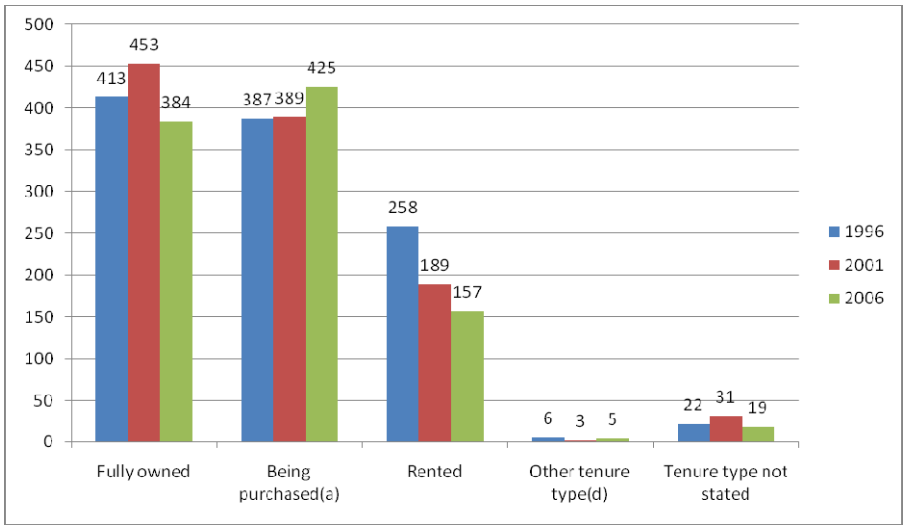

Figure 22: Household ownership in Duffy 1996–2006 (ABS 2006).

While some of the shifts that occurred over time appear to be predictable, the data also showed that some of the anticipated trends, particularly in terms of those who would take advantage of the investment opportunity, did not materialise. On the other hand, the changes that did occur also reveal the fire effect and, in particular, who did rebuild. Of the n. 214 development applications submitted by 2006, n. 94 or 44% were applications by residents who bought in after the fires. We can establish that there was not, as predicted, an influx from a young wealthy aspirational mobile class but, rather, a similar mix of new residents to those who remained in Duffy after the fires.

6.4 *Demographic change within Duffy*

The data showed that the age of residents in East Duffy was younger than those in the fire-affected west. West Duffy residents in the 40–64 age group outnumber those in the same age group in the east, whereas those residents in the 0–39 age group in the east, except for 15–19-year-olds, outnumber those same age groups in the west. Therefore, the fire effect not only changed the age of buildings in the suburb, but it also had an effect on those who lived in the suburb. In particular, those redeveloping in the suburb were older and more likely to have children at home. While there were slightly more single parent families in the east, there was no significant difference in the number of couples without children between the two districts (Figures 23 and 24).

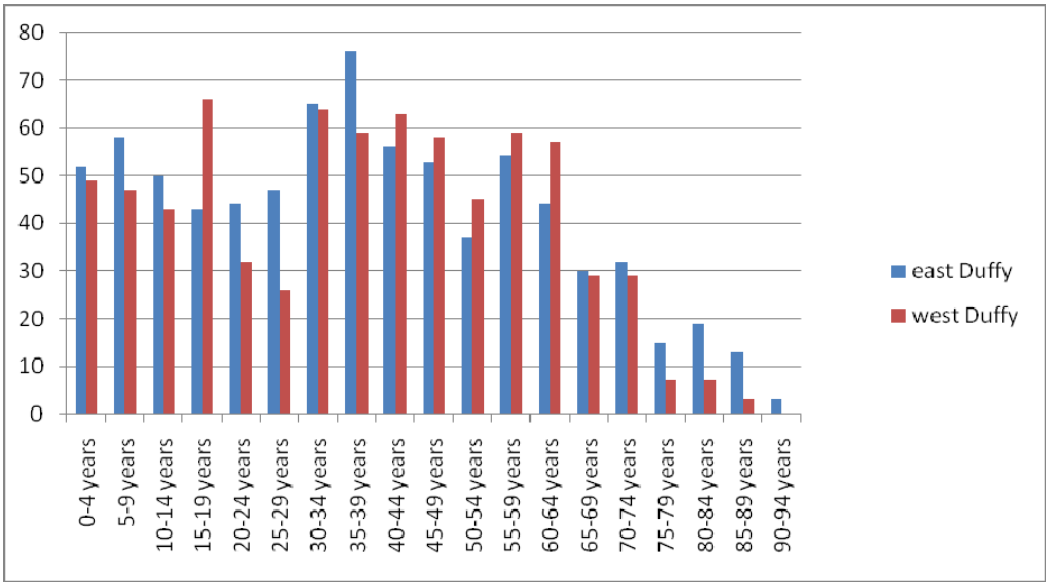

Figure 23: Age structure comparison between CCDs in 2006 (ABS 2006).

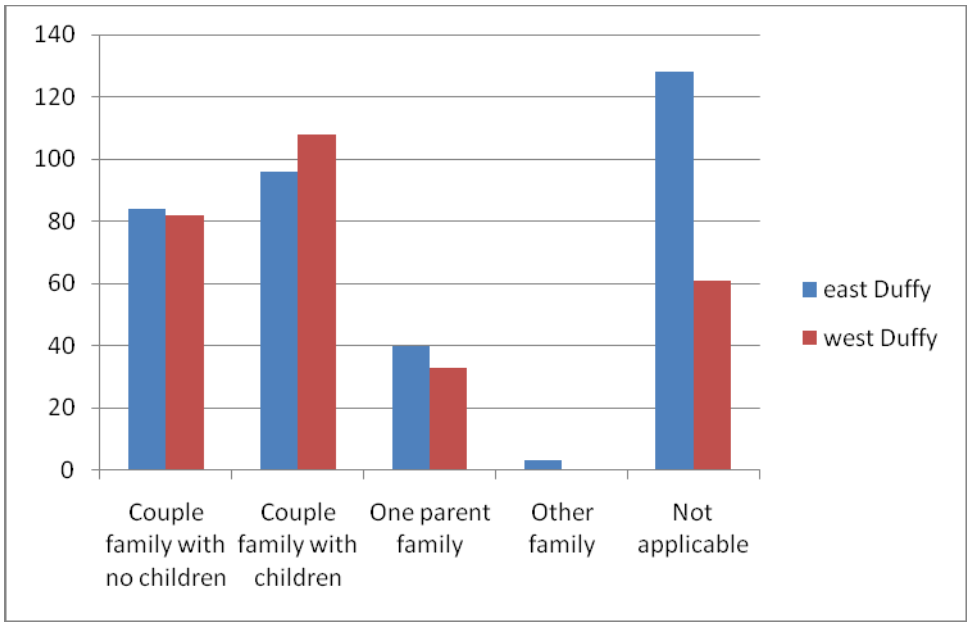

Figure 24: Age structure comparison between CCDs in 2006 (ABS 2006).

Comparing the income and education data between the two collection districts also provided empirical evidence of some of the likely economic factors affecting those who re-developed in the suburb after the 2003 fires. This data shows that in 2006, the residents of West Duffy had a higher income than those living in the east, were likely to have a higher post-secondary school qualification, and more likely to be managers and professionals. This data can explain how these groups were more likely to rebuild or were able to purchase and develop the land (Figure 25).

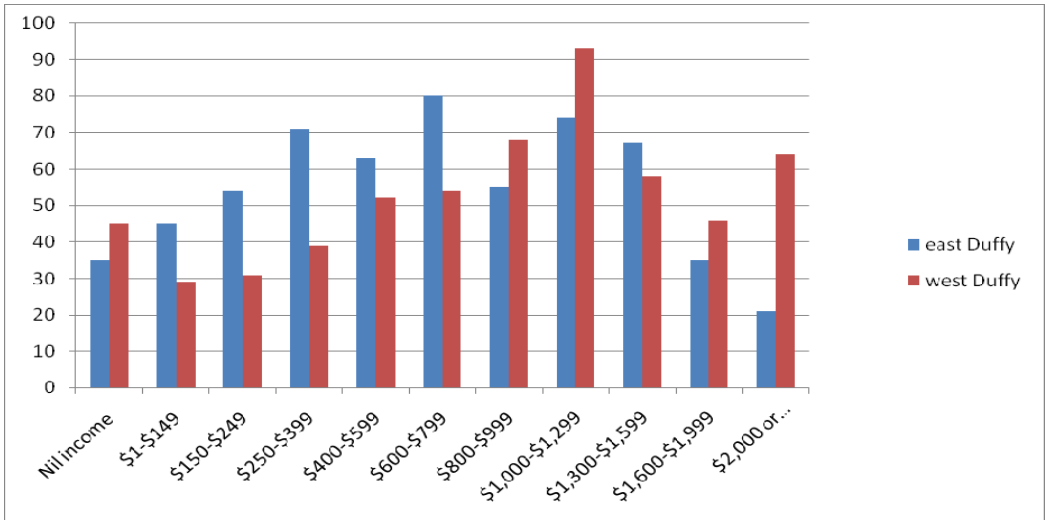

Figure 25: Individual income comparison between CCDs in 2006 (ABS 2006).

The spatial and socio-economic reconfiguration of Duffy uncovered a gentrification effect as a result of the redevelopment process. Despite many of the assumptions by the interviewees, these redevelopers were neither investors cashing in on an opportunity nor were they young families. Rather, economic circumstances resulting from the market factors such as land and labour supply favoured older wealthier individuals.

6.5 *Conclusion*

This chapter explained the changes to the spatial and demographic changes to the suburb as a result of the fire and post-fire activity. It provides evidence of change on a holistic scale and in doing so provides an overview of the material and social impact of these changes. The next part of the thesis explores why these changes occurred. The focus shifts from the material and demographic changes to the suburb to the socio-cultural nuances of contemporary redevelopment practice in Canberra and how these practices intersected with a unique set of circumstances to reveal some of the persistent challenges faced by the planning authority and the community in the face of significant change.

When comparing the eastern and western census collection districts, it was clear that a relationship existed between the changes to the physical and social structure of the suburb. This chapter examined the extent of these physical and demographic changes to the suburb after the fires. The data revealed a story of profound physical reconfiguration to the landscape structure of the suburb, both from the loss of vegetation and the replacement of open spaces on private lots with buildings.

Part 3: QUALITATIVE RESULTS AND DISCUSSION OF EMERGING THEMES

This section discusses the findings in the context of the spatial and demographic changes and synthesises this data in light of the findings from the interviews. Part 3 is separated into three chapters. Chapter 7 examines the role of the professional planners, architects, building designers and bureaucrats engaged in the process of recovery. Chapter 8 examines the recovery process in and through the narratives of the residents who returned to rebuild, as well as those who chose to move in and build or purchase new homes after the fires. Chapter 9 interrogates these findings with reference to the literature review and in particular applies the findings to develop a nuanced and detailed understanding of the research questions, namely:

- In what ways and to what extent does the physical landscape of the suburb change as a result of the development?
- What were the social and cultural forces that contributed to the reconfiguration of the suburb?
- How was the landscape embodied, contextualised and ultimately reconfigured through this process?

Category	Description
C2	Residents who returned to the suburb after the fires to redevelop their home and build up to 15% larger than the original home.
C3	Residents who returned to the suburb after the fires to redevelop their home and build greater than 15% larger than the original home.
CTR	Residents who purchased a home or block of land where the property was sold by the pre-fire residents.

Table 3- Classification of residents by Development Application Category

Chapter 7: Planning for redevelopment in suburbs

7.1 *Introduction*

This chapter examines the motivations, decisions and aspirations of the 'producers' in the redevelopment in Duffy. The aim of this chapter is to understand how the building designers, planners and architects framed their role in crafting the reconfigured suburb. It looks at how the producers reconciled their decisions and actions in the redevelopment process, and also reflects more generally on the collective contribution of the built environment professions in the changes to the suburb through redevelopment. The chapter is divided into three sections framed around how the respondents make sense of and reflect on their contribution to the recovery. It describes the way in which the respondents articulated their role in the change process, while other persistent topics such as sustainability, efficiency, and aspiration weave throughout the chapter and perhaps tell a more complete story about how the producers made sense of their personal and professional roles in the recovery of the suburb.

The themes have emerged as a result of the analysis of the interview data explained in Chapter 5. The themes of rationality, prudence and performance are defined at the beginning of each sub-section along with an overview explaining how these themes are expressed in the data. The chapter concludes with an examination of how the landscape was contextualised in the stories of the social actors during the recovery process. In particular, how it performed a recuperative function in ameliorating material and socio-cultural change. Pseudonyms are used in all references to interview transcripts to protect the identities of the research participants.

7.2 *Contributing to the recovery process: rational decisions*

> I wanted to do a house that was slab on ground and had all the things that I normally do with houses, because I do sustainable houses. So what that means to you might be very different to someone else. (Albert, architect)

This section examines how the producers reasoned their individual and collective roles in the recovery process. In doing so it weaves the narratives of the interviewees into the broader narratives of change brought about by the process of redevelopment and the values that informed their decision making.

The varied and conflated nature of the producers' reasoning, or rationality, was particularly evident when the building designers and architects explained how they contributed to this process. The origin of the word 'rationality' according to the Oxford English Dictionary is Late Middle English from the Latin *rationalis* which means 'to have the ability to reason' (OED

2012). This does not suggest a right or wrong way to make a decision, but rather assumes a process has been used to make a decision that applies reason and in doing so arrives at a reasonable outcome. Rationality is a state we arrive at through the act of reasoning to systematically analyse gathered data through observations (Aydede, 1998). In this way the producers reveal some of their own values by the way they reflect on their own rationality and how decisions in time and space impacted on the built outcomes and ultimately the reconfiguration of the suburb.

Most respondents understood their role as a designer and planner as an ethical one or as Edmund Burke would have described, to create a 'good society' (Olwig, 2002). To the producer, they contributed to a good outcome through their skills and knowledge. How they achieved their goals and how they examined their successes in achieving those goals varied greatly. This was most evident with producers' assumptions about how their contributions were contextualised in time and space and this is discussed further in this chapter.

The role of the producer was to improve the outcome and circumstance for the consumer in order to meet immediate needs of housing, and also to achieve a better environmental outcome. This was evident in the way in which sustainability and its variations were explained. Green building materials and solar passive design formed a central part of the narrative for most architects, building designers and planners. Such design practices were also regulatory requirements imposed by the energy efficient rating (EER) scheme and the HQSD protocols mandated by ACT legislation at the time (ACT, 2002). These practices were regulated because such design interventions and building practices were seen as good contributions to the house, the environment, the consumer, and through them, the community. Therefore, producers rationalised their decisions in this way. In particular, they articulated how they wanted to design a sustainable house despite their being no coherent definition or ways the producers could benchmark the sustainability of their design. However, their reasoning was reconciled in varied and often contradictory ways. This chapter examines these themes in more detail, and in doing so sets out the conceptual pragmatic and ideological space the producers operated in.

The producers found it difficult to articulate how their collective actions and decisions contributed to the changes to the spatial structure of Duffy. It was equally difficult for them to determine if they had achieved the sustainability goals defined in the policies of their respective professional institutes and through their own knowledge and practice. Perhaps, more importantly, they were divided about how the redevelopment of Duffy had benefitted the community as a whole.

Individual architects and building designers could articulate positive outcomes of their own projects. However, when reflecting on the changes to the suburb from a holistic perspective, their opinions were evenly split between those who believed that the renewal of building stock

had an overall benefit to the community, and those who believed that the opportunity to produce a better suburban form had not occurred. To those producers, the redevelopment was a poor outcome for the community. Others who believed the collective impact of new building work in Duffy had improved the suburb talked about architecture as if it had behaved like a public good.

7.2.1 Is architecture a public good?

The producers, who believed that their individual contribution to the Duffy community was positive, explained the role of architecture as a public good. Albert, an architect, believed that the suburb generally benefited from the expertise of his profession, in particular, to improve the suburb. While a few residents may have borne the cost of the services of architects and building designers, the collective impact of the redevelopment of homes provided a public good to the community both in terms of improved property values and in status. Although there was no way of visually determining the architect designed houses from other modes of design, the architecture was seen as a positive benefit captured by all residents without diminishing the availability of those benefits to others.

> I looked all around the suburb and, I think that as far as the suburb has gone, they've done very well out of it. At one stage not very many places were architect designed and this time [Duffy] had, you know, a lot more of them are architect designed. (Albert, architect)

From a functional design perspective, the majority of producers considered that the new houses they designed were a significant improvement on the houses they replaced, both in quality of design and environmental performance. However, consensus was not so clear and opinions became contradictory among the producers when they considered the overall contribution to the changing character of the suburb. Brett, a building designer, also agreed that he aspired to deliver a better outcome for his client but when asked about the overall effect to the suburb he arrived at a less favourable conclusion.

> [There is] too much of a mish-mash of design ideas and thoughts [that] have gone into individual blocks and it could have been handled a little bit better, as far as an overall theme for the suburb. At the moment you drive through there and sort of look at everything and think that is such a big change from what was there previously, and the architecture is sort of all over the place. (Brett, building designer)

As agents of change in the community, the producers saw themselves as acting primarily on behalf of clients and yet they were conscious of the changes to the suburban character resulting from their work. Brett was typical of the designers who struggled to reconcile the producers' role in allowing greater choice to the individual at the expense of the community's right to play a role in determining the character of the suburb.

Those who perceived the overall outcome positively, articulated that the value of their work extended beyond an immediate benefit to their individual client. Those who were less enthusiastic about the overall change framed their responses around the difficulty that the community faced when coming to terms with managing that change. Chris, an architect, also felt that the collective effect had not achieved what he, as an individual, would like to have seen.

> [It's] a hard one, it's a Catch 22 because, on one side I'm saying let's allow it all to happen and on the other side you get the results … you get the block [new house] here and you get the traditional home there … it would have been nice to see some sort of continuity coming through the whole thing. (Chris, building designer)

When reasoning design and architecture's contribution to the suburb as a whole, it is clear that many producers struggled to reconcile their contribution at varying spatial scales, from the block to the street and the suburb. This dilemma lies at the heart of many critiques of suburbia; in particular, who determines the identity of the suburb (Dovey, et al., 2006)? This thesis proposes that no institution or individual does have such a role, but rather the outcome in Duffy was a result of many individuals making multiple decisions in a space where no clear community-held value could be expressed.

In part, the language required to adequately articulate a shared understanding of the suburban character did not seem to exist. This was in part because of the overlapping of the ways in which the landscape was described. Confusion exists between the different knowledge domains that describe landscape as a setting, a polity, or an embodiment of community, and increasingly a form of green infrastructure encapsulates the problems faced by the built environment professionals' attempt to reconcile their role in the recovery. This is symptomatic of a broader claim to the multiplicity of ways that landscapes are valued, or, in the case of Duffy, not valued as a public good. This is discussed further in this thesis; in particular, these knowledge domains concerning the landscape are brought together in the conclusions in Chapter 10.

The question of the changing character of the suburb highlighted the problems faced when the producers considered the environmental outcomes of their collective effort. The broadly agreed objective of producers to improve the environmental outcomes as a result of their contribution also diminished at different spatial and temporal scales. This had a lot to do with how decisions were made and how environmental narratives informed their decisions.

7.2.2 Incorporating sustainability rhetoric into practice

The redevelopment process in Duffy was a culmination of many hundreds of individuals making multiple decisions; however, this did not happen in a vacuum. The framework for decision making included rules and regulations about what can and cannot be done, as well as a

myriad of cultural, economic, and emotionally conditioned circumstances. Institutional rules were only part of the decision making process. Therefore, it is critical for good governance that both citizens and government grasp, debate and develop policies that influence the development process (Sandercock, 2005). Yet a mismatch exists between the temporal and spatial objectives of local urban decision making and global environmental concerns such as climate change mitigation that inform the aspirations of planning and design professionals (Bai, Mcallister, Beaty, & Taylor, 2010). This undoing occurred when producers and consumers had to make rational decisions about what should and what could be achieved from an environmental performance perspective.

Many producers went to some effort to describe either their own credentials as sustainability experts, or to describe the sustainability features of their design work. In each case, the examples given referred to either green technology or eco-awareness. Their contribution to achieving a better environmental outcome was explained by promoting their design credentials or listing environmentally efficient solar passive technology incorporated into their designs. Even the planners advocated the benefits of the EER system recently adopted by ACTPLA. Some producers admitted that environmental performance was a marketing strategy more than a professional ethic. Consequently, the objective of creating a more sustainable outcome through redevelopment was conflated with specific technical improvements to the new homes and most producers were not able to explain how such sustainable practices were incorporated on a suburban scale.

The changes to design practices resulting from an increase in environmental awareness, on the whole, reflected the changes to the way in which green technology was expressed in the design process. Yet perverse outcomes occurred when designers considered the role of the landscape in achieving a better environmental outcome. In effect, large private open spaces were seen as a poor design outcome. The instrumental value of the landscape was seen as both a social and environmental liability. This was often explained not as a personal opinion, but rather a cultural shift towards internal living. This sort of reasoning reflected a general lack of a critical understanding of broad sustainability goals set out in planning legislation, in particular, the need to reduce carbon emissions.

The use of the term ‘sustainability’ was common among producers, yet there was no particular notion of whether the style of development was really contributing to a more sustainable future for the residents, or even what sustainability meant. This was consistent with research findings that suggest sustainability is an easily confused term, often being coupled with green technology (Hopwood, Mellor, & O'Brien, 2005; Langhelle, 2000). As a consequence, a general belief existed that developing sustainability required the community to continue to live as they have always done but with more efficient or more green technology.

Similarly the connection between sustainability and house design was not clear. As a result, sustainable design practice was expressed as a list of features that go into the house that add up to achieving some sort of merit. Producers tended to conflate good outcomes measured in discrete environmental efficiency gains and the environmental legitimacy of the project as a whole. As such, the size of the house, the embodied energy in the material, the cost of maintenance, and temperature control were not factored into the environmental performance, and the discussion about the house design became more remote from those more global goals.

For many projects, the producer managed the client relationship by compartmentalising the project into tangible parts such as the number of rooms and contingent spaces for possible future uses. This resulted in homes being much larger and with more spaces than the residents needed or used. The data in Chapter 6 showed that the new houses in Duffy provided an average of 120 square metres of floor space per person. In many of these cases the consumer articulated a set of aspirations at the beginning of the project and the producer either facilitated or encouraged the consumer to build spaces surplus to their needs in order to meet the unrealised desire for the ideal home – something that they may never have imagined they could own.

For most redevelopments in Duffy, the consumers' aspirations that were manifested in the size of the homes became the least negotiable aspect of the redevelopment process. The producers reasoned the environmental performance of the home by achieving the EER ratings using green technological improvements rather than looking at the environmental performance of the house in time and space. Chapter 8 shows that neither the ideal home nor the environmental aspirations were achieved when the consumers' decision making was compartmentalised in this way.

7.2.3 Making decisions in time and space

As the recovery process migrated from an emergency situation to a recovery process, the relationship between the producer and consumer also changed. Many residents were primarily concerned with returning to a normal state. Over time, the producer's role also changed from being the facilitator of a speedy recovery to an enabler of a new, better designed home. The planners were particularly aware of the changes occurring in time and space. The planning agency ACTPLA was primarily responsible for facilitating the community and the built environment professionals to recover the suburb to a 'normal' state. The producers were not only negotiating the process of redevelopment in terms of meeting their own professional obligations, they were responding to social and political pressures to return the community to an undisturbed or stable state as soon as possible. As individuals, the planners understood that this change process required careful consideration of the multiplicity of decisions required to be

made in a timely and appropriate manner. Despite the political and social pressure, expediency was not the most important factor.

> So I think that whole issue of slowing down the whole decision making process [was important], and I can understand why it happened so quickly because they were desperate to normalise their life again … I think the ones who worked through a very deliberate process ended up with a better outcome than the ones that moved very quickly. (Dianne, planner)

Many designers and residents complained that things were happening too slowly. This pressure was felt internally in the planning authority, as the change to the suburb was more complex than merely the replacement of houses. ACTPLA were also coming to terms with the unseen change, that of the changing social structure as many families chose not to return. This created a flood of vacant land onto the market and raised the prospect of land speculation and the development opportunities that followed. This change in land availability introduced a perception of opportunism among the producers and created a fear of emerging tensions between developers and residents. While these assumptions were reasonable, there was little evidence that this tension emerged among the residents and this is discussed in the next chapter.

> I think a lot of us along the way quickly realised that it would be a different community with different people, different aspirations and so forth … There was a fair bit of exchanging of blocks and then on-selling of blocks and so forth. You know we found a few profiteers that were trying to make money out of that in particular, you know, hoping that nobody would notice, the usual. You always get these bastards that do it. (Eric, planner)

Eventually, the rapid exchange of land was replaced by a new means of reappropriating the space both in terms of architectural style, and everyday practices as builders quickly on-sold the new houses to incoming residents keen to buy a new house in an established suburb.

The physical changes to the suburb were most visible in the western and northern edge of the suburb. Other parts of the suburb remained essentially the same apart from the loss of trees resulting from the fire and other removals resulting from a short amnesty on government applications for tree removals. Other changes were more subtle and reflected a change in the way that residents appropriated the space.

> People’s habits change, people want bigger house, and they don’t want bigger backyards, with all the problems with water usage. So who wants a big backyard for God’s sake. People would rather have bigger living area … live internally. (Brett, building designer)

Some of the building designers and planners worked in the area continuously for up to two years and saw changes in daily practices that they saw as reflecting the renewal of the community. These observations reflected the embedded role that producers played in the

ongoing socio-spatial recovery process as over 200 individual redevelopment projects took from six months to six years to complete.

> You know, [other] people go through the front door and lock themselves inside, whereas out there in Duffy everyone seems to be out there in the gardens doing their gardens, associating [with other residents] along the street, you know, it's more of a community sort of thing.(Fred, building designer)

The complexity and variety of decisions made by individuals in negotiating their life circumstances operated on a temporal scale dictated by many factors. This in itself was unsurprising. However, when time was factored into the decision making process, the effect on the environmental and social goals of the producers changed as *they* became agents of change, brokers of information and stewards of the suburban character. The combination of these discrete decisions and the resulting physical change to the land itself combined to manifest a changed suburban character.

> I don't know whether there's been any follow up to get a perspective or a sense of community and how it's been re-established, if it has and to what extent. Or whether the visible side of recovery is all we are really seeing at the moment in terms of the houses and so forth. In a social sense, whether that has worked or whether something else needed to happen to make it, um, to stitch it together, I'm not sure. (Eric, planner)

The circumstances in Duffy were unique in Canberra. Therefore the producers were not only coming to terms with this sort of process, but also had to make sense of how their own practices were conditioned by the more regulated and planned approach to greenfield development. Planners in particular were learning with the community, and applying the same planning logic to Duffy was not necessarily the best approach. In this context the planners had to make judgements about what is right for the individual and what is right for the community. In other words, the producers were required to make prudent decisions.

7.3 *The producers' prudent actions*

Aristotle believed that a well functioning society depended on the effective operation of all three intellectual virtues of *episteme, techne,* and *phronesis*. However, 'Aristotle emphasised the crucial importance of *phronesis*' (Flyvbjerg, 2001, p. 60). Phronesis lacks a translation in modern English vocabulary, but its principal interest in social science is the analysis of the status of values in society, and how that is manifested in prudential behaviour (Flyvbjerg, 2001). The role of the producer was not just one of acting to improve environmental and social outcomes, but also to engage with the immediate and hidden dimensions of negotiating change at an individual block scale and a holistic suburban landscape scale, while at the same time

meeting consumers' aspirations. In the case of Duffy, this included helping the individual clients, and through them the community, to recover.

The redevelopment process was a means to achieving that recovery goal and also a symbolic visual reminder of the changes occurring at the suburban scale. Given the conflated and varied interpretation of what the producers' social and environmental goals included, it is appropriate to examine how they saw themselves acting prudently on behalf of their clients and through them-the community.

The previous section showed that the producers' individual designs were seen as an improvement against many environmental measures, but the collective result of many houses built in the same manner, with the same aspirations, did not necessarily result in an improved suburban outcome. This was both known and acknowledged by the designers. So the prudent decisions for the producers were governed by a negotiating process to do 'what is good if doing so does not come at an exorbitant prudential cost' (Christensen, 2005, p. 17). Therefore, acting in a prudent manner at an individual block scale did not necessarily result in an ideal outcome at a street or suburban scale. The design process aimed to meet the client's aspirations through a complex negotiation between the desire for an ideal home, the environmental goals imposed by the state, and the pragmatic realities of construction.

> [I was] trying to placate all of them, to give them something that would give them an input into their new home and you can't do that. You know, everything starts to get bigger and bigger and the ceilings get taller and taller until they're way over their top … I would have to somehow try to sort it out and mediate between the client and the local government planner. They [the houses] have certainly changed the character of the suburb a lot. You certainly feel you are in a different place. (Francis, building designer)

7.3.1 Negotiating change

The major determining factor for design decisions included trade-offs between the social values, cultural assumptions, financial constraints and environmental factors and how they were negotiated and facilitated. Yet the perception among producers was that the change of house size relative to block size was a cultural artefact of popular culture. That is, the consumer was sold the idea of a big house in and through cultural institutions, such as the media, and this was connected to social status. The producers felt that this was a generally held community view but were not sure why this was the case.

> People only aspire to the architecture they have grown up in, or what they have seen in the greatest living magazines. I think if people could afford to build a bigger place they would build a bigger place, you know I mean the whole McMansions phenomenon has crept in to the Australian housing mentality. I just think people look at the greatest living magazines and the advertisements and suburbs where houses take

> up 90% of the block … It depends what they've been exposed to. It's actually difficult to see where the influence has come from. (Albert, architect)

While the material and technological changes can be viewed as current trends, the process of decision making had an equally significant influence on the outcomes. The relative time cost of delay required to make life choices and long term decisions and the due process demanded by ACTPLA in order to administer their regulatory function ultimately drove the development process. The planners, in particular, had to accommodate residents who wanted to build as quickly as possible and those who wanted to wait, often for a few years.

The consequences of such different approaches caused more pressure and tension between those who saw themselves in a race against rising prices and those who wanted time to recover over longer periods. Some producers saw this as an opportunity for some residents to evaluate and reflect on their circumstance and their way of life generally. A few producers took this as an opportunity to focus conversations on ways of living as a starting point in the engagement process.

> [The residents] should investigate not only in terms of the replacement of the house but also what their personal circumstances were. There might have been an opportunity for them to re-evaluate the way they wanted to live, whether they actually needed the house they had before. They might decide to go for another form of housing, so the idea of being able to slow that decision making down to allow the other options to come into consideration I think was important. (Henry, planner)

The cultural influences and the dynamics of the decision making process drove individual outcomes. However, the underlying issues of rights, justice and fairness in the change process gave clues as to how the reconfigured suburb affected the whole community. While the Duffy residents came to terms with the dramatic reconfiguration of the blocks and the suburb, tensions emerged over equity and justice fairness. In the case of those who had not lost their homes as a result of the fires, some producers felt that those who had saved their houses had missed out on a development opportunity. The next chapter indicates this was not a widely held view by consumers. To the residents, the main tension arose from a different sort of injustice resulting from the fractured nature of the rebuilding process and the impact of building costs, and the length of time that the suburb 'felt like a building site' for all consumers wanting to recover their lives in the suburb.

The change process and producer–consumer interactions were neither linear nor clearly articulated as many complicating factors came into play, and this affected the whole community. The wellbeing of the consumer was particularly relevant to this case study and this was manifested in two ways. Firstly, the planners were particularly aware of the need to return the consumer to a stable state as quickly as possible although not necessarily to an idealised and

imagined past. Secondly, the designers tended to manage the process of change rather than necessarily taking carriage of the final form and this occurred in stages.

7.3.2 Stages of engagement in the prudential process

> This couple ended up engaging me to draw up a plan for them and to get it through [ACTPLA]. He had kind of gone through and started by reading up all these magazines about straw bale housing and underground housing and all this energy efficient thing. The budget was of course [for] this basic three bedroom brick veneer house. In the end they got a very ordinary looking house which had the six star energy rating. (Anthony, architect)

The stages of engagement between the producer and consumer in the redevelopment process help us to further understand how the held aspirations of social actors unfolded through the development process. It shows how the design outcomes resulted from prudent decision making, but there are also gaps in understanding about the environmental goals and these gaps existed in spite of shared cultural norms and held views about what should be achieved.

The stages of engagement in the redevelopment process for the producer and consumer represented a 'felicitous coincidence with one's own private interests and this is potentially a dynamic and evolving circumstance' (Christensen, 2005, p. 17). The producers endeavoured to achieve the appropriate balance between ethical and prudential considerations of their decisions in order to achieve the goal of rehousing their client. The producers undertook stages of engagement with the consumers and the project. The process began with the producers' aspirations to create better outcomes for the consumers. As the producers reflected on the design process the data showed that they negotiated a decision space within the following four stages.

1. The producers negotiated the project with the consumers based on their preparedness to engage in change by focusing on the tangible project – the house –and to a lesser extent, the block of land, but not the street or suburb.

2. The producer considered his or her own prudential considerations that mediated their relationship with the consumer. In doing so, they were facilitating the consumers' aspirations by engaging in a dialogue about what was environmentally, socially and financially prudent. At this stage, notions of sustainability, efficiency, and aspiration were discussed, but not clearly defined.

3. The designers implemented the designs to a budget by negotiating between what were seen as the costs and benefits. Some of those costs and benefits were tangible and measurable, such as the size and layout of the house. However, these costs and benefits were not necessarily based on all input factors to do with constructing, operating and maintaining the home or servicing the mortgage. Other intangible factors such as spatial

quality, comfort and light, feelings of wellbeing, were discussed but as tacit rather than measurable benefits. So the balance between ethical and prudent decisions was negotiated using shared understandings, cultural assumptions and tacit values. As a result, the designer mediated between the client's aspirations and their own ethical position to come to terms with these differing perspectives of what was responsible and desirable.

4. Finally, the technological limitations, regulatory requirements and monetary considerations eroded the initial social and environmental aspirations of both the producers and the consumers. Only on reflection could the producer consider what was good in terms of their role in the process and also what in fact their role was. In addition, the conflation of concepts of sustainability and discrete improvement in energy efficiency highlighted a complex relationship between differing aspirations and expectations and the institutional impediments to change in the building process.

The agency of the producer therefore appeared to be one of a contested environmental and social responsibility. For most, but not all, consumers, the maximum size of the house was a prudential consideration negotiated between the producer and consumer, governed by regulation and cost. In short, no one individual had agency over the outcome of a redevelopment project, let alone a vision of the future suburban form. Therefore, the changes at the suburban landscape scale reflected the cultural assumptions, societal values and institutional and market mechanisms underpinning redevelopment in suburban Canberra.

> I think it's just different and more modern. I didn't feel that the built form outcome was really bad compared to what was there before. The quality of the houses are much better they're bigger, um, of course, reflecting the value of the land … it was like the gentrification that happens in some older suburbs, just sped up it really, just sped it up. (Deeta, planner)

Chapter 3 details how planning in the twentieth century, by and large, evolved as a profession concerned with the spatial distribution of infrastructure in cities. Since the early planning movements sought to correct the social and environmental problems of the industrialised city, planners have brought their own values into the process (Sandercock, 1990) and Duffy was no exception.

A prudential social contract existed between the producer, the consumer and the community to design houses into the suburb. The producers mediated between meeting the clients' aspirations and the planning requirements, but also the building's relationship to the environment. The producers understood their role as 'spatial mediators' operating in a fragmented decision space between the planning requirements, their aspirations and the pragmatic realities of the redevelopment process.

Many consumers held a narrow view of the designer's role in the process. They saw design as a consumable product; therefore, the designer provided a service and the act of designing became a response to specific requirements and expectations of the client. In turn, the role of the designer was to not to design, but to deliver a product from a limited set of options. This was not a moral or ethical dilemma for designers in particular, but an inevitable outcome of the relationship with the consumer. The perception of the role of the designer is discussed further in the next chapter.

7.4 *Planning practice in the recovery process*

> They just wanted to get back into their own little house and back into their own routine. (Anthony, architect)

In 2006, the community's response to the redevelopment process was multifaceted, unpredictable and, unsurprisingly, emotionally charged. Only after the recovery process had substantially arrived at a natural stable point, with over 95% of the houses rebuilt, could the community, the planners and other design professionals reflect on the process and what that meant for the reconfiguration of the suburb. The process of change presented a picture of different social actors with often conflicting ideas and values about what should have occurred and how it might have happened. The social and environmental challenges for ACTPLA in the aftermath of the 2003 fires were unprecedented and yet the process of development during the period following the fires was governed by codes designed for greenfield development and applied to all new housing in the ACT.

By the time of the fires, planning legislation began to incorporate measures to address the challenges of climate change adaptation and mitigation. The EER tool for mandating environmental performance was introduced into the ACT in 1998 and formed part of the requirements for the sale of residential properties. Therefore the process of redevelopment in Duffy incorporated both the need for a government response quickly, systematically and strategically, while maintaining its environmental responsibilities under the legislation.

Much of the initial work for the planners was pragmatic and responsive. This involved facilitating the immediate needs of the community, including the provision of emergency housing, safe access to the suburb, and dealing with political implications of Canberra's worst natural disaster. Within a week, the recovery process began and the planning agency and private practising designers and architects had to come to terms with the complexity of the recovery process.

Broadly speaking, the planners negotiated the expectations of the consumers in three ways. Firstly, they had to determine the extent to which the process of recovery should recreate the pre-fire suburb. Secondly, they had to negotiate to what extent they should be involved in the

process; in particular what sort of holistic perspective they could contribute in terms of managing change. Thirdly, the planners had to execute the EER requirements within the code and under the political pressure of the expected speed of decision making demanded by the community and the government. Finally they had to communicate this to the residents and other producers in the process.

> They [the residents] were all a bit jumpy about information they needed to get, what mattered and what didn't so on and so forth … a lot of owners, I think, were sort of confronted with a hell of a lot more bureaucracy than they would have normally, and they really didn't need it. As far as I was concerned they needed expert advice at their side which is certainly the way we worked. Steer them along you know, get the right advice. (Ivan, building designer)

The process began with the informal education of residents who, prior to the fires, had no plans to build and had to learn the process and language of development. This involved the developing of informal relationships between designers, architects, planners and residents through information days. The immediate needs of the consumers remained the focus for the planners, yet, at the same time, the planning authority's broad objectives had to be incorporated into the expectations and aspirations of the consumers. This was an exercise in providing guidance and information in order to facilitate change efficiently. The most pressing need for the community was managing the time it took to initiate the rebuilding process.

> There [were] a number of us from ACTPLA along with a number of people from the Master Builders Association and the architects. We were basically there to give advice on an 'as needed' basis [and] we were happy to take people in and talk to them about it. A lot of those people had lived there for quite a long time and never even thought of rebuilding … so the education process was very rapid (Jane, planner)

7.4.1 Initiating the change

When Duffy was first developed in the early 1970s, the primary drivers of house design were efficiency and affordability and this reflected an austere conservative pioneer settlement attitude typically described by Boyd (Greig, 1995). Design, comfort and individual expression were secondary luxuries that, in the twenty-first century, could now be afforded. At the same time, the planning codes in little more than 30 years had shifted from mandating minimum size dwellings to restricting maximum sizes. These changes not only reflected changing social values, but also the changing institutional arrangements between the different industries and professions engaged in the redevelopment process, and this has affected the character of the suburb.

> You've got a lot of, um, different style housing that has gone up so it looks like a brand new suburb so to speak. And everyone's trying to get the most out of their block so instead of the old houses that were oriented

> to the street, there are a lot of unusual and quite good looking houses with modern materials … So it has changed the character of the suburb. (Albert architect)

The efficient transition from one stable state to another was an explicit goal of the planners involved in the process of recovery. Therefore, achieving stability was a priority and determined, ultimately, what decisions would be made about the nature of the reconstruction. Initially, the speed of recovery, or at least initiating the recovery, was the most pressing need in the community and then, as other factors came into play, far more complex sets of issues emerged. Many designers reported that the residents initially wanted to rebuild the same house with the same materials as quickly as possible. As the design process began, these producers encouraged the consumers to design a different layout in order to improve the design performance of the house and this impacted on the consumers' capacity to expedite the process. Of equal importance was the need for the process to be uncomplicated in order to reduce uncertainty and get people back into their homes and their daily routines.

ACTPLA also recognised this and developed an approval process whereby development applications would be approved without going to public consultation if the footprint of the new house did not exceed the old one by more than 15% and remained in the same building envelope. However, as the data showed, of the 214 DAs submitted by 2006, only two had no change to the footprint size and 31 were increased in size by less than 15%. Very few applicants took up the opportunity to expedite their development by taking advantage of this special exemption. The individual opportunity to 'get the most out of the block' took over the need for urgency and this reframed the relationship between consumer and producer as the projects progressed.

Expectations of a quick recovery for consumers were tempered by the real estate market, institutional mechanisms and cultural norms that intervened and resulted in consumers overwhelmingly opting to build much larger homes and, in the process, relinquished their option for less bureaucratic intervention. Despite the widespread sentiment to recover as quickly as possible, the producers expected that most of the residents would want to rebuild a larger home and the planners had to accommodate these competing priorities.

While the attention for the producers was largely focused on the redevelopment of individual blocks, the cumulative impact of these changes at the street and suburb level was changing the character of the suburb. This presented a conflict between individual opportunity and the community-held desire for continuity and consistency. This new suburban character reflected the way that the community understood change. The planners and designers were aware of this conflict but had difficulty coming to terms with how to manage this change.

> When the local authority, the planning authority, when they're reviewing development applications, a lot of the time they seem to be only looking at that particular house and not the next three or four along the block to see how they relate to each other so, even though they have a lot of rules and regulations in place. (Julian, architect)

Managing change at the different temporal and spatial scale highlighted the persistent problems faced by planning authorities around Australia. Mediating between the rights of the individual and the rights of the community was difficult to define. Yet as the Duffy process showed, the mechanisms to find a happy medium are difficult to identify in suburbs undergoing renewal. The problem faced by the community and the development authorities in Australian cities is to arrive at a shared goal as to how the suburb could change over time, and this requires an understanding of how the landscape is embodied into the change process.

7.5 *The performance of landscape*

Suburban renewal in Duffy was about individuality, expression in design and appropriation of space, an evolving relationship between the social actors, the space and the community. However, when we think of or imagine a community, we tend to see it in a place, as part of an imaginary landscape or setting; we put it in a frame in order to make sense of it. In Duffy, the landscape setting dramatically changed as a result of the fire and at least 100 households left the suburb, to be replaced by new residents. Subsequently, the place was continually reinterpreted in and through the social interaction of residents and the physical reconfiguration of the space called the suburb, and this reinterpretation operated in between the rights of the individual over their land, and the community expectation of the right to a particular landscape character. This tension has existed whenever substantial change occurs in suburbs, whether it is from gentrification, government policy or catastrophic change (Dovey, et al., 2006).

Recovering the suburb became the collective effort of many individuals making discrete decisions concerning the immediate challenges of rebuilding homes. The outcome of these decisions would change the landscape compared to the pre-fire condition. As a result, this new landscape would perform differently; this change in the landscape is the final theme discussed in this chapter. The landscape was evident in the producers' accounts of how they imagined the suburb would change over time and it was often referred to as performing a tacit function or achieving an explicit goal. In this thesis, performance contains a dual meaning; it describes 'the carrying out of a function and signifies accomplishment or a noteworthy act' (OED, 2009).

The concept of the landscape performing a function or accomplishing a noteworthy act appropriates the Aristotelian term *telos*, not to be confused with a Judeo–Christian interpretation of cosmic teleology. Instead, telos is a goal that deals with growth and adaption toward the future (Mayr, 1992). Telos is not the landscape itself, but rather the expectation that the

landscape would achieve a state that symbolised an imagined goal or ideal stable suburban state. In this way, the landscape is a stage for recovering a suburb and a place or *Landschaft* to be constituted in a period of social and environmental change.

The changes resulting from the fires were catastrophic, uncontrolled and symbolic of the loss experienced by the community. The post-fire reconstruction also resulted in dramatic change, but it was much slower, more controlled and to a degree symbolised the slow recovery of the community. However, the material changes over space and time, particularly the loss of large street trees and the changes in forms, structures, textures and colours, were symbolic and real, part of the inevitable consequence of the fire and redevelopment process. For this reason, the landscape became a point of spatial and temporal orientation that helped the producers to make sense of the changes that occurred over the seven-year period. In this way, the landscape provided a point of comparison to describe how the suburb had changed.

> I think the landscape hid a lot of the faults in the older suburbs. The trees take out a lot of the bad architecture in there and I think once a lot of that went it exposed a lot and you get these monstrous houses on small blocks and it just, to me, looked out of character with what it was before. Very significant, and the landscape had a lot to do with that. (Anthony, architect)

The landscape was also the component of the suburb that would take the longest to recover. The bureaucrats appointed to the recovery task force understood that there was a sense of urgency to re-establish the lost infrastructure, and also a need to carry out these symbolic acts, and the landscape was used to achieve these gestures.

The producers understood that the landscape could not literally be replaced in the same way that houses could be reconstructed, but rather the landscape would begin recovering in a different way and almost immediately. For the producer, the landscape would perform essential functions and symbolic acts in the composition of the rebuilt suburb. The symbolic impact of the colour green ameliorated the catastrophic change in a number of ways, ranging from the re-sowing of grass, to the laying of lawns – both artificial and real – and replanting of trees and gardens. This literal green operated differently from the green technology that provided a point of orientation in the house design.

> It's a bit artificial at this stage. Once the trees start to grow the canopies, you know, segregate the houses, the houses won't dominate as they do now, they'll blend in with the environment … But it's not just Duffy. I mean, every suburb around there is being rejuvenated. (Brett, building designer)

7.5.1 Landscapes performing a symbolic function

The recovery of the community to a stable state was seen as contingent on the recovery of the physical landscape, even though it was never expected to return to some imagined previous

state. The suburb's landscape character was described by many respondents as being 'in recovery' and the changes in the structures to the physical landscape included the intervention of new buildings into what was previously the natural state of the pre-fire suburban landscape. The producers made sense of these changes by distinguishing between the artificiality of the new built form and the naturalness of the landscape. The regrowth of the vegetation in particular became a measure of how well the suburb was recovering and this recovery was seen to be helping the suburb to mitigate the new physical form. An example of this symbolic performative function was the way in which the green vegetation signalled recovery. Despite the fact that green grass was not typically associated with the bush suburb vernacular, and a rare site in drought-stricken Canberra, it became an important gesture in the following spring and winter before the onset of summer would see much of the green disappear.

> So that first winter we deep ripped and back bladed, ripped out rocks, ripped out burnt stumps, that sort of stuff, and then left the top soil there and threw some seed down. Got a strike in late winter, early spring, and then handed over lovely green grass about August/September that year. By then you've got all that lovely green after a fire. (Noel, landscape architect)

The producers spoke of the landscape as if it had performed a noteworthy accomplishment since the fires and was expected to do so in the long term future. Growth and time would combine to ferment expectation among producers that plants would, over time, heal, soften and nestle the landscape. At the suburban scale, the replanting of gardens and the growth of new trees in particular would reoccupy the skyline, replacing the continuous roof line of new buildings. Despite this, change was a destabilising process regardless of whether the producers believed the new architecture was an improvement or a deterioration of the look and feel of the suburb. Equally, a shared understanding of the concepts of landscape and character existed among the producers but the terms were difficult to define, as if the landscape was *just there* and would play a central role in helping the suburban character adapt physically and symbolically.

> The landscape was relatively mature; the landscape had tamed the houses. [There was] a bit more variety both in topography, landscape and building type than your absolute average suburban environment … a lot of what was nice about it [Duffy] in terms of mature trees and shrubs obviously did disappear. I suspect that lot of that hasn't been recreated, and it would take an awful long time to recreate. (Paula, planner)

The character of the suburb was expected to recover in the public space, whereas the private land was an exchangeable good. The land value on blocks influenced many of the producers' decisions about how they advised their clients to design their homes and in doing so, how the suburban recovery would occur. The residents' compensation for loss was to maximise the land value, yet the value of the suburban landscape was different, and competing with the instrumental value of the land left vacant by the fires, stripped of gardens and trees that linked

the landscape to the past. The value of the private land differed to the performance of the public landscape. For example, the community wanted and expected the public landscape to be revegetated with trees, and yet many private blocks were reconfigured in a way that left no room for the same replanting to occur. In this way, the value of the land in the suburb was driven by private property rights codified in regulation. As a result, the physical make up of the landscape reflected this and changed the landscape character that the community wanted to retain. The economic rationale for this pattern of redevelopment did not account for the very landscape values the community wanted to retain at a suburban scale. It was therefore inevitable that the changes would be driven by individual designs unfolding over the landscape of the fire-affected streets, and the reliance on the public realm to recover the suburban character was going to result in a very different landscape.

> Like most communities they didn't want change and they wanted the same cottages to be rebuilt that was there before or they wanted a colour scheme put in place, or they wanted to stop metal roofs … and my point was like, 'folks, let's get real here, the underlying value of that land was substantial'. Most of those blocks were worth $300,000 plus. You're not going to get the $100,000 fibro cottage rebuilt or a three bedroom one bathroom brick home any more, you know. The building stock was going to change, and anyone who thought otherwise was being completely unrealistic. (Deeta, planner)

7.5.2 The landscape change paradox

> Some people did rebuild with that exact [original] style which was interesting, but got the benefits of modernising internal parts of the house. But most moved away from that old particular style of architecture. It would be interesting to get a sense of what the residents would feel, whether any of them had built in the traditional style of the suburb hoping that others will, yeah, but you know, I think it's inevitable that people will build to quite some difference and no overarching character being able to placed on that particular suburb. (Henry, planner)

The producers and consumers were coming to terms with the changing community structure resulting from the exchange of land, the reconfiguration of the landscape and the subsequent resettling into a new stable state. The prudent behaviour of the producer operated within the broader question of public interest versus private interest and their capacity to negotiate the strategic behaviour of various social actors engaged in speculative development; in particular, those who profited from gaining access to services, resources and information, and those who profited financially from increased government support, reduction in red tape and increase in land supply.

A paradox existed between the outcomes that respected individual rights within the development rules, and the public right to a particular suburban typology or character. The designers could reconcile their agency to facilitate the consumers' rights to build their ideal

homes and the economic opportunity to maximise the exchange value of their land. Yet by expressing their property rights through the entitlements to build as large as they could, the consumers also contributed to the unintended consequences of the reconfiguration of the suburban landscape.

The consumers both participated in and endured the changes, over which they had little control, and could only defer to the planners to enforce their statutory responsibility to retain certain characteristics of the suburb and, by inference, impose restrictions on their own rights. To many producers it was simpler to classify the landscape as land, with an exchange value, that held no tacit connections to the pre-fire character. For many of the producers, their professional design advice was dictated by establishing a cost benefit decision making framework. Yet the consumers also determined the land value based on their opportunity to be compensated for the emotional disruption. In all, some producers felt that the outcome reflected the worst aspects of contemporary development practice.

> Oh well, I suppose I don't like, no. I just think it's a poor, yeah … for a whole range of reasons it's an aesthetic, environmental, social, any number of reasons it's, um, created a sort of a housing style which is similar to the worst aspects of those [suburbs in master-planned estates] when you see those houses cheek by jowl. (Noel, landscape architect)

Chapter 8: Understanding the suburban consumer's dream

This chapter examines how the residents expressed their understanding of the redevelopment process. It interrogates how they perceived the home, the street and the suburb. It explores how the residents embody the landscape in their experience of rebuilding, appropriating and living in the suburb through the development process. It looks at how the relationship with the material and the embodied landscape affected the designs of their new houses. It examines how their decisions impacted on their community and through these processes, contributed to the recovery of the suburb.

8.1 *Introduction*

The residents were consumers who, like the producers, were agents of change in Duffy. While it was clear that many of the producers could clearly articulate a set of priorities to do with the design process, the consumers arrived at a point of resolution from a more complex set of values associated with occupying and appropriating their new homes in the suburb. This was exemplified by the producers' and consumers' different understandings of the redevelopment process. The producers arrived at a philosophical stance from primarily a professional practice position and hence their relationship to the project was informed by those values. The consumers did not have a predetermined philosophical view about design and development but rather were bound to make decisions in and through the circumstances at the time, as well as incorporating their embodied experience of living in Duffy before the fires.

For the consumers, the decision about how to reoccupy the suburb was a trade-off between different push and pull factors. Gans (1967) focused on more formal relationships between the provision of amenity and the economic and opportunity costs of moving into a suburb from a financial perspective. This study focuses on other factors including the emotional impact of change and how the social actors' understandings about space and landscape affected individuals' decisions. This trade-off between relocating and rebuilding affected the consumers' decision making, both in terms of the decision to redevelop the land, and their values and approaches to design.

The consumers' motivations were different from the producers in two ways. Firstly, the consumers understood the redevelopment project from an everyday life perspective. For them, it was about living in the suburb and reconceptualising how that lived experience would change in a new social and physical space. Secondly, the consumers were not equipped with the same language and skills specific to design and development. However, it is too simplistic to suggest that consumers and producers were mutually exclusive in their language and philosophical

stance. Consumers may not have used the same language to express design, but they did possess differing levels of understanding about how they wanted their house to look and function.

The data in this chapter was analysed by adopting the same analytical framework used to examine the producers' role in the redevelopment process and adds another level of information that identifies important characteristics specific to the consumers. A central argument of this chapter posits that the residents' rationality and their understanding of how they occupy the space and conceptualise their homes, explained the differences in house design generally. There were, of course, exceptions that were not explained by the data. However, this thesis argues that different conceptualisations of living, dwelling and occupying the homes and the landscape were reflected in the design of the new houses, most notably the increase in floor space, the conspicuous use of architectural facades, and incorporation of green technology.

The findings from this chapter establish a framework to explore how the residents became engaged in the change process and what values, attitudes and understandings informed their decisions. It also examines how the residents conceptualised the change to their suburb and what role their homes played in that process. This chapter is divided into four parts based on the consumer categories collected after the fires (ACTPLA, 2006). The first part examines the decisions and actions of those residents who rebuilt houses less than 15% larger than the house lost (C2). The second part examines the residents who rebuild houses more than 15% larger (C3,). The third part examines the residents who moved into the suburb and either bought vacant land and rebuilt, or purchased new houses built after the fires (CTR). The final part of this chapter synthesises the ways in which different groups understood the role of the landscape in ameliorating, mitigating or inhibiting the redevelopment of the suburb in the nine years since January 2003.

The distinction between the different consumer categories establishes a correlation between the different consumers and the overall change to the house sizes. In all, a relationship existed between the consumer category and the way in which residents reported on their design brief, their relationship to the producers and their reflections on the recovery process.

The data analysis distinguished between those residents who returned and those who moved into the suburb after the fires to build or purchase a new home. The CTR category included the houses with the largest average physical footprint. In the case of the CTR group, many of the houses built and sold on after the fires were speculative developments by local building companies and residential developers seeking to maximise their financial return. This may explain why houses in this group are larger than the C2 and C3 categories. However, the CTR consumers were also most notably different from the first two groups because they had not lived in the suburb during the fires and did not experience the resulting loss.

At the other end of the spectrum, the C2 consumers' houses were smaller and occupied a lower percentage of the total block area. The data shows no other correlation, such as income level, household mix or location to explain the choice of house size other than those revealed though the decisions and actions manifested in the consumers' understanding of the design process and the producer–consumer relationship.

A major difference between the categories was the way respondents conceptualised space, including the landscape, at different spatial and temporal scales. I propose that, in this context, the landscape contained different meanings to residents and at block, street and suburban scale. Their decisions that impacted on the landscape over short timeframes and at a smaller scale differed from the impacts occurring over much longer periods of time and over larger spatial scales. In short, a sort of 'prisoners' dilemma' existed, where short term decisions of residents would return immediate and short term benefits, but longer term held views about the quality of space and character of the suburban landscape required others to mitigate the landscape impact on their own blocks in order to preserve the suburb's character. This was neither explicit nor understood until well after the fact, and as a result, such changes to the landscape in Duffy, as well as other suburbs undergoing renewal, resulted in a 'death by a thousand cuts' to the previous suburban landscape character.

The following sections draw on the analytical methods developed in this thesis to draw out the distinctions between the consumer categories through the participants' narratives and stories. The terms 'big' and 'small' are used to reflect the underlying paradox in the way that consumers embody the landscape into decision making and the corresponding changes to both the size of the homes and the reconfiguration of the landscape on private blocks.

8.2 *C2 homes: Big people living in small houses*

This section examines how C2 residents embodied the idea of an ideal home and the role they played in the redevelopment process. It also looks at both the tangible and intangible aspects of what C2 consumers considered important. Finally, it explores how the C2 consumers articulated their goals for achieving a good design outcome and to what extent that impacted on the spatial relationship between the house and the landscape. It argues that consumers who adopted a big picture view or a holistic approach in time and space built houses that were smaller and occupied less of the landscape. Hence, 'big' people live in small houses.

For the C2 and C3 residents, the recovery process usually began with the consumer making a decision to return to Duffy after considering the financial and emotional cost of confronting the challenge of re-conceptualising life in the post-fire suburb. All returning residents had to go through this process. Yet how they considered all the issues concerned with reconstruction and their post-construction reappropriating of the house, the block and their street affected their

design decisions. One of the tentative propositions in this thesis suggests that residents with an emotional connection to the suburban community would be most attached to the suburb and sensitive to the visible impact of new developments and in turn, and would embody those values into their decision making. However, this was not evident in the data. All residents considered the cost of rebuilding versus the cost of establishing themselves in another suburb and the priority for most residents was to achieve a normal state as quickly as possible with the least emotional cost.

8.2.1 Tacit values

Rachael, a homeowner in her fifties with a partner and two children, returned after the fires and researched what sort of home she wanted by visiting project homes in the greenfield estates around Canberra. Her objective was simple – to find a house suitable for her block and to incur the least financial and emotional cost in the process of returning to a stable state of living in the suburb. She intended to undergo this process as efficiently and effectively as possible. She was not particularly attached to the suburb, nor did she have a particular dream to build a new ideal home, but rather, to recover some sense of stability.

Rachael sought to achieve a strong relationship between what tacit qualities she needed from a home to recover to a normal state of living in the suburb and what this would cost. The tacit qualities of spaciousness, light and comfort were universally understood as important for both consumers and producers. Rachael decided that these were important design considerations from the outset and her approach to achieving these qualities had a significant impact on the final built form. Rather than focusing on the pragmatic considerations such as the number of rooms and the layout of the house, she focused on how the house would achieve these qualities that were important to her.

> We decided to put the money where we would get the most benefit. So rather than trying to make a fancy flash house on multiple levels which we could have to get fabulous views, we tried to stay with what would make it the most comfortable house. We talked a lot about how our block worked. We are prepared to work with the house, we open and shut blinds, do what we need to. (C2, Rachael).

Rachael was prepared to ‘operate’ her house to regulate the environmental qualities of the spaces. She was happy to work with the house, to develop a relationship with it. She was also looking for a relationship with a designer to share her idea of what a house should provide in terms of living quality rather than focusing on the product itself. Once she had chosen her architect, Rachael was determined to persuade him that he could achieve what she wanted through a process of negotiation and shared vision. This included actively arguing against increasing the size of the house beyond her needs.

> So I was containing the project quite a bit compared to what the architect wanted [to do]. He sort of had a house from here to the back fence and I said no, no, no. I want some yard, and that really made it more affordable for us too … I took a whole metre off the middle of the house to make it narrower. (C2, Rachael)

Rachel could articulate what was needed to redevelop her home. She was determined to engage an architect not for his reputation as a sustainable designer, but rather, her belief that he had the skills to design these tacit qualities into her new home. The brief to her architect included pragmatic layout decisions, and focused on tacit and intangible qualities. For example, she spoke of efficient use of space and a desire for spaciousness at the same time. Her focus remained on improving the design of the home in relation to the block and the surrounding landscape rather than concerning herself about whether it would be big enough. For Rachael, the shared meanings and understandings about these tacit qualities and design process were essential to sustain the producer–consumer relationship.

> I just don't think I would have ever built a house without an architect. I think architects have their place in the world. I wouldn't buy a car that hasn't been designed by [just] anybody. Why would you buy a house that hasn't been designed by 'somebody'. I was very surprised we had friends who were so anti-using an architect; I couldn't understand that at all' (C2, Rachael)

8.2.2 Efficiency and expectations

The concept of efficiency appeared often in the consumers' interviews. How they embodied efficiency was multifaceted and how the term was used to explain the design of both the largest and smallest houses was equally interesting. The exploration of the use of the term 'efficiency' holds clues to some of the cultural shifts in the way landscape and the house were valued and how the suburban redevelopment occurred. Efficiency was understood by consumers in three distinctly different ways. These were:

1. Holistic or overall design efficiency
2. Efficient design interventions
3. Efficient use of land.

Of the three ways of describing efficiency, only the first category was consistently evident in the C2 consumer group. Holistic design efficiency describes the decisions made by the consumer that focused on all aspects of the design construction and operation of the house. The measure of efficiency focused on the long term marginal monetary benefits of their decisions and also the overall positive contribution they felt their house made to themselves and the surrounding landscape. The C2 consumers who embraced holistic efficiency also engaged in a degree of social learning. They were receptive to ideas through formal training and research and sought informal networks of fellow like-minded consumers.

Most C2 consumers were not emotionally attached to the house or garden but rather saw them performing an efficient, functional role. The driving force behind their decisions concerned the achievement of an improved environmental outcome, and yet their reasoning for adopting environmental efficiency was primarily motivated by their desire to achieve a higher level of comfort and living quality, rather than seeking an abstract notion of sustainable development. Annabelle, a self-employed allied health worker in her late forties, was able to articulate a relationship between the relative size of the internal spaces and the provision of good thermal comfort.

> It's just got lots of light and warmth … It is not really huge, but it still has that nice warm feeling. On sunny days it's as warm as toast; it has got quite a nice feel about it, homely, and we're comfortable in it. (C2, Annabelle)

Annabelle understood that efficient space also required a lateral approach to designing the layout of the home. Therefore the flexibility of spaces became important. This included the flexibility of use at different times of the year in order to maximise thermal comfort as well as flexibility of use to accommodate different needs.

> We talked about size of the rooms making sure they were flexible so that I could change [uses] … This house isn't a four bedroom monstrosity; it's only a three bedroom house, although it is substantially larger than the ex-govvie … Its footprint isn't substantially different to the previous [house]. [It has an] open plan living area, getting as much northern exposure as I could to the house. (C2, Annabelle)

Holistic efficiency does not preference one method of improved environmental performance over another, but rather incorporates multiple methods to achieve an overall improvement. The second and third definitions of efficiency are discussed in the next part of this chapter and examine how the term efficiency and environmental performance are conflated. In particular, how efficient design interventions serve to substitute overall design efficiency and how the idea of efficient use of land in fact contradicts the green aspirations and desire of many consumers to sustain a particular landscape character.

8.2.3 Consumer awareness of green design

The C2 consumers were not necessarily more literate about environmental performance but sought to achieve comfort by participating in the operation of the house rather than relying on automation. They were prepared to work with the house, opening and closing windows and shutting off rooms rather than relying on automated systems. These consumers talked about their gardens as being part of the house. This holistic understanding of the overall efficiency of the house land, garden and streetscape was evident in some C3 consumers. However, the C2 consumers' approach to affordable energy efficient house design was central to the development

of their relationship to the producer. Carl and Denise explained how their own sense of wellbeing was connected to the design of an environmentally efficient property.

> [We liked] solar passive houses and efficient houses because Australian houses are not efficient. He [the architect] talked about the house and garden and exciting possibilities for the garden. The garden is integrated into the design of the house. He told us that we would have to be very active people to manage a solar passive house, which we didn't know at the time. You might get the idea we are very proud of the house. (C2, Carl and Denise)

Many of these consumers were not only more engaged the process of design, they also focused on their relationship with the designer. The C2 consumer did not necessarily have more control over the design process or the outcome but demonstrated a willingness to work in partnership with the producers. To them the consumer–producer relationship was as important as the product itself. The well researched C2 consumers were aware of how many decisions would need to be made with different producers. While there was a level of trust about the professional capability of the producers, the C2 consumers were also prepared to challenge and question their assumptions and decisions. This was most apparent when environmental technology was introduced into the discussion. All consumers were required to make prudential decisions between what they wanted to achieve and what they could afford. The C2 consumers' trade-offs focused more on design aspects of the property in terms of how they would live, rather than necessarily focus on the list of green inclusions. Rather than seeing green design interventions or materials as a list of inclusions that would be incorporated or excluded based on marginal additional cost to construction, they were far more nuanced in their decisions.

> I was thinking about solar hot water but it wasn't going to work very well on my roof and I don't use that much hot water anyway; my energy costs are pretty minimal. So I wasn't going to save much and it was going to take a long time for me to get my money back, so there were things like that. (C2, Annabelle)

Their reasoning behind the use of green technology demonstrated that C2 consumers were not passive participants in the process, but rather sought to work with the producer to find the space between invention, experiment, and perception of what an efficient house should be. Carl and Denise also understood that the consumer–producer relationship was a shared vision of how they would live in the house rather than what it would look like. In the end they found that their new home was surprisingly different from what they originally expected.

> He [the architect] knew what we wanted to make it work … He came up with this design which is something, in my wildest dreams, I would not have proposed. (C2, Carl and Denise)

C2 consumers had a sense of pragmatic priorities and chose the most appropriate green technology to suit their budget and life style. The C2 consumer approached the redevelopment

process as a project and accumulated as much knowledge as possible. This willingness to explore, research and be open to ideas increased their interest in the design process. Well researched consumers also had a better understanding of the marginal benefit of green technology solutions and therefore were able to feed their knowledge back into the design brief.

Many C2 consumers were able to make marginal cost decisions about green technology in relation to long term environmental benefits early in the design process. They adopted a more strategic approach to green inclusions. They held a view that good design was environmentally efficient and that green technology was only part of that equation. The other part was the role that the landscape would play in the operation of the home.

8.2.4 Embodied landscapes

> So I wanted a house that made the most of my block, in the way that the old house hadn't really done. I wanted a house that was going to be as solar passive as possible within my budget which was a real constraint because I had very little money … I wanted to make sure I designed a house that I was going to be really comfortable in. (C2, Annabelle)

It would be too simple to suggest that the C2 consumers had a better grasp of the development process, or were more committed to some global environmental agenda. However, they thought of the redevelopment project as including the house and the surrounding landscape. They thought of their homes as part of a larger landscape setting and had a good understanding of landscape qualities that impacted on their house and vice versa. If nothing else, they felt it was necessary to mediate the building impact on the site by allowing enough space for a garden that could contribute to the operational efficiency of the house and mitigate the overall visual impact to the street.

> I was really interested in the whole process. I knew to give all that information about the site [to the designer]. It's also just the kind of person I am; it wouldn't occur to me not to know what my block looked like. I'm just that kind of person. I suppose also in the old house I had made a garden and I had plans then to look at things like that on the block. (C2, Rachael)

The embodied memory of the landscape also affected the consumer–producer relationship and this is explored further at the end of this chapter. The desire to recover some of the tacit qualities of their pre-fire homes played a role in reconciling the held value of the landscape in the design of the new homes. The C2 consumers who had developed a strong sense of the experiential qualities of their pre-fire landscape could feed many of their intimate understandings of their site into the design brief. In doing so they were able to engage with the designer to explore options for improving the layout, setting and operation of their house. While they had varying degrees of faith in the ability of the designer to produce a set of drawings that would comply with their needs, they were able to maintain control over the process by

continuously feeding information into the design. This, I would argue, resulted in houses with a better relationship to the landscape, a better environmental and design outcome, and a more satisfied consumer.

8.2.5 Symbolism of the new

The impact of development on the visual character of the suburb was important to many of the consumers. Many were particularly aware of the visual impact of architectural facades, and the perceived socio-cultural cues that such architecture represented. The C2 consumers were aware of the changes to their street and made value judgements about other homes. Many believed the large prominent houses were products of some residents' and developers' opportunistic attitudes to the post-fire circumstances. Many of the C2 consumers considered that the overall impact of the new houses, the sense of surplus building and loss of landscape were poor outcomes that the planning authority had failed to control.

> I felt it was a shame in lots of ways because the new architecture, they [ACTPLA] said, would maintain the street ambience to keep the character to what it had been before. This was a whole lot of rubbish because the first thing you got was all this new architecture that didn't actually merge at all well to the houses around them. (C2, Francis)

However, the general feelings about the changes to the character of the suburb were mixed as they did see the symbolic optimism that newness and visible renewal signified, but felt it could have been achieved more sensitively. This newness was symbolic of young families with children moving into the suburb and the changing role that such new neighbours played in the reconfigured socio-spatial landscape. Despite this perception, the demographic data showed that this was not the case. Most consumers moving into the suburb belonged to the same age household mix bracket as those who stayed. Instead, the few new young families who did move in were noticeable and represented a symbolic attachment to the new homes. However, these families symbolised change on two levels. These were the literal associations with newness in the young families and 'young' houses, and also a departure from the old community and neighbourly ways.

> We've got more young people in the street with children now; there are a lot more young people in the suburb now, which is great, but you can walk up and down the street now and you might not see anybody whereas in the past it wasn't like that. (C2, Francis)

The changes in the suburban character represented a socio-spatial shift, which was in part a result of a lack of control over built form by the planning authority, and also a lack of ability of others to adequately define their own parameters about what they wanted rather than what they were 'meant' to build. The returning residents and the C2 consumers, in particular, were aware of the general critique about bloated houses and loss of character resulting from the changes that

had occurred. They were also aware that their own sense of control over the process required a degree of trust in the producers' professional aspirations. Carl and Denise recalled a conversation with a resident who had since sold and left the suburb after completing their new home, and the resident had reflected on how much their experience with their designer affected the outcome and their sense of wellbeing as a result.

> One person who stopped out the front here said that they had rebuilt and they were persuaded to build bigger than they had wanted because the planner said 'there is no point building something smaller; you need to build a bigger house' and she regretted it, but they did it. That was the sort of pressure [people were under]; it wasn't a problem for us because we knew what we wanted. No, I don't think size was a problem; we are more sorry about the people who have concreted and paved all their gardens and that's a trend here, a lot of paving around. (C2, Carl and Denise)

8.2.6 Space, light, comfort and efficiency

In summary, the C2 consumers who adopted a more holistic approach to the house design also adopted a more holistic approach to their decision making. They were concerned about space, light, comfort and efficiency, as were all consumers, but this group tended to focus on the way in which they wanted to live in the house. C2 consumers were more understanding of the role the landscape would play in the operation of their homes; this is discussed further in section 8.5.

The C2 residents' decision to stay was not only a product of a trade-off between the cost of moving and the cost of rebuilding, but it also substantially influenced their design decisions. Many residents from both categories were committed to pursuing a more sustainable, energy efficient house. However, the C2 consumers who embraced the idea of holistic efficiency understood that both the house and landscape needed to perform in this way. They took into consideration the size of the house that needed to be thermally regulated, and the landscape played a role in this. This, more so than any other factor, influenced C2 consumers' decisions to restrict the size of their house beyond the regulatory requirements. Neither the C2 nor C3 residents were explicitly ambitious about building their dream homes. Rather, the C2 consumers were engaged in the design process in a different way from the C3 and CTR consumers. They challenged the producers and sought to maximise the opportunity for a house that embodied the tacit qualities of spaciousness, light and comfort.

The time taken to rebuild was frustratingly slow for many, but individual decisions had to be made at short notice to keep the process going and this affected the consumers' ability to maintain control over the process and the trust placed in the producers. The consumers wanted certainty that they would be able to return to a daily life. In order to achieve this, they

relinquished control to the extent that they trusted the designer and this affected how they engaged in the process.

Many demonstrated a high level of design language literacy, but this did not transpire into a need for overall control of the design process, but rather a relationship with their designer based on trust. Their design knowledge was enough not to need significant translation of the ideas put forward by the designer. While they took ownership of the idea of redevelopment and were clear about the desired spatial and thermal qualities, they did not necessarily want to take carriage of the final form. The owners of the larger houses in the C3 category could be considered the consumer group who saw the post-fire reconstruction as an opportunity driven by flow of available capital and an opportunity to start again with a cleared block or 'clean slate' to have all the things they had not had in their previous house. Yet the narratives tell a slightly different story.

8.3 *C3: Little people living in big houses*

Consumers in the C2 and C3 category shared many of the emotional challenges affecting their decision to return to the suburb and rebuild. However, differences in approach were most apparent in the way in which those decisions affected their design and development choices. These consumers shared many values, ideas and aspirations of the other consumers, but again, subtle differences in the way they conceptualised the home, the block and the suburb were reflected in the design outcome of their new homes. C3 consumers represented the largest group in the interview sample and this was reflected in the overall number of houses in this category. While the C3 group represented 60% of all houses rebuilt in the suburb, only 30% of interviewees came from this category. It was difficult to provide empirical evidence as to why this group is under-represented in the sample other than to suggest that the rhetoric about oversized houses and McMansionism remains a persistent theme in the Canberra media and could have served as a disincentive to some residents to agree to be interviewed.

While the distinction between C2 and C3 consumers is the main comparative tool in this part of the case study, it should be noted that the relative increase in property size, and therefore the category that the residents fell into, was affected by the following factors. Firstly, if an enclosed carport replaced a garage, the increased floor area the new garage was included and proportionally impacted on smaller houses. Secondly, a second storey on a new house had a marginal increase on the area of covered land, but the gross floor area calculations used to classify houses into these categories included all internal floor areas. In these cases, the increase in the upper floor area did not necessarily relate to loss of open space but did affect other factors such as thermal regulation. Finally, a house that had already undergone extensions before the fires may have fallen into the C2 category as the residents were replacing an already large

house. Taking these issues into consideration, there was overlap between attitudes and values of consumers; however, the general correlations between house size and the consumers' agency remained between the two groups.

Comparing the C2 and C3 residents began with an examination of their approach to design, in particular how they explained the way they communicated their aspirations to the producer and how that transpired into a design brief. As with the C2 group, there was no consistent reporting of an individual's deep sense of attachment to the suburb. In both the C2 and C3 groups, the residents presented the full spectrum from a disengaged utilitarian perspective to a deeply connected sense of belonging, describing the suburb with historically eclectic visions of halcyon days in an Arcadian landscape.

> You can imagine it used to be quite a beautiful spot with forests all around, yeah; the location is very important because we still have that rural aspect. There's the farm across the road, the forest, the walking tracks and we felt it was important for the kids to have that element of nature. There a dam where we can take them yabbying and there's the cycle thing. It's just a perfect location. (C3, Duncan)

Those residents deeply attached to place were not resistant to the idea of change, but rather, they were highly engaged with the lived experience of their suburb and valued the pre-fire landscape character. While they embraced the post-fire changes, they were attached to the idea of the past. This attachment was evident across all consumer categories, but in the case of some of the C3 residents, there was a reported desire to sustain their pre-fire lives by building homes the same as the ones they had lost. As this became increasingly difficult for practical reasons, they went to the other extreme of building as big as they could afford. This thesis proposes that in shifting between one extreme of the lost Arcadian dream of the pre-fire home to the other extreme of the new dream home, they lost control over the process.

> You know, it's a good house [but] we had trouble with the builder and we being novices at this game, we didn't know how much control we had over the building. So we've learned a lot about building from this experience. (C3, Duncan)

While some C3 residents embraced change, others were resistant to new ideas. In particular, they objected to the idea that new architectural facades should look different from the pre-fire homes. They thought that houses should look 'normal'. Their brief for a house design was more associated with certainty that the producer would deliver what they promised. They wanted a measurable and knowable outcome rather any imagined ideal home. Hence certainty and minimum risk were more important. These consumers exhibited a desire for the greatest control over the process. Primarily, they sought continuity and tolerated diversity but were also critical of the changes occurring. Stylistically, this group preferred the old established notion of house and garden. The garden and greenery signified an established, stable character. This

group of consumers had a fixed view of what to expect in the design and construct process and had a predetermined idea of what suited their needs and what should be allowed to be built. Perhaps what was most surprising was their inability to see how their own house may have looked the same as the old one, but the increased size was as significant a change as the new homes they objected to.

> We wanted a house that would work; we're very practical people. I don't mind the changes, but some of these really gawky [houses] where the architect's gone wild I'm not so fussed on, but most of the houses I don't mind. (C3, Marie)

Space, comfort and light were also important to this group, but their concept of space and spatial qualities differed from the C2 consumers. The C3 group reported that the opportunity to get the things that did not exist in the previous house was important. Their focus was on autonomy of space rather than spaciousness. This reflected their desire for individual control of space rather than ways of appropriating the house flexibly. Many asked for rooms dedicated to particular pursuits that were not available in the previous house but might be useful in the new house, such as a study, sewing and craft rooms, kids' retreats and guests' rooms.

> I went out and bought a house planning software and I sat down and designed what I wanted. The amount of bedrooms I wanted, the size. I wanted a big garage for the husband, a balcony to take advantage of the view. Then we took it to an architect to make it legal. We have a room entirely devoted to computers because we are all computer nerds. We kind of tried to think through the whole plan to get things working the way we would like them and get the rooms we wanted. (C3, Marie)

While the houses were designed for contingencies and possible uses they may have discussed in the design process, the residents' habits and rituals remained largely the same, and therefore large sections of the houses remained permanently unoccupied. When they reflected on how they used their new home, it was not different from the old, except more comfortable. This is discussed later in the chapter.

8.3.1 Efficiency, atomism and environmental credential-ism

This thesis focuses on the consumer–producer relationship and the outcome of the design process. It argues that outcomes for the C3 consumers were visibly and distinctly different from the C2 consumers. While the houses tended to occupy a much larger portion of the block and had more rooms, the rooms were not necessarily bigger. This conflation between size and efficiency affected the way that designers incorporated design innovations and technology to regulate the internal light and thermal qualities of the new homes. In many cases, the internal design, room layout and temperature control systems were designed to accommodate partitioning of the house so that whole sections could remain unoccupied for extended periods. To many consumers this was seen as an efficient and innovative solution.

> It's kind of, it's a rather unusual design … with little sort of connecting corridors between each one [room] … with another three rooms, so it has sort of created some zones. We've got ducted gas heating; two systems, one in the front, one in the back, so we can control them separately. (C3, Dean)

This chapter identifies three types of efficiency and this section focuses on the two remaining concepts of efficient design interventions and efficient use of land. These concepts framed the way that many of the C3 consumers explained how they conceptualised their homes and the blocks on which they sat. All consumers were interested in the environmental efficiency of their homes, although some saw energy efficiency merely as a compliance issue and did not realise the cost savings and improved thermal comfort until after the house was occupied.

However, where the C2 and C3 groups differed most significantly was how they understood and managed their relationship with the house when considering how their environmental aspirations would be incorporated and how this reflected their understandings of efficiency. Whereas the C2 consumer was prepared to operate the house to regulate thermal comfort, many C3 consumers preferred an automated system and the green technology made their house efficient.

> We have the double glazing and north facing windows. It is much more cost effective to run now; you can zone areas for heating and cooling. The technology's better. I've got temperature control pretty much everywhere and it is pretty comfortable to live in all year. (C3, Marcus)

While there was a general understanding about the benefits of improved design compared to their old home, this concept of efficiency was governed by decisions about incorporating and operating green technology. In effect, these consumers saw efficient design interventions in three ways.

1. The improved orientation of the house to increase solar access to internal spaces
2. The automation of heating and cooling systems to make convenient, efficient and cost effective use of energy
3. The inclusion of efficient green technology such as water recycling systems and 'smart glass' to improve the performance of the house

All of these efficient design interventions were understood as improvements in the performance of the house. The C3 consumer was more interested in how the green inclusions operated automatically instead of focusing on how the house could be used efficiently or what suite of technological inclusions would provide the most efficient thermal performance. As a consequence, these inclusions were treated as add-ons, usually associated with meeting the EER requirements of the planning code.

During the design process, these inclusions such as double glazing, in slab heating, evaporative cooling were treated as extras rather than integral to the overall environmental efficacy of the house and the first items to be cut from the project in the case of a cost blow out. Ironically some consumers reported that these green inclusions were often ineffective or actually more expensive to operate due to the mismatch between the design of the technology and the space it was designed to operate in.

The C3 consumer tended to think of the functioning house operating to provide for separate uses of the occupants, and in doing so, accommodating each person's right to autonomy, privacy and independence. In this way, efficiency implied fitting as many elements into the building that the project funding would allow and the land could accommodate. The value of this type of efficient design was then monetised and tied to the future property resale opportunity. As a result, the consumer and the producer engaged in a dialogue over land value and this introduced the third element, efficient use of land.

> I mean, look at the size of the house. It is not spec built house. There no way we could have done it without an architect. We definitely pushed the limits of the planning authorities; we had a big argument with them about the original ground line because the neighbour objected about us going up and blocking their view. (C3, Bryce and Margi)

It was considered prudent to make the most of the opportunity to build as big as possible in order to increase resale value. However, by building to the maximum footprint, the consumer not only built to cover all future possibilities, they built out future flexibility and subsequently found that they had built surplus to their needs, yet this was not considered inefficient or a problem. This was because the C3 consumer was most interested in compartmentalising space for internal control and individual privacy. This was manifested in the way the occupants could retreat into their own space, rely on technology to automatically control the internal environment, and at the same time be aware, but not concerned, about rooms permanently unoccupied in the house. This is discussed later in this chapter.

A common misconception of critics of the McMansion effect lies in the belief that the consumer decides to build their home as a conspicuous sign of wealth or primarily as an investment much like a share portfolio. Therefore the decisions about the size of the home should be governed by the resale value rather than the most appropriate design for their needs. There is no doubt that building a home was seen as a financial investment on some level for all of the consumers. However, in the case of the C3 consumers, decisions did not focus on the short term gain from building houses, which is a characteristic of the domestic development industry. These residents were not property speculators, but rather seeking a long term capital acquisition that was primarily designed for living in.

All of the residents in this category reported that they had no plans to move from their house in the next five years and yet capital gain was a consideration for all consumers and the number of rooms in the house did reflect this expectation. Most of the C3 consumers speculated that their house would be purchased by a larger family than their own and their decision to build more rooms than they needed was influenced by this perceived opportunity. However, some did reflect that it would be difficult for a large family to afford the house. This unresolved dilemma did not seem to be an issue, but it may explain why so many houses were consciously designed to have permanently unoccupied rooms or surplus internal space. June, a widow in her seventies, explained how the home was built with resale in mind.

> It is designed as a family property for when it is ultimately sold and would appeal to other people as well. It has three bathrooms, a three-car garage and, although it is not a big house, you've got two bedrooms and a bathroom to the west, a bedroom and a bathroom there, and a living room that isn't used at all. All the space is there, but this central area is where I actually live. (C3, June)

8.3.2 Surplus house and surplus space

As discussed in the previous section, it was clear that some parts of the house were designed to not be used on a regular basis. Spaces in the house were defined both by their functional purpose and their social importance. These consumers identified a hierarchy of spaces defined by their social functions around eating and familial bonding, decreasing in importance the further away from the 'heart' of the building. As a result, peripheral spaces such as the guest room, study and rumpus room were ancillary or add-ons and the costs of those inclusions, although hardly used, were justified as prudent to include in the original design for the reasons mentioned above.

> We made sure the heart of the house is very good, which is the kitchen and dining area. It's a sort of European things where the family eats and lives together and everything channels off that. It's a very social heart of the house so we were very pleased with that. (C3, Duncan)

How the consumers would use their house was not well defined in the design phase and this led to a disconnect between an ideal house for dwelling and everyday living and a house filled with contingencies, trying to cover all scenarios and possible future outcomes including selling in the distant future. Above all, these consumers were not pursuing a held dream of life in the suburb, but rather, negotiating the prudential cost of moving or redeveloping and at considerable financial expense. These consumers designed rooms and spaces based on a list of requirements to satisfy the perceived needs of family members. To them, design was about the necessary inclusions rather than how the house operated to meet their lifestyle. As mentioned previously, many consumers reported that they used the new house in much the same way as they did their old home, so it was not surprising that the house had not met their expectations.

> We were pretty lucky we got everything we wanted, but we had to double our mortgage. But it's a nice home, worth a bit of money, but we had to mortgage a lot higher than we wanted to. The building costs were astronomical. (C3, Duncan)

C3 consumers were not necessarily indifferent from the landscape but perceived it through a different lens from many who saw it as an essential functioning of the home. To many, the landscape and the home were full of meaning. The desire to make the most of the opportunity to rebuild was not an exercise in excess but rather an opportunity to recover the life previously held before the fires, with some improvements. The C3 consumers were not explicitly looking forward to reaping a future real estate return, but rather looking back to recover an idealised past where the landscape played a role in defining how they wanted to live in the suburb. These Utopian constructions of the suburban life were not about recovering a particular physical template of the garden suburb, but rather a recovery of practices and rituals no matter how romanticised they had become through the fog of the past.

The C3 consumers had their own environmental history in the suburb and also acknowledged the value of outside space as part of the living environment, but made a distinction between spaces that were 'wasted' such as a backyard no longer used for recreation, and a garden that could be cherished for its visual amenity and productivity. Yet, interestingly, a sense of surplus built space such as unused bedrooms and extra car spaces were not considered as negative. This was because the C3 consumer engaged in a dialogue about space appropriation and built form that focused on marginal value in terms of potential return and about opportunity to make better value of the block.

Some C3 consumers were more explicit about pushing the boundaries of how big the house could be. The C3 consumers' interpretation of efficient design interventions and the efficient use of land dictated their approach to the landscape. How they discussed the role of the landscape on their block revealed this disconnect between the house and the land.

While the designers willingly included green technology into the overall design, the development process treated the green inclusions as add-ons that could be discarded during the fit-out process if necessary. The consumers who had not fully incorporated these costs during the design process were unable to reduce the physical footprint of the house, thus making the opportunity to incorporate energy efficient measures too expensive regardless of whether they understood the buy-back benefits of lower operating costs. Above all, the size of the house was fixed early in the process. The selective removal of green technology for cost reasons unduly undermined some of the C3 consumers' desire to embrace environmental efficiency, and some residents took on much greater financial commitments than they had planned in order to 'green' their home. Above all, this reflected the different attitudes toward the role of the designer and architect in the design process.

8.3.3 The consumers' relationship to architecture and house design

> We didn't want a house with winning designs; we wanted a house that we could live in. (C3, Duncan)

Consumers chose to return for reasons that are broadly defined by the two forces of pushing and pulling as described by Gans (1967). These factors affected how the consumers identified with and engaged in the design process. The consumers were pushed back because the cost of moving and dislocating was greater than the cost of renovating and rebuilding. Those who were pulled back to rebuild in the community were motivated by continuous contact with old neighbours with longstanding ties, and those who felt they could play an important role in reforming networks through school or other informal groups.

> We used to go down to the place at the bottom of the street where they had parties during the clearing process, and we could go and sit and talk and compare notes about what was going on with our houses, practical stuff. Also, because so many of us had lost houses, we were able to compare notes about what we'd really lost, for most of us we weren't really worried about the houses themselves, but what was inside … As far as the house was concerned it was just a shell (C3, Joy)

The consumers' choice to stay was not to seek out a new modified community, but rather to minimise emotional and financial costs. This impacted on the consumers' attitude towards the home and their relationship with the producers. Some C3 consumers felt that the producers had no sense of the residents' aspirations to recover, or that the daily practices and routines were more important than the house itself. This affected how the consumers viewed their relationship to the designers and the design process, and what constituted a home.

All consumers demonstrated a level of trust in the producers they engaged with, but this trust did not extend to all the design professions. Those who chose building designers in many cases had spoken to architects but did not believe that they (the architects) wanted to build a house but rather 'a monument to themselves' (C3, Beryl). These consumers held a culturally embedded view of what a house should look and feel like and they were not comfortable with their perceptions being challenged. This preoccupation with how a house looked rather than how it functioned affected the C3 consumers' perception of architects in particular.

> The architect wanted us to build this really weird house, weird roof all over the place. We were into standard [designs], less complicated. I mean, I think they like to build really weirdo houses; I was much more into traditional design. I mean, if he had his way we'd have a much stranger house than what we did want. (C3, Marie)

In most instances, the C3 consumer engaged with the concept of designing, that is, the capacity to improve their circumstances through the design process, and yet the degree to which they negotiated the relationship with the designer was governed by assumptions about what a

designed house should be. These consumers saw design as a drafting service and developed a different relationship with the producer. If the consumers had a fixed view about what sort of house would recover their previous lifestyle, then the designer was expected to provide a service to draft a house design. These consumers saw design as a technical exercise. They could take their own ideas to an architectural drafting service to make it work. While the designers may have offered some improvements to the performance of the house, these appeared to the consumer as minor technical adjustments. Others trusted the architects and building designers to build what was appropriate. Ultimately, they wanted a very pragmatic solution, but on reflection were not clear as to whether the design met their expectations. Many were aware of the surplus built space in the house which was counterintuitive with their original aims to recover their old homes and old lives. Many consumers post-justified the design of the house as a prudent financial decision.

> I must say my aspirations weren't all that high. Basically, it was designed to house me but as it is a family property, [it was designed] for when it is ultimately sold and would appeal to other people. (C3, June)

The narratives show that all consumers had negotiated between push and pull factors and arrived at a balance between emotional ties deriving from their own life history in the suburb, the theoretical return on the investment of building surplus to their needs, their own concepts of efficiency, and the different weight they applied to these values. It was not so much that the C3 consumer disregarded the landscape, but rather, made a trade-off judgement based on a narrow utilitarian view of landscape value. Therefore, to build on the land in order to increase the prospect of recouping their investment in their home was justified, especially if a high EER rating reflected their desire to have a more environmentally efficient home. As a result, the consumer could rationalise that the house could be built surplus to their needs because the cost of building could theoretically be recovered some time in the future. Losing landscape space was the justified trade-off because any benefit could only be understood if the landscape had perceived value in the first place, such as gardens for a gardener or a place for a trampoline for a family with young children.

Finally, the development process was not a desirable one, and despite their overall satisfaction with the outcome, to many, it was not worth the effort. They would have preferred not to go through with the redevelopment process at all. The emotional toll of catastrophe, loss and disconnection associated with the fires was compounded by the intellectual and emotional effort required to invest in the design and rebuilding process. Added to this was that many of the C3 consumers had no experience in building. The planning, research and discussions normally associated with a home building project happened at the same time that the residents had to re-purchase every consumable good they needed or wanted, to recover a normal life. All

consumers had to make decisions about what they wanted to build whether this involved visits to the display homes in the new greenfield suburbs on the edge of the city or seeking advice from friends and experts. Consumers from all categories reported that almost without exception, the producers perpetuated the cultural view that the house should be as large as was allowed by the limits of planning codes and access to finance. For those who actively sought to build smaller than advised, they felt that they were going against expert opinion. For many residents, the costs of construction were greater limiting factors than size, despite the fact that many did not want to go into debt again, although a few were persuaded to.

> One of the things we were advised was, you now have this bare block in an inner suburb and you are getting towards retirement age. What you should do is build the best, biggest house that you can, because that, you know, is your nest egg. (C3, Bryce and Margi)

8.3.4 C3: The consumer's place in the suburb

This thesis argues that the choices that social actors make about the size and architectural style of the house are much more complex than an investment decision or a desire to raise their sense of status in the community through an overt display of conspicuous wealth. The decisions made by consumers are also about acting on their individual rights, while at the same time reconciling their impact on the character of the suburb. C3 consumers reported that the change to the suburb, as a whole, represented a loss of character, best described as a loss of authenticity, and this was exacerbated by the more modern clinical architecture of the neighbouring homes. Yet, they admitted that the style of design of their house contributed to this loss of character. The cumulative effect of the new houses and the loss of street trees and front gardens collectively changed the character and this was one of the trade-offs that the consumers chose to make in their decision to return and redevelop. Prior to the fires, the consumers were not expecting to have to consider their life circumstances. In order to make the necessary design decisions, the consumers focused on controlling their own living space and how they believed their family would occupy these spaces. They were averse to making big decisions to do with overall operation and function of the whole property. For many C3 consumers, the house was built for someone else such as a future buyer who may or may not use or need the spaces. In many cases, they had not only relinquished the opportunity to engage in a process with the producer, but they also thought of the design process as an intellectual mystery.

Ultimately, C3 consumers traded between their desire to maximise their own opportunity for benefit – be it an ill defined advantage – and their desire to mediate their own tolerance of change to the landscape. They understood that at the suburban level some change was necessary and acknowledged they had impacted on the landscape. However, to some of the C3 consumers, the right to build related to equity and justice. They felt that others got away with bigger houses,

hence profiting at the community's expense, which they saw as not a community minded thing to do.

> The fellow across the back is a builder … I'd say his house takes up every square inch of the block and it sits at an odd angle and there are corners that abut the neighbour's fence and there is barely room to get through, and it is ugly as all get out, and it was approved and there's hardly room for a blade of grass on the whole block. How the hell did they get away with that? (C3, Duncan)

The desired qualities of the house in the context of the block and the street remained the same for all consumers. Setting was important but many C3 consumers were aware that their own house stood out and addressed the street differently from their original homes. Perhaps the most surprising aspect of some C3 consumers' reflections on their contribution to the reconfiguration of the suburb resided in their view of how they perceived other redevelopments. While the C3 consumers agreed with the C2 consumers that there was a loss of community identity represented through the change in architecture, they attributed this change in social mix to the increase in conspicuous McMansions. That is, the large new homes also represented new incoming residents who were unfamiliar to them.

> There are a few unsightly McMansions and some nicely designed houses but not a lot; that is a bit disappointing. It's disappointing that people didn't take the opportunity to think about the design a little more carefully. I think socially and visually, I think the most difficult thing … for me has been I've had to live with the house diagonally opposite me; they came in late, they bought the block … People seemed to have just moved in to this kind of Duffy Heights, they call it now, and that has kind of ruined it for me. (C3, Louise)

They were not sentimental about their new houses. C3 consumers gave very functional responses about what they liked and how the designers had responded to their perceived needs. These design briefs tended to be compartmentalised into a list of specific, realised and perceived needs for rooms to accommodate current and future living requirements. This provided desire for autonomy and individual space for each occupant, resulting in houses with five, six and sometime seven bedrooms converted into offices, craft rooms and kids' retreats that were rarely used. As a result, the design decisions often revolved around trying to fit the house on the block in accordance with planning codes rather than how the consumer wanted to live.

In summary, rebuilding was not an aspiration fulfilled, but the result of a process conflicted between the cost of the recovery and the cost of displacement. For the returning residents, the rebuilding project was hardly an exercise in realising the dream home, but rather, they had to come to terms with the idea of a new home as an outcome of a fragmented process for which they were unprepared. For a number of the C3 consumers, the process was a series of individual decisions adding up to an unrealised whole. They could only contemplate and reflect

on the outcome after the fact, possibly for the first time during the interview for this thesis. The discussion around the efficiency and environmental credentials of the house design was as much a feature of the C3 story as it was for C2 consumers. However, the C3 consumers did not think of the house as a conceptual whole and so conflation of efficiency and efficacy of the design and the technological inclusions differed between C2 and C3 consumers. In order to examine the motives of the residents without clouding of the experience of the fires, the next section looks at those who moved in and either built or bought new homes after the 2003 fires.

8.4 *CTR: Examining the expectation of the ideal home*

This section examines the actions, decisions and motivations of the CTR consumers in the recovery process. The CTR category includes consumers who purchased vacant land and built or bought a redeveloped home after the fires. Respondents in this group moved into the area and had no direct experience of loss resulting from the fires. These residents were taking advantage of the opportunity to acquire a new property in an established suburb. As with the C2 and C3 consumers, they also had a particular view about what they wanted from a house in terms of design and while many of the reasons for purchasing reflected similar values held by the returning residents, there were also significant differences. Like the C2 and C3 consumers, they valued environmental efficiency and were conscious of the need for the design to meet the needs of future resale.

The CTR consumers arrived in Duffy with very different expectations from the returning residents. They wanted to take advantage of the change in housing stock and land availability in the suburb. Many of the C2 and C3 consumers originally moved to the suburb because the pre-fire house met their practical needs. Most of the CTR consumers were also influenced by the fact that, after the fires, Duffy had plenty of vacant lots and new houses for sale in an established suburb with lots of character.

> There was this great attraction to get something new [in an established suburb]. So the fact that this house was relatively new was quite important. So it was a unique combination of factors. (CTR, Morris)

The CTR consumers did not have to balance the costs and benefits of redevelopment in the same way that the returning residents were forced to. For those buying a home, the availability of new houses in an established suburb was a major consideration for moving into the suburb. Many had previously considered buying homes in existing suburbs to knock down and rebuild or buy land in the new greenfields estates on the northern and southern edges of the city in order to fulfil that vision.

Many CTR consumers who purchased a vacant block were already planning to build a house before the 2003 fires, and the flood of vacant land onto the market influenced their decision to move to Duffy. More so than the returning residents, the CTR consumers wanted to translate their own vision of the ideal home onto an available block of land. They felt empowered by their commitment to build their ideal home and take ownership of the process. This desire to control the design and construction of the house was more influential than the landscape character of the area; however, they reported their overall desire to take advantage of the landscape amenity of the suburb.

> We picked the house, picked the builder and then we spent 18 months literally every weekend looking for a block, ideally looking in the inner north but we just couldn't afford to buy, knock down and build and then the bushfires came through and these blocks came up and then we found this particular block and we decided we were meant to have it. (CTR, Daryl)

Their goal was to build or buy a house to meet their own requirements, so the project of building or purchasing a house was more important than the size or the location of the land itself. The other reasons for moving into Duffy were more typical of any homeowner looking for a house; these related to the purchase price and the proximity to work and other daily activities including recreation and shopping. The CTR consumers who chose to buy instead of build a new house in the suburb were generally satisfied with the outcome but were also aware that buying a new home was a compromise to designing and building. However, it was a compromise they were prepared to make to get a new house in an established suburb. Of all consumer groups, the CTR consumers were most explicit in relation to the resale value of their house, although none of them was planning to sell in the next five years.

8.4.1 Surplus space and conspicuous homes

For homes occupied by CTR consumers, the average number of occupants was 2.3 and the average floor area was 309 square metres. Most of the CTR consumers interviewed were couples with no children or had children who visited occasionally. However, they had bought a house designed for a family with four to six bedrooms and commented on the mismatch between their own lifestyle needs and the design of the house. These consumers' houses had the largest overall floor area, the most space per occupant at 134 square metres per person, and occupied the largest portion of the lots of all redeveloped houses in Duffy. This can be explained by a number of factors to do with the likely number of speculative houses developed by builders. However, this group was most similar to the C3 consumers in that they were aware of the size of their house, how it occupied the land and how it was used by the occupants. Not only was there a sense of surplus but they were also aware that the layout of the house was

designed to be partitioned so as to not waste energy heating and cooling. This was seen as efficient design, recognising that they would not use sections of the house on a regular basis.

Greg had a sense that his home made the most of the block and it was designed efficiently; there was no wasted outside space, no surplus. He believed that the block was developed efficiently for him because he had no children and therefore did not need outdoor space or a backyard; in fact, he believed that the outside should function like another room.

> We don't have a lot of space out the back; there's a little patio area off to the side which is quite nice and we can sit out there in the sun and have BBQs and dinners outside which is quite nice. The rest of the backyard is really not very useful. We are not very far from the side fence or the back fence; the house takes up pretty much the entire block … we've got a sort of a yard out the front which is not very useable. I suppose we've made the best possible use of the block. (CTR, Greg)

Greg's perception of efficient use of space focused on maximum site coverage, yet he chose to move into the suburb to benefit from the landscape character and was clear that *other* people's gardens contributed to his enjoyment of the landscape character. In effect Greg exemplified the dilemma faced by this sort of redevelopment. If everyone else developed the same way as Greg, the character of the suburb would be so diminished that it would have lost the character that Greg sought in the first place.

> One of the things that attracted us to here was that it was an established suburb; all the gardens were established, the street trees were all fully grown it looked like an established suburb and, you know, we came in and we had a brand new house in an established suburb. (CTR, Greg)

Other CTR owners did recognise that their house was inappropriate for their needs but was the best available option at the time. Primarily, their decision to buy the home was dictated by price and value. For most home buyers, their home was a trade-off between price, location and design. They felt a sense of inevitability in regard to the size, style and character of the houses available. For them it was part of a trend or persistent vernacular.

> This is beyond our needs. We don't need a four bedroom house with a study for two of us, but it is amazing how you occupy it … In this house we tend to live in a couple of rooms, but normally it's the two of us – the family room kitchen, the ensuite and the bedroom, unless we have guests. The majority of the useable space is void. (CTR, Greg)

The residents in this case also saw the house from a utilitarian perspective. Residents reported that they felt their houses were functional, efficient and modern. This group was less interested in the relationship between the house and the street or the surrounding environment. They were also less likely to categorise or stereotype houses and home owners by the architectural façades and their visual presence in the street. They reported less of an attachment to the area but rather focused on the convenience of the house and the design accommodating

other needs such as rooms for guests, returning adult children or relatives. As with the C3 group, these consumers were focused on the performance and efficacy of compartmentalised components of the home more so than a whole. Their concept of space was also compartmentalised into individual units in the house.

> It's got sort of three or four pavilions if you count the garage. [It has] created some zones, the family area where we sort of hang out is sort of isolated from here and isolated from there … We're not in each other's laps. Our studies are down there and that's a bit out of the road, so it's kind of, the layout of it was kind of interesting. This [room] is kind of wasted space; we don't use it that much. (CTR, Walter)

8.4.2 The Duffy pecuniary social contract: seeking a new suburban place

Gwyther identified that a code of pecuniary beauty existed in master-planned estates where residents 'buy into' a shared aesthetic expectation through restrictive covenants framed around community title (Gwyther, 2005). The circumstances in Duffy exhibited none of these governance structures and there was no community-controlled set of covenants regulating the appearance of the houses, and the incoming residents were not part of a pioneer community framing a new identity around a greenfields development. Rather, the CTR residents became part of a social and spatial fracture resulting from the fires and diaspora of residents vacating their land. Therefore the CTR consumers' reasons for moving in to Duffy were complicated by the opportunities presented by this unusual situation.

Many of the CTR consumers' reasons for moving to Duffy focused on locational advantage such as convenience to work in the city and the parliamentary triangle, or the recreational facilities in the adjacent non-urban areas to the west of the suburb. However, many of the CTR consumers were also actively seeking out a community who shared the same values and standards of citizenship and belonging as they did. They assumed that the neatness of the newly re-landscaped front gardens and the clean façades of the rebuilt homes reflected a house-proud community of which they would like to belong.

> I think people are generally pleased with the way the suburb has come back. The homes that have been built all seem to be sympathetic to the feel of the suburb overall. There's this big untidy, unbuilt-on block of land right in the middle of an otherwise quite nice street. People are not quite sure what's going on with that sort of thing. (CTR, Greg)

It appeared that the family-friendly house represented more than a prudential investment decision for many incoming consumers. Some CTR consumers thought of their house as part of the new community. They felt that while their house was not currently used for a family, it would potentially play that familial role in the future and, in turn, contribute to the recovery of Duffy in an ongoing way. Others felt that the perceived influx of new young families suited

their own desire to belong to a vibrant renewed community. Interestingly, the data suggests that no such influx of new families occurred. However, the residents identified renewal of houses and associated this with new families who became symbols of new growth in the post-fire environment. As a result, not only were these families more noticeable, they became important symbolic indicators of social bonds in the recovering communities.

> We assumed it had been designed by an architect by the nature of it … It didn't look like a package home. This [home] didn't have that boxy look; it was quite different … This place has the outlook and the freedom to step outside. It is like a family home; well, it is a family home and I think that was important to me. (CTR, Richard and Mary)

For many incoming residents, they were equally aware of the importance of the recovery process. They offered and received support from other residents and realised the importance of establishing social networks. The consumers who did not experience the fires, in fact, constructed a utopian ideal of a post-fire community and they saw themselves playing a role in the community rebuilding process. In part this was the case, although a little idealistic.

Many of the returning residents welcomed consumers who wanted to buy or build in Duffy; however, many also chose to withdraw as the effort to redevelop new social networks was too much. While the recovery of Duffy occurred in an emotionally charged post-fire environment, these interactions between the different consumers were inevitable and necessary for the suburb to arrive at a reasonably stable state six years after the fires. This process was overwhelmingly a collective exercise in recovering a state of stability after a catastrophic event and the subsequent ongoing costs associated with the redevelopment process.

The transition to a stable state was a global goal of consumers recovering from the fires and the producers working to facilitate this change. The third group in this equation was the CTR consumers who actively sought to benefit from the renewal and regenerating of housing stock in what appeared to be an otherwise stable suburb. The three consumer groups discussed in this section articulated their engagement and empowerment over the redesign process and how that was manifested in the redeveloped properties. As with many of the other change agents, their mode of engaging in the design process uncovered their understanding of how they wanted their house to function, how they valued environmental efficiency, and what contribution the producers should make to the process of recovering the suburb.

> I think people are generally pleased with the way the suburb has come back. The homes that have been built all seem to be sympathetic to the feel of the suburb overall. I mean, some might consider this ultra modern and so forth but it doesn't seem to be out of place … they're all still quite happy living here and having brand new homes right next to them. It all seems to have come together quite well. (CTR, Richard and Mary)

The process of achieving a new stable state determined, ultimately, what decisions would be made about the nature of the reconstruction, and this included the recovery of houses, landscapes and the residents' own daily practices.

8.5 *Consumer expectation of the suburban landscape*

> There were beautiful old trees. There was a tree that was called the inside–outside tree where kids could climb inside the middle of it and come out onto a branch; someone put steps into it – it was magical. It was a natural bushland wonderland; it was a fantastic place for kids to put the cardboard down and slide down the hills. It had that country town feel to it. (C3, Duncan)

The consumers embodied the landscape into their decisions, actions and subsequent occupation of their homes and suburb in different ways that revealed their own conceptions of the place they lived in. Understanding the residents' embodiment of landscape is deeply rooted in stories of living in the suburb (Marcus, 1979). In doing so it demonstrates how the landscape was contextualised by the consumers in relation to the home, the block, the street and the suburb. It posits that the landscape is a physical reality, the setting and appearance, a cultural construct collectively understood as the suburban character, and represents the consumers' identity with the suburb and inhabited sense of place.

This section examines the similarities and differences in the way that the consumers recalled and reflected on the way the landscape influenced their decisions, and how those decisions, in turn, reconfigured the post-fire landscape. The effect of the fire was significant in the memory of many respondents. Therefore, it was important that the questions asked did not elicit a particular response to do with the role of the landscape in the fire event itself.[9] This research was not about the residents' direct experience of the fires, so the reference to the fire impact on the landscape appeared underrepresented in the stories of the consumers. The fires' effect, however, can not be disregarded completely so it is useful to briefly provide the context of the fire in the recovery process for residents.

The consumers who returned and rebuilt had very different motivations and expectations from those who purchased after the fires. Many of the returning residents saw the house as a shell to inhabit and they were starting again, having lost almost all their possessions. A typical response for these residents was that the house they returned to no longer contained embodied memories. They would be able to furnish this new home with only a few artefacts that connected them to their previous lives. The only constant signifier for these residents was the vestiges of the landscape that remained on the block and in their street. Their reference point in

[9] See Appendix A for a sample of interview questions.

time and space remained the remnant trees and other vegetation that signified the connection between their life in the suburb and the desire for continuity and stability of the community. It remained the function of the street trees to connect many of these residents to the pre-fire landscape.

> If you stood at the top of the street and looked down, there were points where the trees touched over the top of the street and people commented on how shady it was. It was a very nice street (…) a lot of people in the street were of retirement age so they had been making those gardens for a long time. (C2, Annabelle)

The change in architectural style of the reconstructed homes also represented a dislocation that was perceived both negatively and positively. The residents reported mixed degrees of optimism about what these changes represented, but the returning residents were very clear about what this dislocation and change represented in their own lives. This is discussed in more detail in Chapter 10.

8.5.1 C2: A sense of stewardship over the recovering landscape

I have previously argued that the differences between the C2 and C3 consumers were evident in the way that they reconciled their impact on the suburb in and through the way they conceptualised, designed, developed and operated their houses. The C2 consumers also had a different perspective about how the landscape ameliorated and accommodated the new home. They expected the surrounding garden and yard to integrate into the design of the house and spoke of a reciprocal relationship between the inside and outside. The C2 consumer had developed a sense of stewardship over the landscape around their home. Their mediated experience of recovering the landscape as well as the home was the greatest influence on the consumers' design brief to the producer in terms of size. In this way, the landscape was consciously considered as part of the process. They were equally aware that other consumers had not embraced such an idea of remediating the damaged landscape.

> A lot of people felt the need to rebuild mansions [with] imposing street appeal. I like the feel of this place. People when they come in here say they like the feel of this place. It's nice and comfortable and not too imposing. (C2, Rachael)

Rather than being necessarily derisive of their neighbours' new homes, they tended to focus on how the architecture of the house influenced the residents' relationship to the landscape. They observed that the new architectural form was as much about controlling access and privacy as it was about occupying large portions of the private landscape. Internal-access garages and courtyards with high walls effectively reduced the opportunity for residents to interact with their neighbours.

> These people next door … you rarely see them in their garden. In fact they designed their garden so it didn't need anybody to be in it. You know, it's designed like one of those gardens that covers space rather than to be in, and you know they've produced two children without any of us really noticing much. (C2, Rachael)

The C2 consumer understood the role of the landscape differently but they also had a different perception of the performance of the house, and these two concepts are interrelated. As previously argued in this chapter, they focused primarily on how their property would function as opposed to what it looked like. This applied equally to the house and the surrounding garden, and extended to the street despite them having no control over the configuration of landscape elements such as street trees and front gardens outside their own block.

> I don't have a lot of garden and I've moved the spaces around a lot. It's a climate-appropriate garden … It's lovely, full of birds. It's a lot smaller than before because the house bigger, but it's a garden not a backyard, so the nature of the garden hasn't changed, but the design has. (C2, Phil)

This is not to suggest that C2 consumers were oblivious to prudent financial considerations associated with development. All consumers were aware of the real estate narrative concerning the right number of bedrooms in a house and some of the C2 consumers were also aware of the surplus unused rooms in their own houses. To them, they built what they felt were the most appropriate number of rooms for their needs and the minimum number deemed appropriate for resale.

The consumer's relationship to the landscape was also psychological as much as it was functional. Despite their struggle to reconcile the potential future fire risk, many returning consumers held an Utopian memory of an idealised past, not trying to recreate, but look for cues that reminded them of their previous lived experience of the suburb. The difference in describing landscape value between the C2 and C3 consumers was more pragmatic, and that had to do with how the landscape was a part of the design of the house and offered these tacit qualities to the home owner.

Spaciousness, light and comfort are interchangeable and ambiguous, yet the residents felt strongly about the importance of these sensory qualities. There was no apparent difference in the way that consumers talked about light and thermal comfort. When considering the role of the landscape in decisions, their understanding of spaciousness was markedly different. Spaciousness referred to the relative size of individual rooms, how the floor area and the ceiling height related to one another and how that related to the outside space. It also referred to ease of movement and flexibility of use.

The C2 consumers delineated between spaciousness and size; they preferred spacious rooms rather than many rooms. Because the C2 resident was also aware of how the outside

operated and could be occupied, they incorporated the outside and inside space into the design brief. That is, the house layout was governed by their desire for a balance between internal and external space. Many, but not all, of these consumers were gardeners and spoke of the functional and emotional benefits of gardening and seeing gardens. More so, they understood how the garden played a functional role in regulating light and thermal comfort inside the house and how the landscape had measurable as well as tacit value.

This represented a conflict not dissimilar to the planners who struggled to reconcile the merits of the architecture of individual homes and the collective visual impact. This conflict also became evident when the C2 residents sought to reconcile the values placed on the landscape in this more complex, diverse new suburb where the landscape was as much an expression of taste as it was a source of spatial and emotional comfort.

The landscape was expected to play a part for residents in returning to a stable but changed state that retained some vestiges of the past. This included recovering the landscape character of the block, the street and to a lesser extent the suburb. Many of the returning residents had developed a deep connection to the Duffy landscape and were determined to recover a memory of their own experience of the landscape such as walking through the pine forest, strolling under an avenue of street trees, or gardening in their own backyard. These consumers made a connection between their own environmental histories and linked that lived experience to their desire to recover a landscape of emotional as well as material comfort.

8.5.2 C3: Reconciling competing landscape values

It would be reasonable to expect that the C3 consumers whose houses occupied a greater portion of the block and substantially changed landscape configuration around the perimeter would have been less interested in the role and function of the landscape. However, this was not the case. The C3 consumer was also aware of the role that the material landscape played in providing a certain spatial quality and they often referred to these qualities when talking about how the suburb had changed. They appreciated the role that the landscape played in creating the leafy character of the street and anticipated that the trees would help the suburb to resettle and eventually re-occupy the suburb.

> The street changed very much because there was a lack of large trees. I mean, there are still large trees but not as many and not as beautiful as they were … I liked it better before, because of the nature of the trees. Not only trees – there are a lot of these modern houses. They tend to be pretty clinical in terms of what is in front of them, so again it changed.(C3, Bryce and Margi)

Although the C3 consumer held a connection to the landscape in and through their own life history in the suburb they understood how it had changed and how their house had contributed

to that change. Like the C2 consumers, the C3 consumers felt a sense of investment in the community by returning and providing continuity and they had a right to an opinion on the changed suburban character. This made the C3 consumer more conscious of the houses' relationship to the surrounding space. Interestingly, some residents related to the tacit qualities of the suburb by reflecting on the arrangement, type and size of both houses and trees in the landscape. The solid houses and large trees represented a sense of stability and they were pleased to see the newly completed houses standing alongside remnant majestic eucalypts.

> Those streets that got hardest hit by the fires, Somerset and Burrendong, they were beautiful deciduous tree streets, very much a Yarralumla feel to it. So big trees hanging over the street and, you know, a very forestry feel a lovely area in Autumn … lovely leafy streets with nice solid houses; it seems to be very settled. (C3, Duncan)

Many of the C3 consumers also held a particular Arcadian view of the pre-fire landscape. For some it was important to hold onto this idea in the absence of a landscape that also represented an absence of the pre-fire character. The two terms were interlinked; a recovery of landscape was central to a recovery of character. The data indicates that character was used to define both the landscape and the community; therefore the recovery of the landscape was also an important symbol to signify the recovery of the community. The growth of vegetation such as front gardens and street trees symbolised the optimism and this was played out by consumers adopting rituals such as revisiting streets, parks and the surrounding pine forest and observing the changes over time. The returning residents also perceived the house and its relationship to the surrounding landscape differently. This was largely to do with the way the consumer had built expectations about the role of the house in the recovery from the fires at the beginning of the design and development process. As the attention changed from design to finance to construction and the physical structure literally emerged out of the naked landscape, the C3 consumer became increasingly aware of the way the house related to the block, their neighbours, and the street. Above all, the C3 consumer predictably wanted to reconstruct an affordable suburban lifestyle, but often the projects ended up costing twice what they were anticipating.

> You hear a lot of people, you know, with fire envy. You hear, 'you're so lucky to get a new house', and you say, 'mate, I'll swap you, right now'. I think they're trying to be nice but the way I explain it, we were underinsured by half and we built twice the house, which put a significant financial strain on us which we are hopefully getting out of very soon. (C3, Bryce and Margi)

All the consumers reported that their houses were better designed including better thermal performance, more spacious and lighter rooms. However, the emotional and financial costs significantly complicated the consumer–producer relationship and, furthermore, complicated the consumers' understanding of how their homes occupied the landscape both physically and

symbolically. Their houses were often seen as a shell on a block of land, a place to occupy, not something of architectural merit or a dream home for them to appropriate. Despite the house presenting all the new internal inclusions, efficient technology and extra rooms, their habits and routines continued to be largely unchanged, thus creating a physical and symbolic mismatch between living in the home and living in the suburb.

As a result, the C3 consumer had developed an expectation about how the house would operate in isolation to the landscape. While the persistent cultural assumption about the need to build big for the future drove many of the decisions, the mismatch between the design and their lived experience created a double disconnection; the physical separation of the landscape from the block and the separation of the house itself from their daily practices. It was as if the home had been designed for someone else. The CTR consumer on the other hand arrived in Duffy and either purchased or built as part of a longer term plan, with goals set out and decisions made long before they were required to commit to the process. What they expected to gain from the landscape also reflected their different circumstances and life history with the suburb.

8.5.3 CTR: Seeking an imagined community

THE CTR consumer arrived in Duffy with a set of criteria in mind including price, location and proximity to work and other facilities. Many of these requirements were typical for any consumer buying a new house or a vacant block of land. There were other reasons the CTR consumer chose to move to Duffy that were specific to character of the area such as its semi-rural feel. There were also a number who saw the opportunity presented by the abundance of land and new houses on the market. However, the CTR consumers did not report a desire to get a cheap deal in a flooded market; in fact they felt they had paid a lot of money and were prepared to do so to get what they wanted. Many of the CTR consumers wanted land in an established suburb to build their dream home. As previously mentioned, these consumers not only looked for vacant land but they wanted to be in a suburb ‘with character’. This was a deliberate strategy to seek out an established community, not necessarily to engage in community activity but the sense of stability symbolised by the mature trees and gardens supported their desire to belong in an established area.

By the time these consumers were interviewed they had been living in their houses between 18 months and six years and had developed an attachment to place to varying degrees. Some engaged with the local community in their area but no more or less than returning residents. Many were aware of the visual intrusion and architectural style dominating the streetscape. However, they tended to be less observant about who had moved in and judgemental about the types of houses being built.

> You certainly get brand new houses, brand new infrastructure and all the rest of it [in new suburbs] but it looks a bit sterile. Coming here [to Duffy] everything is well established. It looks lived in and comfortable but you get the advantage of the brand new house. (CTR, Greg)

The CTR consumers preferred the landscape character of the established suburb over purchasing in a new greenfield area, citing their preference for large shady street trees and established landscape character. Not only were these CTR consumers seeking a particular community ideal, but they also enjoyed the idea of a new and different house standing out from the more prosaic surrounding suburban form. These incoming residents who also engaged in community life also found the social network was more important for the recovering community. The anticipated division between those who had and had not experienced the fires did not materialise for many respondents. In fact some viewed the newness and completeness of their homes as helping their street to arrive at a new settled state and were more concerned about the few remaining empty blocks looking unfinished and unkempt.

Finally, the CTR consumers were aware of their own sense of individual gain, although this was not expressed as monetary gain. Yet they were aware that surviving houses were now being knocked down and redeveloped. To them, this gentrification was a positive as long as not too many other houses were redeveloped and ruined the established character they had bought into. Their own desire for a new house or a vacant block was to control some of the existential qualities of suburban life they wanted that could not be found in a new greenfield estate. While they were aware of the scale of new houses, they were also aware of the status that newness and neatness afforded and indulged in a level of social stratification through regulation of appearance.

8.6 *Mediating the recovery of the landscape*

This chapter has established that a relationship exists between the way the landscape shapes consumers' expectations of recovery and in doing so, how their own decisions and actions shape the landscape. It explores how different modes of appropriation of the landscape through the design of the house are driven by differing conceptions of space light and comfort. These are tacit values but also important to how consumers respond to the way their house operates and is operated by themselves or by efficient automatic systems. It also explores the decision spaces that consumers negotiate in relation to environmental and green narratives. These consumers also demonstrate differing conceptions of architecture, its purpose and its value to themselves and the community.

These tacit factors are negotiated with the producers through an unfolding relationship; where knowledge domains about the landscape slip between these tacit and explicit values. Like the producer, the consumers understood that the landscape on private land is an exchangeable

good. However, differing understandings existed about the role of the landscape in the functioning of the house and these were consciously incorporated into the consumers' brief. To the consumer, the landscape was either valuable or wasted space at the block scale, and part of the character of the area at the suburb scale.

Finally, the recovery of the landscape and the re-covering of land with new buildings happened at a block-by-block and project-by-project scale. No holistic vision of how the landscape or the community would reform could be determined, and yet all consumers mediated their desire for a particular character and a right to a new home. This occurred in a relationship with the producers in redevelopment process. In the end, the consumer reflected on the process in and through the way they recalled the landscape of the past, reconciled how the redevelopment had changed that landscape, and reflected on how the future landscape would recover the suburb to a stable state.

Chapter 9: Emerging knowledge towards a theory of re-covering suburbia

> The technologically mediated world does not stand apart from the physical world within which it is embedded; rather, it provides a new set of ways for that physical world to be understood and appropriated. (Dourish, 2006, p. 304)

9.1 *Introduction*

This thesis considers the relationship between spatiality and practice, and how these multiple concepts intersect in a material setting. The unpacking of the Duffy landscape was not only an intellectual, but also a political task, a record of social change (Lefebvre, 1996). This thesis reveals the social relations that produced the landscape and relations produced by the landscape. In doing so, it provides a conceptual framing tool for examining the mechanisms by which people organise themselves in order to produce, manage, and sustain the new suburban form.

By examining the recovery of Duffy after the 2003 fires, this thesis has explored the community's shifting relationship to a landscape undergoing rapid change. It has reported on and uncovered nuanced relationships between the producers and consumers in the physical and socio-cultural reconceptualisation of the suburban landscape. This study is not an exercise in framing a solution by discovering a deterministic approach to changing the design of homes or the rules of redevelopment. Rather, it is an examination of a socio-cultural phenomenon that was revealed by the shifting cultural, political and social attitudes to spatial planning, the idea of the suburb and the concept of the landscape in a modern Australian society. The recovery of Duffy, like any case study, is fixed in time and space. It is culturally specific, geographically and topographically peculiar to the place in which these events unfolded. Therefore, learning about suburban renewal and the socio-cultural implication of the events that unfolded are considered in this context.

This chapter explains how the recovery of Duffy has uncovered contemporary understandings of land, landscape, property and home and how these understandings have altered the physical design of the house and the landscape. It is divided into three parts. Firstly it explores what we can learn from the case study about how the suburb has altered as a cultural space in the early twenty-first century. It reflects on architecture's role in reframing the suburb from what Boyd referred to as the 'mundane aspects of creature comforts and irritatingly austere approach to architecture' (Boyd, 1963, p. 192), to today's pervasive view of a new conspicuous form of architecture manifested through a real estate lens (Murphy & Probert, 2004).

Secondly, it identifies how this shift, most apparent in the architecture of the redeveloped home, reflects our increasingly tenuous relationship to the suburban landscape and our conflicted approach to improving our environment through green design. Thirdly, it reflects on the consumers' experiences of redevelopment to provide an insight into why Duffy, in the early twenty-first century, dramatises some of the changes occurring in western suburban cities undergoing suburban renewal.

This thesis argues that the producers and consumers, their values, actions and decisions, are representative of a broader cultural view of how affluent western societies embody the home, the suburb and the landscape they occupy. It posits that the changing nature of contemporary suburban renewal practised in Australian cities presents a modern dilemma facing planners, architects and the community. This is best described as a gap between the aspiration to improve social and environmental outcomes in the course of urban renewal, and the designed outcomes produced in and through the persistent narratives surrounding the cultural values of the home and the landscape.

I argue in this thesis that consumers were both pulled and pushed into the suburb after the fires. The decision to return, for many, was a result of the trade-off between the cost of permanently relocating and the cost of returning. Only after the event could the residents consider the realised costs and benefits of the exercise. Those who were pushed back to the suburb were not motivated by the inadequacy of their new accommodation, but rather, the social costs of re-forming networks in a new community were greater than the costs of returning and rebuilding their home and life in the suburb. Those who were pulled to the suburb included consumers wanting to return to a familiar way of life regardless of the design of their new home. The incoming residents seeking a new life were also pulled by the opportunities presented by the vacant land and new homes in an established suburb.

As previously mentioned, the changes that occurred in Duffy were related to the trauma of the fire experienced by the returning residents and the unusual distortion of the land market produced by the number of properties left vacant by the residents who chose not to return and rebuild. For many, the house design was dictated by an imagined land value to a prospective buyer of the property and this established the cultural assumptions that framed the consumer–producer relationship. This assumption displaced the multiplicity of values attached to living in and occupying the suburb and subverted any opportunity to debate landscape values held by the individual and the community. While these values may not necessarily be mutually exclusive, such debate could frame the way social actors negotiate the future suburban form and this is proposed in the final chapter.

9.2 *The suburban landscape: examining values beyond the backyard*

This chapter explores the attitudes and practices of social actors from a post-occupancy perspective. This in itself is not a widely adopted urban research approach (Hurlimann, 2010) and this goes back to the problem of how to conceptualise the outcome of multiple actions and decisions in a socio-cultural space. The focus on the landscape has been used to explore the nuanced understandings that have resulted in the changes over time. For this reason the landscape is conceptualised as a framed scene or a view of a physical landscape, a social construction of place and a form of infrastructure. It is also a metaphor for understanding contested values, an organising principle for decision making and an indicator of change. This thesis concludes by examining how landscape values are apportioned and how the decisions made by social actors uncovered some of the cultural phenomena that is manifested in the recovery of the suburb in and through decisions and actions of those involved.

In 2010, Boyd's seminal work *The Australian ugliness* was reprinted to mark the 50th anniversary of its first publication. Re-reading his work in the context of the Duffy and the Australian suburban cultures generally highlights the nature of contemporary critiques of suburbia today. I believe that many architecture and planning commentators have taken this work a little too seriously. The camber and rhythm of his writing, alongside the difficulty with which he articulates a generally applicable antidote to 'featurism' of which McMansionism is today's equivalent, would suggest that Boyd's work was a rhetorical statement about suburban culture.

> Featurism is the most elementary form of expression historically displayed by peoples emerging from primitive Functionalism. The symbol or the image, the miniature of the new aspiration, is applied to the old thing in the hope that it will tinge the whole old thing with new colour. (Boyd, 1963, p. 66)

While the architectural facades have changed, the gap between vision and reality remains the same. The cultural identities of Australians in the landscape have variously oscillated between the bush and the beach. The suburb has for the most part been the space that represented a guarded defence of Australia's affinity with the ordinary, and unsurprising. Indeed, the public debates sparked by Boyd and rebuked by Stretton have focused on the cultural metaphor that the suburb represents. Boyd examined the suburb as a cultural space in which architecture represented an allegory for contemporary suburban life. *The Australian ugliness* has, over time, become the clarion call for more effort from the design and planning professions to improve suburban cultural life and this could be achieved through better planning and design. This was, and remains, a perverse type of flawed physical determinism that was neither the intent of Boyd's work nor a successful antidote to the continuously emerging social

and environmental shortcomings of suburbia. This thesis contributes to the debate by presenting different ways to examine the suburb and conceptions worthy of exploration rather than solutions to an imagined problem.

Planning and design theory reflect community aspirations based on the held values of the time. In the mid-twentieth century, suburbia was all about autonomy of the space and the body, be it through a guarantee to the right to own land or the right to a healthy lifestyle. Today, our society looks for a right to accessible housing that includes elements of green design for comfort, efficiency and amenity, as well as responding to the need to adapt for future climate change. More recently, in light of the debates around sprawl and densification, the suburban landscape has been examined as a socio-cultural space, where the landscape is seen rather like an endangered ecological community or disappearing social phenomena.

The disappearing private landscape or backyard has been attributed to as a loss of identity (Timms, 2006), a sociological phenomenon (Hall, 2008, 2010; Mead, 2000) and a cultural casualty of contemporary consumer society (Allon, 2008; Farrelly, 2007). According to Hall, the rapid increase in the size of the home in the 1990s was a product of longer working hours brought about by labour market deregulation (Hall, 2010). This assertion in itself does not adequately consider the fiscal and structural changes to the housing market, but rather observes that both the economy and the society have changed and this is reflected in the way that we have redeveloped homes in our suburbs. The examination of suburban scale change has not received the same level of attention except for Gleeson's socio-political examination of the suburb as the heart of the nation's political identity (Gleeson, 2006).

Perhaps understanding the value of the suburban landscape beyond the backyard is difficult to conceptualise and researchers prefer to look at whole of city change and loss from an epidemiological and ecological perspective (Dixon & Hinde, 2005; Hermann, 2011). To this end my research occupies the socio-cultural space between the city and the individual block to examine a community called the suburb. This thesis argues that no community-held desire for a suburban character dominated by conspicuous McMansions existed in Duffy. Rather, the held aspirations of both producers and consumers were progressively eroded by the multiplicity of decisions required to successfully redevelop in an existing suburb.

It also argues that the social actors shared a common goal to produce the best possible outcome for the individual and the community, but the level of success in achieving this outcome varied according to the shared understandings and objectives. However, a correlation existed between the consumers, their relationship to the producers, the design outcomes, and relative size of their new homes. These have been examined in Chapter 8.

9.2.1 The landscape as a metaphor for contested values

The changes to the suburban landscape occurred predominantly on private properties where individuals' decisions about the design of their homes had a direct and measurable impact on the shape and size of the residual landscape. In this thesis the physical landscape included all spaces outside of the building for the purposes of understanding how the consumers and producers negotiated explicit trade-offs in landscape values in the process of placing a house onto a block of land. The landscape was also a cultural construct where tacit understandings and values created interplay between the physical and socio-cultural space. Many decisions made by producers concerned the size of the house based on the perceived values that the consumers were trying to capture. For the consumers, the balance between these explicit and tacit values uncovered some of the cultural assumptions that underpin the way that the redevelopment of Duffy unfolded as it did.

Chapters 7 and 8 explored how this exchange of values played out. Those who thought of the landscape as having an instrumental value at a block scale could justify building as big as the consumers' willingness and the planning regulations allowed precisely because the landscape value could only be recovered by building over it. In this case, the landscape contained an explicit value codified by the planning regulations to do with preventing overshadowing between buildings or maintaining a consistent house frontage to the street. This approach to incorporating landscapes into practice was not only seen as necessary but a prudent thing to do as it was seen to provide the best opportunity for maximising economic return to the consumer. This was not a universally-held view, and I would argue that those consumers who built to the boundary may have held other use values for the landscape but were not willing or empowered to express or defend those values against the dominant rhetoric.

Those who were able to articulate the use values of the landscape, be it measureable or tacit, such as psychological relief or spatial quality, factored these values into their decisions and reconciled the balance between differing conceptions of landscape and home values in order to regulate the size of their houses. Consumers who did not build the largest houses did not necessarily see that they had lost out or missed the chance to maximise their opportunity, but rather reflected on the way in which both the house and the landscape contained values that were integral to how they appropriated and embodied their own sense of place in the suburb. The next section of this chapter teases apart some of the reasons why a gap exists between the aspiration to improve social and environmental outcomes in the course of suburban renewal and the designed outcomes produced in and through the persistent narratives surrounding the cultural values of the suburban home and landscape.

9.2.2 Public goods in the suburb

This thesis discusses whether architecture was a public good and if the benefits of the new architecture in the suburb were captured by the residents generally. These benefits related to the perception and general optimism that followed the renewal of such a large amount of housing stock and how that flowed into other sections of the community. I argue that the symbolism of the architecture rather than the houses themselves promoted this mood for change through increased investment in redeveloping old houses since the fires. We should also consider that the landscape also presented a public good to the community in terms of its symbolic value to the recovering residents. This good included the psychological benefits of the regrowth of trees, the re-establishment of gardens and the recovery of the forests around the perimeter of the suburb. It also represented the recovery of habits and rituals that residents undertook as part of re-establishing their lives in the suburb. These values, like many associated with the landscape, cannot be measured against any instrumental criteria and as such are factored in and through residents' desires to recover some of those habits either by gardening or appropriating landscapes through walking and practising daily rituals in the public realm. However, the value of private landscapes was not determined thorough a pre-existing community-held view, but rather expressed though the exercising of property rights. The data has shown that these private spaces were not thought of as part of a conceptual whole, but rather as a different type of landscape. While the street held together the framed setting, the landscape picture, the landscapes on private land were an exchangeable good, not a public but a private good.

However, the very idea of communal authority over elements of the landscape challenges contemporary common law rights to property. Hence, protecting the landscape as a public good would require a perennial struggle of new conceptualisations, and legal solutions (Eizenberg, 2011). ACTPLA had aspired to achieve this through the HQSD process but failed to achieve a politically acceptable solution. Yet the community right to a particular landscape was addressed in subtly different ways in the Duffy case. The right to property in Duffy included the right to a view, or a right to access a particular spatial location or environmental amenity such as summer shade or winter sun. Many of the new houses were built to take advantage of the views across the 'bush capital', to realise the value of a scene. Many incoming consumers sought to take advantage of the established character of the suburb, to realise the use value of the street trees and front gardens.

The property rights were expressed in terms of what they were permitted to do on their blocks of land as defined by the planning regulations. This translated to a socially and legally sanctioned right, or, in some cases, an obligation to cover as much of the land on the block as permitted. This suggests that the public good provided by the landscape is taken care of by the planning codes. The C3 and CTR residents typically reconciled that the public good delivered

by the landscape is wholly a function of the public land, controlled and managed by the state. C2 residents exhibited a more holistic view. In doing so, greater slippage existed between the private and public land and the public good relied on less of a distinction between land and landscape.

Therefore, the inhabited landscape or the landscape character of the suburb was the contested space where the right to a particular landscape was at odds with the individuals' property right. Over time and through each redevelopment, the contested values were played out in this space. This contested meaning of the landscape was not seen as an environmental asset but as a system of symbols of meaning which say something about western values (Hall, 1995).

9.2.3 Green design not green gardens

The commitment to greening the housing construction industry has, in the ACT, been determined by regulatory requirements of the Energy Efficiency Rating scheme (EER). This scheme has introduced green design concepts into the architecture and development of new homes. The aim of the EER was to reduce energy and water consumption in the operation of the home. The EER system provided a clear set of criteria to demonstrate the theoretical capacity of the users to meet these green goals. In Duffy, what green technology is, rather than what green living means, dictated many design and development decisions of consumers and producers. The consumers' reasons for adopting green technology ranged from compliance to held aspirations to achieve the highest standards in sustainable living. Yet the discussions about the role and function of the landscapes in providing these green goals were far more ambiguous. Only the consumers who embodied the landscape as part of the function and operation of the house considered its green value in their design decisions.

Alternatively, some consumers and producers viewed the landscape as a space that required green technological interventions to improve its environmental performance. Interventions included installing artificial grass or paving areas to reduce water consumption, therefore improving the EER performance but compromising other significant environmental benefits. As with any policy setting there will be flaws in its application but the difference in the way the house and the landscape were treated in terms of EER performance reflected a broader exclusion of the landscape value in achieving a more sustainable suburban form.

Those consumers who developed a clear vision about how they wanted their house to function were not necessarily explicit about environmental performance but rather saw good design and green design as one and the same. This case study would suggest that the planning system, the EER system and green design are at odds with the broader social and environmental landscape values. How green objectives are measured should reconsider how landscapes are valued at a holistic or suburban scale. To this end the empirical evidence emerging from this

thesis raises the most significant concerns regarding sustainable development. The problems faced in suburbs such as Duffy should be incorporated into the suburban planning approach, namely that the population of the suburb has and continues to decline, but the gentrification effect of the fire and post-fire redevelopment has markedly increased the amount of built form to the extent that the average floor area per person in new homes exceeds 120 square metres. This is neither sustainable nor desirable for a community facing higher energy costs in the future and therefore other measures are needed to determine the 'ideal' suburban form.

9.2.4 Well kept suburbs: the symbolic pecuniary contract

Reinserting aesthetics into a discussion about how to understand suburban landscape values is often considered a 'superficial attempt to justify stylistic or ornamental decisions in the design and planning process' (Meyer, 2008, p. 7). In order to bridge the conceptual divide between aesthetics and appearance in the context of landscape, scholars have acknowledged that interpretations of aesthetics are subjective and argue that these multiple interpretations are not important in themselves, but the performative function of landscape to affect an individual's experience of a space is valid and worth identifying. When the landscape was considered across different scales, the landscape of the street and the suburb provided a different set of values and influences on the suburban identity. Those values were not related to the stylistic or ornamental decisions about designing gardens but rather evoked a shared understanding of the character of the suburb. The term 'character' should be seen as a shared understanding among consumers belonging to a physical landscape and a community or a place.

Landscapes understood in this way give meaning to our lived experience and 'allow us to position ourselves in certain definitive ways within society and its belief system' (Hall, 1995, p. 267). Landscapes also offer traditional notions of belonging. According to Hall (1995), place establishes boundaries marking off those who belong and those who do not. Therefore, thinking about landscape as a social construction and a physical space challenges the idea that the community is physically bound and rather is connected to a community of interest, or as Gwyther (2004) would suggest, a community of shared expectations. As such, the recovery of the landscape, which in this case included the appearance of new houses, front gardens, park furniture and playgrounds, signalled not only a sense of optimism and improvement but also a symbolic recovery. The conspicuous landscape setting of the new houses and gardens next to the old and tired brick veneer govvies did not polarise the community into those who had benefitted and those who had not, but rather set a new standard for appearance and care.

Therefore, the new socio-cultural landscape not only reflected the aspirations and values of the redeveloping community, but it also influenced future changes in the suburb. In streets with high numbers of redeveloped homes, residents reported a greater incidence of renewal activity

including the repainting of existing homes and redesigning the front gardens. This visible sense of renewal, optimism and the more prescriptive approach to refashioning the landscape was an unspoken social obligation to improve the suburban appearance.

The general landscape improvements post-fires were not superficial renderings of the streetscape but presented a suburb undergoing a form of gentrification. The endeavour of individuals to make the most out of their block, or build an investment for the future did flow on to produce tangible increases in land and property values after the fires. The CTR consumers were aware of this and were prepared to pay high prices to live in the suburb. Notably, the consumers were equally prepared to pay to be in a suburb that represented the stability that the established landscape character provided. The fact remains that no empirical evidence exists to confirm that the cost building the largest house, including all input and operating costs are taken into consideration will provide the best return on the investment. This research shows that the whole of life costs of construction and occupation are of little consequence when consumers and producers decided how to appropriate, design and occupy the site and the suburb.

This case study demonstrates that the changes to the suburban spatial character were neither an expression of the consumer's vision nor a persistent trend in architecture that reflected the inadequacy of the redevelopment process to satisfy either the consumers, producers or the community affected. In doing so it posits that the gap between the theory and reality remains as a result of the inadequacy of a holistic understanding of what constitutes the ideal suburban form and the role the landscape plays in developing an understanding of that ideal.

9.2.5 Framing the suburban landscape

The symbolic boundaries shared through conspicuous acts of refashioning the physical landscape established a community of belonging that, over time, replaced and absorbed the community of fire survivors and newcomers. Gwyther (2005) believes that the consumers are not passive and homogenised in the process of consumption. She suggests that the mobilisation of such symbolic acts operates to serve two functions in the process of development. Firstly, the design and development practices have an influence on the formation of community, and secondly, a relationship exists between the resulting community and the formation of a social code that protects economic interests and social norms (Gwyther, 2005). In each case, the physical outcomes of the redevelopment were influenced by broader social, cultural and economic interests that extend way beyond the client–designer relationship, and in the case of Duffy, these influences will continue to affect the way the suburb recovers long after the building of homes is completed.

When the landscape in this suburb was thought of as a place, or the site of the consumers' lived experience, it represented the cultural associations with living in the landscape, so much

so that Canberra itself is branded the ‘bush capital’, reflecting our cultural association with the spatial qualities of the city. This study has shown that no community apathy or antipathy existed toward landscape but rather the way in which it was factored into decision making was both fragmented by the process and the nature of how decisions were made. The incongruous associations between the rhetoric and practice of green design also ignored the value of the landscape in providing environmental benefits. The use of green technology in design was akin to a form of ecological modernisation.

Landscape value was examined at a block scale by exploring the contested nature of how the instrumental versus use value was factored into decision making. It, however, becomes less clear about how those values were considered at a street or suburb scale or how the values of the suburban landscape character influenced the consumers’ decisions to return or move in. The consumers invested in the notion that the suburb was in recovery and, over time, would continue to recover in the future. These landscape values were articulated but not able to be measured against the development regulations and this presented the greatest challenge to understanding the conflict between a held suburban landscape character and individual property rights.

9.3 *Stories of change: Two case studies of C2 and C3 residents*

These two case studies were chosen to highlight some of the findings of this research. They were chosen because they represent the dramatic difference in built outcome between two households that were very similar in makeup, and shared very similar histories in the suburb. Both households had two permanent residents with other family members living or visiting on a temporary basis. Both were of a similar age and education, and they had both engaged an architect in order to achieve the best design outcome. These two stories are told in the context of broader observations in this thesis about the nature of the changes at a suburban scale, and how these changes might shine a lens on our affluent ways of living. In many ways, the research further complicates our understanding of such wicked problems as McMansionism, suburban isolation, consumerism, sustainability, and identity. We can look at the suburb through a number of lenses to discover what has occurred in the nine years since the fires, and those lenses will tell of a seemingly incomprehensible mismatch between the houses built and the people who live in them. What is known from the literature is that the profound reconfiguration of the suburban landscape impacted on the urban ecological function and the social consequences to families as the gardens were replaced by third garages and rumpus rooms.

What we know about the 2003 bushfires in the ACT is the subject of a fading collective memory for most of the residents of the nation’s capital. Subsequent natural disasters in Victoria and Queensland have all but displaced the 2003 fires from the national consciousness. What

seemed to be cataclysmic at the time now seems to represent no more than one in number of routine events thrown up by the increasingly variable and unpredictable Australian climate. This thesis considers how such experiences have so profoundly changed the space that the residents inhabit and what this tells us about the flux of domestic life in our affluent consumer space called the suburb.

Why, despite an increasing environmental literacy among the educated wealthy Canberra population, were couples and families with one or two children going into so much debt to live in five and six bedroom houses? Why was the green rhetoric of the architecture planning and building community so different from the practice? Social commentators will tell you about rampant consumerism, monopolising construction industries, and pattern book architecture among other theoretical propositions to explain these events. Yet the experiences of the residents were more nuanced and, more particularly, tell an interesting story.

I am interested to know why backyards, no longer used for playing games or growing vegetables, were deemed surplus to our needs, yet filling the backyards with spare rooms that are never occupied because not enough people live in these houses was deemed an efficient use of space. In Duffy, the renewal of housing stock appeared to symbolise this renewal of the population – out with the old and in with the new. The new in this case was meant to include the young couples with children, who by their presence revitalised the community. Like the myth of the aspirational settler repopulating the suburb with young families, many of the anecdotal observations and assumptions about the rebuild in Duffy were untrue. Additionally, the residents' stories were not fodder for commercial news public interest stores concerning apocalyptic tales about trauma, or tragic comedies recounting the frustration of dealing with a planning and development system groaning under administrative and logistical burdens. The stories are personal and peculiar to the circumstances and also engage in the socio-cultural context of the suburb in which the residents had to engage in order to recover their homes.

9.3.1 Bryce and Margi's story

Bryce and Margi were recently retired with adult children. When they built their house the children were in high school. The family had not lived in the suburb for a long time but they did like the area and the neighbours. Bryce and Margi were pulled back to the suburb because they had an opportunity to rebuild from scratch; they were also pushed because, despite connections to other communities, the circumstances in which they found themselves required them to consider the least cost scenario. This led to a fragmented decision making process; they happened to rent a house across the road, they had already engaged an architect to do some renovations prior to the fires, and had even bought some new fittings on consignment. They,

like most residents, did not arrive at the decision to rebuild as a deliberate life choice, yet when they decided to proceed, their decisions were dictated by the need to invest for the future.

Their circumstance influenced directly how the development would occur and how the landscape on the block was embodied in the decision making process and how the house would be designed. The consumers such as Bryce and Margi adopted an atomised view about how the house would function. They created a wish list, not only to give autonomy to themselves and their children, but also to their extended family who may move in with them in the future. The home became a list of component parts that made up a whole and required significant negotiation with the planners and their neighbours to fit the new house onto the block. This was seen as an efficient use of space. It was also accompanied by efficient design interventions such as green inclusions, use of innovative building methods, and materials expressed in the external appearance of the home. Yet as a whole, these interventions either underperformed or had unintended consequences. As a result the house was not thought of as comfortable or spacious but satisfactory and functional.

The way Bryce and Margi thought of their own landscape would suggest that they held little regard for the landscape quality of their suburb. They preferred the distant views to the city and surrounding hills, yet they had become deeply attached to the surrounding environment not because of how it looked but what function it performed. The landscape was the site of rituals and social contact regardless of the look and feel.

The following transcript is an edited version of part of the research interview.

> Andrew: Can you tell me about your plans to rebuild?
>
> *(Margi) We engaged an architect and we were going through the process of energy efficiency and orientation. One of the things I said to the builder [was] that we could have moved back to Queensland and we'd only been in the suburb for a short time so we could have upped stumps and moved back but we'd managed to get a rental place across the road and that sort helped us to determine to stay in the community. We liked where we lived and we liked our neighbours. We already had an architect we've already got some fittings we might as well keep going.*
>
> Andrew: What did you want in the new design?
>
> *(Bryce) Energy efficiency; its reverse brick veneer glazed everything, orientation, we didn't want air conditioning, we wanted windows in the right place to catch the breezes in summer. We had a wish*

list as well; we wanted a craft room, a woodwork space for me. We had planned to go up to utilise the view. The two big gum trees were pretty important to us. We also had a typical Aussie backyard with the full force of the western sun and clothesline in the lawn.

When we talked to the architects about how we would build, we've got elderly fragile mothers who might have to come and live with us, so at that stage we were going to build a granny flat. The architect said you've never been able to utilise this big backyard, why don't you add this bit onto what was your backyard and shorten your backyard, which was useless space in terms of aspect.

Andrew: What do you like about the house now?

(Margi) The aspect, the view, the way it works, we specifically built it the way it was because we knew we'd be here at least ten years after the fires, the age of the kids. It all works in terms of Bryce has got his space and I've got my space, the kids have got their space they come and go. We entertain, we like our garden, there's no backyard although the one thing that sticks in my mind that we didn't allow for was the basketball hoop, somewhere for the kids to go out and play. I guess the size and containment aspect of the house was important.

(Margi) Then with the original plans we had decided to go up, she [the architect] suggested when we go back we could also go up and have an extra room and I said 'good we can make it in to the office space', which has been great but it's a huge room which I guess it's a good selling point because the house is just about an embassy residence now at least five, six bedrooms and so it's a huge one to clean.

Andrew: Was there anything you would have liked that you didn't have?

(Bryce) In hindsight I would have liked to have sound deadening; it is a big open plan. I reckon house design, house planning is a long way behind the rest of the world in a lot of aspects [in Australia], there are a lot of innovative technologies that are built for Canberra, I mean if they've got the systems, they should just do it.

(Margi) We went to the environment people down at ANU to try and sort out what we were allowed to do what was feasible and what we could afford.

(Bryce) Things were changing so quickly, the architect and the builder couldn't devise the ideas because of the changing rules.

(Margi) I mean any one who built the same footprint, the same size house, the same orientation it [the development application] was approved and it was up in no time. Anyone who did anything that was a little bit innovative, things were more difficult.

Andrew: Can you tell me about the design process?

(Bryce) We had a very protracted design phase. We were novices and she was very careful and I don't know she had built anything this big.

(Margi) During this time she actually got her draftsman to do a model which was great, it was the best thing we could have because you know curvy roofs were all the go, and we decided we might like a curvy roof. In hindsight I wouldn't bother the poor old roofers [who] didn't know how to do it. It took a long time to get the layout because of the size and the restrictions on the footprint and how far out it came, all of those things that have impacted on it.

Andrew: What sort of philosophy did your architect have?

(Bryce) I guess her philosophy was very good; that we didn't want a house from the outside looking in, we didn't want an exhibition house, everything about the house had to be about the inside and what it gave us. We didn't want it to be a show house, we wanted it to sit in the block. We spent a lot of time planning the cladding and the outside so it didn't look like a Greek mansion. She did test us; she was thinking outside the square and forcing us to think like that. She said now you've got a chance to build exactly the house that you want, she made us slow down a bit. If anything, she made us think about exactly what we wanted.

Andrew: How would you describe the character of this house?

(Bryce) Open, large, open.

(Margi) I can't get sentimental about these things any more. I'd say fitting the plans we have at this stage of our lives. The design works well; the kids have their own quarters that are separated. Although it hasn't been used yet, we've got a space for the mothers. We're happy that it's there. I'd say it's satisfactory for me, it's functional. One of the things that has trapped us is that the windows on the north let all the sun in and just cook our furniture, and the heating is in slab which doesn't work very well. Another thing is these big windows not only have double glaze they also have a membrane which is supposed to reflect out UV or whatever it does and so I thought I don't like curtains, but in summer you have to have curtains or it just cooks the rooms.

Andrew: How would you describe the character of the street?

(Bryce) Well because not everyone rebuilt, some blocks got sold, because there was, I guess, it's made everybody redo their gardens. It's not just that the new houses had to re-landscape but because of the drought, but as people rebuild and people try to rebuild their gardens to be a bit more water wise. It just seemed to rub off on other people who were already established who renovated their houses or gardens. I would have said the street is settled, but then when I think about it, it is probably not. It is still a work in progress but it has a nice feel to it.

Andrew: Is there anything else you could add to my research?

(Margi) I think my fear is that [the pine forest] was already a dynamic space anyway and sure the fire has made a huge initial impact, but my reason for living here was not just the house, it's the environment, I've always loved the environment sure I've never been a fan of the pinus radiata, but we really did have our best years here and then the whole of the flora changed and the gardens have changed, the street trees have changed, what people want to grow, they've chosen different street trees because of fire or drought or whatever. It changed our whole way of looking at our gardens and I just like walking up on the hill and watching

> *how things change. There are always going to be changes. Going back to Narrabundah Hill, I was walking up there a few weeks ago and I thought it's now come back so it's nice to walk in, the trees are the right height and all the burnt trees and stumps are gradually being reabsorbed back in and it's now becoming the nice place to walk in.*

I interviewed the couple on a sunny but cold June day. The in-slab hydronic heating system was on but it was not very effective and the blinds on the northern window remained closed because of the glare. We sat a table in the centre of an open plan living room which was covered with the flotsam and jetsam of their post-career hobbies. The remainder of the house was very clean as if it was being prepared for a photo shoot to go in a lifestyle magazine. We went on a tour of the house after the interview, but we did not go through many of the doors off the main living area as they were the kids' space or guest rooms yet to be used. Two rooms at the back of the house on the second floor contained small bedrooms, each with an ensuite and a single bed made up with matching covers, in waiting, to be occupied by the elderly in-laws.

We finished outside in the backyard, where the owners had not yet finished building a retaining wall to hold back the last of the old lawn, a strip of overgrown grass three metres from the back fence. Old slabs of concrete pavers led as stepping stones to a clothesline in the corner. The owners were slowly working around the perimeter of the house to finish off the garden themselves because they had run out of money.

Margi and Bryce held very specific values for the landscape on their block and the landscape of the suburb. The private landscape was wasted space, unusable and a constraint on their capacity to build as big as they could. The public landscape, whether it was a distant view or the recovering forest on the edge of the suburb, gave a sense of identity and a site for daily rituals. Their landscape was a scene, a place and an asset to be realised, yet for whom they were reoccupying the landscape was not as clear. They had built a house for many people. There were many bedrooms and hobby rooms for their elderly parents who had not moved in, and their children who were in the process of moving out.

They did not enjoy the experience of rebuilding and it had not finished when I arrived. However, it was not at all a case of misfortune and bad outcomes. While the tangible measurable green inclusions had not met their expectations, they were conscious of the conspicuous architecture of their home. They felt that their house was innovative and pushed conventions about what a home should be. To that end it was unclear, but I had a sense that the pecuniary social contract to improve their place in the suburb was validated, although at a significant financial cost.

At almost 400 square metres, this was a very large house and covers the maximum area allowed by the planning codes. Figure 26 shows an aerial view of the property in 2008. It is typical of the sort of house sociologists, ecologists and epidemiologists typically attribute to significant social and environmental costs to the landscape and symptomatic of our ways of living. Yet it remains to be seen whether this type of home is part of a held aspiration that can only be afforded through the financial commitment made by the owners that reflected the general affluence of middle class suburbanites.

Figure 26: Bryce and Margi's house (Google Earth 17 June 2011)
Block area 817 square metres; floor area 408 square metres

Bryce and Margi's story tells of a couple coming to terms with the trade-offs between cost and opportunity for change, and reflects on the process of resettling into their home and suburb. Amanda on the other hand, challenges many of the accepted myths about opportunity and excess, and tells of the nuanced relationship between the architect, her home and the community. Amanda's story suggests that the focus should be to find other ways to understand the consumer–producer relationship that forms the basis of any development outcome. By facilitating a much broader range of outcomes that allow for niche markets to emerge, we can hope for a better match between the desire and reality of a new suburban form.

9.3.2 Amanda's story

Amanda lived with her partner and they had no dependants living at home. They had lived in the Weston Creek area for many years but only recently returned to Duffy prior to the fires. Amanda had renovated a house previously and was clear that she wanted professional help to

design her new house after the fires. She settled on an architect only after visiting a project home display village. Her focus on the rebuild was to get on with resettling as soon as possible and in a house that demonstrated the tacit qualities of light, space and comfort she was looking for. During the interview she spoke more on the relationship and development of trust built up between herself and the architect than specifically about the house layout. Her desire to include green technology was not particularly high, but she was clear that she wanted the house to perform well from an amenity and environmental perspective. Amanda's decisions about how her place functioned related to both the outside and inside spaces. To this end she treated the landscape as interrelated to her ways of occupying and appropriating space in order to provide the tacit qualities of light, spaciousness and comfort.

The following transcript is an edited version of part of the research interview.

> Andrew: Can you tell me about you plans to rebuild your house after the fires?
>
> *(Amanda) I drove over to some display homes at Jerrabomberra and I saw a house by an architect called Gerard McGuire and I rang Gerard and we had a brief discussion and he asked me how much money I had. I told him, and he said 'No, it is not doable'. I obviously pressed some buttons because I said to him, 'I don't think something has to be big to have architectural merit. I think it can be quite small and I'm sure it can be done in my budget'. He still insisted, 'No, no, no, I can't do it for that amount'. Then I asked, which was quite a big faux pas at the time, 'Perhaps you've got something already in your cabinet that you did for a similar size block elsewhere and you could use that'. He said 'Oh no, we don't do things like that'. He rang me back a couple of days later and told me, 'I've got a German exchange student and I can get her to work on your project and we'll see if we can pull something off the file'. They did and in actual fact, the plan they pulled off the file we completely reworked, but he was very good.*
>
> *When it was finished, I invited Gerard over to have a look and when he did he went, 'Wow, how much did you do this for' and I told him and then he said, 'I'm going to enter this for a prize', and he actually won [prizes] in two categories.*

Andrew: Why did you move to Duffy in the first place?

(Amanda) Essentially I bought the [original] house because of the aspect and I could own a north facing house, and the noise is minimal because I'm on the edge of suburbia. The reason I had such a connection here was partly friends and neighbours. My kids went to the school with other kids and you developed a relationship with those parents. A lot of it was focused on the forests and having dogs and walking, and so the forest was a very familiar place to me, all the nooks and crannies and the back tracks. It was a place of great comfort and as I said I grew up in the middle of a pine forest and the smell was very comforting, very comfortable.

Andrew: What are the things that you really like about your new house?

(Amanda) Well first it faces north, I've lived in north facing houses before and understand how comfortable they are. It is single level, it has a lot of light and a lot of space so every design decision wasn't difficult for me because it was about what would give me the most light and the most feeling of space. I'm also quite fortunate because I can look at plans and visualize them in 3D so, I don't procrastinate, I can see it.

I love the light, I love the space. It is slightly bigger, not much maybe 10 square metres than the previous house, and it is very nice to live in. I tried to save space by not having too many cupboards because after the fires I didn't own anything and in a way, in an odd way, I didn't mind not owning anything. I mean there are family heirlooms, but this freedom of not having the burden of all this clutter and ownership was quite nice and I didn't intend replacing it. I would now like more cupboards but at the time it was my mind set that I was never going to need it.

Andrew: Are there any other drawbacks to your house?

(Amanda) At the time, because money was a factor, I wanted the biggest shell of a house that I could achieve and I thought I would fit it with the things that I needed when I could afford to. I was on concrete

floors for a year. The things I would have had if I had the money would have included solar hot water, more elements that might have been greener if I can put it that way. It's not bad for heating and cooling.

Andrew: Can you tell me about the design process?

(Amanda) I think Gerard found the reworking of the plan quite disturbing, because I would say, 'I think we need to do this, this and this, and add a couple of things from the old house'. He'd rework the plans and present them and I'd say, 'Yes let's go', and he would say, 'No you have to take them away for a couple of weeks and think about it' and I'd say, 'No that's OK let's do it.' It worked well, we really didn't have that much interaction. I think that I had my plans approved on the 13th of March so we weren't in each other's hair for that long.

The only debate we had was that I envisaged using face brick and he envisaged concrete render and he was not going to budge on it, because he said for the style of house, the render would look better. I wish, actually, I'd dug my heels in. Anyway, Gerard got his way because he said, 'Are we going to do this my way or not at all', and I actually sat back and I thought, well I did choose him, he's the architect who has got all the design awards, he knows what he is doing. Just pull your horns in and accept he is the expert and so I said 'OK we'll do it your way'.

Andrew: What sort of philosophy did your architect have?

(Amanda) We both discovered we liked the expression 'truth is beauty and beauty is truth'. We don't like fake anything. I think we were pretty much coming from the same place. I think we were able to get on quite well because I think we are about the same age and we [were] definitely brought up in the same era. I honestly couldn't tell you what his ethos is.

Andrew: Can you tell me about the rebuilding process?

(Amanda) My ex-husband and I had built a house years ago which we had designed ourselves and we had a draftsman draw it up. But that

experience of building a house was so stressful that at the time I did say that I would never ever do this again. I was still thinking that when the house burnt down, but I looked around Canberra and thought where else do I want to live and I like it here next to the forest.

I mean I thought to myself, I haven't had a normal Saturday where I could go and get a coffee and read the paper for two years, because every weekend there was something house and garden that had to be done. But once it was all complete I thought, what I do now, so I bought a house down the coast and started renovating it.

It had changed my lifestyle, I developed a dislike for shopping, I hated buying all the stuff after the fire because every time you go out you had to buy something and you can't believe how long it takes. I learned how to pave, I read about it and did with a book in one hand and a brick in the other. Yeah, I got a lot of observations about how people coped.

Andrew: How would you describe the character of the house?

(Amanda) It looks like a suburban factory. It's grey, it's got a lot of metal cladding above wall level. It's got a bit of an industrial look to it. The old house was open plan with high ceilings too but if you were to look at it from the outside it was a regular brown brick suburban house. This is certainly more striking in appearance, not that anyone can see it because I've planted so many trees and bushes on the west side. I'm a bit of a gardening Nazi. I've worked in plant health programs so it is part of my life. I'm out there every day. If it's got insects I'm spraying it, if it's got nutritional problems I'm feeding it, if they just fix the drought it would be fine.

Andrew: How about the character of the street?

(Amanda) Well it doesn't look as nice as it used to, but I've noticed in the last two years it's started to improve because those trees that got a scorching and have taken a while to come back through the epicormic growth, they started to recover now and you can drive up there in spring and summer and its starting to look better. There are parts that look very scratchy. I sort of find that a bit depressing, my street for example, you'd

> *go up there and you would be in a canopy of trees whereas the houses that burnt down don't have those trees anymore. New trees have been planted and they are small but there's no getting around that, they've just got to grow, that's all. I think it's nice really there; a bit of diversity than was there before. It's different now and I find that more appealing if all the trees would grow back. I was of the belief the forest would re-grow. It was my reason for moving here [in the first place] because I grew up in the middle of a pine forest in England. Losing the forest was very sad and regretful, but you know the drought, and they [the government] haven't replanted anything, so it's nobody's fault really.*

When Amanda's story is considered in the context of the suburban recovery, it is clear that her focus was on the holistic aspects of re-establishing herself in the suburb. That is, she was clear about the spatial qualities she desired at a range of scales from the individual rooms to the house on the block and the landscape setting. She was not judgemental of her neighbours' homes but rather critical of the approach they took in suspending their own recovery. Amanda demonstrated a level of control over the process that allowed her to consider all aspects of what she felt she needed to reappropriate the physical space and her social space in the suburb. Amanda's holistic approach to redevelopment empowered her to take advantage of the skills and aspirations of her architect, to achieve a shared vision through a process of engagement rather than necessarily focusing on the component parts of the home or allowing green credentialism to drive the relationship between herself and her architect.

However, as with many residents who thought of the house and landscape as deeply interrelated, Amanda identified the landscape as a space where she could develop her own sense of place and identity, be it a garden, a street, or the forest on the edge of the suburb. This desire for a balance determined to the size of house and how it occupied the landscape. Figure 27 shows an aerial view of Amanda's house; it occupied less than a quarter of the block.

Figure 27: Amanda's house (Google Earth 17 June 2011)
Block area 716 square metres; GFA 153 square metres

It is true that Amanda's house was not typical of the houses built after the fires. It was not substantially bigger than the austere cottage it replaced. It was designed well and achieved high environmental performance standards, and the garden formed an integral part of how the house related to the block and the street. Boyd called for 'a perfect balance between, on the left, the human emotional requirements, and on the right, the rational intellectual theory of building' (Boyd, 1963, p. 267). Amanda's story uncovered the search for human emotional requirements and rational intellect as she negotiated the competing demands of herself, her community and her suburb recovering from the fires.

> So it's a bit of a dynamic relationship between client and architect in regard to design but in the context of the bushfires there wasn't a lot that was generated out of that process in terms of the design that would have been any different than any other client really. I mean I guess you just have a clean block from our perspective, and you look at slope orientation, you know, and the client's own feelings about aesthetics, plans, budgets, and they're all factored into it and the bushfire process is slightly secondary I suppose. (Gerard, Amanda's architect)

Indeed the trend to cram oversized houses on suburban blocks in established suburbs is a festering sore for many communities undergoing redevelopment. Maybe we just notice the big houses more, although this thesis would suggest that this is not the case. However, I do not believe it is a case that consumers demand such structures, or have an aversion to retaining a backyard. Nor do I believe that designers and builders actively design custom built homes to deliberately squeeze the life out of the suburban block leaving a ribbon of green around the periphery. Yet a persistent phenomenon exists in society that highlights a gap between the rhetoric of what is good and right in the house design and development and what happens on the ground.

Chapter 10: Planning for sub-urbanity

> They [planners] should stop trying to impose their desire for urbanity, particularly through physical solutions … they should plan for suburbanity. (Gans, 1967, p. 293)

This thesis has proposed that current development practice undermines the landscape character of the suburb to the extent that the new configuration has become the antithesis of the low density suburb that framed contemporary life in Australian cities for most of the twentieth century. The reasons for this shift in the case study were not an explicit strategic shift in thinking by planning authorities but rather a widening conceptual gap between the theory and practice of planning and architectural design. The problem remains that the nature of the changes are visible and articulated by social actors in Duffy, but the reasons for those changes were not able to be explained in terms of general redevelopment practice, or how such changes had met sustainability goals set out in planning regulations. This thesis proposes that there were two main reasons for this gap between rhetoric and practice.

Firstly, the planning process does not embody the multiplicity of landscape values in the design of codes and standards for redevelopment in existing suburbs. References in planning regulations and development codes to retaining the landscape character of the suburb were insufficient because there was no means to understand what that meant to the residents. Without a commitment to community consultation that can contribute to the design of development codes recognising landscape values at a holistic suburban scale, this will remain one of the biggest problems for redeveloping suburbs in Australian cities. Secondly, the consumers were largely invisible in the planning process and yet they were one of the most important change agents in the redevelopment process.

This final chapter looks at ways the planners, architects, building designers and the community as a whole can engage in the process of redevelopment that may lead to different outcomes that align with the broad objectives of the community to capture suburban landscape values and creative design solutions in achieving sustainability principles.

10.1.1 Change agents in the recovery of Duffy

Gans argued that building practices are guided by national policies and principles and it is these principles that reflect national cultural patterns (Gans, 1967). Therefore, the resulting reconfiguration of the suburban landscape in Duffy gives clues to how we live and appropriate space in suburban Australia in the twenty-first century, and also reflects the role of individuals and groups, and their capacity to affect change. It would be an error of judgement to overestimate the role that individual social actors played in the change process in Duffy, yet

identifying who were the agents of change can give insight into what policy implications arise from the findings of this study.

The planning authority itself was not consciously an agent for change in that it adopted a policy neutral position and decided to minimise any variation on rules that existed prior to the fires. Individual planners had proposed a number of structural changes to the suburb but ACTPLA rejected all of these to facilitate, as effectively and efficiently as possible, the redevelopment that occurred. Other bureaucrats and contractors involved with the recovery of the physical infrastructure changed the suburb through their decisions and actions. However, they were responding to circumstances brought about by the events surrounding the fire. No previous plans or vision existed to initiate any of the changes prior to the fires.

The individual planners, contractors, architects and building designers were on the whole facilitating change; they were engaged to design and construct homes for people who had already made the commitment to return and rebuild. They were agents of change in that their own values and ideas were brought into the conversation with the consumers to produce the final built form. Their values were not just a reflection of held professional perspectives but represented their own cultural views of what is right for the client, the community, and society more generally.

The consumers themselves were agents of change, as they were ultimately the social actors who, through their decisions, initiated the recovery process. The extent and nature of their role was embodied in their own cultural values and their relationship with the producers. They had a degree of control and ownership over the final decisions in the redevelopment process that varied according to the way they engaged in the design and development of their own homes.

The consumers were not acting in a vacuum. Social and cultural norms and the information provided to them through various means influenced their decisions. How the consumers researched the process of development, responded to advice, and coped with the multiplicity of decisions and actions influenced the physical outcomes and through them the character of the suburb. Their personal experience profoundly affected the design of the home, and the resulting relationship of that home to their street and the suburb. How they embodied their own landscape values redefined for them what role the landscape played not only in the design process but also when and how they returned, appropriated, and operated their post-fire property.

If the policy makers hope to achieve social and environmental goals set out in planning and land management legislation, namely to make development more sustainable, their options to change behaviour are limited. They can do nothing and hope for a broader shift in cultural values via other mechanisms such as mainstream media and society generally or they can alter the components of their policy to achieve societal aspirations in other ways, such as designing

development rules that meet the consumers' expectations of home and suburban life. This requires a thorough testing of the aspirations of the community that are demonstrated in the Duffy case study but need to be uncovered through consultation processes.

Alternatively, the policy mix can alter aspirations so that 'consumers will accept a different set of conditions' (Gans, 1967, p. 289). This I believe is fraught with uncertainty if it is adopted in isolation as it requires the planners to provide evidence of what the changed conditions should be and why. In a pluralistic society, such a deterministic approach is neither politically palatable nor is it reflective of societal values. Perhaps the most useful approach is a mix of the three options that begins by recognising that the consumers' understanding and aspirations for a suburban life should be, but are rarely, articulated, nor are they met through the redevelopment process.

Finally, if we accept that the landscape represents the cultural space called the suburb – and the changes to the landscape could be analysed and represented – then it too has agency. The collective redevelopment of the houses and the changes to the physical configuration reflected a set of cultural values that were not held by any one individual, but rather, manifested through the multiplicity of decisions and actions in the development process. In this way, the reconfigured landscape became a visible expression of what changed, rather than what the residents aspired to or even what the design and planning professionals advocated.

10.1.2 McMansionism in Duffy – mobilising social capital

The physical reconfiguration of the landscape was influenced by broader social, cultural and economic interests that extend way beyond the client–designer relationship. These influences will continue to affect the way the suburb recovers long after the building of fire-affected homes is completed and old homes are replaced under normal market conditions. This is already happening and so the gentrification of Duffy was largely initiated by the fires but prolonged by other factors related to the housing market and other cultural factors in Canberra. If the redevelopment in Duffy reflects redevelopment patterns occurring in other low density suburbs around Australia, this study also provides insight into how that future development might impact on the community.

Certain features of the Duffy experience are consistent with findings of previous post-occupancy studies of suburban development. Weller (2008) suggests that such new suburban architectural form is a legacy of a planning strategy for developing prescriptive aesthetic codes. This may be the case in new master-planned estates but it is evident in the less strategic and centrally organised redevelopment in Duffy. It was not the planning authority, but rather the building design and construction industry through their display homes who prescribed an aesthetic code. Similarly the architecture community operating in a cultural space, where the

display home building typologies represent the norm, could only deviate from this template to provide a niche product if the meeting of minds between the consumer and the producer prevailed. In the case of Amanda, it was clear that this was initiated by the consumer, rather than a professional view imposed or persuaded by the producer. Amanda had to persuade Gerard to do something small and affordable that could also be environmentally sound and of architectural merit.

The decisions and actions of social actors are motivated by a rational expectation of social and economic returns, and that the appropriation, use and reconfiguration of physical space constitute part of that activity. This rational self-interest may explain many of the residents' decisions which were largely motivated by tangible and measurable outcomes such as return on their investment and the perceived social status that comes with building in a particular architectural style. This thesis supports Gwyther's argument that formation of social capital in residential development is manifested through individuals activating socio-structural resources in order to produce social and economic benefits (Gwyther, 2005). The opulent house is a form of cultural capital in the objectified state and the commitment to entering into significant financial debt. What Bryce and Margi had done was part of a strategy to mobilise cultural capital linked to property ownership 'through the investment in housing and the exhibition of specific cultural tastes and values' (Gwyther, 2004, p. 61).

However, this thesis argues that while social capital formation is also present in the thinking of planners and embedded in the decisions of social actors, the language, perceptions and information used to mobilise such activity is both generalised and based on quasi-economic logic. This has significant implications for planning authorities, other agencies and private organisations committed to improving environmental performance of suburban development through improved green building design and sustainable practices.

10.1.3 Accepting change

> Australians have very different understandings when it comes to what logic should underpin our public decisions – equity, long term sustainability, a desirable future landscape, short term profit? It has always been thus, but the ongoing direction of settlement is I think now more obviously unsettled by fundamental ideological and practical differences that are blurred and confused in the populist, instant culture of politics and media. (Dovers, 2010)

It is not the intention of this thesis to determine the appropriate tools, but rather, the appropriate goals to discover the community-held values that can test and mediate how redevelopment in the suburb can occur. This begins with a method for understanding how the community understands and values landscapes.

The resettlement of Duffy reflects rather than dictates the policy decisions and development practice that gave rise to the contemporary suburban form in Canberra. As mentioned previously, the position of the planning authority was to avoid significant changes to the planning and development rules, other than some minor prescriptive codes around fencing, until a few years after the fires. Therefore Duffy represented a lens on the way in which development practice and planning policy is manifested in a large-scale redevelopment of an existing suburb.

Duffy exhibited similar community resistance to changes consistent with other suburbs undergoing gentrification. These objections were argued by residents under the pretext of preserving the suburban character (Dovey, et al., 2006). Yet the scale of change occurring in Duffy suggested that many residents were the agents of change and had to reconcile their own views about retaining a certain character and accepting that their own redevelopment contributed to that change. Perhaps the community objected to what is not known – the fear of change – rather than change per se. To that extent, the landscape provided an ameliorating effect as a visible relief from the rebuilt homes and a visual cue that over time the suburb and the landscape would recover from.

> I know that what residents objected to very strongly was a sense that the character was getting lost in some of those suburbs by virtue of what you see as being the representative modern design or the style of architecture … I think that communities move along, tastes change … people are doing things differently. (ACTPLA planner)

The landscape was, for the Duffy community, a signifier, possessing existential values that were more important to define than the physical structures of the landscape itself. Perhaps we place too much value on the physical structures in the landscape and attention should be placed on how the landscape performs a role in mediating and ameliorating change over differing scales of space and time. The landscape change brought about by the fires cannot be separated from the symbolic notions of loss and destruction as the burnt scars on trees served as a reminder to those of the fire long after the event. However, some residents accepted the change and not only saw the opportunity to rebuild their house, but also engaged in the rebuilding of the landscape, at least on the scale of their own block. They imbued this landscape with new meaning and values based on its ability to improve or at least reduce the emotional and physiological impacts of change. The landscape was the individual's *inhabited* space, providing a sense of an individual's place and role in one's lived environment. It was also the community's embodied 'sense of place'. So accepting change was a key element of developing a resilient and adaptive community; equally their inhabited landscape changed as their circumstances changed.

Neither the community nor the landscapes were fixed realities, but rather a set of ascribed values that impacted on and were impacted by change. This, for the planning community, is a key to understanding how the landscape structure of the suburb and the existential values ascribed to the landscape needed to be understood in order to facilitate changes occurring from redevelopment.

Development can take decades to settle. The construction of all the infrastructure, settling of all the blocks of land, building of houses, schools and shops, growing of street trees and gardens takes years. The original Duffy built in the 1970s had probably really only 'settled' into a continuous and predictable state less than a decade before the fires. The fires themselves became a catalyst for a speeding up of the change only seen in suburbs undergoing rapid gentrification. Yet the change and rate of change has continued. The flow on effect revealed the market's response to this change and the new architecture of those houses, as with the ones lost in the fires, represents a phenomenon that Dovers (2010) suggests will leave a lasting legacy in the spatial distribution of housing in the Australian landscape.

10.2 *Using the landscape as an organising principle for decision making and change*

The resistance to change observed in communities undergoing renewal needs to be interrogated in the context of the global agendas to create a more efficient and environmentally responsible suburban form (Dovey, et al., 2006). Notwithstanding the apparent gap between the rhetoric and the practice as evidenced in Duffy, there are other conceptually challenging notions that residents experience when undergoing redevelopment.

Regulation of development relies on national standards for planning approval, design guidelines and site coverage. These goals are informed by more remote globally oriented social, environmental and economic truisms that can undermine the confidence of the community to accept change, in part because, from a distance, these policies may seem efficient and effective, but undermine the localness of place. Despite the attempts by the ACT government to protect the suburban character of Canberra (ACTPLA, 2007), the tools governing decision making do not reflect this. Abstract notions such as energy efficiency, walkable communities, and other constructs of rational planning theory are embodied in planning regulation, but the process of redevelopment gives a physical expression to these concepts in dramatically different ways that are difficult for the community to understand or accept. Similarly notions of developing sustainably, preserving landscape character and embracing community values are vague aspirations.

The effect of planning codes applied in Duffy did not take into account the cumulative consequences of change and this problem is not peculiar to Australia or to suburban renewal

(Egoz, 2011). The changes to legislation, more often than not, focus on protecting or enhancing the environment. This in itself is problematic as the environment is treated in an objectified state, laden with vague values applied to global processes to do with resource depletion, energy consumption and biodiversity conservation. Yet procedures for understanding the meaning of the landscape to the local community should be, but are not, a priority. Landscape rather than development codes give meaning to a spatially and culturally defined group which requires that a much more localised landscape approach should be adopted when authorities plan for suburban change.

Suburban landscape planning would not entail re-organising the unbuilt space, but rather, implementing a strong language of landscape, specific to the location, in and through community engagement. Such an approach could be used for designing codes for development that incorporate the community-held landscape values into the change process. This approach to planning would reinsert the politics of the public good into the process of master plans. In this way, the landscape would be the universal agent for developing community resilience rather than resistance.

The resilience of the community to change is linked to the resilience of the landscape. This concept is not thought of in ecological terms but rather in terms of remnance. Remnance is the phenomenon of persistence of structures and symbols that enables us to link the whole into a coherent harmonious continuum (OED, 2009). By adopting a landscape planning approach to suburban renewal, change can be considered in the context of the socio-cultural values in conjunction with environmental goals. Gaining community acceptance of the finer, more complex structures enables links to the past landscape and connects the community to the present landscape (Le Du-Blayo, 2011). This can occur at multiple scales and with different implementation modalities. Table 3 is a matrix describing change that tailors planning objectives to differing landscape scales, where remnance is valued.

Landscape description	Landscape processes	Landscape units	Landscape elements
Scales	**Regional level**	**Urban level**	**Local level**
General planning objectives	To limit the transfer of energy and raw materials	Preserve landscape identities and character	To improve the quality of life
Implementation Modalities	To develop a regional level specialisation that maintains plurality of landscapes	Adapt planning practices and development codes to recognise landscape structures and local sense of place	Create conditions for high quality designed housing responding to the local landscape characteristics
Example	Mixed productive food, energy and fibre agriculture that rely on landscape and climatic conditions peculiar to a region	Rehabilitation of valued landscape typologies linked to the urban identity and landscape heritage	Development control for landscape spaces on existing blocks of land

Table 3: Indicates the relationship between landscape scale processes and planning objectives, *adapted from Le Du-Blayo 2011*

At each landscape scale the broad environmental objectives consider the landscape impact of those goals. By focusing on the landscape at differing scales, the goals of spatial planning could provide both flexibility in its application and certainty in how changes might occur. This approach could relax rules on built form allowing individual creativity, design and construction innovation and new suburban forms. In doing so it allows for a mix of control at different scales and is designed to uncover the potential for 'vibrant urbanity' through greater freedom for individual expression at the block level, while exerting greater control at the broader landscape scale (Weller, 2008). This equally applies to discovering the potential for greater understanding of suburban landscape values. In order to achieve a better policy mix in suburban development, the community requires new ways of understanding green agendas that incorporate rather than disassociate the landscape.

10.2.1 Green is the new black – mobilising a new green credibility

Environmentalism focuses on global forces and can be applied to widely disparate phenomena from governance, conservation, economy and ecology. It is an ideology which maps knowledge in a particular way (Olwig, 2011). The focus on such -isms has the potential to undermine the landscape by operating at an abstract level of indicators and performance and, in doing so, facilitates a perverse outcome whereby the landscape is unaccounted for in the quest for improved environmental goals. Such perversity as demonstrated in the case study is a form of green credentialism.

The goal of achieving a more sustainable urban form is a clear objective of planning authorities in Australia. In the case of redevelopment, mobilising technology to improve the performance of buildings has been the vanguard of sustainable development. This has not only emerged from the global environmental urgency to reframe how we live, but it also presents a significant opportunity for the design and construction industry to improve their reputation through green credentials.

However, reframing how we live in suburbia in an era of this environmental urgency is further complicated rather than facilitated by the prevalence of green credentialism. In Canberra a statistically significant relationship exists between price and the environmental performance of houses (DEWHA, 2008). But ratings tools such as the EER include attributes that may influence the house price for reasons other than their effect on environmental performance. Similarly no empirical study can fully consider all inputs to adequately determine whether there is a relationship between the size of the house and the investment return on design, construction and occupation cost (DEWHA, 2008). In summary, no evidence exists to support the idea that the environmental indicators or house size provide a guarantee of increased investment return on the cost of building. In this study, environmental performance and improved design rather than size correspond to residents' appreciation of living qualities of light, spaciousness and comfort.

Such rating tools provide a social licence to continue to live the way we always have because the environmental credentials of the home are determined through the theoretical values prescribed by the energy efficiency rating scheme rather than the environmental cost of living in them. Therefore, living sustainably is defined by the number of stars in your EER rating for your house. This is a form of ecological modernisation that reduces the communities' approach to living sustainably as a 'form of reductive ecological functionalism' (Meyer, 2008, p. 14). However, the emergence of this global environmental urgency diminishes the value in landscape in the suburb as spare rooms replace unused backyards. As a result, planners, designers, and the wider community are 'urged to accept a united, if ill-defined, agreement on landscape value as land value and to cede all argument to those who have been entrusted with finally determining it' (Russell-Clarke, 2010, p. 5).

The role of landscape in this contested green space is further complicated by the way in which the cultural values of the landscape are embodied in the producers' and consumers' narratives. Indeed, examining the rebuilding of a suburb recovering from fires in and through the narratives of the social actors engaged in building houses presents a challenge to understand how the landscape plays such a role. Who decides the landscape value of land in the suburb is as important to understand as the aspirations and motivations of social actors engaged in the change process. The emerging literature on the social and environmental costs of current forms

of suburban development provides empirical evidence of the need to understand the landscape relationship and the landscape impact of redevelopment in existing suburbs.

The rate of change to the landscape resulting from the fire and post-fire redevelopment was different from the natural rate of change occurring through normal market mechanisms, yet the development outcomes remain the same. In Duffy, no means existed to understand or articulate the unintended changes to the residual landscape. The changing landscape required a more holistic examination of the physical conditions and the changed character of the post-fire suburban landscape. This required a shift in focus to understanding how such changes affected the community and how the landscape was expected to perform in the future.

In order to imagine genuinely new outcomes for suburban renewal, producers need to develop techniques to understand the suburban landscape as a cultural space, and engage the residents in conversations to re-imagine new forms that break commonly held persistent concepts associated with such conspicuous forms of architecture. Equally the consumer should not view suburban development as a 'continuous rehearsal' to find lost or forgotten origins to create something that never fully existed (Hall, 1995).

The landscape in the suburb is understood at differing spatial scales whereby the local understandings of landscape are nested in broader conceptions, from the block, the street to the suburb. Yet these concepts of the local landscape are not incorporated into the planning or consultation process because such notions undermine the global objectives of efficient planning and delivering new suburban forms. It is important to think more about adapting these policies into a local context in the face of economic pressures and environmental constraints imposed at a national context. This requires planning authorities to accept the diversity of landscape values and the community-held knowledge of how landscapes might change. This approach does not create a barrier to development nor a conservative attitude to be venerated, but the means to constitute a coherent approach to publicly acceptable change. To do this the question needs to be asked: what is a sustainable landscape, indeed, what are we trying to sustain?

10.2.2 Sustaining suburban landscapes

> Sustainability is a very general concept that is not easily implemented in practical work. (Antrop, 2006, p. 187)

The last decade has seen a change in attitude toward the value of urban landscape spaces, as citizens become increasingly literate in environmental challenges brought about by urbanisation and climate change. The increasing interest in the environmental quality of cities has focused on a variety of urban green spaces ranging from single trees to urban forests and national parks. Such a change in attitudes has brought about a greater awareness and political acceptance of the need for a coordinated approach to planning and management of urban

landscapes (Baycan-Levent, Vreeker, & Nijkamp, 2009; Goode, 1998). Developing policy to sustain suburban landscapes for social, economic and environmental good requires an interrogation of what constitutes a sustainable landscape. Interrogating the gap between the rhetoric and practice of development in suburbia provides a theoretical framework for understanding how landscape change is embodied in differing socio-cultural influences in the way the landscape is understood. A balanced approach is needed to determine a sustainable landscape policy for urban growth.

Sustaining landscapes can be thought of from two approaches. The first is to conserve certain landscape types and, by implication, practices and rituals that shape that landscape. The second identifies the landscape as a tool for implementing sustainability objectives (Antrop, 2006). The first approach recognises customary rituals that shape the landscape (Olwig, 2002). It recognises that ways of suburban living shape and are shaped by the whole landscape. Change thought of in this way is characterised by loss of identity, diversity, and coherence of existing landscape values. It threatens stability which is often associated with loss of ecological integrity, community tranquillity and authenticity (Lowenthal, 1985, 2007). From a planning policy perspective, relying only on parks and public spaces rather than gardens and backyards to provide the setting for suburban life are unsatisfactory as the dialectic relationship between the physical space and the lived experience are profoundly changed.

This conservationist approach, however, resists the opportunity for changes that may also provide positive outcomes in the face of contemporary planning goals such as consolidation and containment. This approach to sustaining landscapes sees human intervention in social or ecological systems as a disturbance. In the case of Duffy, many respondents wanted to return to a form of balance but this was different from what existed before the fires. The values expressed by the community were unmonetised and could not be measured in a numerical way, with no particular time horizon to recognise the point at which the landscape has been sustained. Planning on the other hand facilitates development projects where a start and finish date are determined and measurable changes are planned.

The second approach focuses on the performative aspects of the term, where value is measured by indicators and performance measures. Landscape function drives policy settings in a narrowly defined way by providing certain ecological services, such as biodiversity conservation. As a result, changes to landscape planning and management result from a set of narrowly defined outcomes loosely connected to a vague definition of sustainability. This monetising of landscape value by incorporating landscape elements into a greater goal of sustainability requires the landscape to fit into categories designed to fit into broader conceptions of environmental performance. Most explicitly, landscapes are seen as form of ‘natural capital’ (Antrop, 2006, p. 190) and the concept of natural capital is not governed by the

landscape as an organising concept with multiple and changing tacit and tangible values, but a single measurable outcome determined by indicators that are negotiated. In short, landscape values are determined by what indicators are included and what are left out. The formulation of guidelines may attempt to provide a vision for a sustainable landscape at a holistic scale, but as the case study has shown, projects are specific to sites and rarely coordinated. By adopting this approach, the concept of landscapes as a form of natural capital can be and is often severely reduced (Antrop, 2006).

An example of this is the central policy position of the Australian Institute of Landscape Architects that promotes landscapes as green infrastructure (AILA, 2012). It is neither explicit on the definition of the term nor how it fits into the broader concept of landscape architecture as a practice. Such an approach argues that the component parts of the landscape have values that can be captured by an accounting method tied to infrastructure investment. It ignores the possibility that the way in which the landscape is experienced and consumed determines how, as a society, we value it.

The landscape is defined here as something that can be contained in a measurable instrumental framework. That is, to call landscape a form of infrastructure suggests that it can be assessed alongside other forms of infrastructure, so much so that the never ending drive for numbers has shifted us as designers to acquit our decisions, advocacy and performance against a set of measurable outcomes of which many other values, embodied in the landscape, cannot be captured in the redevelopment process. By adopting this approach, the landscape is not seen as an integrating holistic concept, but the fragmented aspects of landscape are measured and accounted for in the patterns of built and unbuilt structures known as the suburb.

10.2.3 Balancing landscape values

This thesis has demonstrated that the evolution of the concept ‘suburb’ and the landscape are intertwined. In Duffy the landscape remains physically and symbolically embedded in the lives of the consumers and producers operating in the ongoing recovery process. Yet as society plans for the challenges of urban growth it also needs to come to terms with the competing priorities in the way the landscape is understood, valued and incorporated into suburbs undergoing renewal.

Figure 28 presents a decision framework that could form the basis of a landscape approach to planning for growth and change in suburbs. It presents a way of incorporating socio-cultural factors associated with understanding landscape change and argues that these knowledge domains broadly describe how people responded to the landscape. It is divided into three ways of conceptualising landscapes and three stages for integrating landscapes into the decision making process. To the left of the diagram, the landscape is recognised as a setting or scene

which provides tacit values that can be described as the landscape character of the suburb. The right of the diagram captures the goals of environmental efficiency and factors in the measureable benefits that landscapes provide from an environmental perspective. The middle of the diagram represents the shifting views of those who derive an identity from the landscape of the lived experience. This includes personal histories, shared experiences and rituals to do with appropriating and occupying different spaces, both public and private. Such a decision framework would be used by planning authorities to develop consultation processes that help the community to participate in and take responsibility for decisions about changes to suburbs undergoing renewal.

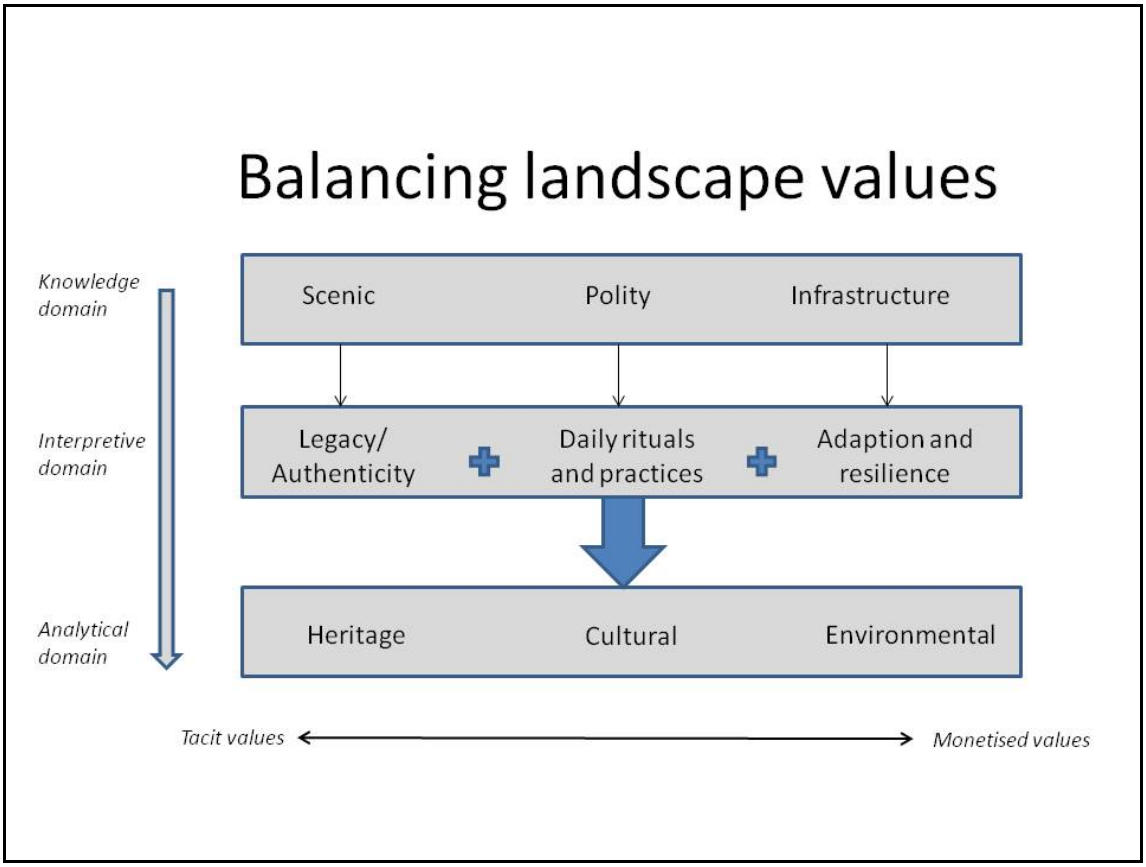

Figure 28: Describes how landscapes can be used as an organising principle to understand and embody the different and competing values associated with change

Overcoming these competing priorities requires a new approach to incorporating these different suburban landscape values. These were culturally embedded and dependant on personal values and perspectives. Regardless of what knowledge domain each person begins at, the understanding of community landscape values requires a consideration of how landscapes are interpreted across all knowledge domains. This analytical method requires the decision makers to consider all interpretive methods to arrive at a balanced view of the landscape values from an analytical perspective.

Lastly, the respondents should consider what sort of values they promote or advocate in gaining an understanding of how these values can be embedded in decision making. These range from tacit use values to monetised instrumental values. It is important not to impose a hierarchy on the values but rather to understand how they differ and in what context they can be considered in decisions concerning change.

10.3 *Future research: Unpacking the modes of production through architecture*

The broader questions that this thesis posits are: why is the apparent mismatch between the architecture, the environmental efficacy and amenity of these new suburban homes so great? Why would people go into such financial debt to own a house that neither satisfies their dream of home ownership, nor does it meet their contingent needs of the increasingly fluid boundaries around belonging to community and suburban culture? As we move beyond post-modernism to a new cycle, possibly modernism reloaded, capitalist modes of production will work more through systems of signs and meanings than property ownership of bricks and mortar (Fischer, 2004).

How do we determine what is an acceptable level of landscape for a city, given the direct conflict that green infrastructure tries but fails to address at the urban scale? What are the features of urbanity that architecture and planning aspire to such as livelihood, connection, vibrancy, walkability and liveability? These are worthy qualities but have been elevated to an essential element in the imagination of the future sustainable city, as if they are a precursor to the very survival of our cities as we know them. On the other hand, landscapes offer stillness, contemplation and observation. Rather than seeing landscapes as a profound and essential part of the making of the future city, in a very short period of time the suburban landscape has found itself on the margins of what the future city holds.

Further study is needed to understand the aesthetics of community expressed through systems of signs and meanings. This alone does not explain what anecdotally appears to be sound economic decision making but not established, at least in the ACT, through empirical research. Such research could extend to explore further the appropriation of green technology as a mode of producing cultural boundaries. While the symbolic guarantee of belonging is not necessarily geographically bound, it preferences shared language and understandings that operate in virtual as well as physical spaces (Hall, 1995). How this impacts on consumers' decisions and actions in the redevelopment process may uncover clues as to how the house symbolises belonging in a community.

As the suburb becomes less likely to be our source of community identity, our homes will represent symbols of our own community of belonging rather than the geographically placed

community of the suburb. The function of the landscape also changes focus from a place of dwelling to a different symbol of belonging, whether that belonging is to a suburb, or a community of affluence environmentally astute, or any other group that can be symbolised in and through the system of meaning that is represented in the twenty-first century.

Finally, should the planning authority adopt a position of 'expert client' so that the values held by the community are not undermined or diminished in the priorities of other actors? To do this would require a method to define what is significant in terms of the values held and what is negotiable in terms of how those values can be embodied in development practice. This would seem to be a rather dictatorial role symptomatic of the modernist technocratic approach, but if the role of the designer is to translate those broader values and facilitate rather than dictate change, then new suburban forms may be imaginable that meet global environmental issues and respond to the local peculiarities of the home the street and the suburb.

If anything, the challenge is not to dictate, codify and restrict development opportunity, but rather a means to engage and understand the strategic behaviour of different social actors in the multifaceted world of suburban renewal.

10.4 *Postscript*

This thesis has explored the material and socio-cultural change to a suburb as a result of the catastrophic events of 18 January 2003, and the subsequent actions and decisions of consumers and producers in their efforts to recover the suburb. The consequences of these events are clear to see in the suburb today. A visitor to Canberra who has no specific knowledge of the fire event could drive down Eucumbene Drive on the western edge of Duffy and see new houses built on the most desirable blocks of land with distant views to some of Canberra's most iconic landscape scenery. Not only are the houses different from those unchanged by the fires, but the planning codes and regulations are very different from those originally designed in the 1960s and 1970s when the suburb was first built. It also shows that, despite what many believed to be the case, the renewal of homes was not driven by young families breathing new life into a tired suburb; the new residents coming into the suburb were largely the same as those they replaced.

These changes did not happen in a vacuum. The increasing environmental literacy of our society is evident in the interview data. The commitment to create a more sustainable society through improvements to the built environment is also reflected in the goals and objectives of the planning codes and charters of the professional institutes that represent design and architecture. Yet these change agents, along with the community, struggled to come to terms with how their decisions and actions had improved the suburb's environmental and social outcomes. Despite the development of green technology, encouraged by energy ratings tools,

the current mix of regulations, practices and approaches lacks a sufficient language to encompass all aspects of change occurring on a suburban scale. In particular, a language does not exist to adequately recognise the value of the suburban landscape.

This is in part because the landscape is not embodied into the decision making process in any coordinated way. While individuals incorporated their own conceptions of landscape into the decision making process, this often occurred as a form of resistance to the norms and practices of redevelopment. Yet as this thesis shows, landscapes are an essential symbolic, structural and emotional component of living in the suburb.

How social actors embodied the changes in time and space over the case study period would suggest that landscape has not one, but a multitude of tacit and monetised values that can and should be incorporated into the planning and development codes and practices for suburbs undergoing renewal. This is important from a policy perspective as the suburb is ubiquitous in Australia. Most of us live in low density suburbs dominated by landscape spaces and by their nature they are the dominant urban form that make up our cities.

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Appendix A: Sample questions to Interviewees

Research interview questions (producers) professionals.

Q1 Do you remember where you were on the day of the fires?

Q2 Were you involved with a few projects in the area?

How did you come across the work?

How soon after the fires you were asked to come in?

What sort of help could you give them at that stage?

Q3 What sort of things did the clients ask about or ask for?

What about people who bought blocks and came in?

Could they tell you why they liked the area?

Did you have anyone who commissioned a design and not gone ahead?

Q4 Can you maybe tell me how you think the suburbs changed since the fires?

If you looked at the suburb as a whole, how would you describe the changes to the suburb as a result of the fires?

Is there anything in particular you don't like about the suburb?

Q5 What was your design philosophy, was that something you promoted?

Q6 Were there any other professional or personal goals you wanted to achieve?

Do you think on reflection on the various projects was there anything that you weren't able to achieve?

Q7 Demographic questions

Age

Professional training

Work history

Professional associations

Research interview questions (consumers) residents of Duffy

(These questions were developed after the producer interviews were completed and transcribed.)

Q1 What age group are you?

Under 20; 20-29; 30-39; 40-49; 50-59; 60-69; over 70

Q2 How many people live in this household?

If children, are they; pre-school, primary school, high school, college or post-college.

Q3 What is your occupation?

Full-time, part-time, casual If more than one respondent, record all responses

Q4 Where do you work?

(What suburb or part of the Canberra)

Q5 What is your housing tenure status?

Home owner, home purchaser (with mortgage), private rental, public rental, community housing, other (state)

Q6 How many years have you lived in this house?

Q7 What suburbs or towns have you lived in previously over the past decade?

Q8 How many years do you envisage living here?

Q9 Questions about the design or purchasing decisions:

What were you looking for in the property that you have bought /built?

What were the main attractions of the property/design you chose?

Is there anything you would have liked on your property that you don't have?

What are the main drawbacks of your property?

Q10 General questions about the process (rebuilders only):

Can you tell me how you chose a designer for your home?

Why did you choose an architect/building designer/contractor?

Can you tell me about the process you went thorough to design and build your property?

What was the key advice main message advice your designer/architect gave?

What role relationship did you have with the planning authority?

Q11 General questions about the suburb:

Why did you choose to move into Duffy?

What sort of things helped you choose to live in the area? Examples such as:

Proximity to town centres

Schools, shops

Price, choice of housing

The look and feel of the suburb

Q12 Questions about your house and suburb ?

Can you describe the character/ style of your house?

How is your current house different to your previous house?

Can you describe the character/ style of your street and suburb?

How is your street different to the street and suburb you previously lived in/ or prior to 2003?

Is there anything else you would like to add that you think is helpful to my research?

Appendix B: Information statement to participants

Dear Participant,

My name is Andrew MacKenzie, I am a researcher at the Australian National University studying the redevelopment of the fire affected parts of Duffy since the 2003 bushfires. Part of my research project involves interviewing people who have been involved in the redevelopment of the suburb since the fires including, residents who have built homes architects, planners, developers and other professionals engaged in the redevelopment process.

I would like to take no more than an hour of your time to talk to you about your experiences since 2003. The purpose of the questions is to discover the stories about your involvement in the redevelopment of the suburb. I have attached a consent form and information statement for you to read to help you to decide if you would like to participate. However, I will draw your attention to some key information.

1. The interviews would be conducted at your place of work or home and will take no more than an hour.
2. Participation is voluntary and you may withdraw at any time during the interview.
3. The information collected will not be used to reveal your identity in any written or recorded form.
4. The interview may cause you to remember events and experiences that could cause you distress. If this is the case I would encourage you to seek some advice. Relationships Australia is a professional counselling organisation. Relationships Australia Canberra region worked with ACT health to offer counselling services after the 2003 fires. Their phone number is 6122 7100.

Your participation will help me to understand the complex relationships between different people and organisations involved in the rebuilding of Duffy. I believe this project has the potential to uncover how people value the garden suburb and in doing so, reach beyond the common criticisms that are attached to living in suburbia.

If you have any questions or you would like to be involved please call me on 02 62012577 (leave a message if I'm not in my office).

Thank you for your consideration.

Regards

Andrew MacKenzie

Appendix C: Development Application Data 2006

DA_NUMBER	LODGEMENT	APPL	DA CAT	GROSS_FLOOR_AREA	DESCRIPTION
20036987	4-Jul-03	RESL	C2	183	BUSHFIRE AFFECTED- rebuild garage destroyed in bushfire
20032464	26-May-03	RESL	C2	155	BUSHFIRE AFFECTED - new residence
20032079	12-May-03	MULT	C2	155	BUSHFIRE AFFECTED - NEW RESIDENCE - Construction of two single storey replacement units on ONE block
20032079	12-May-03	MULT	C2	155	BUSHFIRE AFFECTED - NEW RESIDENCE - Construction of two single storey replacement units on ONE block
20031315	21-Mar-03	RESL	C2	450	BUSHFIRE AFFECTED- NEW RESIDENCE
20031013	6-Mar-03	RESL	C2	117	BUSHFIRE AFFECTED - NEW RESIDENCE
20032225	16-May-03	RESL	C2	153.6	BUSHFIRE AFFECTED -- New Residence
20036619	13-Jun-03	RESL	C2	186	BUSHFIRE AFFECTED - new residence
20037539	29-Jul-03	RESL	C2	189.4	BUSHFIRE AFFECTED - New residence. replacement of bushfire destroyed residence
20031630	9-Apr-03	RESL	C2	195.6	BUSHFIRE AFFECTED-New Residence
20036964	28-Jul-03	RESL	C2	202.29	BUSHFIRE AFFECTED - new residence
20037315	18-Jul-03	RESL	C2	203	BUSHFIRE AFFECTED - rebuild of fire destroyed residence
20032923	11-Jun-03	RESL	C2	204.7	BUSHFIRE EFFECTED - NEW RESIDENCE
20032856	6-Jun-03	RESL	C2	208.6	BUSHFIRE AFFECTED - New Residence This application has been incorrectly

					notified. Please accept PALM's apologies for the inconvenience.
20032321	21-May-03	RESL	C2	213.93	BUSHFIRE AFFECTED - New Residence
20032064	9-May-03	RESL	C2	218.83	BUSHFIRE AFFECTED - NEW RESIDENCE
20037065	8-Jul-03	RESL	C2	233.7	BUSHFIRE AFFECTED - rebuild of fire destroyed residence
20031552	9-Apr-03	RESL	C2	235	BUSHFIRE AFFECTED- NEW RESIDENCE & Carport
20032724	4-Jun-03	RESL	C2	242.23	BUSHFIRE AFFECTED- new residence
20037059	15-Jul-03	RESL	C2	252.7	BUSHFIRE AFFECTED - NEW RESIDENCE - rebuild of fire destroyed residence
200400457	5-Feb-04	RESL	C2	253	BUSHFIRE AFFECTED- NEW RESIDENCE
20037925	13-Aug-03	RESL	C2	254.5	BUSH FIRE AFFECTED - Single storey new residence
20031296	25-Mar-03	RESL	C2	262	BUSHFIRE AFFECTED - NEW RESIDENCE -
20037530	29-Jul-03	RESL	C2	268.3	BUSHFIRE AFFECTED - NEW RESIDENCE-- rebuild of bushfire destroyed residence
20037086	9-Jul-03	RESL	C2	268.5	BUSHFIRE AFFECTED - NEW RESIDENCE
200400825	6-Feb-04	RESL	C2	281	BUSHFIRE AFFECTED- NEW RESIDENCE
20032326	21-May-03	RESL	C2	281.5	BUSHFIRE DAMAGED: New residence to replace bush-fire destroyed residence.
20032745	3-Jun-03	RESL	C2	283.8	BUSHFIRE AFFECTED - NEW RESIDENCE
20037221	15-Jul-03	RESL	C2	283.81	BUSHFIRE AFFECTED- NEW RESIDENCE

20036577	20-Jun-03	RESL	C2	287.4	Bushfire Affected - NEW RESIDENCE
20037890	21-Aug-03	RESL	C2	295.03	BUSHFIRE AFFECTED - New residence
20032743	4-Jun-03	RESL	C2	306.55	BUSHFIRE AFFECTED - NEW RESIDENCE
20037690	19-Aug-03	RESL	C2	338.06	BUSHFIRE AFFECTED - New residence
20038633	16-Sep-03	RESL	C3	226	BUSHFIRE AFFECTED - New Residence
20036956	7-Jul-03	RESL	C3	258.3	BUSHFIRE AFFECTED - New Residence
20037721	1-Aug-03	DUAL	C3	185	BUSHFIRE AFFECTED - NEW RESIDENCE - Construction of two new residences.
20036648	24-Jun-03	RESL	C3	251	BUSHFRE AFFECTED - NEW RESIDENCE
200309411	25-Nov-03	RESL	C3	228.1	BUSHFIRE AFFECTED - NEW RESIDENCE
20032895	9-Jul-03	RESL	C3	225	BUSHFIRE AFFECTED - NEW RESIDENCE
20037722	4-Aug-03	RESL	C3	145	BUSHFIRE EFFECTED - New Residence
20036668	24-Jun-03	RESL	C3	182.45	BUSHFIRE EFFECTED - NEW RESIDENCE
200404972	21-Oct-04	RESL	C3	183.4	BUSHFIRE EFFECTED - New Residence
20036664	24-Jun-03	RESL	C3	195.38	BUSHFIRE AFFECTED - New Residence
20036673	24-Jun-03	RESL	C3	195.38	BUSHFIRE EFFECTED - NEW RESIDENCE
20032028	7-May-03	RESL	C3	197.2	BUSHFIRE AFFECTED-New residence
200309727	7-Nov-03	RESL	C3	197.25	BUSHFIRE AFFECTED - NEW RESIDENCE
20032282	19-May-03	RESL	C3	198.31	BUSHFIRE AFFECTED- New Residence including new larger garage.
200308710	6-Feb-04	RESL	C3	202	BUSHFIRE AFFECTED - NEW RESIDENCE
200401760	12-May-04	RESL	C3	206	BUSHFIRE AFFECTED-

					NEW RESIDENCE
20031600	14-Apr-03	RESL	C3	210	BUSHFIRE AFFECTED-New Residence
200308674	20-Feb-04	RESL	C3	215	BUSHFIRE AFFECTED - NEW RESIDENCE
20032957	12-Jun-03	RESL	C3	218.04	BUSHFIRE AFFECTED - new residence
20032971	12-Jun-03	RESL	C3	220.1	BUSHFIRE AFFECTED - NEW RESIDENCE
20038073	11-Nov-03	RESL	C3	224.5	BUSHFIRE AFFECTED- NEW RESIDENCE
200310044	17-Dec-03	RESL	C3	225.2	BUSHFIRE AFFECTED - NEW RESIDENCE
200310242	8-Dec-03	RESL	C3	230	BUSHFIRE AFFECTED - NEW RESIDENCE
20037866	13-Aug-03	RESL	C3	231.87	BUSHFIRE EFFECTED - NEW RESIDENCE
20038450	4-Sep-03	RESL	C3	233	BUSHFIRE AFFECTED - New Residence
20037355	23-Oct-03	RESL	C3	233	BUSHFIRE AFFECTED - NEW RESIDENCE
20037642	8-Aug-03	RESL	C3	234.6	BUSHFIRE AFFECTED - New residence
20031472	3-Apr-03	RESL	C3	242.5	BUSHFIRE AFFECTED-New residence (one storey) on fire damaged block
200403051	17-Aug-04	RESL	C3	243.03	BUSHFIRE AFFECTED-New single storey residence with attached double garage-No Transfer
200401837	4-Jun-04	RESL	C3	247	BUSHFIRE AFFECTED- NEW RESIDENCE
20036834	1-Jul-03	RESL	C3	248.31	BUSHFIRE AFFECTED - New residence
20032457	26-May-03	RESL	C3	249	BUSHFIRE AFFECTED - New residence
20032007	5-May-03	RESL	C3	250	BUSHFIRE- AFFECTED-New Residence
20032843	6-Jun-03	RESL	C3	250.96	BUSHFIRE AFFECTED - New Residence
200503584	7-Sep-05	RESL	C3	253.37	BUSHFIRE EFFECTED- NEW

					RESIDENCE
20036792	30-Jun-03	RESL	C3	256.2	BUSHFIRE EFFECTED - NEW DWELLING
20036770	27-Jun-03	RESL	C3	261.69	Bushfire Affected - New Residence
200310443	23-Jan-04	RESL	C3	263.23	BUSHFIRE AFFECTED - NEW RESIDENCE
20037474	13-Aug-03	RESL	C3	264.9	BUSHFIRE AFFECTED - New residence
200403550	17-Aug-04	RESL	C3	267.3	BUSHFIRE AFFECTED-New two storey residence with attached double garage-No Transfer
200309816	17-Dec-03	RESL	C3	270.3	BUSHFIRE AFFECTED - NEW RESIDENCE
20037070	23-Jul-03	RESL	C3	270.82	BUSHFIRE EFFECTED - NEW RESIDENCE
200402814	28-Jul-04	RESL	C3	271.3	BUSHFIRE AFFECTED- NEW RESIDENCE - No transfer
200310329	23-Jan-04	RESL	C3	273.16	BUSHFIRE EFFECTED - NEW RESIDENCE
200310280	29-Jan-04	RESL	C3	275	BUSHFIRE AFFECTED- NEW RESIDENCE
20032298	20-May-03	RESL	C3	277	BUSHFIRE AFFECTED - NEW RESIDENCE
20032939	11-Jun-03	RESL	C3	278.82	BUSHFIRE AFFECTED - New Residence
20036930	4-Jul-03	RESL	C3	281	BUSHFIRE AFFECTED - New Residence
20037216	23-Jul-03	RESL	C3	283	BUSHFIRE AFFECTED - New residence
20032727	10-Sep-03	RESL	C3	284.02	BUSHFIRE EFFECTED - NEW RESIDENCE
20037880	25-Aug-03	RESL	C3	285.33	BUSHFIRE AFFECTED - New Residence
200309744	18-Nov-03	RESL	C3	288	BUSHFIRE AFFECTED - NEW RESIDENCE
20032629	30-May-03	RESL	C3	290	BUSHFIRE AFFECTED - NEW RESIDENCE

20036714	25-Jun-03	RESL	C3	290	BUSHFIRE EFFECTED - NEW RESIDENCE
20038113	24-Sep-03	RESL	C3	301	BUSHFIRE AFFECTED - NEW RESIDENCE -
200309303	16-Oct-03	RESL	C3	305	BUSHFIRE AFFECTED - NEW RESIDENCE -
20032987	12-Jun-03	RESL	C3	311.91	BUSHFIRE AFFECTED - New Residence
200400133	28-Jan-04	RESL	C3	312.76	BUSHFIRE AFFECTED - NEW RESIDENCE
200402920	30-Jun-04	RESL	C3	319.58	BUSHFIRE AFFECTED - NEW RESIDENCE- Rebuild residence after bushfire
20032988	12-Jun-03	RESL	C3	324.4	BUSHFIRE EFFECTED - NEW RESIDENCE
200309956	21-Nov-03	RESL	C3	326	BUSHFIRE AFFECTED - NEW RESIDENCE
20038117	28-Aug-03	DUAL	C3	328	BUSHFIRE AFFECTED - NEW RESIDENCE - Construction of two new residences.
200403174	16-Jul-04	RESL	C3	341	BUSHFIRE EFFECTED - ORIGINAL - NEW DWELLING - New Residence
200309991	25-Nov-03	RESL	C3	356	BUSHFIRE AFFECTED - NEW RESIDENCE
20038065	27-Aug-03	RESL	C3	357	BUSHFIRE AFFECTED - New Residence
20037735	8-Sep-03	RESL	C3	360.22	BUSHFIRE AFFECTED - New residence
20031994	6-May-03	RESL	C3	366.7	BUSHFIRE AFFECTED - NEW RESIDENCE
20032049	7-May-03	RESL	C3	366.73	BUSHFIRE EFFECTED - NEW RESIDENCE
20032542	28-May-03	RESL	C3	369.1	BUSHFIRE AFFECTED-New Residence, Garage and Carport
20037318	1-Sep-03	RESL	C3	385.9	BUSHFIRE AFFECTED - New Residence

20037591	30-Jul-03	RESL	C3	403	BUSHFIRE EFFECTED - NEW RESIDENCE
20032869	27-Nov-03	RESL	C3	408	BUSHFIRE AFFECTED - NEW RESIDENCE
20037197	25-Sep-03	RESL	C3	468	BUSHFIRE EFFECTED - NEW RESIDENCE
200309899	21-Nov-03	RESL	C3	476.35	BUSHFIRE AFFECTED - NEW RESIDENCE
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings

					comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031944	11-Jul-03	MULT	C3	172.7	BUSHFIRE AFFECTED - Construction of 18 new dwellings comprising of 16 two storey semi detached and 2 single storey dwellings.
20031942	2-May-03	DUAL	CTR	0	BUSHFIRE AFFECTED - NEW RESIDENCE - Approved Dual Occupancy 20026098 - Replacement of existing residence, revised floor layout, revised roof plan to match proposed rear residence, replacement plans for existing residence to be stamped.
20038200	29-Sep-03	RESL	CTR	0	BUSHFIRE AFFECTED - NEW RESIDENCE - bushfire affected

					property ONSOLD after the January 18 bushfires
200400229	16-Feb-04	RESL	CTR	0	BUSHFIRE AFFECTED-NEW RESIDENCE (ON SOLD BLOCK)
200500835	7-Mar-05	RESL	CTR	0	BUSHFIRE AFFECTED-ONSOLD-New residence with attached double garage
200308653	20-Nov-03	RESL	CTR	0	BUSHFIRE AFFECTED - NEW RESIDENCE (bushfire block ON SOLD)
200501661	18-Apr-05	RESL	CTR	186.4	BUSHFIRE AFFECTED-ONSOLD - New single storey residence.
200309737	15-Dec-03	RESL	CTR	209	BUSHFIRE AFFECTED-NEW RESIDENCE (ON SOLD BLOCK)
200504116	28-Oct-05	RESL	CTR	218.1	SINGLE RESIDENTIAL-NEW DWELLING-Proposed new split level residence with double garage.
20037839	12-Sep-03	RESL	CTR	221.2	BUSHFIRE AFFECTED - NEW RESIDENCE - New residence
200403175	20-Jul-04	RESL	CTR	227.22	BUSHFIRE AFFECTED-New Residence - ONSOLD
200403330	25-Aug-04	RESL	CTR	236.35	BUSHFIRE AFFECTED-New single sotrey residence - ONSOLD
200310533	3-Mar-04	RESL	CTR	236.5	BUSHFIRE AFFECTED-NEW RESIDENCE (ON SOLD BLOCK)
200403053	2-Sep-04	RESL	CTR	243.03	BUSHFIRE AFFECTED-ONSOLD-New single storey residence with attached double garage
200403058	2-Sep-04	RESL	CTR	243.03	BUSHFIRE AFFECTED-ONSOLD-New single storey residence with attached double

					garage
200403055	2-Sep-04	RESL	CTR	244.71	BUSHFIRE AFFECTED-ONSOLD-New single storey residence with attached double garage
200403059	2-Sep-04	RESL	CTR	244.71	BUSHFIRE AFFECTED-ONSOLD-New single storey residence with attached double garage
200403052	6-Sep-04	RESL	CTR	244.71	BUSHFIRE AFFECTED-ONSOLD-New single storey residence with attached double garage
200403802	2-Sep-04	RESL	CTR	244.71	BUSHFIRE AFFECTED-ONSOLD-New single storey residence with attached double garage
200403057	2-Sep-04	RESL	CTR	244.71	BUSHFIRE AFFECTED-ONSOLD-New single storey residence with attached double garage
200404440	12-Oct-04	RESL	CTR	245	BUSHFIRE AFFECTED-ONSOLD-Construction of new single storey residence.
200403054	2-Sep-04	RESL	CTR	248.66	BUSHFIRE AFFECTED-ONSOLD-New single storey residence with attached double garage
200401606	25-May-04	RESL	CTR	249.93	BUSHFIRE AFFECTED - New residence
20032824	5-Jun-03	RESL	CTR	255	BUSHFIRE AFFECTED - NEW RESIDENCE -
200309245	20-Nov-03	RESL	CTR	255.75	BUSHFIRE EFFECTED - Proposed demolition and rebuild of an onsold fire effected block
200308953	21-Oct-03	RESL	CTR	256.34	BUSHFIRE AFFECTED - Proposed new 2 storey residence (ON SOLD BUSHFIRE BLOCK)

200405295	5-Nov-04	RESL	CTR	257	BUSHFIRE AFFECTED-ONSOLD-Construction of new single storey residence.
200403799	3-Sep-04	RESL	CTR	257.6	BUSHFIRE AFFECTED-ONSOLD-New two storey (tri-level) residence with attached double garage
200400366	25-Nov-04	RESL	CTR	259	BUSHFIRE AFFECTED-NEW RESIDENCE ONSOLD
20031779	19-Aug-03	DUAL	CTR	259.4	BUSHFIRE AFFECTED - NEW RESIDENCE - (Dual Occupancy), construction of 2 new dwellings on the block and Lease Variation to permit the above development (onsold bushfire property)
200601520	10-Apr-06	RESL	CTR	260	BUSHFIRE EFFECTED - ONSOLD - SINGLE RESIDENTIAL - NEW DWELLING - New two storey dwelling with double garage.
200405497	30-Nov-04	RESL	CTR	260	Bushfire affected onsold. Proposed construction of new single storey residence, retaining existing driveway.
200401579	26-May-04	RESL	CTR	263.78	BUSHFIRE AFFECTED-NEW RESIDENCE ON SOLD single storey
200401990	23-Jun-04	RESL	CTR	266.84	BUSHFIRE AFFECTED-NEW RESIDENCE ON SOLD
200501743	10-Jul-06	RESL	CTR	267.86	BUSHFIRE AFFECTED-ONSOLD-SINGLE RESIDENTIAL-NEW DWELLING-GARAGE - Construction of a new single storey Defence home with a

					garage.
200603052	27-Jun-06	RESL	CTR	270	BUSHFIRE EFFECTED - ONSOLD - SINGLE RES - NEW DWELLING - GARAGE - New residence and garage on bushfire affected block.
200308666	30-Oct-03	RESL	CTR	270	BUSFIRE EFFECTED - New residence (Bushfire block ON SOLD)
200401742	17-Jun-04	RESL	CTR	270.67	BUSHFIRE AFFECTED- NEW RESIDENCE ON SOLD
200403143	11-Aug-04	RESL	CTR	271.79	BUSHFIRE AFFECTED-New Residence- ONSOLD-Two storey residence with sub-floor garage and workshop
200400670	23-Jul-04	RESL	CTR	275.8	BUSHFIRE AFFECTED - NEW RESIDENCE - ON SOLD
200603338	10-Jul-06	RESL	CTR	277.79	BUSHFIRE AFFECTED- ONSOLD- SINGLE RESIDENTIAL- NEW DWELLING- GARAGE - Construction of a new two storey residence with a garage.
200309238	15-Dec-03	RESL	CTR	282.5	BUSHFIRE AFFECTED - NEW RESIDENCE (ON SOLD BUSHFIRE BLOCK)
200308651	13-Oct-03	RESL	CTR	285.9	BUSHFIRE AFFECTED- NEW RESIDENCE- New residence includes double garage (Bushfire block on sold 23-JUN-2003)
200500725	22-Mar-05	RESL	CTR	287	BUSHFIRE AFFECTED BLOCK ONSOLD-New single storey residence and driveway

200500963	16-Mar-05	RESL	CTR	287.93	BUSHFIRE EFFECTED - NEW RESIDENCE
200403328	13-Aug-04	RESL	CTR	288.5	BUSHFIRE AFFECTED-New two storey residence with swimming pool and detached double garage - ONSOLD
200601640	19-Apr-06	RESL	CTR	292	BUSHFIRE EFFECTED - ONSOLD - SINGLE RESIDENTIAL - NEW DWELLING - New single storey residence with attached double garage under and associated landscaping works.
200310248	23-Jan-04	RESL	CTR	294	BUSHFIRE AFFECTED- NEW RESIDENCE (ON SOLD BLOCK)
200309317	15-Oct-03	RESL	CTR	295	BUSHFIRE AFFECTED - NEW RESIDENCE - Proposed construction of a new residence
200600451	7-Feb-06	RESL	CTR	298	BUSHFIRE AFFECTED - ONSOLD - SINGLE RESIDENTIAL - NEW DWELLING - GARAGE :- Construction of a single storey residence with double garage.
200401179	4-May-04	RESL	CTR	298	BUSHFIRE AFFECTED- NEW RESIDENCE (ON SOLD BLOCK)
20032821	5-Jun-03	RESL	CTR	303	BUSHFIRE AFFECTED - NEW RESIDENCE -
200500358	8-Apr-05	RESL	CTR	306.6	FIRE AFFECTED- ONSOLD - New 2 storey residence.
200505710	7-Dec-05	RESL	CTR	307.3	BUSHFIRE AFFECTED - ONSOLD - SINGLE RESIDENTIAL - NEW DWELLING -

					New single storey dwelling with double garage to be constructed.
200310251	29-Jan-04	RESL	CTR	308.38	BUSHFIRE AFFECTED- NEW RESIDENCE (ON SOLD BLOCK)
200502995	22-Jul-05	RESL	CTR	314	BUSHFIRE EFFECTED - New Residence
200309537	6-Nov-03	RESL	CTR	314	BUSHFIRE AFFECTED - NEW RESIDENCE (includes demolition)
200403383	23-Aug-04	RESL	CTR	315.9	BUSHFIRE AFFECTED-New two storey residence with double garage
200505654	6-Dec-05	RESL	CTR	322	Bush fire affecteded- onsold- single residential- new dwelling- 2 storey brick veneer home at double garage on a bush fire affected block.
200402795	3-Aug-04	RESL	CTR	324.4	BUSHFIRE AFFECTED - NEW RESIDENCE - ONSOLD - New single storey brick residence
200309957	8-Dec-03	RESL	CTR	328.3	BUSHFIRE AFFECTED- NEW RESIDENCE (ON SOLD BLOCK)
200310254	13-Jan-04	RESL	CTR	330	BUSHFIRE AFFECTED- NEW RESIDENCE (ON SOLD BLOCK)
20037778	3-Sep-03	RESL	CTR	330.1	BUSH FIRE AFFECTED - NEW RESIDENCE -
200400040	9-Feb-04	RESL	CTR	330.8	BUSHFIRE AFFECTED- NEW RESIDENCE (ON SOLD BLOCK)
200404877	9-Nov-04	RESL	CTR	340.3	BUSHFIRE AFFECTED- ONSOLD- Construction of new 2 storey residence.
200505323	21-Nov-05	RESL	CTR	343	BUSHFIRE EFFECTED- ONSOLD- SINGLE

					RESIDENTIAL-NEW DWELLING-Construction of new split level residence with double garage and inground pool to rear of property.
200309714	2-Feb-04	RESL	CTR	344.03	BUSHFIRE AFFECTED - NEW RESIDENCE (ON SOLD BUSHFIRE BLOCK)
200501334	8-Apr-05	RESL	CTR	344.37	BUSHFIRE AFFECTED-ONSOLD - New 2 storey residence.
200504928	27-Oct-05	RESL	CTR	347	SINGLE RESIDENTIAL-NEW DWELLING-GARAGE:- New Brick veneer residence and double garage
20036733	24-Jul-03	RESL	CTR	350	BUSHFIRE AFFECTED-NEW RESIDENCE-New brick veneer residence on fire affected land.
200309815	19-Dec-03	RESL	CTR	351	BUSHFIRE AFFECTED-NEW RESIDENCE (ON SOLD BLOCK)
200310295	25-Feb-04	RESL	CTR	352	BUSHFIRE AFFECTED-NEW RESIDENCE (ON SOLD BLOCK)
200309750	21-Nov-03	RESL	CTR	352	BUSHFIRE AFFECTED-NEW RESIDENCE (ON SOLD BLOCK)
200401181	2-Apr-04	RESL	CTR	355.2	BUSHFIRE AFFECTED-NEW RESIDENCE (ON SOLD BLOCK)
20037381	14-Aug-03	RESL	CTR	356.2	BUSH FIRE AFFECTED - New Residence (formerly a bushfire property)
200309593	4-Dec-03	RESL	CTR	357.01	BUSHFIRE AFFECTED-NEW RESIDENCE (ON SOLD BUSHFIRE

					BLOCK)
200505249	21-Feb-06	RESL	CTR	366.3	BUSHFIRE EFFECTED-ON SOLD-SINGLE RESIDENTIAL-NEW DWELLING-Construction of a New 2 storey residence with double garage.
200310538	8-Jun-04	RESL	CTR	368	BUSHFIRE AFFECTED-NEW RESIDENCE ON SOLD
200602432	29-Jun-06	RESL	CTR	370.35	BUSHFIRE AFFECTED-ONSOLD-SINGLE RESIDENTIAL-NEW DWELLING - Construction of a new two storey residence.
200403758	26-Aug-04	RESL	CTR	396.2	BUSHFIRE AFFECTED - NEW RESIDENCE --(ONSOLD)
200503013	20-Jul-05	RESL	CTR	397.8	New two-storey residence with attached garage
200501287	10-Jun-05	RESL	CTR	398	Bushfire afffected - New dwelling
200400439	16-Mar-04	RESL	CTR	399.28	BUSHFIRE AFFECTED-NEW RESIDENCE (ON SOLD BLOCK)
200502862	1-Aug-05	RESL	CTR	400.4	BUSHFIRE DAMAGED: Construction of new two storey residence, previous residence damaged in bush-fires
200404623	19-Jan-05	RESL	CTR	401.1	BUSHFIRE AFFECTED-ONSOLD-Construction of new 3 storey residence.
200309890	6-Jan-04	RESL	CTR	409.22	BUSHFIRE AFFECTED - NEW RESIDENCE (ON SOLD BLOCK)
200503241	7-Dec-05	RESL	CTR	413	BUSHFIRE AFFECTED - ONSOLD - SINGLE RESIDENTIAL-construction of two storey residence

200404787	28-Oct-04	RESL	CTR	414.17	BUSHFIRE AFFECTED-ONSOLD-Construction of new 2 storey residence.
20037259	21-Jul-03	RESL	CTR	420	BUSHFIRE AFFECTED - NEW RESIDENCE - rebuild of fire destroyed residence
200501820	12-May-05	RESL	CTR	423.43	"BUSHFIRE AFFECTED ON-SOLD:" New 2 storey Residence.
20037522	29-Jan-04	DUAL	CTR	435.2	BUSHFIRE AFFECTED - Dual Occupancy - Construction of two new residences and Lease Variation to allow a dual occupancy on the block.
200603055	27-Jun-06	RESL	CTR	448	BUSHFIRE EFFECTED - ONSOLD - SINGLE RES - NEW DWELLING - New residence for bushfire effected block.
200501907	25-May-05	RESL	CTR	473.9	BUSHFIRE EFFECTED - ONSOLD - Re-Notified - Alterations to existing application, new residence of one storey
200400578	21-Sep-04	MULT	CTR	377.18333	Construction of six 2 storey townhouses with double garages. Consolidation of the 3 blocks variation to resulting lease to provide for six (6) dwellings.
200400578	21-Sep-04	MULT	CTR	377.18333	Construction of six 2 storey townhouses with double garages. Consolidation of the 3 blocks variation to resulting lease to provide for six (6) dwellings.
200400578	21-Sep-04	MULT	CTR	377.18333	Construction of six 2 storey townhouses with double garages. Consolidation of the 3 blocks variation to resulting lease

Appendix D: Sample Interview Transcript

AM- Do you remember where you were on the day of the fires?

2.8- yes actually I was helping move my sister in law from a property in Gowrie across to Queanbeyan so while we were moving we could see the fires coming down over the hyperdome during the morning um yeah we virtually known it all the day, the things we were keeping a close eye on it because my oldest child was over in Aranda at a friends place so when they blocked all the roads off then yeah we had to keep a close eye on it. We went around the bottom of Black Mountain and they'd closed the road off so we had to go back around Macarthur avenue to get back into Aranda to pick him up. A bit anxious with Aranda being a lot of gum trees and what ever they were doing the gutters and .. but luckily nothing came through their property.

AM- Were you involved with a few projects in the area?

2.8- Generally we did a few in Kambah um a lot in Duffy a few in Chapman.

AM- How did you come across the work.

2.8- Initially word of mouth, I'd done a lot of work for people and also being tied in with various builders, building companies we did it that way then.

AM – Do you remember how soon after the fires you were asked to come in?

2.8- Um the initial, person we didn't end up doing the job but it was the Monday or Tuesday after, they rang straight away and wanted us to come in, in fact the first place we went to was in Stirling, that right just talked to them we didn't go ahead and do the job, um bu the embers were still in the back yard.

AM- And so what sort of help could you give them at that stage?

2.8- All we could do was give them a bit of guidance about what they could do and the houses still had to be demolished so really it was only having a chat to them, really they wanted some one to talk to and we were quite happy to talk to them because we realised there was going to be a process of the demolition and we wouldn't be allowed on site and really that would have to be done before we could take the next step.

AM- Did you find that urgency with any one else?

2.8- Yeah we had a few of the very early ones but as time, probably a month went (phone rings interrupts), after the first couple of weeks people were starting to say well this is going to be a long process we not expecting everything to happen straight away and we're going to put a lot more time and effort into the design of the next property.

AM- What sort of things did the clients ask about or ask for?

2.8- Obviously the first thing you know, we'd redesign and then how can we fire proof the house and design wise how can we make it more efficient ,and energy efficient as well, but obviously the first thing they were worried about was getting the fire proofing and things like that, what things can we do to help the next property.

AM- What about people who bought blocks and came in, what were they interested in?

2.8- Really what they were more interested in was, they liked the suburb, they liked the area, they wanted to get into that area, um that was the main thing.

AM- Could they tell you why they liked the area?

2.2- Yeah it was the it's the.. especially places like Duffy it was more the semi rural setting, where as they weren't inner city but they were still close enough to Woden and close enough to the town centre of Weston Creek and things like that, but they still felt part of the bush.

AM- How long were you working in the area?

2.8- What was it 2003, I would say the first project would have been, that got out of the ground mid to late 2003, and the last one, we just had one finish off a couple of months ago. So they're still a few blocks out there where people have purchased a vacant block of land and are going ahead with the build. The last one that we did had gone through two or three parties where some had purchased it, were going to built decided against it and they were the second or third people to purchase the block of land.

AM- Did you have anyone who commissioned a design and not gone ahead?

2.8- No, I don't think so. Yeah well but from talking to the people, I think a lot of people were expecting things to be a lot cheaper, you know, things they wanted like grey water systems and all the energy efficient type building materials, um and then the prices just kept going up and up and up and then they turn around and said OK we can go and buy a property in Isaccs or somewhere like that closer to Woden, that would be cheaper than starting from scratch and having the headaches of building so I think that would have affected them, a bit of that went on, also um being thorugh the fire and seeing the figures and whatever it is easier to just go and find somewhere without going through the head ache of just building it all.

AM- Can you maybe tell me how you think the suburbs changed since the fires?

2.8- Um, the design of the houses is very much more environmentally friendly, compared to what was there previously and that was mainly what every person out there was that was the main thing that they were looking at.

AM- That was their main ambition, was that something you promoted?

2.8- Yes.

AM- Were there any other professional or personal goals you wanted to achieve?

2.8- Um probably to get away from the standard brick structure, tiled roof and that sort of thing just to give it a bit of shape and a bit of character and um its more to get a bit of character into the area, shape and form.

AM- and how was that received in the area?

2.8- Clients were all for it, agreeing with that, because we didn't go overboard with the designs that we did, and make them ultra contemporary, you just in between, and gave fresh look and a better form.

AM- I guess many clients would have had a fixed idea about what a house looks like.

2.8- Yeah the lucky part about my design work is that I do a lot for builders and what we can do is take those clients through other houses and take them through and show them what we can do on their property, and give them a bit of confidence that they're going to know what they're going to get, what the products going to finish up like.

AM- and you were generally able to do that during that period?

2.8- Yes, the builders that I was associated with, there were a few clients that I was designing for and then they would go out to the builders, but even so I could just use the builders display homes and these people could go to the other side of town and go through the display home and say OK that's the finish that's the style that what we are after.

AM- Was there anything you could achieve?

2.8- Um- not really, because what I was trying to achieve it wasn't a case of a personal thing, in my philosophy of design it was more assessing what the client wants and then coming up with a good outcome for them, but then I was not forcing them with my ideas to go down that path. Um so it's a softer approach I suppose, in saying that I think it was successfully achieved because a lot of the clients we got was recommended sons daughters family members, we got three or four jobs out of the one.

AM- If you looked at the suburb as a whole, how would you describe the changes to the suburb as a result of the fires?

2.8- I think it improved it greatly, in relation to the actual houses and the environment itself, and the relationship between houses and houses, um that's only come into consideration where your creating privacy between house and house, your creating privacy but its still, a lot of the designs out there are addressing the community.

AM- What do you mean by addressing the community?

2.8- Well you can see a lot of other suburbs you drive through them and you tend to get the feeling that its, you know people go through the front door and lock themselves inside, where as out there in Duffy everyone seems to be out there in the gardens doing their gardens, associating along the street you know its more of a community sort of thing.

AM- And do you like that outcome?

2.8- Yep

AM- is there anything in particular you don't like about the suburb?

2.8-Um, mainly some of the houses have just tried to do too much on the small blocks, you know putting on massive houses and having overshadowing problems with their neighbours, and most of the houses are getting a lot bigger than the houses that were there previously. That would be the only downside.

AM- That's interesting because the bigger houses also force people closer to the street and to each other..

2.8- Yes but in saying that they have a lot more landscape than the newer suburbs, like you go to the newer suburbs like Forde and the blocks are only four five hundred square meters, where as the average size block that was burnt out was about eight hundred metres.

AM- Could you describe the character of the suburb?

2.8- Um I could tell you that now, what the character is now but previously um, to be honest I'd been working in Canberra for twenty years and I hadn't done a job out in Duffy prior to that. But the character of the suburb now, you could compare it to other suburbs; I would say the character of the suburb is similar to the inner city redevelopment, where you have the infrastructure there and you have people starting to gradually bulldoze and rebuild, and really just the fires gone through and done the same thing as redevelopment of a suburb that way. The road layouts are there the general shops and supermarkets and things like are already in there where as you are not going to a green fields site where everyone's starting from scratch where you are having with that integration sort of thing and the new.

AM- Do you think that changes the way people see them selves in the suburb?

2.8- Yes I do, because you generally, your not getting first home buyers going back in there, your getting the people who are buying blocks of land to build a house on it, they're the second third fourth home buyers, where as your going to the newer suburbs you get a mixture of the first home buyers all the way through where as out in Duffy its really second third fourth home buyers.

AM- and I guess those people have different expectations.

2.8- Yes, different quality of housing and different needs.

AM- do you think those home buyer contributed a different social mix?

2.8- Yes. If the fire hadn't gone through I think you would have found a situation like a lot of the other suburbs where they're talking about closing the schools down, because they've gone through that evolution, the children have gone through, where as now, they're starting off again, its regenerating the environment. Its one of those suburbs that was built in the seventies or something like that, and that was it they'd move onto the next suburb, although Canberra is one of those places where most people turn their place over every five years or something like that, a lot of those people would have been the first people there.

AM demographics questions.

Age-49

Training- building designer, carpenter builder by trade.

Griffith-NSW, training.

Employment- carpenter apprentice, project management

Canberra 1988-self employed building design company

Professional association- BDA HIA MBA current members.