PREDICTING ARCHEOLOGY

Static Architecture in Time

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{figure 0}

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ABSTRACT

The explosion of computer propelled technology has affected architectural creation in every way. Achitecture as space is now considered corporeal from the moment the computer screen is powered. Time as a design driver's resonance is being diluted in favour of material performance and manipulating capacity, yet the natural world is being absorbed as an aesthetic driver in much of contemporary architecture. This technological change is asking users to change their perception on what architecture means to them if it is not physically located in-situ. Architecture as a discipline is shifting to one that sits atop site, rather than growing from.

This thesis asks whether natural elements are being misinterpreted when tranlated into digital space. It questions the aesthetics of parametric architecture when the notions of movement and speed are applied, and asks if there is a possibility to create architcture that embodies archeological integrity from the moment of conception. The tension between Time and Movement are explored, not as being mutually exclusive, but as hand in hand. It examines ideas postulated by Jacques Herzog, Pierre de Meuron and David Leatherbarrow, and hypothesises that manipulation of material, not material form, is the most important lens in which to discuss movement.

The conclusions drawn first acknowledge the merits of architectural reproduction as necessary when postulating a position purely existing in printed media, thus requiring a level of interpretation into its repesentation. It identifies a site in need of an architecture to test the ideas, and produces a design solution concluding that architecture's direction when applying digital creation should acknowledge a building's place over time, rather than place in time.

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Finally and most importantly, to my parents and family, without your support, both emotional and financial, this would not be on paper right now.

Jack Davies

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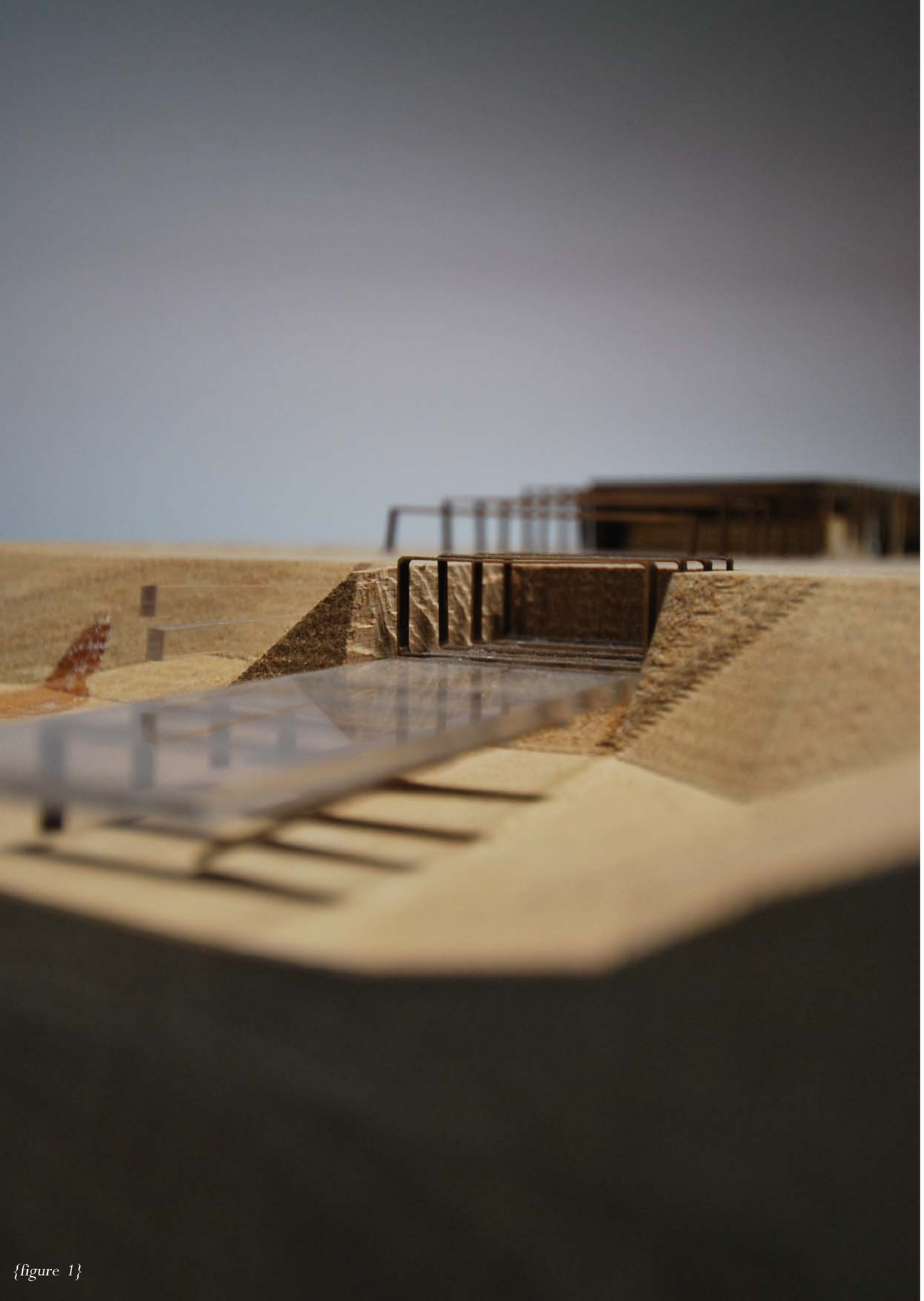


{figure 1}

INTRODUCTION

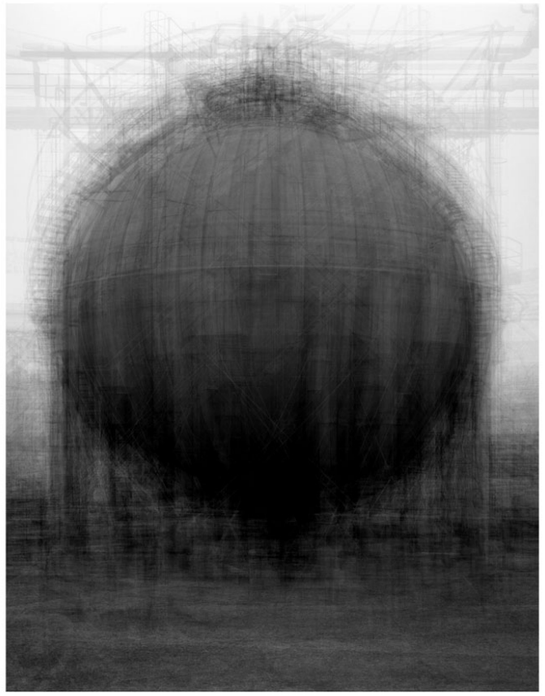
Photodynamics: fluid "visual transcriptions of energy" not by way of successive pictures, or schematic phases, but as a smooth, continuous dematerialization of objects in space.

Anton Bragaglia

Architecture as a discipline is associated with permanence. The life of structures and buildings does not dissolve once they are completed: occupation, use, trace and wear are all factors in determining the success of an architectural example. In the search for architecture's new style or form-giver, foundation ideals of architecture and its relationship to time and the natural world have been blurred. Contemporary methods of appraising architecture have contributed to diluting the resonance of time in architecture, significantly through modern digital culture.

This thesis asks whether aspects of architecture are being misinterpreted and homogenised through digital design that replicates and mimics the natural world. It theorizes a solution in designing architecture that is affected by, and emerges from, its site, therefore being naturalised on a more abstract level. Specifically, it questions the aesthetics of parametric architecture and the tendency to create organic shapes that reference movement and dynamics, but without an organic entities' ability to exist in time. It looks for proof by situating an architectural intervention and predicting what impact the intervention will have, hence the title of Predicting Archeology. The thesis aims to create an amount of autonomous and tested architectural language that can be applied when conceptualising any new architectural project.

Opposite page- View of Fish and Chip Shop, showing the wharf spilling into the river. Over the river's cycle, the water level will rise and fall, dictating the amount of space available, revealing and concealing the structure underneath.



{figure 2}

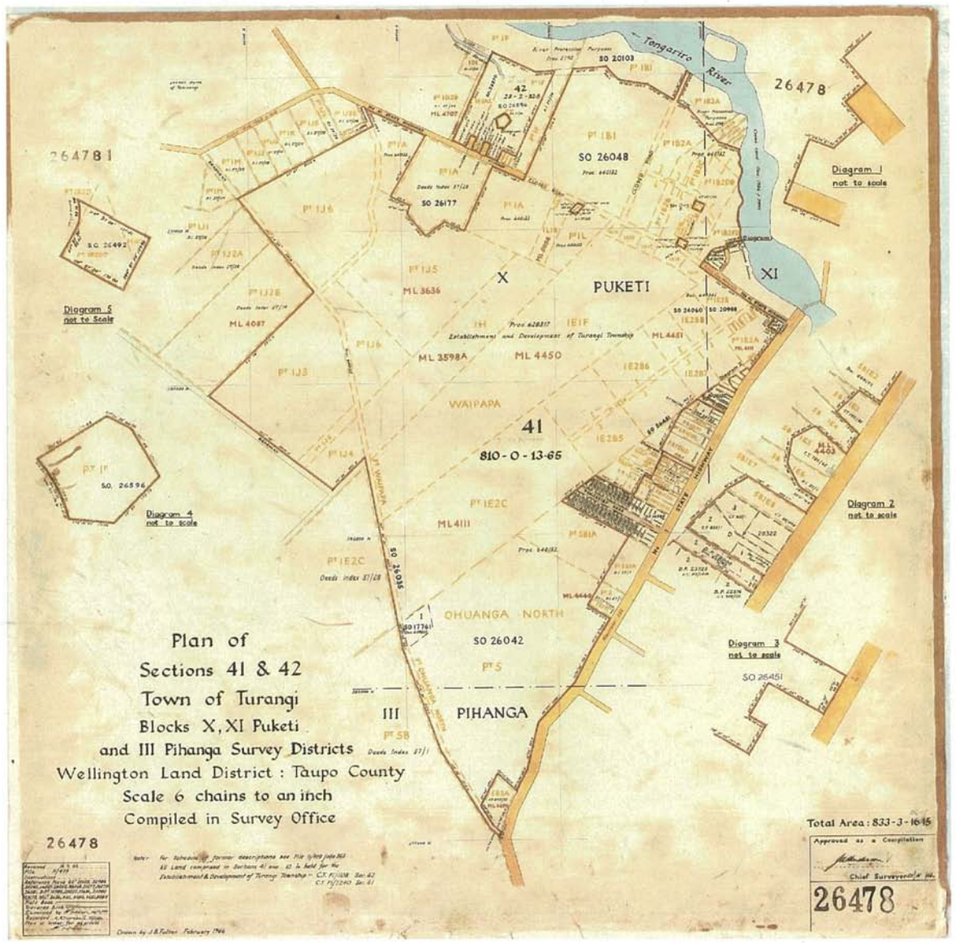
Idris Khan
Every Spherical Gas Cylinder, 2004

To achieve the aims of this thesis, the research is divided into four chapters.

A large proportion of digital architecture's arguments are communicated in two dimensions: virtual space and printed media. Its newness confines it to such. Outlining historical ideas on perceptions of architecture, the first chapter serves as a framework for an architectural language to use throughout the project. It identifies the techniques of reproductive media to communicate ideas, and focuses on how representation can manipulate the viewer into comprehending its message. The chapter compares different methods of representation from the 18th, 19th and 20th centuries, specifically focusing on Antonio Sant'Elia and Anton Bragaglia, two Italian Futurist artists at the turn of the 20th century. Bragaglia's theories on communicating movement through photographic techniques are woven throughout the thesis, which discusses how these can be applied to architecture and representation.

Through studies on materiality, form investigations and skepticism about representation vindicating parametric architecture, and using David Leatherbarrow's seminal thesis *On Weathering*[1], the second chapter asks whether digital architecture is misinterpreting its inspiration. Through the lens of architecture as an autonomous discipline, it argues that elements of antiquity's tendency towards permanence and ruination need to be assessed and canonised as formal architectural necessities in contemporary work. Further argument is made for the advocation of site as the single most important element in consolidating architecture's permanence on it.

1 Leatherbarrow, D, Mostafavi, M (1993) On Weathering, the Life of Buildings in Time, London, The MIT Press.



{figure 3}

Taupo District Council
Plan of Section 41 and 42, Town of Turangi, 1964

The focus of the third chapter is proof for this advocation of refining methods of understanding conditions of site as being vital to new conceptualisations of contemporary architecture. It utilises ideas from the book *Natural History*[2], a study and critique of the architectural gestures of Herzog and de Meuron. The chapter identifies the township of Turangi *{figure 2}* as a palimpsest, a struggling town whose method of moving forward lies in reshuffling its infrastructure. Currently its town centre is devoid of the traffic it once enjoyed, due to the construction of franchise supermarkets and fast food outlets along State Highway 1. Trgavellers are stopping at these franchises without contributing to the local economy. The solution put forward is an architectural monument creating a new boulevard of local retail supplemented by the architecture's inherent capacity to elicit change.

Chapter four is the culmination of the preceding three chapters, and describes how the research and critiques have developed into an amalgamated architectural entity. This chapter employs a wide range of media to communicate an understanding of the relationship between the site and architecture, and the methods used to represent this relationship. The ideas are tested through a series of experiments, and then strengthened through realisation of the built form. The insights and limitations that are inherent in any design project are discussed, with the goal of gaining a full spectral knowledge of the translations.

2 Ursprung, P (2005). Herzog and de Meuron, Natural History. Canada. Lars Muller Publishers.

{figure 4}

This image shows a man rising from a bed. It it were reproduced as a sequence there would be no corrolation, however as it were it is almost as if the subject is looking at a ghost of himself lying down.

Idris Khan
Man Getting Up, 2001

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CHAPTER ONE: THE POWER OF PERCEPTION- ON REPRODUCTION

The painting no longer merely represents or illustrates reading. Instead, it performs. In the performativity of imaging, life gets into the image ... A map is a series of drawn lines and marks on a piece of paper. You may not be able to feel the cold, or smell the salt air when you look at La Perouse's map of Sakhalin, however you could use it to find your way[3].

Barbara Bolt

I want to depict movement as an indivisible reality, rather than a sequence of static poses[4].

Anton Bragaglia

The intent of this chapter is to provide a textual and visual architectural framework for the thesis. It recognises that to test the theoretical positions offered, defining its reproduction is essential. It first is a brief study of the historical architectural imagery that led to the inception of the artists outlined in the case studies. It then connects the Italian influence in Turangi and channels it into architectural narrative, through a study and comparison of two Italian Futurists: the architect Antonio Sant'Elia and the photographic artist Anton Bragaglia. The chapter highlights the expressive viewpoints of both men, and discusses the political and aesthetic viability of the Futurist movement in terms of contemporary architecture, with a goal of creating some framework within which the design element can operate. The design component, a monument to the Italian influence in this thesis is communicated in two ways, through its built form

3 Bolt, B. (2004). Art beyond Representataion: The Performative Power of the Image. London, I.B Tauros, p 11.

4 Bragaglia, Anton (1912) Photodynamism Manifesto. URL: http://www.italianfuturism.org/manifestos/futuristphotomanifesto

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(instrumental translation) and its two dimensional communicative style (symbolic translation[5]). Expressing the Italian influence is the physical appearance of the Tongariro Dam, assuring its status as a monument in the town and an indicator towards the town's history. Representationally, the dam's emphasis on power and speed, in harmony with the constructional prowess of Turangi's immigrant population, are important to communicate.

In the title quotation, Bolt attempts to define what dictates the qualities of a drawing of architecture, or an architectural drawing. She identifies a narrative aspect in quality architectural imagery that performs beyond the instructive. In his essay on the performative aspect of Diller and Scofidio's Slow House drawings, Peter Wood isolates a comment by Robin Evans on the orthographic set: "Orthographic projection is the language translator's dream. Within its axioms the most complex figures may be moved at will into perfectly congruent formations anywhere else, yet this rigidly defined homogeneity made distortion measurable[6]".

In Antonio Sant'Elia's work, scale and complexity hinder its realisability, but this fantastic nature releases it from the limits of ink. As Elizabeth Diller states, "... without the expectation of the built, the imagined, and unbuilt, or the unbuildable, would have little resonance[7]". Dalibor Vesely quotes that any attempt to bridge the gap between the instrumental and the symbolic requires reconciliation between genuine creativity and creative spontaneity, with the productive power of contemporary science[8]. Freeing representation from the limitations of orthographic linearity is critical to the emergence of the oscillation between the real and the possible, the imaginative and the imaginary[9].

5 Vesely, D (2004) Architecture in the Age of Divided Representation, the Question of Production in the Shadow of Creativity. London, the MIT Press.
6 Wood, P (2002) Drawing the Line, a Working Epistimology for the Study of Architectural Drawing, University of Auckland, p 20.
7 Kazi, O. (2009). "Architecture as a Dissident Practice- An Interview with Liz Diller." AD 79(1): 56-59.
8 Vesely, D (2004) Architecture in the Age of Divided Representation, the Question of Production in the Shadow of Creativity. London, the MIT Press, p 4.
9 Ibid, p 236.

{figure 5}

Pozzo's Trompe'loeiel is only completely discernable from a certain angle.

Andrea Pozzo
Trompe'loeiel, 1664

Symbolic, typographic, allegoric and figurative are all precursory expressions of classifying "form" as a term. Before the concept of the master architect, "form" was driven by mathematical precision and the limits of construction methods at the time. Creativity was subservient to production: a building's aesthetic merit was based on its built success. Vesely begins with the planar reproduction of light, which "formed the basis of Renaissance perspective[10]." In terms of the argument presented in this chapter, representation as it emerged when ideological methodology suddenly entwined with physics, logic and "Newtonian visions of reality[11]" is more relevant - more specifically, architecture's solidification as primarily a science rather than a philosophy. Representation preceding this amalgamation was limited to instrumental comparison - it echoed its built counterpart. Depth in a project was reduced to shifting weights in line; experiential qualities existed purely in physical occupation. It is this clarity of expression, this extra layer to a drawing that I want to communicate, to inspire anyone who looks at it that it can be built, and exude the same qualities.

To return to the position that the criteria for reproduction to communicate architectural drawing is based on the distance created between the reader and the tactile and affective qualities of the image, it makes necessary to introduce an exploration of the attempt by Durand to combine the concept of symbolic and instrumental scientific representation. Historically, these two notions were polar. Baroque depiction - symbolic superfluity - clashed with scientific instrumental reproduction. Whereas both occupy a communicative capacity, Illusionist painting - the preeminent example being Andrea Pozzo's Jesuit Church in 1703 *{figure 5}*- defined the purely creative pole as one to emancipate the participant. Its transcendence from veracity and its angle of view, anamorphosis, creates this emancipatory[12] tension with the viewer through its ambiguity and lack of logic. It interferes with perspectival logic, which lies in the continuity between the world and the spectator and the world of representation.

10 Vesely, D (2004) Architecture in the Age of Divided Representation, the Question of Production in the Shadow of Creativity. London, the MIT Press, p 6.
11 Vesely, D (2004) Architecture in the Age of Divided Representation, the Question of Production in the Shadow of Creativity. London, the MIT Press, p 243

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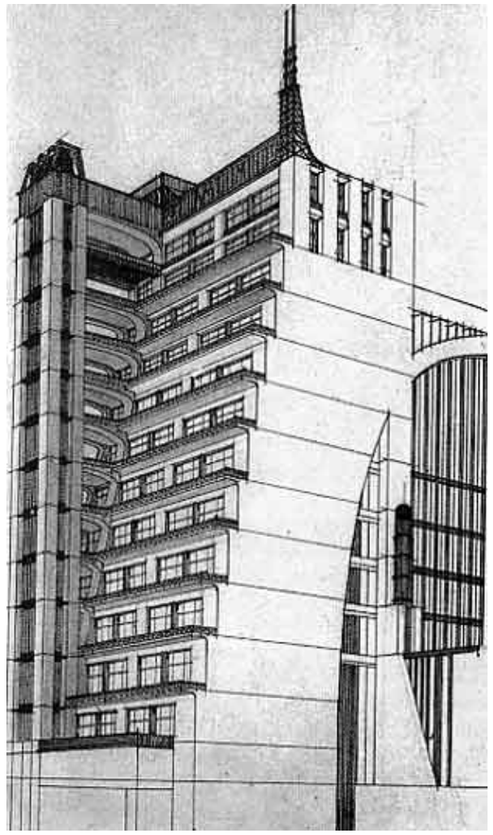
It is in essence reducing itself to a pictorial aesthetic, gleaned from an experiential scene[13]. Durand's method of combining two elements, such as walls and columns, the productive/instrumental, with genres such as public and temple, the creative, is the starting point for contemporary representation.

Robin Evans states that in the process of drawing, architects build on geometry, and by implication geometric relationship, to organise a linear relationship of idea into building not interrupted by unpredictable elements[14]. This process is formalised in the orthographic set. This instrumental thinking was mirrored by Adolf Loos in the early 1900s, when he demanded that the drawing become graphically impotent outside of the architect's strict projective direction[15]. Loos wanted the drawing to perform as a graphic translator in order to ensure the privilege of a bodily experience in space over the metal construct of the drawing. This modern outline is what made the proceeding study so impacting, the freeing of political ideals from the orthographic set, while potently remaining visually industrial, constructional and orthographic. Vesely states that descriptive geometry has a dual function that could be defined as latent informative and affective qualities.

13 Vesely, D (2004) Architecture in the Age of Divided Representation, the Question of Production in the Shadow of Creativity. London, the MIT Press

14 Wood, P (2002) Drawing the Line, a Working Epistimology for the Study of Architectural Drawing, University of Auckland, p 7.

15 Ibid, p 8.



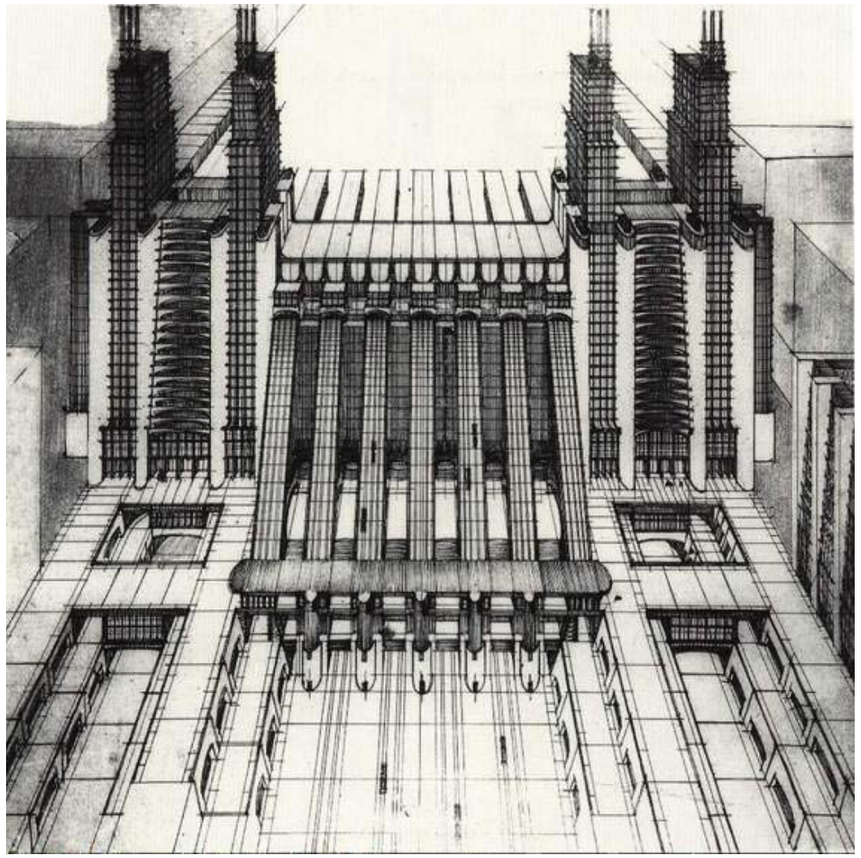
{figure 6}

Apartment Block with External Elevator
Antonio Sant'elia, 1912

> *I am primarily thinking here not of the representational power of perspective, descriptive geometry, topology and surveying, but their power to transcend the unity of representation and to establish a new horizon of autonomy. This development brings us to the very essence of a change that is manifested as a difference between the participatory and the emancipatory nature of representation ... the primary purpose of representation ... is its mediating role, which can be described as participatory because it enhances our ability to participate in a phenomenal reality*[16].
>
> Dalibor Vesely

Vesely wants us to participate in the drawings, to understand them not as represenation but as architecture- production. A subconscious assessment of the image gains clarity when the technique used to garner this assessment is a conscious effort. The dichotomy between the visual impact of Antonio Sant'Elia's drawings *{figure 6}* and their more subtle manipulation of the reader blurs the poles of preceding representation, especially the positional statement of Loos. The technique of increasing the tactility of the image, blurring the boundary of the physical, and the use of perspective angles, which distort architectural reality[17] to manipulate the viewer's induction, is critical in the development of oscillation between the real and the possible. Manipulation in this context is not a sinister idea; rather, it is a technique to involve the viewer, and establish the idea that the viewer is connecting with an architectural image rather than an image of architecture.

16 Vesely, D (2004) Architecture in the Age of Divided Representation, the Question of Production in the Shadow of Creativity. London, the MIT Press, p 16.
17 Da Costa Meyer, E (1995) The Work of Antonio Sant'Elia: Retreat into the Future, Connecticut, Yale University Press, p 58.



{figure 7}

Sant"Elia's Railway Station displays power through manipulating orthographics, but is not as resonant as Bragaglia's photography.

Railway Station
Antonio Sant'elia, 1912

Antonio Sant'Elia rigorously shifted and displaced drawing conventions to treat the reader as one of a million[18], using empowering cinematography elements more widely employed in Fascist propaganda films and posters. The art critic Peter Blake noted Sant'Elia was "so interested in power architecture that a render of a birdbath would look like a dam. If it was built, the dam would look like a birdhouse"[19]. Combined with his charismatic textual reinforcement, the Manifesto for Futurist Architecture - a short and defining text which used persuasive descriptive words, akin to propaganda, such as "the city must represent an immense and tumultuous shipyard"[20] - his political and architectural agenda must have been intoxicating.

Thom Mayne describes drawing and models allowing a degree of precision often elusive in verbal discourse[21]. The clarity of the built architectural elements is such that the viewer immediately registers without having to interpret. Mayne states "the viewer has to decipher a plan, an elevation, a cross-section or a profile of a building, and then reconstruct them in his mind and relate them to the building as a whole"[22]. This is the key to the representational technique in Sant'Elia's work: the clarity of the built work is such that it registers immediately, and focus can be subconsciously shifted to the peripheral elements. Esther da Costa Meyer states "the adoption of such a low, off-centre viewpoint dramatically enhances the foreshortening ... the spectator is often cut off by the frame, thus suggesting improbable heights, and a greater part of the structure is heavily shaded"[23]. However, if the structure is immediately discernable, focus shifts to the ideas being communicated disproportionately.

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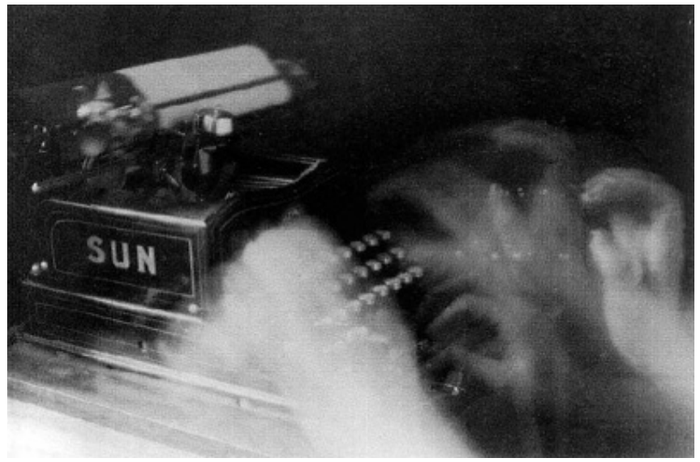
19 Eisenman, P., Ed. (2003). Blurred Zones: Investigations of the Interstitial. Italy, The Monacelli Press, p 59.
20 Da Costa Meyer, E (1995) The Work of Antonio Sant'Elia: Retreat into the Future, Connecticut, Yale University Press, p 56.
21 Wood, P (2002) Drawing the Line, a Working Epistimology for the Study of Architectural Drawing, University of Auckland.
22 Ibid
23 Da Costa Meyer, E (1995) The Work of Antonio Sant'Elia: Retreat into the Future, Connecticut, Yale University Press, p 59.



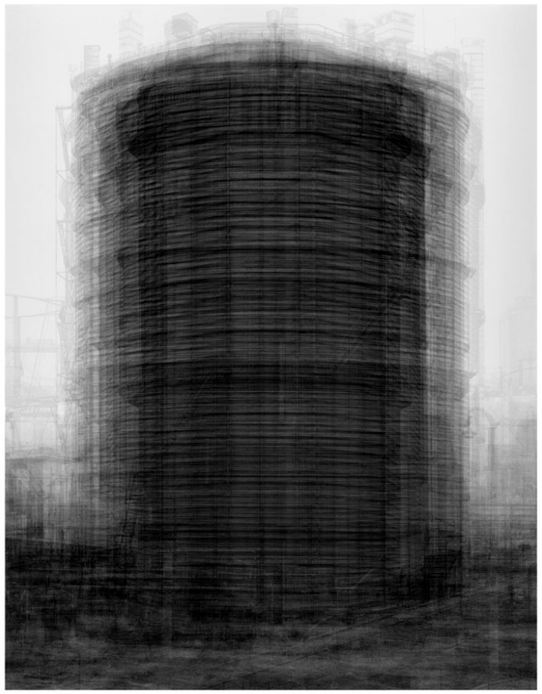
{figure 8}

Anton Bragaglia
The Typewriter, 1911

Anton Bragaglia was a Futurist photographic artist who operated in the first half of the 20th century, in Futurist Italy. Photography, cinema and video allow us to see that visual, narrative and psychic continuity rely on repetition of the same image. Cinema is death at 24 frames per second. The end of the visual life of each frame - the death of the image - is forestalled by the inrush of the frame that follows it[24]. Anton Bragaglia's photography makes visible that which the eye cannot perceive. This ambition was achieved by means of capturing in a single image the flowing trajectories of objects in motion, made visible by long exposure times - one of the earliest artistic explorations of the moving image. The term 'photodynamism[25]' was created by Bragaglia to define the photographs of movement he made with his brother Arturo.

The aim of these pioneering works was to move as far as possible from the photographic reproduction of things. Seeking a more successful means of capturing the essence and sensation of speed and motion than Etienne-Jules Marey's chronophotography, Bragaglia advanced the theory that speed applied to actions or objects renders them immaterial and invisible: "appearance is replaced by transparency[26]". Bragaglia's photodynamics are fluid "visual transcriptions of energy[27]". With the invention of the term photodynamism (1911) Anton Bragaglia made a distinctive contribution to the history of photography. Throughout his work, he maintained that a shout, a tragic pause, a gesture of terror, the complete external unfolding of the intimate drama could be expressed in a single frame[28]. This was accomplished by means of capturing in a single image the flowing trajectories of objects in motion, made visible by long exposure times.

24 Ursprung, P (2005). Herzog and de Meuron, Natural History. Canada. Lars Muller Publishers.
25 Bragaglia, Anton (1912) Photodynamism Manifesto. URL: http://www.italianfuturism.org/manifestos/futuristphotomanifesto
26 Ibid
27 Ibid
28 Ibid



{figure 9}

Idris Khan
Every Reservoir, 2004

The work of Idris Khan, a British-Pakistani artist, is by definition photography, and his densely layered imagery communicates ideals similar to those of Bragaglia. Khan's exhibition at the New York Guggenheim was an abstraction of the photography taken by Bernd and Hilla Becher, in the book *Typologies*[29]. Their homogenised images of aloof industrial buildings in Europe have a chilling resonance, and define a place in time. Khan's technique of layering and layering the images over one another, at varying opacities, produces fascinating results. His images recall events and memories of previous times in a more dynamic way than the Bechers, who depict a static position. Walter Benjamin said "to live is to leave traces[30]": where the Bechers' images present distinctive memories, Khan's layering technique condenses time and leaves traces. His agitated images are at once opaque and deeply connective.

The Italian community came to Turangi shortly after the Tokaanu hydroelectric dam was commissioned in 1964. Once construction was completed, the large majority of the community stayed on in the town, obtaining other work. But Turangi's Italian connection is repressed and unapparent to the casual observer; signs of Italian expression are difficult to come by. The monument detailed in this thesis is designed to recall memories of the dam, and the Italians who built it, without directly referencing it. This echoes the difference between the work by Sant'Elia and the Bechers, and Bragaglia and Khan. Reproducing images of the past in a homogenising fashion is not as effective as allusions and references: the monument captures interest, triggering thoughts and creating connections. This staggering of information and thoughts is a defining quality in Bragaglia and Khan's work. It is the key to tracing Turangi's past through an architectural lens, alluding rather than displaying.

29 Becher, B, Becher, H (2004). Typologies. London, The MIT Press.
30 Ursprung, P (2005). Herzog and de Meuron, Natural History. Canada. Lars Muller Publishers, p 391.

{figure 10}

Herman Diaz Alonso
Warsaw Museum, 2010

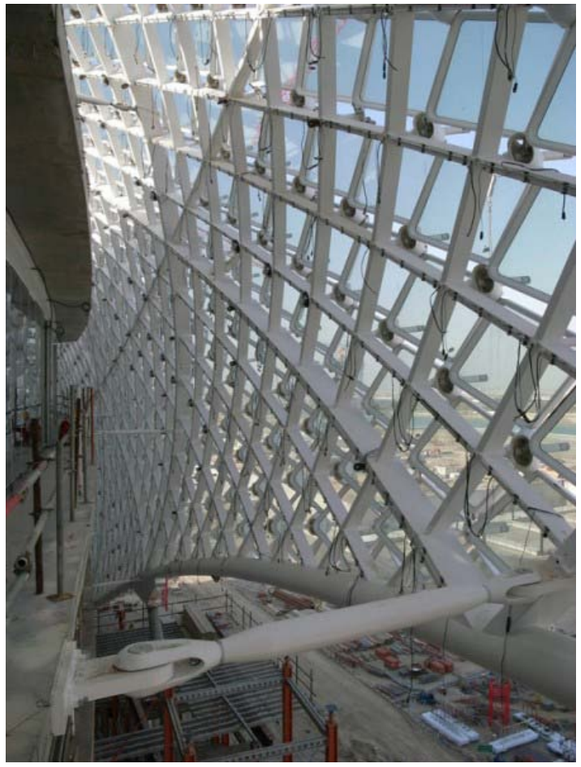
CHAPTER TWO: ON ORGANICS- DIGITAL PARAMETRICS

Architecture is the concretization of habit. These desires motivate a more or less status quo. If architecture can begin to dislocate this motivation, then the desire manifested in the habitual or somatic expectancy can perhaps be re-orientated[31].

Peter Eisenman

The initial motivation for this thesis was the uncomfortable haste with which architecture is consumed and discarded, in the space of a thought, or motion. The internet[32] has provided users with unprecedented access to a mass of architectural imagery, and has reduced attention spans to the time it takes to click *next*. The ideas presented in this chapter attribute some of this consumptive nature to contemporary architecture itself. Essentially, this chapter absorbs the ideas in chapter one and seeks to critique elements of the perceived shift of thinking in architectural aesthetics to what Patrick Schumacher describes as "parametricism[33]". The conclusions drawn will be tested in the design element. Despite Schumacher's affirmation that parametric architecture "is now evidenced at all scales from architecture to interior design to large urban design[34]", its aesthetic tolerance is diluting the timelessness and permanence traditionally associated with architecture. Without reverting to archaic architectural elements, and equally resisting the allure of totally parametric forms, moving forward requires an architectural language that utilises the most favorable elements of both poles.

31 Eisenman, P., Ed. (2003). Blurred Zones: Investigations of the Interstitial. Italy, The Monacelli Press, p 94
32 More specifically, blog culture, Arch Daily, Tumblr
33 Schumacher, P (2008). Parametricism AD 78(4)
34 Ibid



{figure 11}

Asymtote Architect's Formula One Buildng is an uncomfortable replication of organic form and structural system, in synthetic materials.

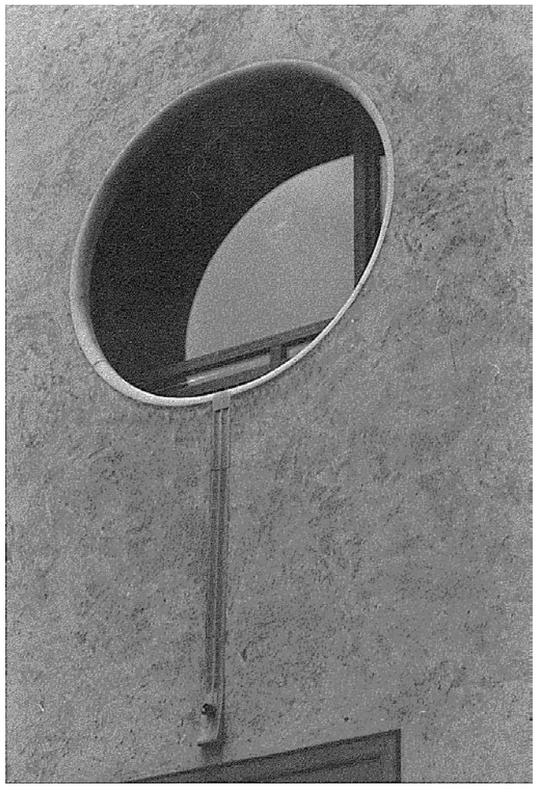
Asymtote Architects
Interior Detail of Formula One Track Buidling, 2010

This chapter is divided into two sections. Firstly, it explores the materialistic elements of parametric architecture, more specifically the way its material optimisation and structural innovation defy Euclidean logic to the point of discomforting its occupants. Secondly, parametrics' biomimicry and visually organic approach is more immediately discernable than traditional ways of representing a living building, but the value of a building slowly revealing its character through moments of clarity and increased opaqueness is lost. I argue that natural elements have been misinterpreted in their translation to digital soace, and that a more stratified approach to organic form that looks to Euclidean geometry is the direction in which to explore.

> *"Finishing ends construction, weathering constructs finishes ... Everyone falls under the elements, and this end is known from the beginning*[35]*."*
>
> David Leatherbarrow

Architecture is bound by the materials it employs. There are two ways in which architectural language can be communicated through physical construction - its materiality, or the way in which its materiality is manipulated into formal shape. The basis for the language of parametric architecture employs the latter.

35 Leatherbarrow, D, Mostafavi, M (1993) On Weathering, the Life of Buildings in Time, London, The MIT Press, p 1.



{figure 12}

Carlo Scarpa
Banca Papolare di Verona, 1974-1981

Analogue design techniques and methods are physical, modular, and gravitational. They support a corporeal knowledge of texture, detail and construction. Viscerality, permanence and control are words associated with analogue construction. Digital methods use an approach of systemic delay. They deliver a potential of controlled research in a homogenous data field[36]. Different parameters such as use and occupation can be processed onto an organisational surface. When the process remains in the digital medium, additional information such as material character, production methods and physical properties are suspended.

David Leatherbarrow's seminal writing, *On Weathering*, reveals an insight into the passage of a building through time. Whilst focusing on details by Carlo Scarpa, its resonance increases when applied to more contemporary architecture. The main criticism of parametric architectural form is its material palate being susceptible to the ravages of the weather. Its patina is best saved for the briefest of photographic moments before tarnishing. There is a resistance in parametric architecture to "revise the sense of the ending to a project[37]". Architecture is not completed when the keys are handed over, a building exists in time. As soon as a material is placed in the path of the weather, it begins to deteriorate, even by indiscernible amounts. Synthetic and composite materials degrade and tire, discolour and age, whereas materials such as concrete, untreated timber, copper, brass and stone all develop films and gather dirt over time, yet retaining their dignity. As Leatherbarrow writes, "The mouth kisses, the mouth spits; no one mistakes the saliva of the first for the second[38]".

36 Reinhardt, D (2008) Representation as Research: Design Model and Media Rotation. The Journal of Architecture, 13(2).
37 Leatherbarrow, D, Mostafavi, M (1993) On Weathering, the Life of Buildings in Time, London, The MIT Press, p 5.
38 Ibid, p 108.

{figure 13}

Herzog and de Meuron
Atelier Remy Zaugg, Mulhouse, 1995-1996.

In pursuit of the always new, weatherproofing has replaced weathering. Plastics, synthetics and composites make up the skin of a parametric building. The most destructive element known to man, water, erodes and subtracts from buildings. Newly finished corners are taken away by rain[39]. Alberti writes about the structure and the facade of buildings being mutually exclusive, one protecting the other. Greater thickness usually results in longer durability, the latter being proportioned to the former. Erosion of a surface through weathering exposes newer surfaces of the same material in its depth, at once erasure and revelation[40]. Neologisms such as "skin" and "envelope" are dispersed throughout architectural language, yet one gets the feeling that these are soon to be closely followed by "replacement". Architecture in its most core ideals is made to remain, not to ruin. Ideally, the break-up of materials as a result of weathering would be called "functional deterioration[41]".

The concept of sacrificial facades is explored in chapter four, where it is addressed as the work of an architect and builder anticipating the work of the elements. "Weathering is a power of subtraction, a minus[42]." By subtracting, the weather adds texture, it creates shadows, adds marks of the environment, leaving deposits and acquiring deposits in equal measure. Without going as far as building to fail, the point when the architect understands that weathering eventually leads to ruination is the point when he can design a building that stays dignified until the end. The weathering of synthetic and composite materials leads to failing, or replacement, but the weathering of materials whose quality increases when they are subjected to their particular site's nuances is true architecture.

To manipulate materiality into formal shape, prominent examples of parametric architecture adopt a biomimicry approach, utilising organic forms and depicting movement through literal translation.

39 Leatherbarrow, D, Mostafavi, M (1993) On Weathering, the Life of Buildings in Time, London, The MIT Press, p 6.
40 Ibid, p 64.
41 Ibid, p 34.
42 Ibid, p 6.

{figure 14}

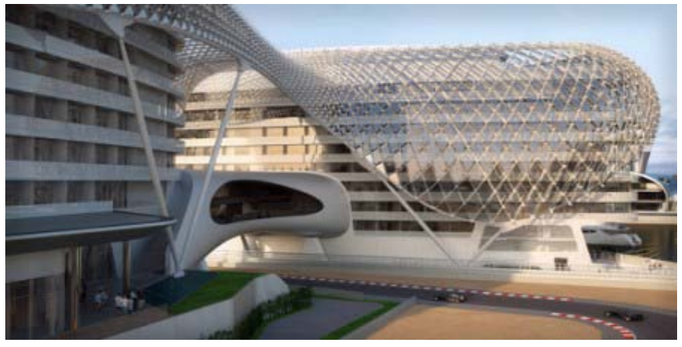
Neil Leach
Parametric Tower, 2008

I argue that there is a more sensitive and stratified approach to the concept of a living building, that shifts from formal qualities and focuses more on site, situation and life cycles. Parametric culture, whilst technically efficient and structurally optimal, homogenises architecture in favour of an engineered aesthetic and feel. It renders architecture as immaterial, freeing itself from the restrictions of physics and relying on form to communicate its intent. Yet the relationship between the human and the built environment is stratified, and not satisfied by the idea of a visually organic form. A successful relationship is one that is built on multiple connections.

> *The difference, then, lies in the emphasis on form-finding over form-making, on bottom-up over top-down processes, and on formation rather than form. Indeed the term 'form' should be relegated to a subsidiary position to the term 'formation'. Meanwhile, 'formation' must be recognised as being linked to the terms 'information' and 'performance'. When architecture is 'informed' by performative considerations it becomes less a consideration of form in and of itself, and more a discourse of material formations*[43].
>
> Neil Leach

Neil Leach argues in his manifesto Digital Cities that organic architecture is not about a preconceived formal style, about the computer creating aesthetic tolerances and reducing the architect's role as the form giver. In practice, the "parametric form" is inescapably apparent - repeating tessellated elements, folded collapsing structure created with synthetic materials. Greg Lynn talks about his architecture being free from form[44] - but an aesthetic preference is prevalent in anybody's work.

43 Leach, N. (2009) Digital Cities. AD 79(4).
44 Lynn, G (2008). Form, London, Rizzoli Publishing.



{figure 15}

A section through the Formula One Building would reveal a skin quite remove from its conventional Euclidan structure and circulation

Asymtote Architects
Formula One Building, 2010

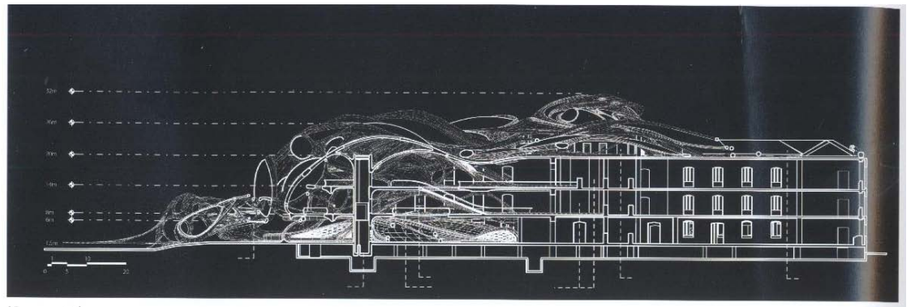
The development of artificial intelligence could in fact aid Leach's argument on fully bottom-up morphogenic design, where the computer has an aesthetic tolerance, and decides where to finally end experimentation and finish the project. It is a study on the current work of digital architecture that, through its parameters and generative componentry, offers its own distinctive solution to situational analyses, focusing on the shifting emphasis between the form and how it is represented.

> *So pervasive is the application of its techniques that parametricism is now evidenced at all scales from architecture to interior design to large urban design. Indeed, the larger the project, the more pronounced is parametricism's superior capacity to articulate programmatic complexity*[45]..

Patrik Schumacher

This statement confidently equips parametrics as a complete entity, yet floors are still flat, doors are still rectangular, walls still define space, stairs are still linear. Parametric construction is limited to the skin of a building. Generative architecture's ability to handle various levels of complexity is clear but skepticism emerges when digital design's self-proclaimed lack of preconception creates a dichotomy and tension with its "ready-made" aesthetic. Spiller notes "Aesthetically, it is the elegance of ordered complexity and the sense of seamless fluidity, akin to natural systems, that constitute the hallmark of parametricism[46]". This reliance on natural systems is the most uncomfortable aspect of parametric design, the buildings look like they flow and evolve, but in reality are static and frozen. Imitation is preferred over honesty.

45 Schumacher, P (2008). Parametricism AD 78(4)
46 Ibid



{figure 16}

{figure 17}

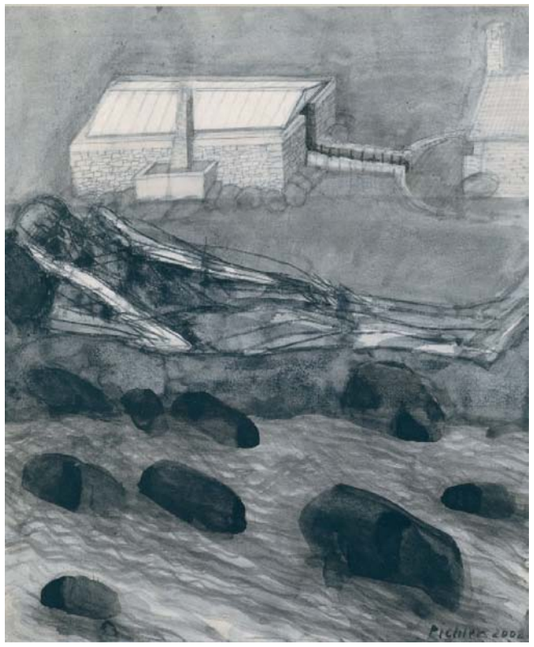
Herman Diaz Alonso
Section and Interior of Warsaw Museum, 2010

Countering this static reality is the goal of this section. It theorises on the importance of site and situation in architecture, whilst extracting elements from the previous section on weathering and time. It then explores the notion of organic buildings, as published by Neil Spiller and Neil Leach, and argues for a more stratified approach, using a case study by Nicholas Szczepaniak.

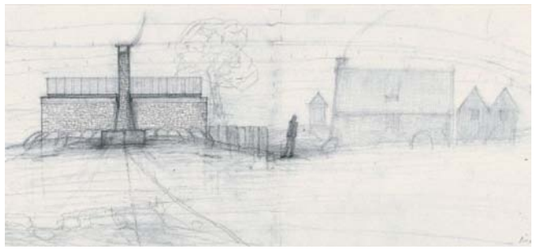
The concept of natural form is extracted from the structural systems of plants, and translated into a differentiating language controlled by programs such as Grasshopper and Rhino. However, discrepancies start to emerge when it is applied to a physical piece of architecture. The uniqueness of plants is their ability to grow and adapt. Parametric architecture adopts the aesthetic and the structural systems, but the similarities end at this point. There is a case for it growing while existing still in virtual space - another argument altogether - but through the lens of the scope of this project, another way to express organic architecture needs to be found. These buildings are built and designed off site, and placed in-situ with no thought to what happens post occupation.

Architecture made up of a kit of parts changed the relationship between a building and its potential site, allowing assembly and construction to take place on any site - to a great degree independent of its local environmental and climatic conditions - which paradoxically makes it siteless[47]. A time-bound growth of skin covers the new surface with an accumulation that represents the tension between architecture and the conditions of its location. This differs from the imitation of organic forms in architecture, insofar as these buildings attempting to look like natural elements, whereas surface modification results from the action of these elements. This stratification is the true test of a building operating in an organic fashion. Form does not come into it. Frank Lloyd Wright perceived this situation in his Taliesan architecture: in his eyes the building was seen not as an object placed on a site, but as one that grew from its site.

47 Leatherbarrow, D, Mostafavi, M (1993) On Weathering, the Life of Buildings in Time, London, The MIT Press, p 28.



{figure 18}



{figure 19}

Walter Pichler
Trauma (Painting) and Elevation (Pencil), 2002

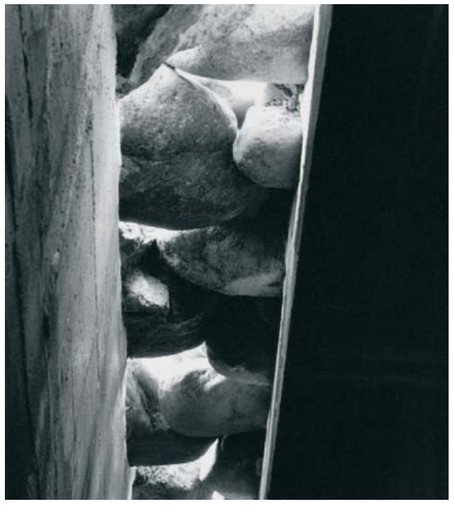
This repeats the thesis of "organic architecture" by Saarinen: the bonding of a building to its place often involved "overcoming the traditional distinction between the level of the land and that of the building, resulting in the absence of a single datum and the apparent emergence of the building from its site - not upon, but with, its topography[48]".

One way of absorbing the strategies utilised by the natural world is to abandon the idea of form altogether, and reconceptualise the idea of abstraction, or in this case, extraction. The natural world is affected by climate conditions, seasonal changes, light conditions and time. An architecture whose condition also changes and passively adapts to these conditions would appear to resonate more than an architecture that resists these changes. Walter Pichler, architect, sculptor and painter, produced drawings in 2002 related to a project due to be constructed, colloquially named House next to the Smithy[49]. Rather than confining himself to the orthographic set, he created representations of the House next to the Smithy with a dream-like quality, loosely drawn in charcoal on paper. His work exhibits the feeling of an original gesture, rather than a resolved idea. This underexposure invites the viewer to create his or her own opinions and feelings. The techniques of representation, such as the tonal qualities, and the feeling of movement suggest a passing of time, a weathering of the building, and therefore inscribed memories of occupational pasts.

These atmospheric qualities notwithstanding, and Pichler's images being viewed through a particular lens of Peter Wood's theory - searching for a "conscious attempt to manipulate contradictory and confrontational representational techniques to demonstrate an ambiguous architecture[50]"- the drawing lacks a certain amount of planometrics. As a detached image, the pensive emotions and loaded meaning are exhibited, but do not reveal the full architectural elements of the building.

48 Leatherbarrow, D, Mostafavi, M (1993) On Weathering, the Life of Buildings in Time, London, The MIT Press, p 109.
49 James, P. (2008). Walter Pichler's House Next to the Smithy: Atmosphere and Ground. AD, 10.
50 Wood, P (2002) Drawing the Line, a Working Epistimology for the Study of Architectural Drawing, University of Auckland, p 119.

{figure 20}



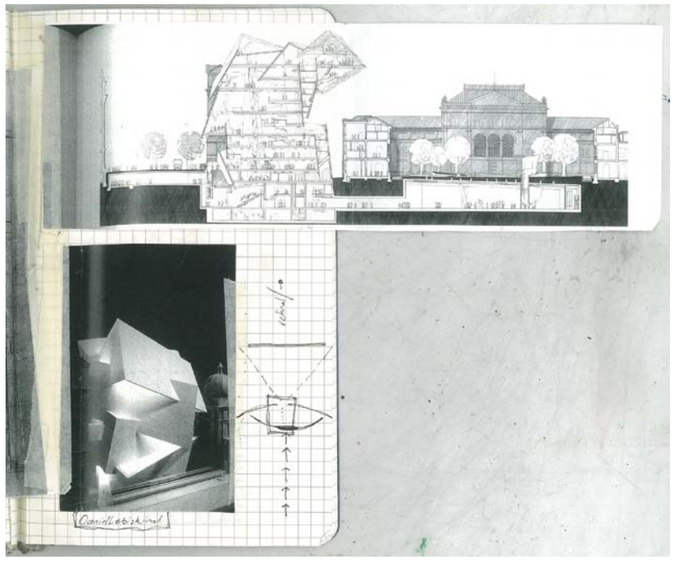
{figure 21}

Walter Pichler
Exterior Image and View down the Corridor, 2002

Ben Godber states in his critique on an image of the Barcelona Pavilion by Mies van der Rohe: "The pavilion fully occupies the entire composition. No attempt is made to portray it in its full context[51]". The picture explains the concept and satisfies the viewer into understanding the buildings, but what Godber overlooks is that the image is an architectural image. The image described is representing the photographer's desire to express the full concept of the building in the one moment, not framing the Pavilion as Mies conceptualized.

Peter Wood talks about such images as "[expressing] a frozen moment of architectural development, rather than a finished constant[52]." To interpret Perez Gomez, Godber is "reluctant to question the transparency and homogeneity of its means of representation[53]." He is too quick to denounce framing, and its ability to filter a concept. Pichler's project concept revolves around the atmospheric connection to the ground and below, yet the image focuses on an exterior atmosphere and an impenetrable surface. Atmosphere is an "immaterial reality that has no tangible support[54]" but Pichler finds a way to create a tangible nature. Pichler's image reveals an atmospheric and underexposed image loaded with meaning, yet does not include the elements needed to create a complete architectonic experience for the viewer. Atmosphere is a charged experience, and through the non-physical medium of the paper, occupation and a heightened understanding can be evident. The tension of the drawing adds to this perception, the undertone of uneasiness filters through the drawing, and the skeletal figure compounds this sense.

51 Hill, Johnathan (2002) Immaterial Architecture, p 188.
52 Wood, P (2002) Drawing the Line, a Working Epistimology for the Study of Architectural Drawing, University of Auckland, p 119.
53 Perez-Gomez, A, Pelletier, L. (1997). Architectural Representation and the Perspective Hinge. MIT Press, London, p 153.
54 L'Architecture D'Aujourd'Hui, 2004, p 69.



{figure 22}

Daniel Lebiskind is another example of architecture who's skin is autonomous from its core

Daniel Lebiskind
Section and Model Detail, 2009
(scanned by author)

The physical experience would be different, and one that would complete the user's understanding of the concept, and Perez Gomez's suggestion of the "distance between drawing and building [always being] opaque and ambiguous[55]" has more significance - the physical architecture and the image are parallel, and create a dualism - each needing the other for completion. The skeletal avatar suggests embedded memory in the site, and the new addition (being the new house) inherits the same quality.

The depiction of the house, devoid of any tonal quality, is contrasted with the exaggerated stone and rock material drawn on the bottom half of the image, suggesting that a new addition to the landscape, clearly loaded with memory for the client, will be adorned with the same memory. Physical navigation through the building is documented through planometric and textual resources; however the image of the building stands as an important atmospheric addition to the ingestion of Pichler's concept. The textual and physical accompaniment is necessary for a complete experience of the building - Pichler's atmospheric drawing does enough to initiate a desire for a more intimate physical experience.

55 Perez-Gomez, A, Pelletier, L. (1997). Architectural Representation and the Perspective Hinge. MIT Press, London, p 1.

PREDICTING ARCHEOLOGY

{figure 23}

(previous page) **Nicholas Szczpeniak**
Ten Towers in Context, 2009

{figure 24}

Nicholas Szczpeniak
Tower Elevation, 2009

Nicholas Szczepaniak's graduate project[56] suggests how mega-structures can be integrated and used to encourage the growth of natural defence mechanisms against flooding in order to protect the erosion of fragile coastline areas and our most important cities. Over time, sand is collected at the base of each tower to form a spit across the mouth of the estuary, absorbing energy from the waves. The function of the building is an ark, a library of information stored out of harm's way, a historical repository for human knowledge.
The project initially appears visually bleak - a dark, visceral presentation mixing austere monumental formal qualities with industrial piping and weather-affected tensile trunks. Formally, its qualities do not lend themselves to naturalised and organic architecture; it is once these preconceptions are stripped away that the true quality begins to become clear. Szczepaniak's project identified repetition, control, anticipated tension and surveying from an elevated position as properties crucial to his architecture.

However it is the inherent qualities that define it as the type of organic architecture that parametrics and digital design are unable to express. Air-bags on the face of the towers expand and contract, while hundreds of tensile trunks are sporadically activated, casting water on to the heated facades to produce steam. Dramatizing shifts in environmental conditions force the building to breathe, creak and groan, to sweat and cry when stressed[57].

56 Glynn, R, Shafiei, S (2009). Digital Architecture: Passages Through Hinterlands. Ruairi Glynn, London.
57 Ibid

{figure 25}

{figure 26}

{figure 27}

Herzog and de Meuron
Ricola Europe SA Production and Storage Building, 1992-1993

Atelier Remy Zaugg, Mulhouse, 1995-1996.

The stratified nature of Szczepaniak's architecture express a quality that is not immediately definable, yet through moments of clarity become more apparent. The building is at the mercy of the elements, both resisting and allowing the site to shape it. This is the shortfall of synthetic materials and organic forms. In the time after construction, a building takes on the qualities of the place where it is sited, its colours and surface textures being modified and in turn modifying the surrounding landscape[58].

Robert Kudielka considers this in his essay on the architecture of Herzog and de Meuron, in the book *Natural History*. On the topic of the Ricola Europe SA production and Storage Building, Kudielka recognises the horror of all smooth concrete facades - the streaky film of dirt caused by rainwater - yet acknowledges that the facade acquires ecological dignity for when it rains, a delicate network of vegetation flowers on the dark background[59]. This situational position of the architecture reflecting the natural surroundings in the mirror created by rainwater on concrete is true organic architecture.

58 Leatherbarrow, D, Mostafavi, M (1993) On Weathering, the Life of Buildings in Time, London, The MIT Press, p 72.

59 Ursprung, P (2005). Herzog and de Meuron, Natural History. Canada. Lars Muller Publishers, p285.

PREDICTING ARCHEOLOGY

{figure 28}

Taupo District Council
Turangi, 1964

CHAPTER THREE: ON MECHANISMS- SITE

Chapter Three and Four's information are interspersed. They directly reference each other, as they form the physical nature of the thesis. Therefore, they are both explained at this stage, so as able to be read as the second act of this thesis. Chapter Three outlines the process used to site the architectural elements in this thesis. Through careful utilisation of the ideas professed in the preceding chapters, it records key moments and shifts in the town's history. It moves chronologically through Turangi's original settlement, touching on important landmarks and events in the town's comparatively short history. It offers an argument as to preconceptions of Turangi not being worth saving, and outlines qualitative and quantitative statistics and frameworks in which to carry out a design analysis. It particularly identifies the building of the Tongariro Power Scheme as the single most influential occurrence in the development of the town, and postulates that the only way to ensure the town's prosperity into the future is to further entrench Turangi's fishing background and its relationship to the river. Though it includes the most explicitly visual imagery in the project, it is concerned with the physical nature of architecture and materials, not their representation. This is communicated through a series of topographic diagrams, which zeroes in on the ideal location. It transitions into programmatic elements, explaining the function of the building, which is a proliferation of the context which surrounds it. The discussion then moves to the structure and aesthetics, as influenced by Idris Khan, Anton Bragaglia, and Herzog and de Meuron. It cycles through the experiments conducted to arrive at the desired aesthetic, and then details the final elements, with reference to the images presented in the final critique, and exhibited at the Victoria University Graduate Vanguard Exhibition[60]. Finally, it offers a post-critique on the decisions made, and asks what improvements could have been made to improve the connections, architecture, and place in time.

60 Run from 2nd November 2010 at Victoria University, Wellington

{figure 29}

Alexander Turnbull Library
Haka at Waihi, 1964

Maori settled the southern end of Lake Taupo around the areas now known as Tokaanu and Little Waihi. The first European travellers reached the centre of the North Island after Ngati Tuwharetoa had occupied the region for around three hundred years. At the time, the paramount chief was Te Heuheu Mananui, a forward-thinking leader with considerable stature in the community. He and his people lived at Te Rapa, a pa situated between Little Waihi and Tokaanu. In 1846, a landslide killed Mananui, his wives and children. Iwikau, Mananui's brother, inherited the position of paramount chief. Ngati Tuwharetoa had refused to sign the Treaty of Waitangi in 1840, so the tribe's resources, including their deposits of land, were left intact. Tuwharetoa still regard Little Waihi as their spiritual home, and the village is generally off limits to the public.

The first missionary to brave the three-month trek from the Bay of Plenty to the southern end of Lake Taupo was TS Grace, who made the journey with his wife and young family in 1855. The Grace family lived and worked in the area for eight years.

War came to Taupo in 1869 when Te Kooti and his followers reached the southern end of the lake. Te Kooti was a rebel and a soldier, and had been treated badly by the government of the day. At Tokaanu, he prepared to oppose the Government in a small skirmish. He was eventually defeated at Te Porere (now listed by the Historic Places Trust), and he escaped into the bush and never threatened again. This was a precedent to the end of the New Zealand Land Wars. The garrison that defeated Te Kooti was redeployed into constructing better communications in the central North Island. Some were based in the rural township that was eventually named Turangi by local Maori elders in 1931. Turangi is an abbreviated form of both the ancestral name Turangitukua and the name of the local hapu (subtribe).

{figure 30}

Alexander Turnbull Library
Children at Waihi Beach, 1964

The introduction of brown and rainbow trout into Lake Taupo and the rivers of the area in the late 1800s was crucial in developing sustainable food sources for European and Maori settlers. The trout population also provided an early recreational attraction, which continues to draw people to the region today. The building of a bridge over the Tongariro River in 1891 and the establishment of a major north□south road link through the heart of the North Island assisted growth of the small settlement close to the bridge. Most visitors stayed at hotels in Tokaanu until the 1920s when 'Hatch's Camp', later known as 'Taylor's Lodge' was built near the river. In the 1950s, Turangi was still a sleepy fishing oriented village, with a relatively high Maori population. By 1960 the population had reached 500. Settlements stretched along the riverbank on what is now known as Taupahi Road (formerly the main north□south highway) and along the old State Highway 41.

Change

Today, Turangi exists in a state of change that has slowed, whilst enveloping it is a world of increasing speed. The town centre is empty, rendering it uncomfortable to occupy and potentially dangerous. Its geographical location is enigmatic, and in opposition to its current slowness. Originally designed to be a permanent settlement, as opposed to other hydro towns such as Mangakino, and planned in the same way as Twizel, its centre was subject to numerous urban design principles. This inverted flux exposes the town's economic and social fragility. Turangi exists in a permanent interstitial state, unsure whether it is a larger settlement with its own means of supporting its population and infrastructure, or a rural settlement that relies on external monetary and populous injections and seasonal crossovers to continue its existence.

Figures 31and 32 show the Turangi Town Centre at 12pm on a weekday, empty and uncomfortable. Local business owners are either struggling to continue into the forseeable future, or already closed down.

{figure 31}

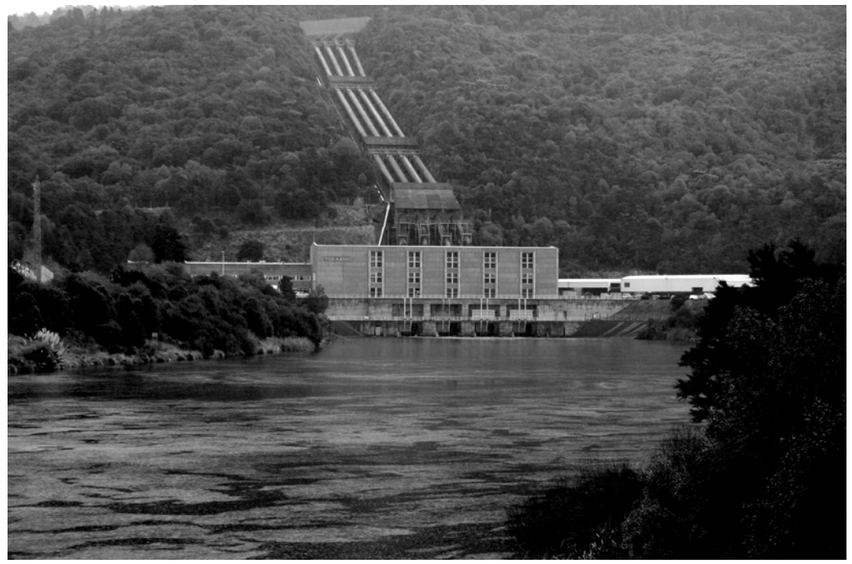
{figure 32}

{figure 33}

{figure 34}

Figure 33 shows an the church of St. Joseph the Worker by John Scott, outlining the quality of buildings that Turangi does possess, but struggles to showcase.

Figure 34 shows the main reason for the Town Centre's current bypass, the New World supermarket. Road users stop here on the side of the road, and do not penetrate further into the town.

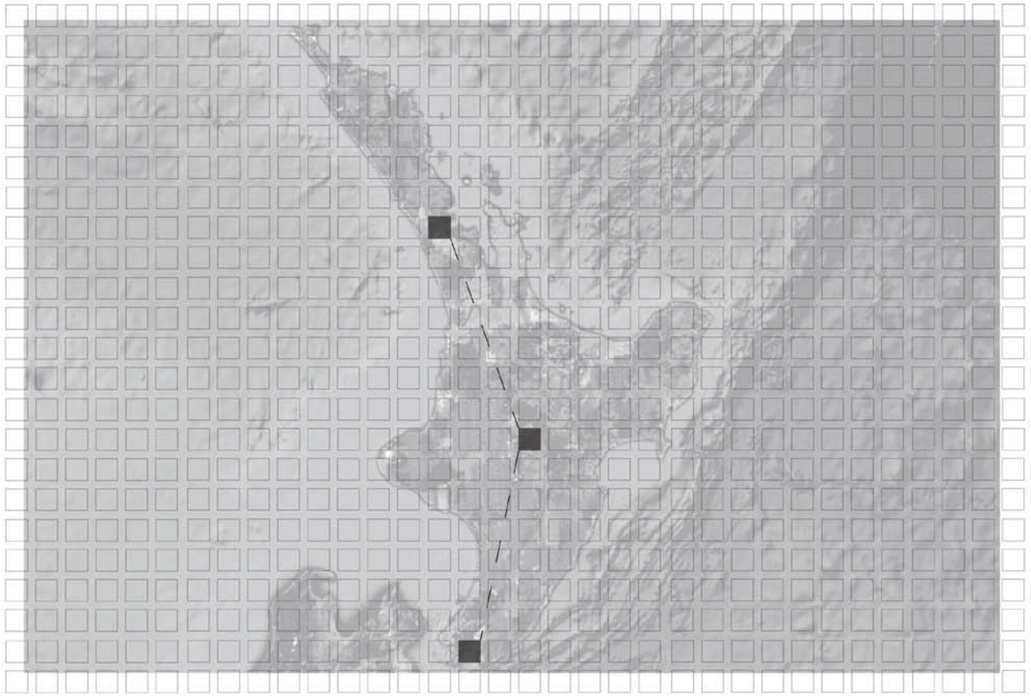


{figure 35}

Image by Author
Tokaanu Dam, 2010

In 1960, the decision of the then Government to utilize the headwaters of the North Island rivers enabled continued settlement of Turangi for another 20 years. The Ministry of Works commissioned the Tokaanu Dam. More jobs were created, and better roads and infrastructure. Around half of the dam construction work was carried out by private contractors. Much of the underground work was shared between the Italian firm Codelfa-Cogefar and the New Zealand contractor Downer and Co. The Tokaanu Dam uses water collected from a large catchment. From the Kaimanawa Ranges, water flowing east and south is diverted north. Water from Mt. Ruapehu is also diverted north through a series of canals and tunnels into Lake Rotoaira. After a two hundred-metre drop from Lake Rotoaira, the diverted waters arrive at the Tokaanu Power Station, where the four turbines have a capacity of two hundred megawatts. During the dam's construction, every consideration was given to the preservation of the natural environment. All work was undertaken outside nearby Tongariro National Park. Particular emphasis was placed on preserving the fisheries. The scheme was designed so that volcanically polluted streams did not poison the fishing waters, fish could not be caught in the turbines and hatching areas would be preserved. Strict water flow regulations were also introduced.

Post dam construction, the town's geographical advantage can reinsert economically viable means of sustaining itself. This is an area rich in natural resources, timber and farming, with a strong indigenous heritage. Its thermal properties provide an opportunity for any architectural intervention to harness its energy for regenerative power. It is close to the mountains of the central plateau, Lake Taupo, and the Kaimanawa Forest. Its central location is ideal for those travelling between Wellington and Auckland, as it is exactly halfway. The East Taupo Arterial around Taupo, completed in October 2010, may lead to more travellers bypassing Taupo and taking a short break in Turangi.



{figure 36}

Figure showing Turangi's central proximity to the North Island

Image by Author
Proximity of Turangi to Auckland and Wellington, 2010

Whereas the previous section discusses historical relationships and formations, essentially of a qualitative nature, this section's scope has a more quantitative data-directed view. The site has many qualities that encourage architectural study, and the goal of the preceding discussion is to argue for this particular spot as the most appropriate place for the monument to be situated. Situated in the centre of the North Island, Turangi is at the crux of the main trunk line. Traffic lines adjacent to the site are constant. The physical halfway point between Wellington and Auckland is situated 5km north of the site, reinforcing its central nature. The goal of this discussion is to uncover what is preventing Turangi from growing and thriving, considering all of the attributes that indicate the town should be doing the opposite.

The position of the town on the central plateau is critical. To the north-east is the lake - its value as a focus for recreational activities is well documented. To the north-west is Pureora Forest Park, popular for hunting, tramping and other recreational pursuits. To the south-east is Kaimanawa Forest Park, another popular hunting and tramping area. To the south-west are the mountains, Ruapehu, Tongariro and Ngauruhoe. The Tongariro Crossing, New Zealand's most popular walk, is 20 minutes drive from Turangi, and Whakapapa Skifield is a further 10 minutes down the road. Whakapapa is New Zealand's most popular skifield, attracting more than 20,000 skiers on a good weekend.

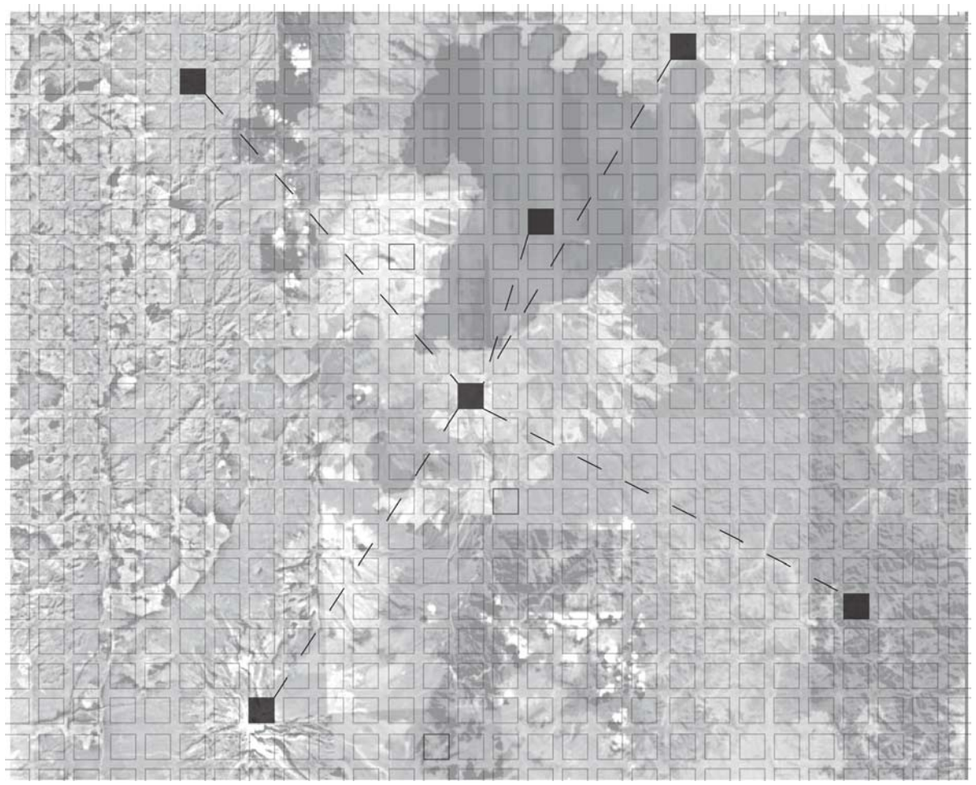
Adjacencies

One step back from the road and the footpath on the northern side of the site is a mix of residential, educational and commercial conditions that could have a bearing on the organisation of the intervention. Fifty per cent of the northern edge is occupied by Tongariro High School, while the other 50% is adjacent to the commercial centre of the town. The whole of the south edge is bordered by residential, interspersed with small commercial motels and lodges. There is a major intersection on the south-west corner, and the river is visible from much of the site looking north-east. State Highway 1 passes the site on the southern edge. Cars travel past at 80km, as opposed to 100km on the open road, but this is still significantly faster than the 50km reserved for town driving. It gives little opportunity for vehicle occupants to observe detailed components of any intervention, so simplicity is paramount for any facade presented on this edge.

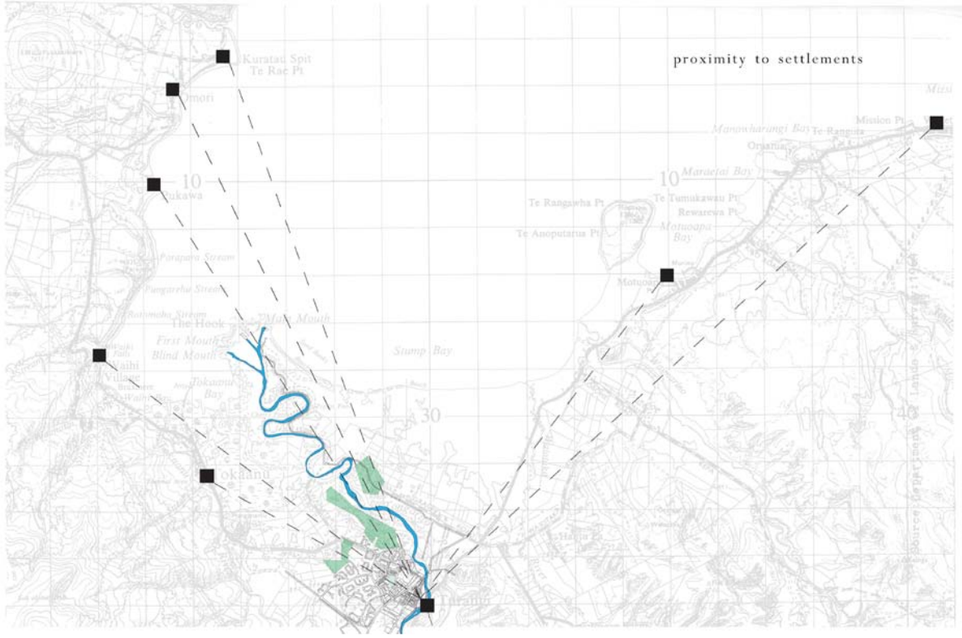
1. Bridge Fishing Lodge
2. Sportsman's Lodge
3. Tongariro High School
4. Aquatic Pools
5. Turangi Town Centre
6. Extreme Backpackers
7. Vertical Assault Rockclimbing
8. Settlers Lodge
9. Parklands Lodge
10. Club Habitat
11. Turangi Holiday Park
12. Anglers Paradise Lodge
13. Lake Taupo
14. Bridge into town
15. Motel

{figure 37}

Image by Author
Adjacencies to Site, 2010



{figure 38}



{figure 39}

Image by Author
Proximity of Turangi to Central Plateau Landmarks *and* Proximity of Turangi to Local Towns, 2010

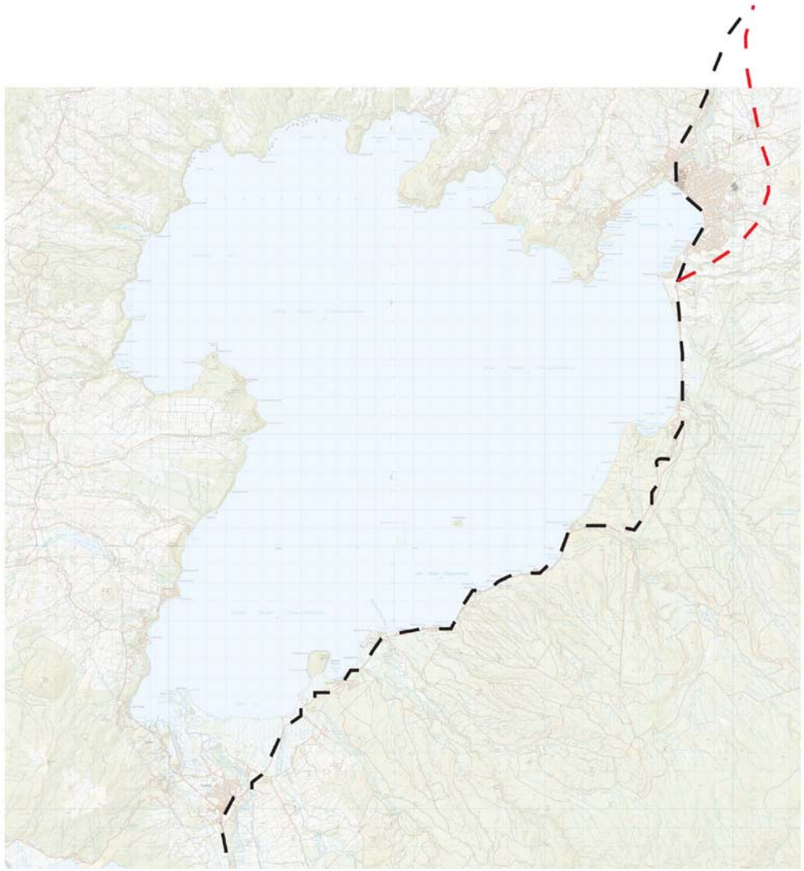
Statistics

Architecture's purpose is to enrich inhabitant's function, by providing space that passively adapts to its latent use. In Turangi's case, the key goals for the architecture are:

- to draw vehicular travellers from the north and south into the town, for lengths of time ranging from half a day to a weekend
- to direct attention away from franchised businesses such as New World, Burger King and Shell, and towards local businesses.
- to express the Italian influence in turangi through architecture.
- to provide a programme suitable to generate interest and activity in and around the site.

Overseas visitors make up only 10% of the populous but they contribute a markedly greater proportion towards New Zealand's gross domestic product. Eighty-eight per cent of the visitors to Turangi are New Zealanders. This suggests that tourist opportunities to spend money, mixed in with sympathetic local and historical aspects, are crucial.

Eighty per cent of travel is by private car, so the architecture must be discernable by the frames view and increased speed a car offers. Access and car parking are also imperative. Of the overseas visitors, 50% stay in accommodation where there is food available, such as bed and breakfasts, 22% stay in self-contained motels, and the remaining 23 stay in private houses. The established accommodation market in Turangi suggests that including an accommodation aspect in the architecture is not viable and would saturate the market. Turangi's proximity to neighbouring towns is crucial; geographically, it is a central hub. The settlements of Omori, Kurutau, Little Waihi, Tokaanu, Motuoapa and Waitetoko contain a large proportion of holiday homes, used in both the summer and winter months. This provides a constant stream of both tourists and holidaymakers, with income, to potentially use the town as a base.



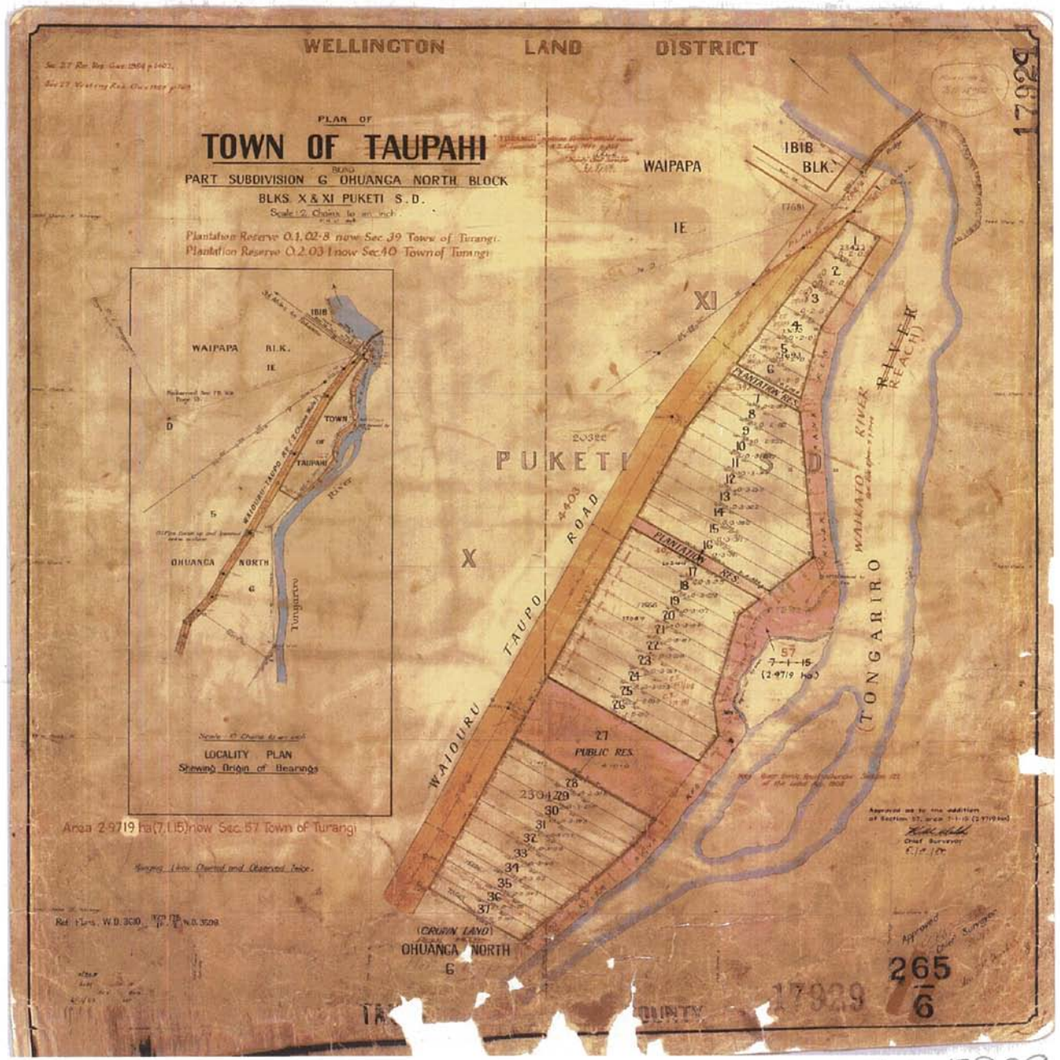
{figure 40}

Path of Taupo Bypass
Image by Author, 2010

The physical site is a triangular, largely flat area adjacent to State Highway 1. It runs next to the road, from the end of the bridge to the turn-off into the town centre. It is approximately 7.57 square kilometres. To the south, along the entire edge, runs the highway. Traffic is reduced to 80kmph along this edge, and it runs both ways. The south-west corner turns into the main town centre, which is also opposite the Burger King, Shell and New World supermarket. This is a critical corner: traffic coming from the south will be exposed to the supermarket before the project, but immediately after is a corner of the site, so a strong intervention needs to draw traffic into this sector. At this end of the site is a "shoe" that penetrates into the town centre. Along the north edge runs a walkway. The north-east edge is bordered by the Bridge Lodge, and then spills into the Tongariro River. Critically, the current paths and car parks afforded on the site can act as organizational partitions, as circulation is already in place, regardless of the lack of use.

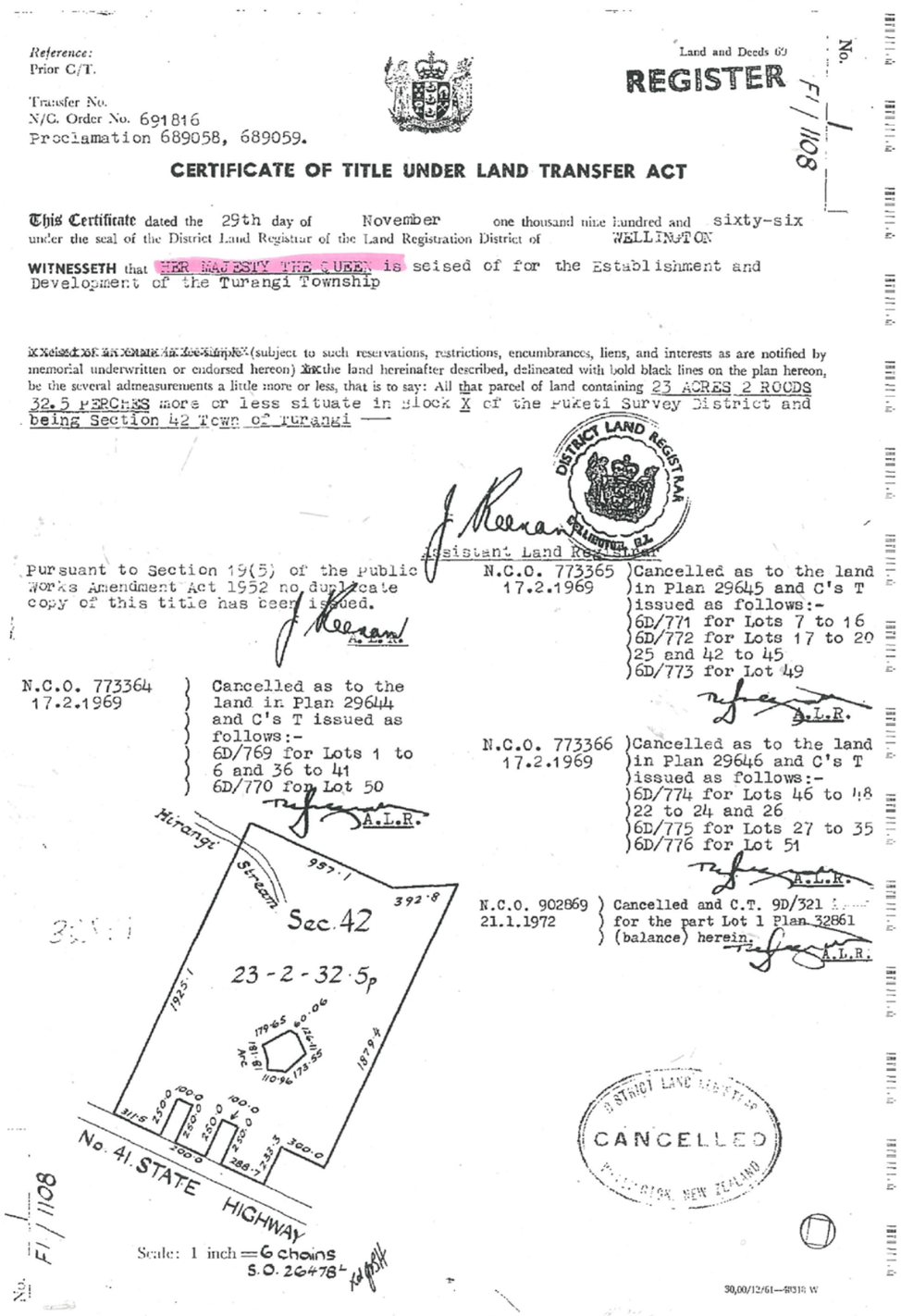
Bypass

A major arterial bypass has been constructed 50 kilometres north of the site, outside Taupo. The bypass, in planning for the last 20 years, was opened in October 2010. It creates an opportunity for this thesis project to take advantage of the diverted traffic. Reports from Taupo indicate that since the bypass opened, through-town traffic has dropped markedly. Until now, the trend has been for north-travelling traffic to pass Turangi and stop in Taupo for fuel and food. However, the bypass shaves 30 minutes off the travel time from Wellington to Auckland in peak periods. Travellers may be more inclined to stop in Turangi and bypass Taupo altogether. An intervention that draws traffic to the site would provide potential for Turangi to take a higher share of the motorist dollar.



{figure 41}

Taupo District Council
Town of Taupahi, 1924

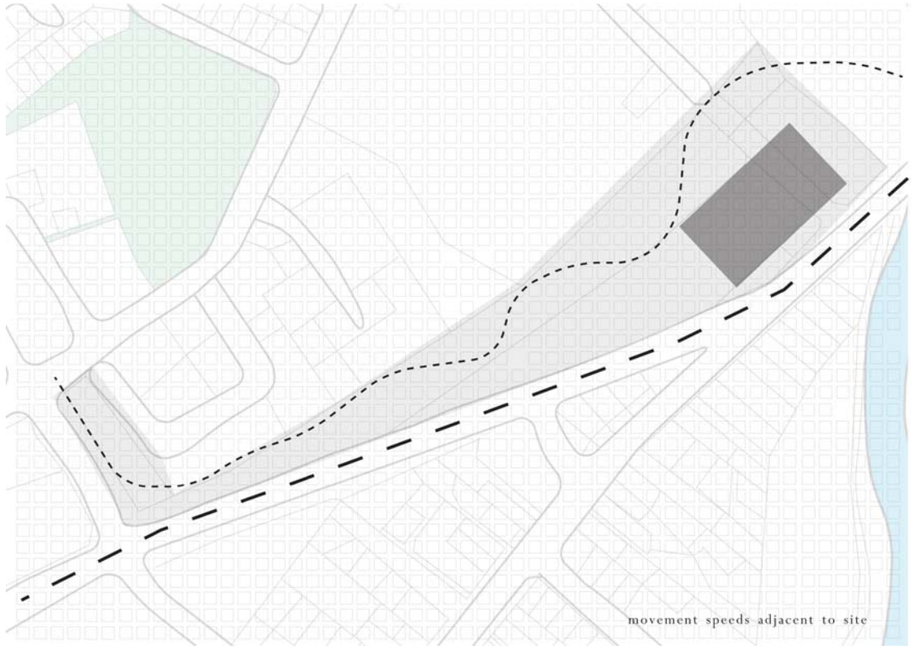


{figure 41}

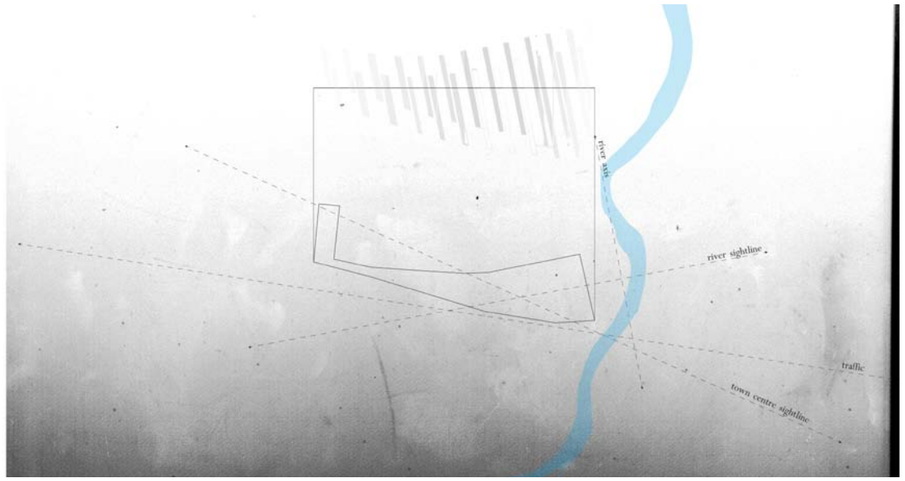
Taupo District Council
Certificate of Title Under Land Transfer Act , 1924

PREDICTING ARCHEOLOGY

The indicated accomodation is within direct walking distance (5 minutes) of the site; this indicates that including an accommodation aspect to the project would be unproductive. An intervention that facilitates added use to these existing structures would be a more sympathetic and rehabilitating for the town. The programme that is being inserted reifies the notion of the underlying theme of the town, and this is reinforced by the existing site elements such as the names of the lodges - Bridge Fishing Lodge, Sportsman's Lodge, Extreme Backpackers, Angler's Paradise Lodge. The number of thematic businesses and landmarks around indicates the local passion and desire for a thriving fishing-oriented business and tourist flow, but the perception and public knowledge is lacking. The map indicating accommodation points around the site leads to a conclusion that an accommodation programme is neither sustainable nor viable. Rather, an intervention that draws traffic will fill the existing accommodation's capacities, increasing vibrancy and presence in the town.



{figure 42}



{figure 43}

Images by Author
Paths around the Site *and* Axis Crossovers, 2010

The River

The Tongariro River, adjacent to the site, is a crucial element, being the most fished river in New Zealand. Three-quarters of its fish are brown trout, and the remaining quarter are the more desirable rainbow trout. The river pierces the town on its way into Lake Taupo from the Tokaanu Power Station, and provides many fishing holes along its length. Fishing is a relatively isolated sport, difficult and requiring patience. The physical experience of fishing is limited to those with time, skill and knowledge: its accessibility to the general public is limited. The Tongariro National Trout Centre, an establishment ten kilometres out of Turangi, explores ways to make fishing more generally accessible. This centre succeeds by enabling anyone to fish for a trout from the safety of a pool, and through its licensing , sustainable ethos and informative showcase of the lifecycle of trout.

Zoning in

The idea of axial lines in essence carves exteriority. The adjacencies, perpendicular lines and sight lines start to carve into the site and create simple form lines. It is the initial excavation, a liberating of the site from its entirety and scale, and begins to intensify certain areas of occupation. Chapter four expands on the key words of monumentality and excavation. Figure 43 identifies the critical sightlines, particularly the adjacency to the river. For the architecture to be successful in fusing the town's relationship to the river, it must be physically located near the river. Spillage of the building into the river intensifies this relationship. It identifies the sightline towards the town centre, a connecting sightline, and it crosses with the traffic axis at the river corner.

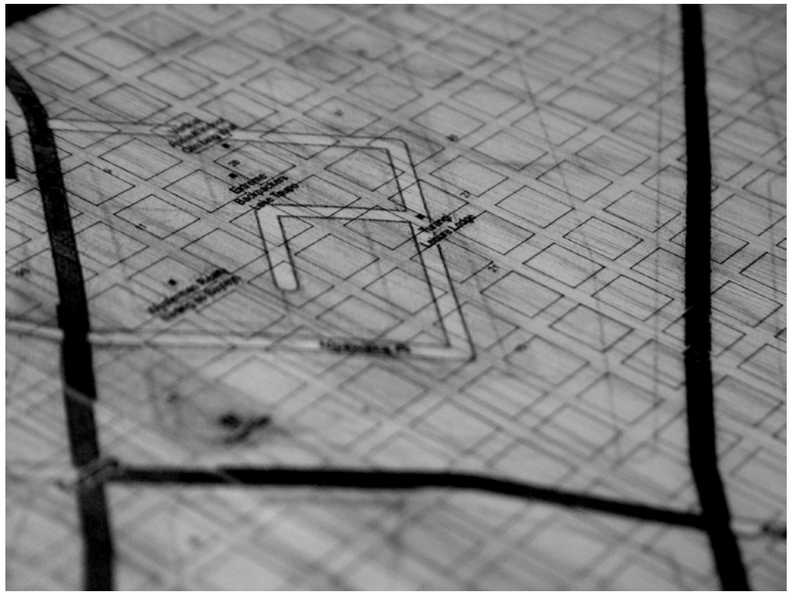
{figure 44}

Image by Author
Intensity of Occupation, 2010

From the topographical site analysis, the dialogue between transport options around the site creates an opportunity to transfer into a design language. The speed at which vehicles travel past the site on the eastern side - around 80kms - does not allow enough time to absorb the complexities of the site. The western side, however, is populated by walkers, who spend a much longer period on the site's periphery. The view-shafts and viewing opportunities are split into 5-second timeframes at 80kms per hour - not enough time to take in a complicated facade. Taken from an experience of travelling in the car along the site, and the sun travelling through the trees onto the road, the effect is pulsing. This mediation through dark to light is the premise for the facade - the spacing between the frames on either side attempts to recreate the pulsing effect of the shadows, simulating the effect of film.

Discussion

The intensity of occupation diagram (opposite) distills much of the site analysis. The thicker the lines, the more crossovers and axial importance is applied, and the more programme is to be inserted into these moments. It informs everything, from the mediation of the facade (as explained in chapter four) to the layout of the building's interior, to the physical structure of the building, meaning the permeations between inside and outside, and thresholds. It is densest at the point where the traveller comes over the bridge (from Auckland), comes round the corner, and is struck with a full view of the site. The most intense areas of occupation stretch along this side of the site, close to the river, with reference to the town centre. It is this shifting between intensities that begins to inform the architecture - the transferences between soft and hard, programme and not, prescriptive and spontaneous, emergence and submergence.



{figure 45}

Image by Author
Detail of Initial Site Model, 2010

As David Leatherbarrow postulates in his lecture on orientation, orientation is "noticing the conditions of change[61]". In every diagram presented in this thesis, there is a conscious effort to express this condition of change. The squares expressed in a seemingly obligatory or homogenising fashion are visual realisations of this condition of change. As expressed in theoretical terms in the discussion on Bragaglia and Khan, the squares markate points along the site in which the feeling or qualities of the site shift into another direction. When occupying these squares on the site, points of interest were registered, and connections started to form. The first attempt to create these parameters, or perimeters, was with the initial site model. The images of this model show this intensity, and this is transferred into the preceding series of diagrammatic drawings. They serve the function of excavating and carving, zeroing in on the ideal site. Because of the scale of the site, these connecting conditions need to be carefully used. Ideally, the architecture needs to strike a balance between monumentality, and existing in relationships with situations that contrast monumentality. Leatherbarrow states that good buildings succeed because they exist in "states of disorientation[62]"- de-orientating the user so as to re-orientate their horizon with this new architecture in it.

61 Leatherbarrow, D (2010) *Orientation Lecture,* Victoria University of Wellington
62 Ibid.

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{figure 46}

{figure 47}

Anton Bragaglia
The Slap *and* Photodynamism, 1912

CHAPTER FOUR: ON MONUMENTALITY- DESIGN

"The eyes. Slower than cameras because they have the burden and the capacity to remember, before it disappears from the visual field[63]."

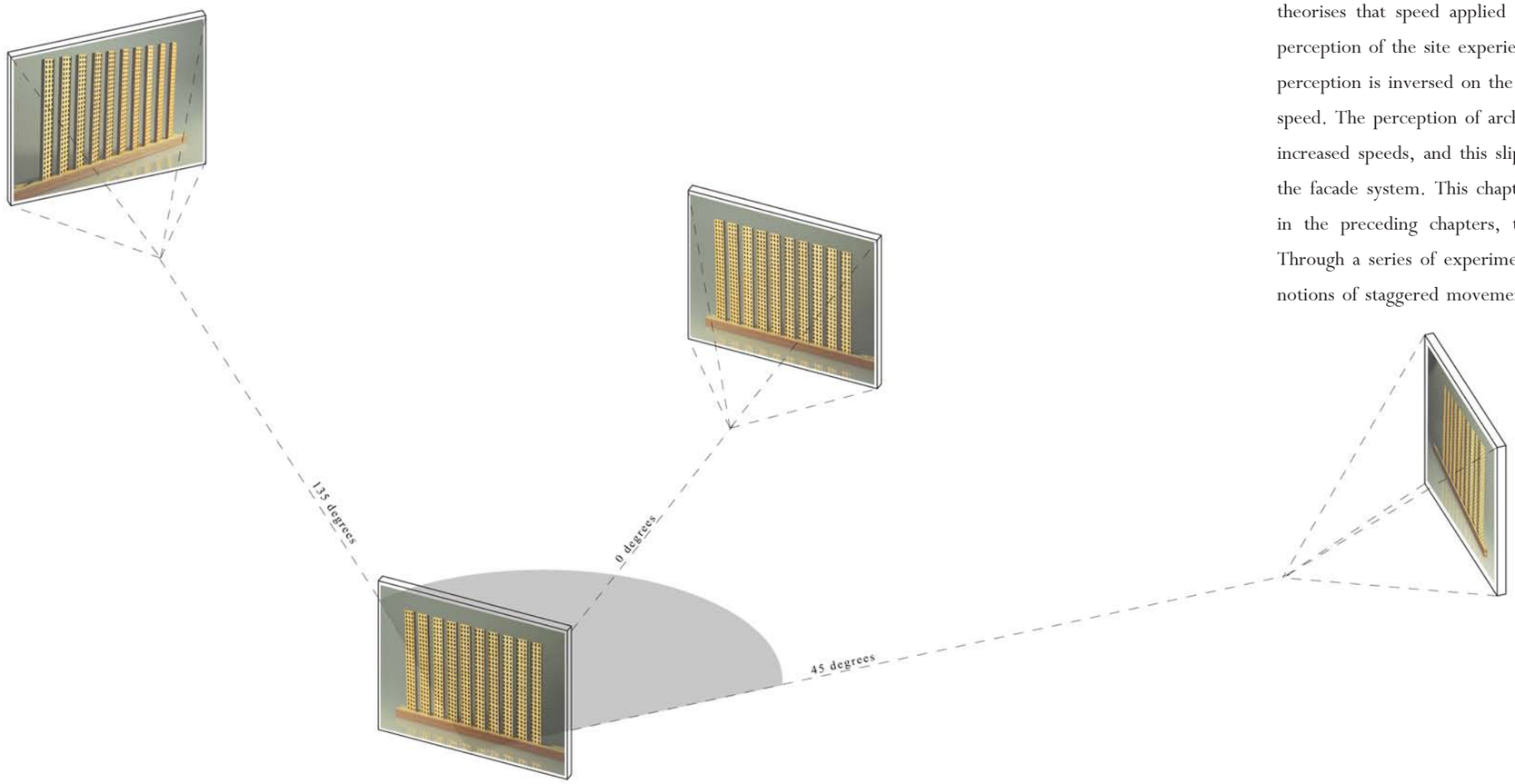
Peggy Phelan

"We are not interested in the precise reconstruction of movement, which has already been broken up and analysed. We are involved only in the area of movement which produces sensation, the memory of which still palpitates in our awareness[64]."

Anton Bragaglia

Architecturalising Bragaglia and Khan's photographic theories on movement is both straightforward and complex, when applied to site. Crucial is capturing the essence of an organic activated building from essentially static materials - what Bragalia describes in his photography as constantly appearing and disappearing. "All things move, all things run, all things are rapidly changing. A profile is never motionless before our eyes, but it constantly appears and disappears[65]." The relationship between the architecture - a more active reference to movement in time - and the materials - a more considered and slow movement - is an interesting quality.

63 Ursprung, P (2005). Herzog and de Meuron, Natural History. Canada. Lars Muller Publishers, p 292.
64 Bragaglia, Anton (1912) Photodynamism Manifesto. URL: http://www.italianfuturism.org/manifestos/futuristphotomanifesto
65 Ibid



{figure 48}

Image By Author
Camera Diagram, 2010

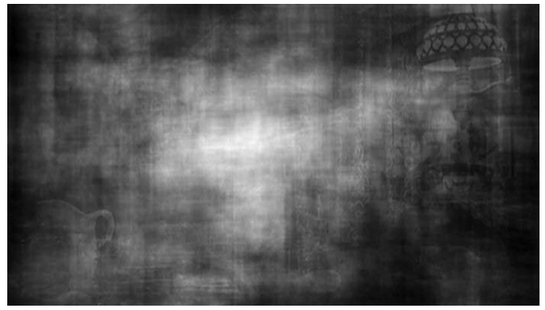
The slippage in time is an important moment to consider. The most crucial aspect of the site, through the lens of architectural extraction, is the modes of transport around the perimeter. From the State Highway 1 side, vehicles travel at 80 kilometres per hour. This reduces comprehension of the site to a five- or six-second collapsed experience. Bragaglia theorises that speed applied to actions renders them immaterial and invisible, thus the perception of the site experienced at speed is condensed and immaterial. This slippage in perception is inversed on the opposite side of the site, where a footpath denotes walking speed. The perception of architecture at walking speed is infinitely more detailed than at increased speeds, and this slippage between the two poles is the initial point in creating the facade system. This chapter outlines the methods used to test the ideas put forward in the preceding chapters, through contextualising into an architectural intervention. Through a series of experiments utilising different media, it attempts to express the key notions of staggered movement, perception, weathering, mediation between transparency

PREDICTING ARCHEOLOGY

and opacity, and slippage.

The first experiment focuses on replicating Bragaglia's technique of creating movement in a single frame, albeit in a digital manner. It acts as a secondary site analysis, attempting to extract otherly qualities from the site documentation, ethereal rather that informative. The second experiment is an attempt to utilise parametric design to extract qualities of movement and transparency. With the knowledge that this thesis essentially critiques digital aesthetics, it seemed pertinent to experiment with the technology to grasp exactly the research opportunities. It does not prejudice against the method, rather it attempts to fully utilise the site knowledge to create a system. The third experiment was a physical modelling attempt to architecturalise the notions of shifting transparencies and site movements. It isolates the idea of transport around the site being critical to the formation of the architecture, and creates a facade system around these shifting speeds.

The fourth experiment scales down even further, in the same media of physical modelling. It creates facade panels that mediate transparency through angle of view, and forms the basis for modulated structural frames. It also begins to show signs of the desired aesthetic of the building, in terms of materials performing through time. The chapter shifts focus to the interiority of the building, identifying the programmes which best illustrate the critique. It distils the site chapter (chapter 3) into its most critical elements and then re-expands with the theme of programme. Trout hatchery, fish and chip shop and market are permeated together to create the sense of a community of buildings, and perhaps more importantly predicting the potential to expand in future generations of the site, depending on the success of the initial intervention.



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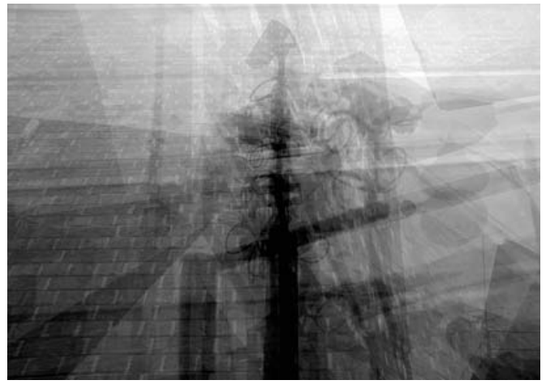


{figure 49}

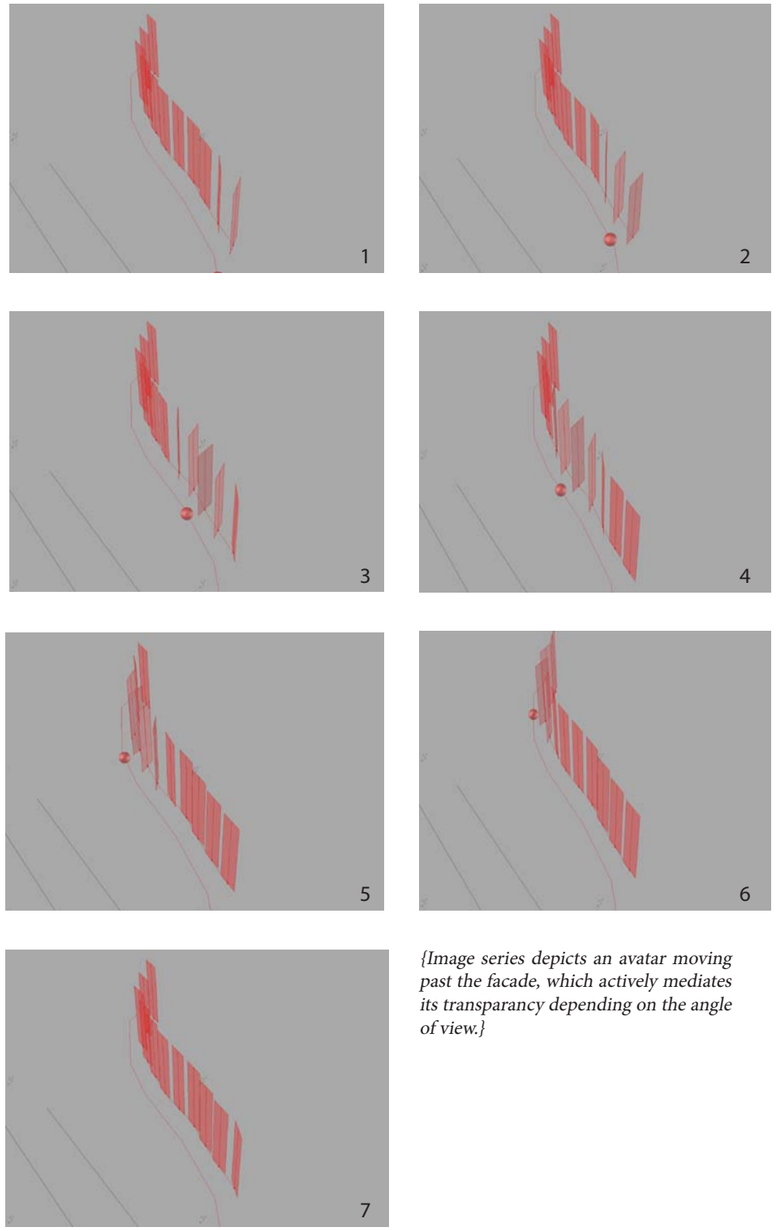
jim Campbell
Accumulating Psycho, 2000

Image by Author
Experiment Image 2010

Photographic Experiment

This experiment focused on site analysis, and particularly the sentiment by Bragaglia about sequential documentation of movement. Whereas these images were of a documentative capacity, Bragaglia preferred a collapsed singular image in which the entire emotion and drama is represented in a single scene. Peggy Phelan, in her essay Building the Life Drive, Architecture as Repetition- on Herzog and de Meuron's ambiguities in terms of communicating history, says that "Such an intervention is needed because that narrative no longer suffices as a description of the complex temporality in which we live. Subscribing to linearity not only simplifies history and historiography, it implies a singular natural death as the end point of our existence[66]." Bragaglia's images usually involve a human subject performing an action at fluctuating intensities, and record that performance in a single exposure. The varying distortions are the trace of the movement. I therefore began questioning some of the static sequential nature of the site documentation, which to that point had produced a clear situated condition with defined start and end points. Jim Campell, a San Francisco artist, produced a piece similar to the work of Idris Khan, named "Hitchcock's Psycho[67]". In this phase of work, called Illuminated Averages, Campbell displayed a series of images in light boxes, with each image created by averaging all of the frames of a moving sequence. Placing all of the frames on top of each other, Campbell created an image that contained all of the film's visual data. This collapsing of the data field was translated into an architectural site analysis, using Photoshop to layer the site photos on top of each other, replicating Idris Khan's technique. The results were informative and expected: the elevated site image distortion reveals moments of clarity and opacity, but ultimately the experiment revealed that abstraction into architectonics was more productive than pure replication of technique.

66 Ursprung, P (2005). Herzog and de Meuron, Natural History. Canada. Lars Muller Publishers, p 291.
67 www.jimcampbell.tv



{Image series depicts an avatar moving past the facade, which actively mediates its transparancy depending on the angle of view.}

{figure 50}

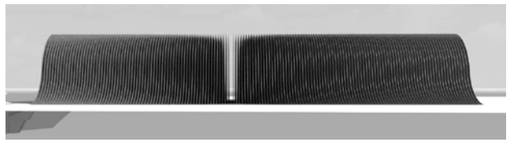
Image by Author
Facade Sequence, 2010

Parametric Experiment

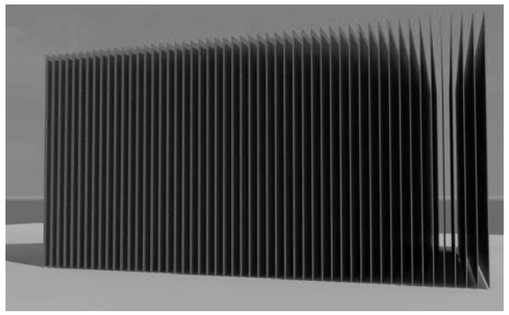
I felt it pertinent to explore the capabilities of parametric design, through initial experimentation of a facade system, to give credence to the resistance put forward in previous chapters. Utilising Rhino and the plug-in Grasshopper, this experiment is holistic in that it absorbs the information and theoretical ideas into the facade system. The crucial elements for this experiment were the architectural notions of transparency and opaqueness, and movement from one section of the site to another along a pre-determined line, through a period of time. The facade was to actively move between transparency and opaqueness depending on the angle of view, and present the occupant with both a material and immaterial experience.

Structurally, the experiment focused around a series of rectangular, vertical panels, pivoting on columns fixed into the ground. When inactive, these panels sit side by side, sealing visual access to whatever is behind them, totally opaque. When an occupant travels past at a certain distance, the panels pivot left and right, creating openings and closures, shifting between transparency and opacity.

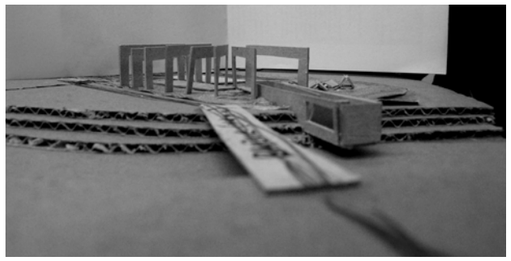
The qualities of this experiment are clear. The facade system embodies many of the ideas of the thesis, such as organic elements, variable transparency and movement. However, the disadvantages are also clear. The facade system represents no stratification of ideas; the architectural qualities are immediately presented to the viewer with no sequence or slippage. It is not sympathetic to the site to introduce such technological advances. Architecture, as stated by David Leatherbarrow, grows out of its site, rather than occupying a once empty site. This form of architecture would be considered vulgar and temporary. This experiment presented valuable knowledge, however. It confirmed that architecture that recreates movement physically is not as successful as an architecture that alludes to or implies movement. Moments of clarity through shifting opacities is more successful that overwhelming and literal translation. Furthermore, the experiment vindicated the stance on slippage in architecture as a viable means of communicating ideas about architecture as a slow discipline as opposed to a fast one.



{figure 51}



{figure 52}



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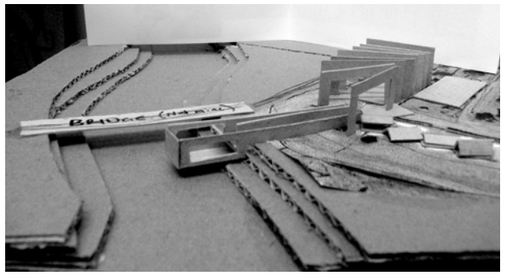

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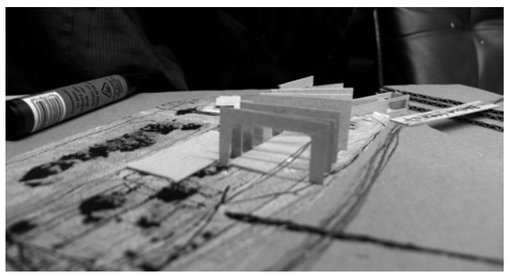


{figure 55}

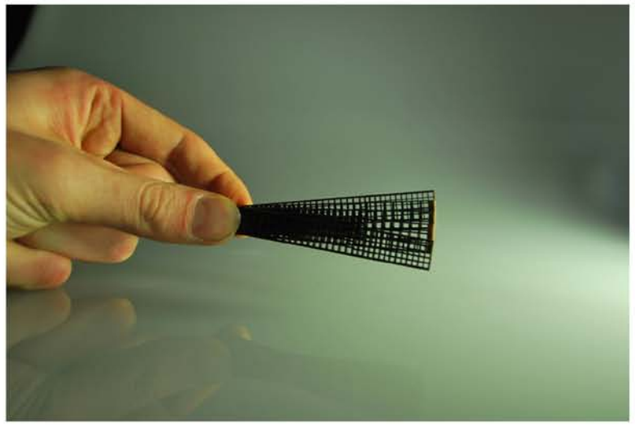
Images by Author
Transparancy Experiment One and Two *and* View of Model Image One, Two and Three, 2010

Model Experiment

This experiment was analogue in nature, and the ideas of shifting transparencies and speeds around the site were applied to physical modelling. Structurally, it consists of portal frames arranged in a collapsing fan fashion. This connects the footpath and the road, in the sense that the frames are structurally identical on both sides. To mediate the transparency, the frames are spaced at such a distance on the road side so as to create a blurring effect - the illusion of movement, when viewed at speed. Inversely, the frames are spaced closer together on the footpath side, creating a more detailed fa**cade with re**duced transparency. The experiment tried to communicate an idea by Jacob Bohme, who said that without opposition, nothing is revealed; no image appears in a clear mirror if one side is not darkened[68]. This experiment was more successful due to the physical site being viewable. Adjacencies and angles were able to be viewed in real time, as opposed to being mediated by the computer screen. Where the experiment was unsuccessful was in its departure from the first experiment. The tendency to reference movement in literal translation is still apparent, and it appeared that releasing the architecture from this condition and placing the impetus on the user's angle of view would be more sympathetic and communicate the shift between transparency and opacity in a more indirect way. The conclusions drawn were that the architecture needs to be more prescriptive on both sides. More specifically, it needs to have a similar facade structure on both sides - one designed in such a way that it communicates both transparency and opacity, fast and slow, in the same system. This slippage of viewing angles and less transparent communication of architectural ideas reinforce the idea that architecture is a slow discipline, and it should resist the temptation of synthetics and computer-generated design, which celebrate speed and efficiency. This echoes sentiments from Pierre Chareau, the architect of the Maison de Verre. He had a "purpose-made" attitude towards the construction of the Maison de Verre. He favoured a "gearing down" on the part of the architect from the traditional overvaulted formal ambitions, in favour of creating a beautiful thing, which is the starting point of true architecture. Pure aesthetic research was not the goal.[69]

68 Ursprung, P (2005). Herzog and de Meuron, Natural History. Canada. Lars Muller Publishers.

69 Bernard Bauchet, B, Futagawa, Y, Vellay, M (1988). La Maison de Verre. EDITA Tokyo Ltd. Japan, p 8.



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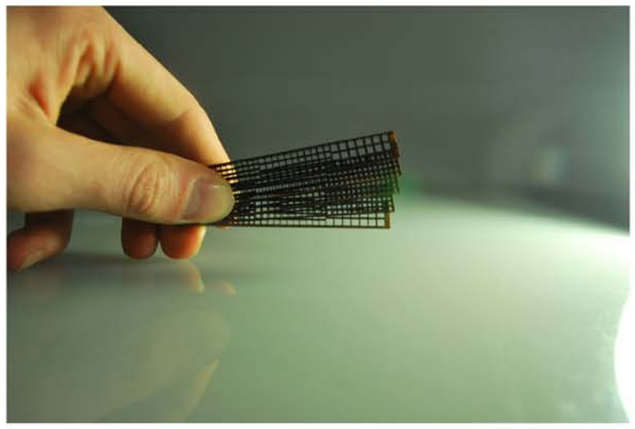

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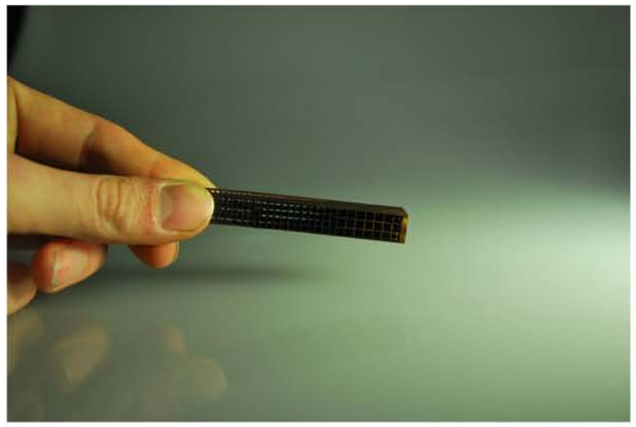


{figure 58}

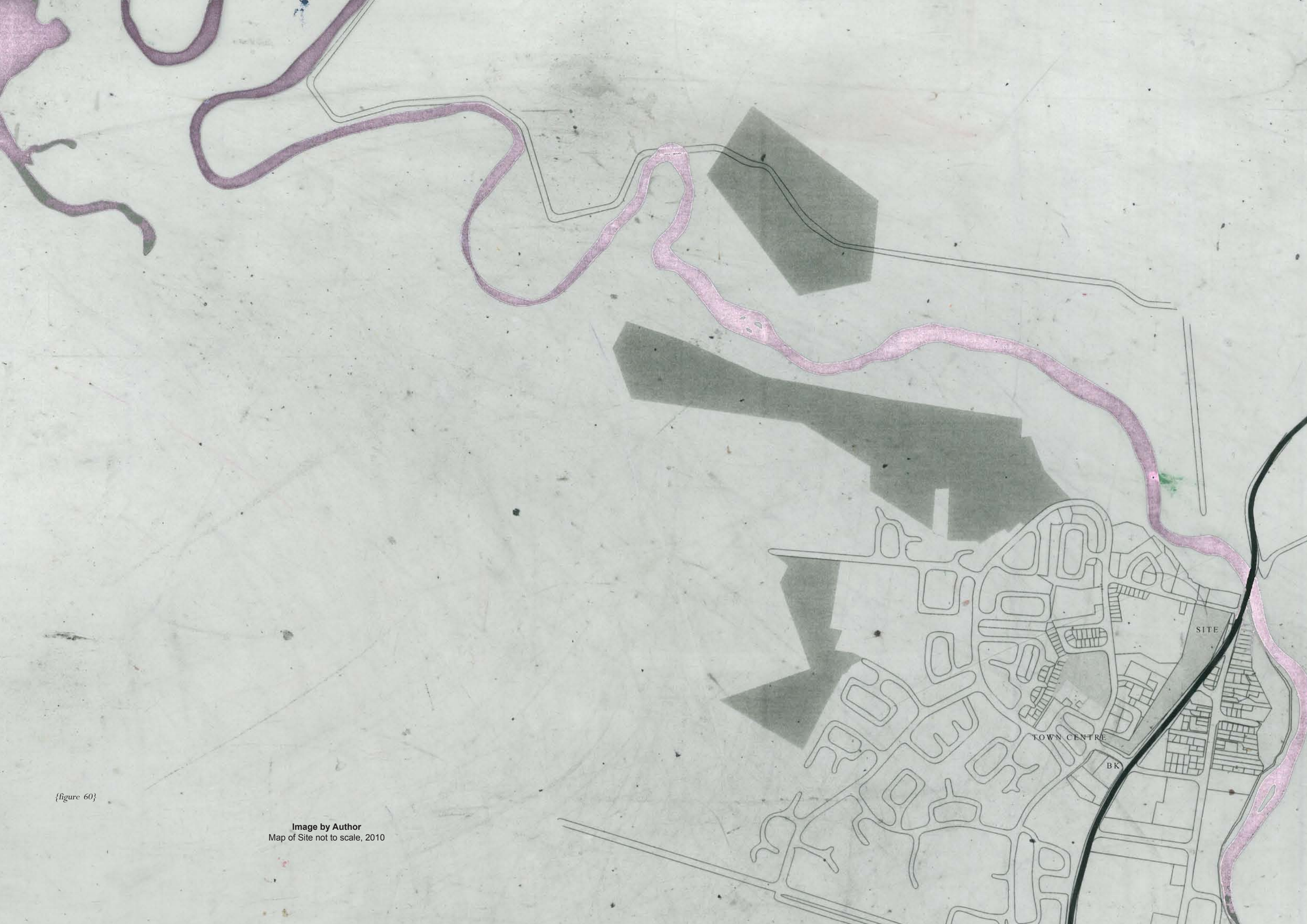
Images by Author
Panel Experiment One, Two and Three, 2010

Panel Experiment

This experiment utilised laser-cutting media to create a scale model. It isolates the concept of mediating transparency and opacity, through a series of rectangular filled with square inserts, at a regulated depth. Depending on the angle of view, the experiment changes how transparent the panel is, and the effect is applicable at any scale. This experiment was the most successful translation of the architectural implications identified in the previous chapters. Its communicative aspects have an undeniable influence on the texture of the facade. Its filtering of transparencies begins the concept of measuring the intensity of occupation inside and marking it through the physical appearance of the facade.

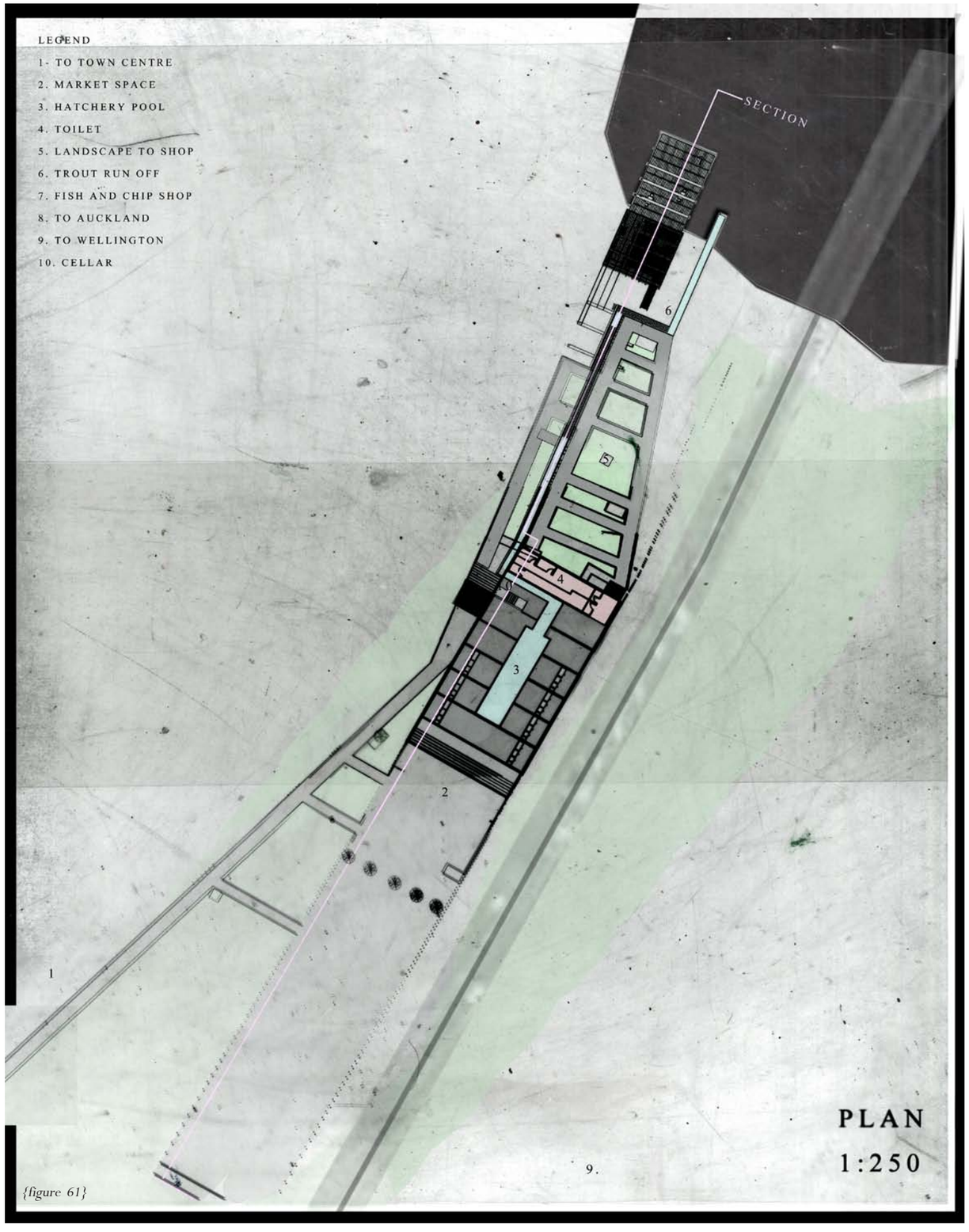
{figure 59}

Image by Author
Drawing, 2010



{figure 60}

Image by Author
Map of Site not to scale, 2010



{figure 61}

Image by Author
Plan View, scale 1:250 at A4, 2010

Programme

The programme for this building is separated into exterior and interior function. Primarily, the exterior's function serves to capture interest, whereas the interior serves to retain it. In plan view, the parallel channels of movement circulate around the building. Maintaining traffic flow past, around and through the building will serve to reinforce the architectural ideas being communicated.

In terms of the building's exterior, its monumentality and status in the community is its primary function. Its scale is such that it demands attention. The building rises out of the site, and before the site starts to take qualities back from the architecture, it is superfluous to the site. A site is not empty; history, adjacencies and future developments define a site's quality. Whereas architecture such as the Maison de Verre, a monument to modernism, was built on the site of a much older building which the patron had purchased and intended to demolish, this architecture is built on a flat site. These may seem like opposing ideals, yet they are the same. Immaterial site conditions are as important as material ones. The building will slowly transition from a monument to an artefact, but will retain its status in the community.

Structurally, the building borrows thematic and architectural elements from the Tokaanu Dam, which serves as a monument to its creators. Its rectilinear profile channels industrial recollections and, represented in the sectional elevation, echoes the photo essay of Industrial Europe by the Bechers in the book *Typologies*[70]. The evenly spaced portal frames are in part a slightly ironic reference to prescriptive geometry, but serve as the structure and membrane for the sacrificial facade that is wrapped around it. They support structural panels that provide lateral bracing for the buildings on both the walls and roof. The stratified and exposed structural system also serves to capture and hold shadows, increasing the light quality inside.

70 Becher, B, Becher, H (2004). Typologies. London, The MIT Press.

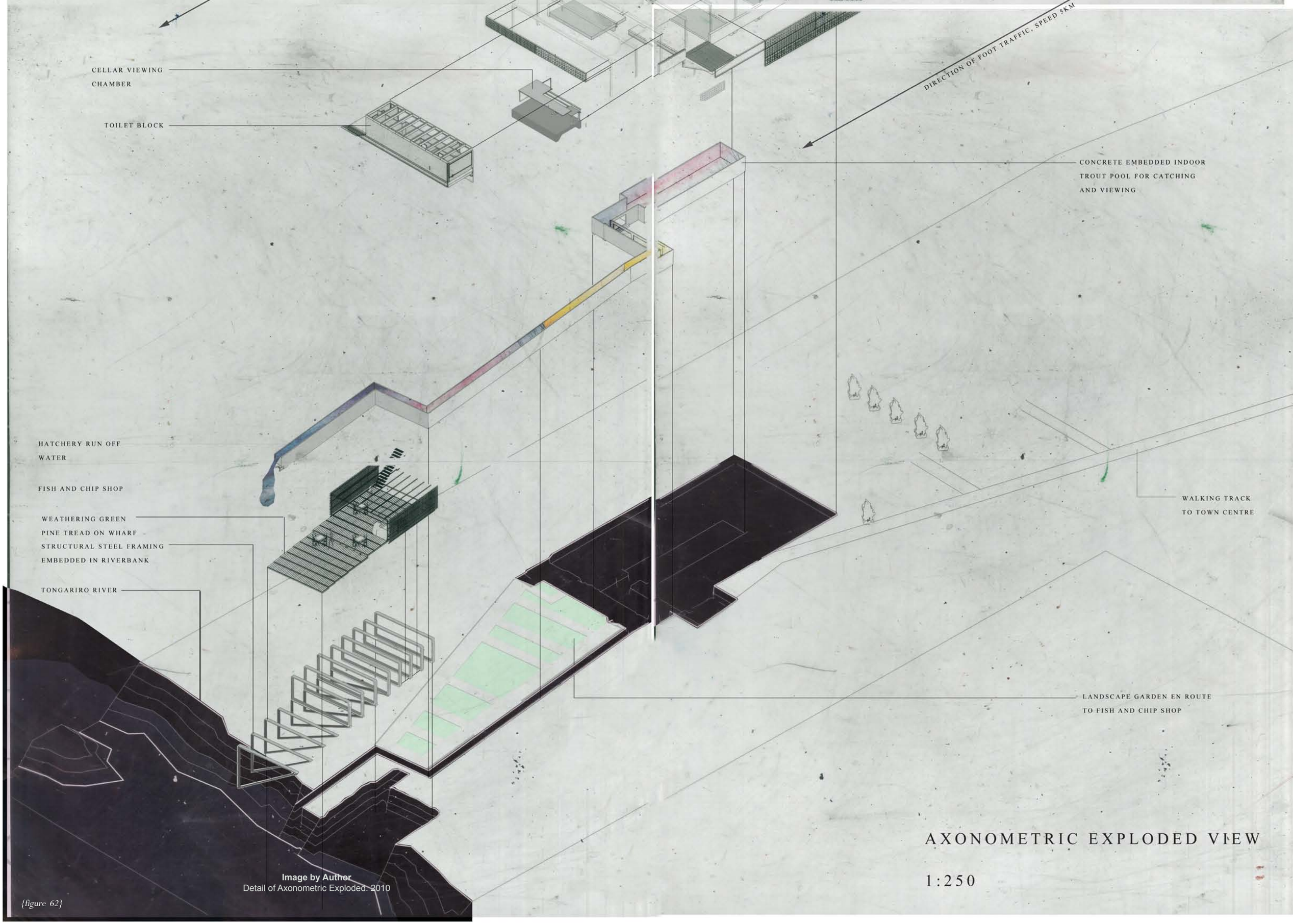


Image by Author
Detail of Axonometric Exploded: 2010

{figure 62}

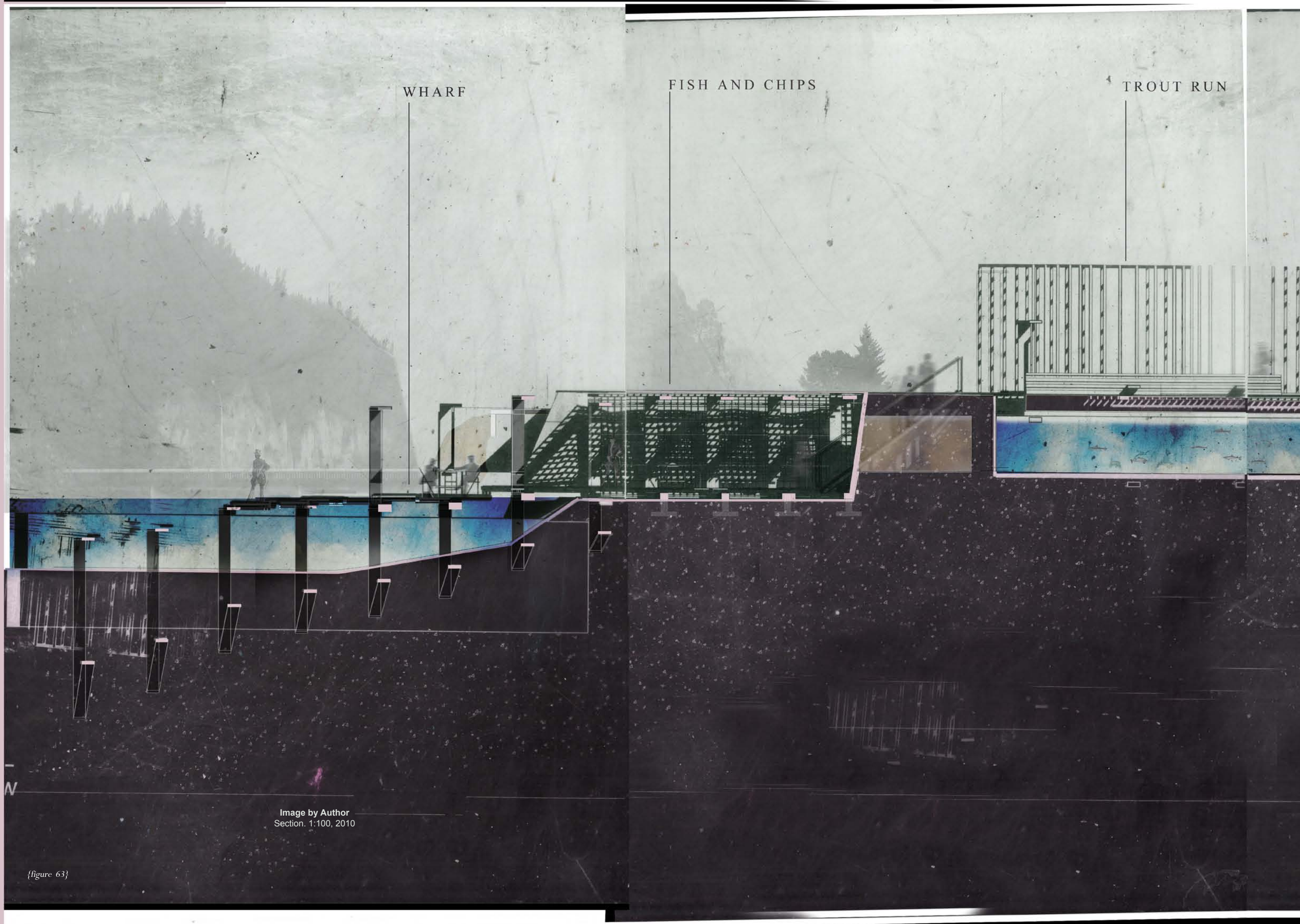


Image by Author
Section. 1:100, 2010

{figure 63}

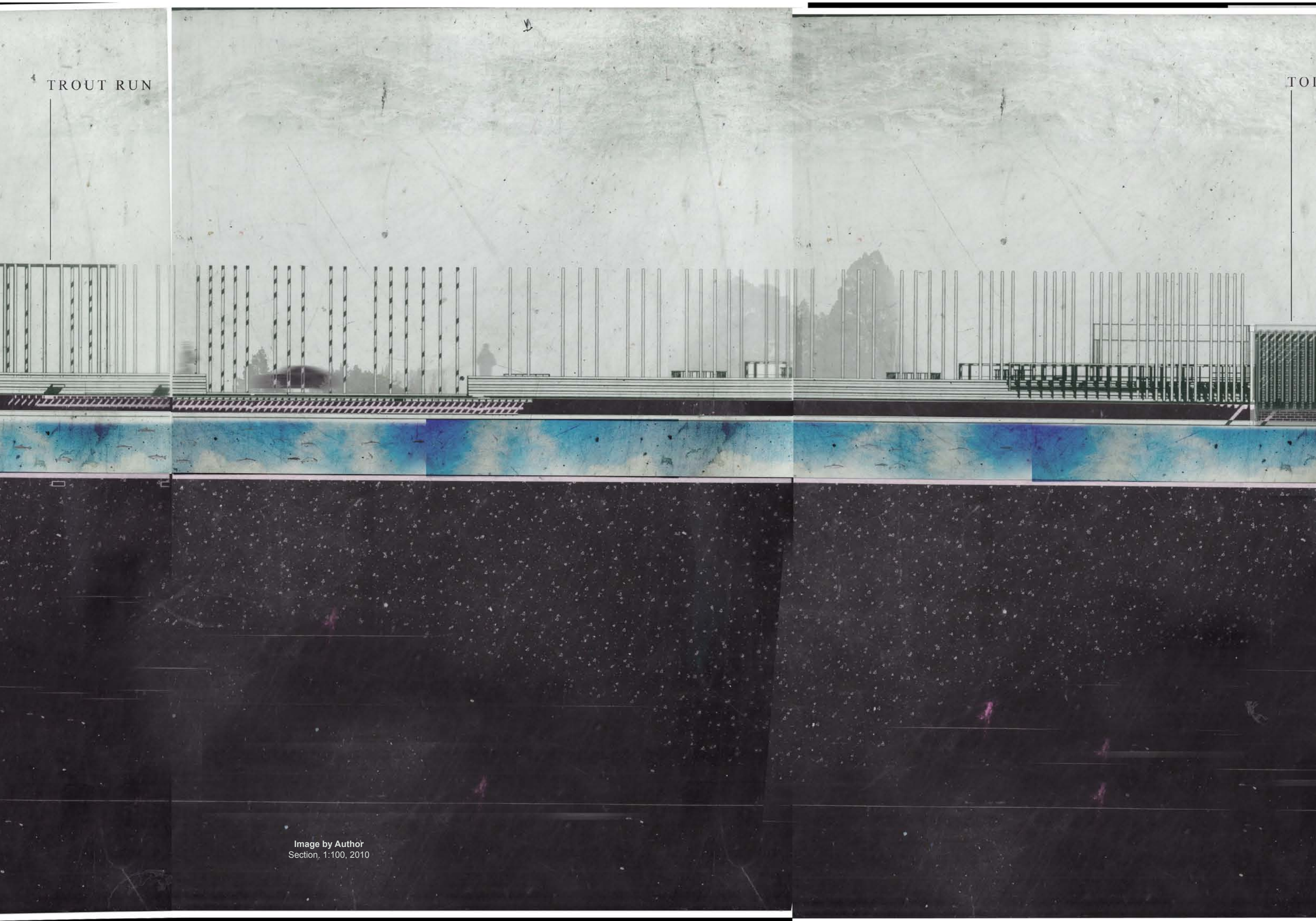


Image by Author
Section, 1:100, 2010

TOILET

HATCHERY

Image by Author
Section. 1:100, 2010

B

C

TO TOWN CENTRE

Image by Author
Section. 1:100, 2010

SITE SECTION 1:100

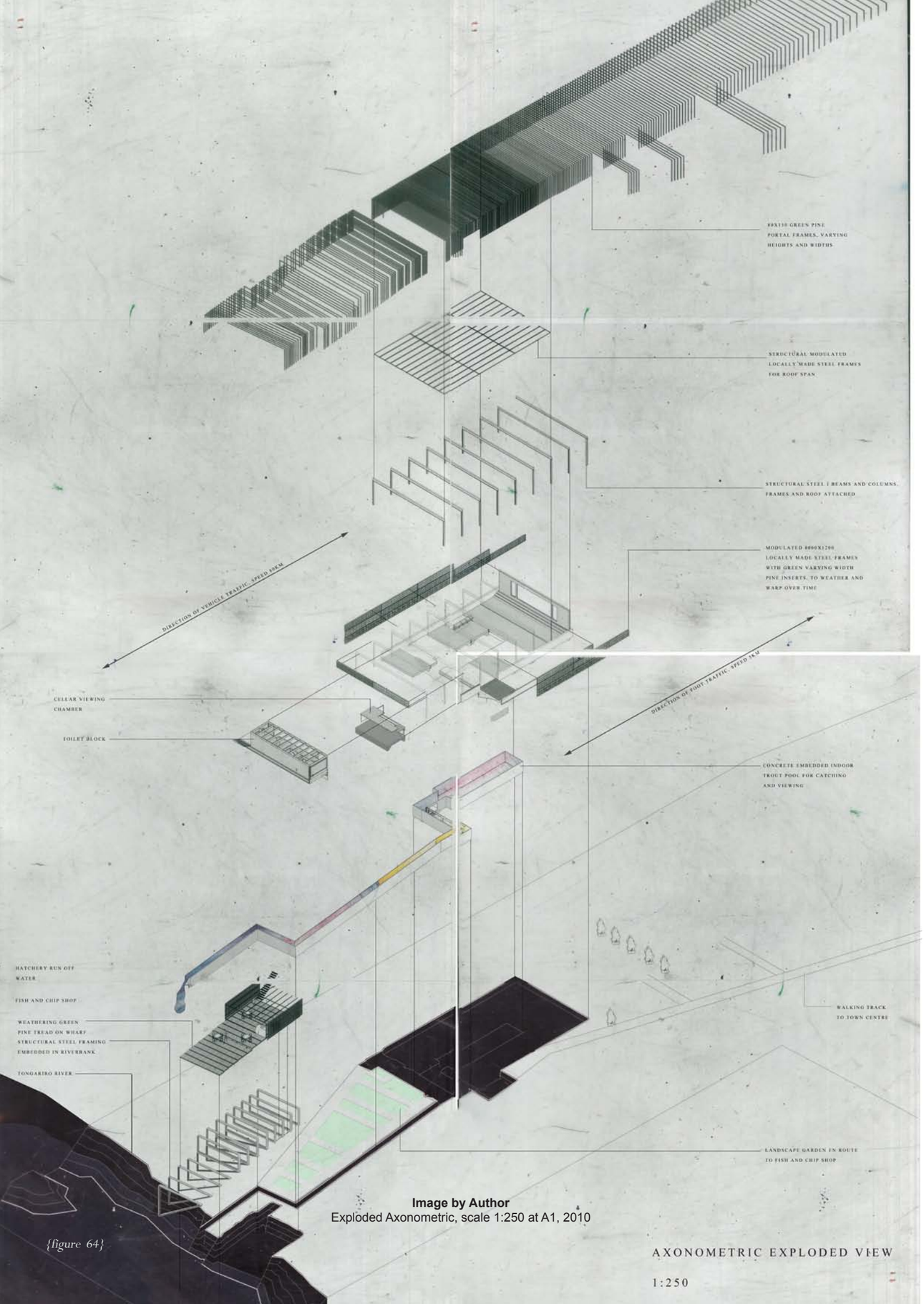


Image by Author
Exploded Axonometric, scale 1:250 at A1, 2010

{figure 64}

The sacrificial facade is the most prominent element of the building; it serves many functions and has many nuances. The fins' proximity to each other is the most visually defining element. This proximity is defined by the intensity of the programme happening inside, dictating light qualities and providing visual indications of where to inhabit. The fins begin to disperse into the landscape once the structure of the main building also begins to degrade, setting a precedent for the building becoming an artefact over time. As well as indicating the intensity of the programme inside, the fins serve another purpose. Their depth dictates that the angle in which you view them makes a considerable difference to the perception of transparency and opacity. When driving past at 80kmph, the facade fins will blur together, echoing Bragaglia's thoughts on movement when he stated that speed applied to actions or objects renders them immaterial and invisible. The greater the speed of the action, the less intense and broad will be its trace. This blurring will render the directly perpendicular to the viewer's angle of the facade completely transparent, with a logarithmic curve either side mediating the transparency until it fades into complete opacity.

Inversely, viewing the fa**cade on the opposite side, at walking distance, renders a mate**rial experience that focuses on the physical materiality and stratification of the building. The scale of the building determines that a substantial amount of materials will be used, and the textured nature of the facade means that the viewer can witness a wide range of degradation and weathering. It follows that the slower the movement of the user, the more trace the building leaves on the senses. The material palate for the structure of the building reinforces the notion of it turning from a monument into an artefact over time. The fins are constructed of untreated timber, with copper fixings. The pine forests created locally provide a renewable resource, and the life cycle of the pine will slowly reveal the layers of the facade. Transparent and opaque initially are clear; as the materials degrade, the facade becomes increasingly blurred.

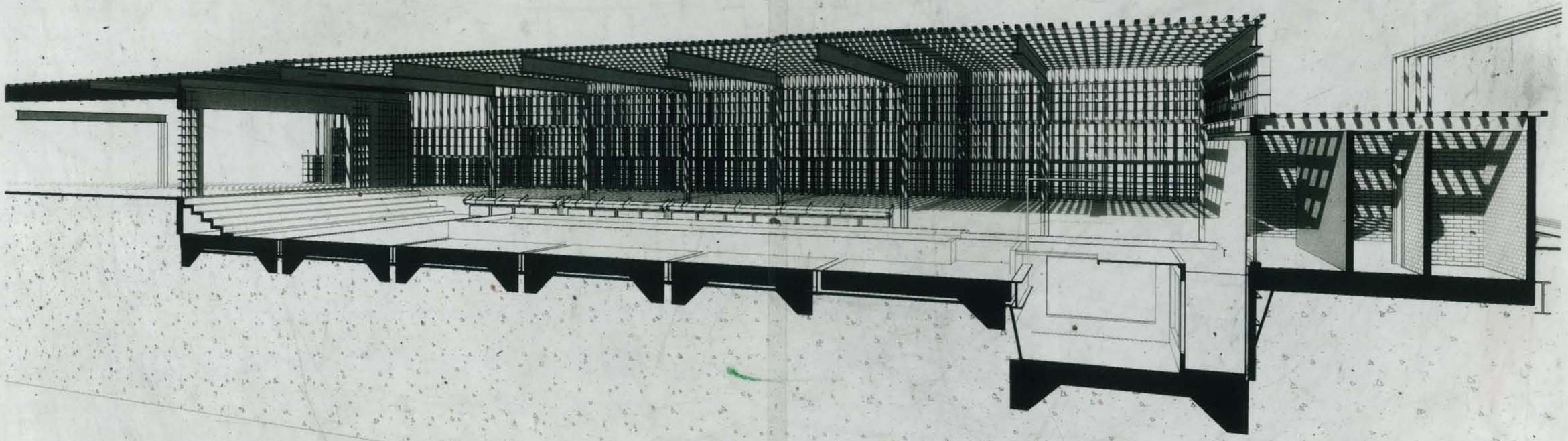


Image by Author
Interior View of Trout Hatchery, 2010

{figure 65}

Image by Author
Holistic View of Model, 2011

{figure 66}

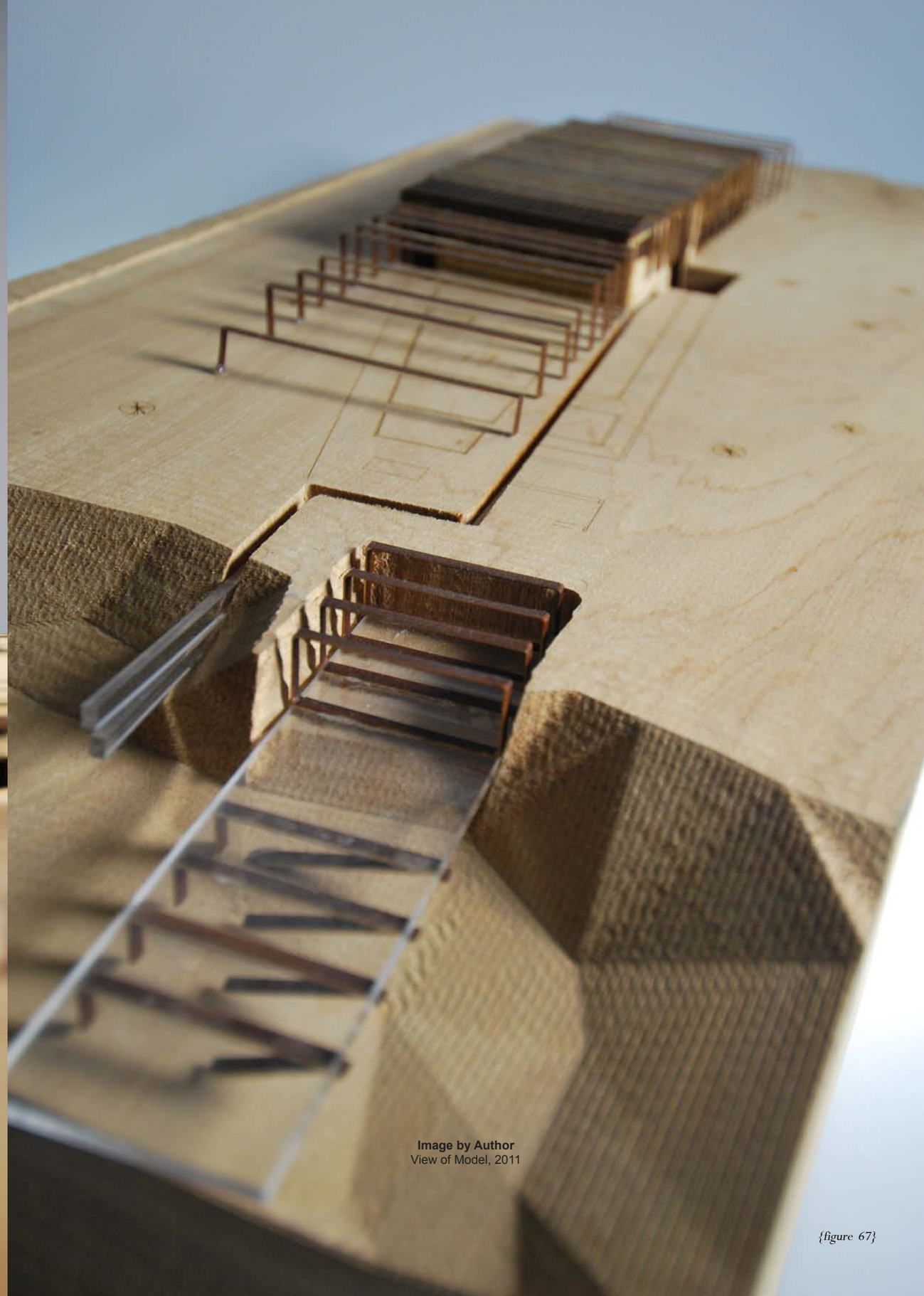
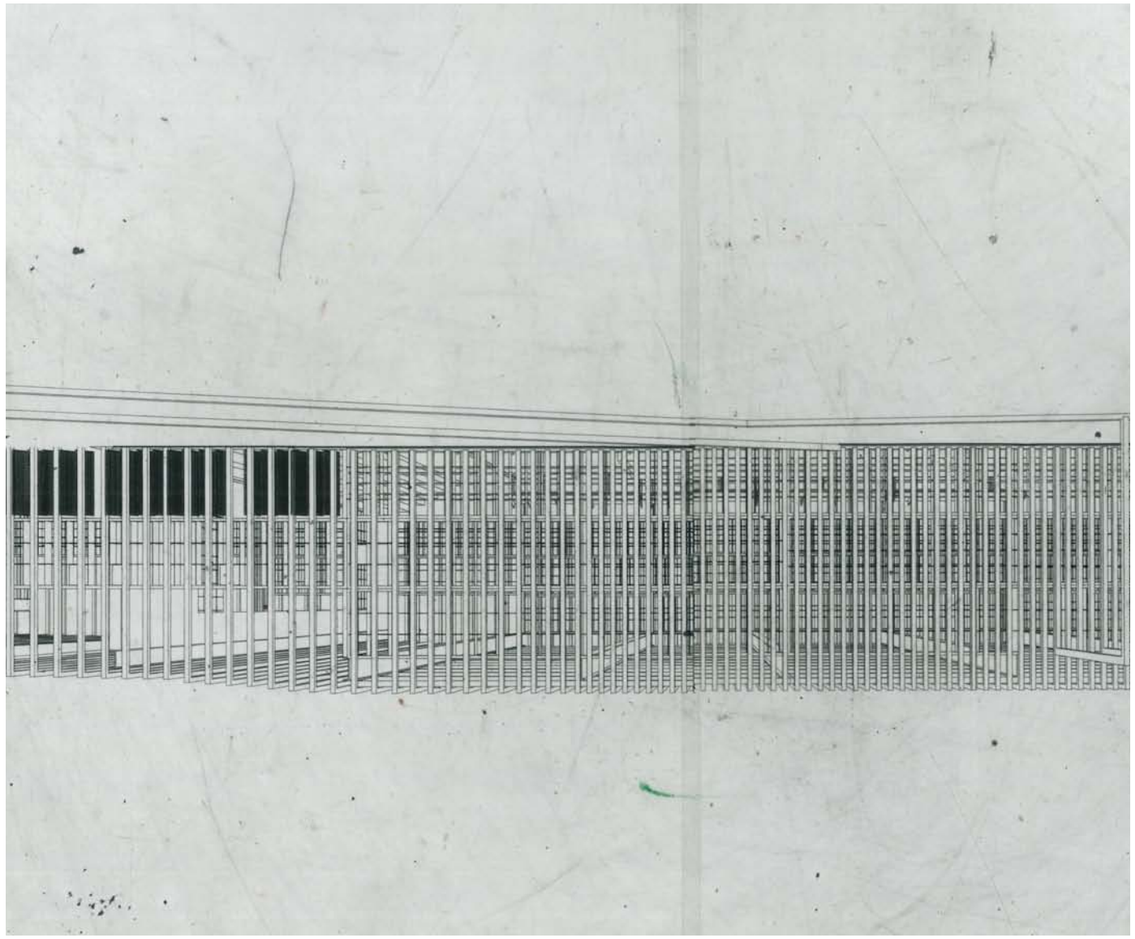


Image by Author
View of Model, 2011

{figure 67}



{figure 68}

Image by Author
View of Facade, 2010

The result of this facade system is that it is a different building at different speeds. Whereas the experiments focused on the building creating the condition of change, it is vastly more successful if the user creates the change. The programme for the building is crucial towards carving its interiority. As indicated in the site chapter (chapter three), the river plays significant roles, both physical and functional, in the site's character.. The current trout hatchery appears to be essential to the town's infrastructure, due to its significant contributions to the town's image and tourist input, but its location is not as central as desired. Combining the hatchery, which resides adjacent to another section of the Tongariro River, with the site has been perceived as the best result. Utilising the hatchery as the primary function, the programmatic requirements pertinent to its running are:

- a catchment area for trout to breed and grow
- a pool for children to catch their own trout in a safe environment
- circulation area
- bathroom facilities
- an underwater viewing platform
- safe release run-off into the river
- an administration area for issue of licences
- waterproofing
- weatherings
- entry and exit points.

Image by Author
View of Fish and Chip Shop, 2011

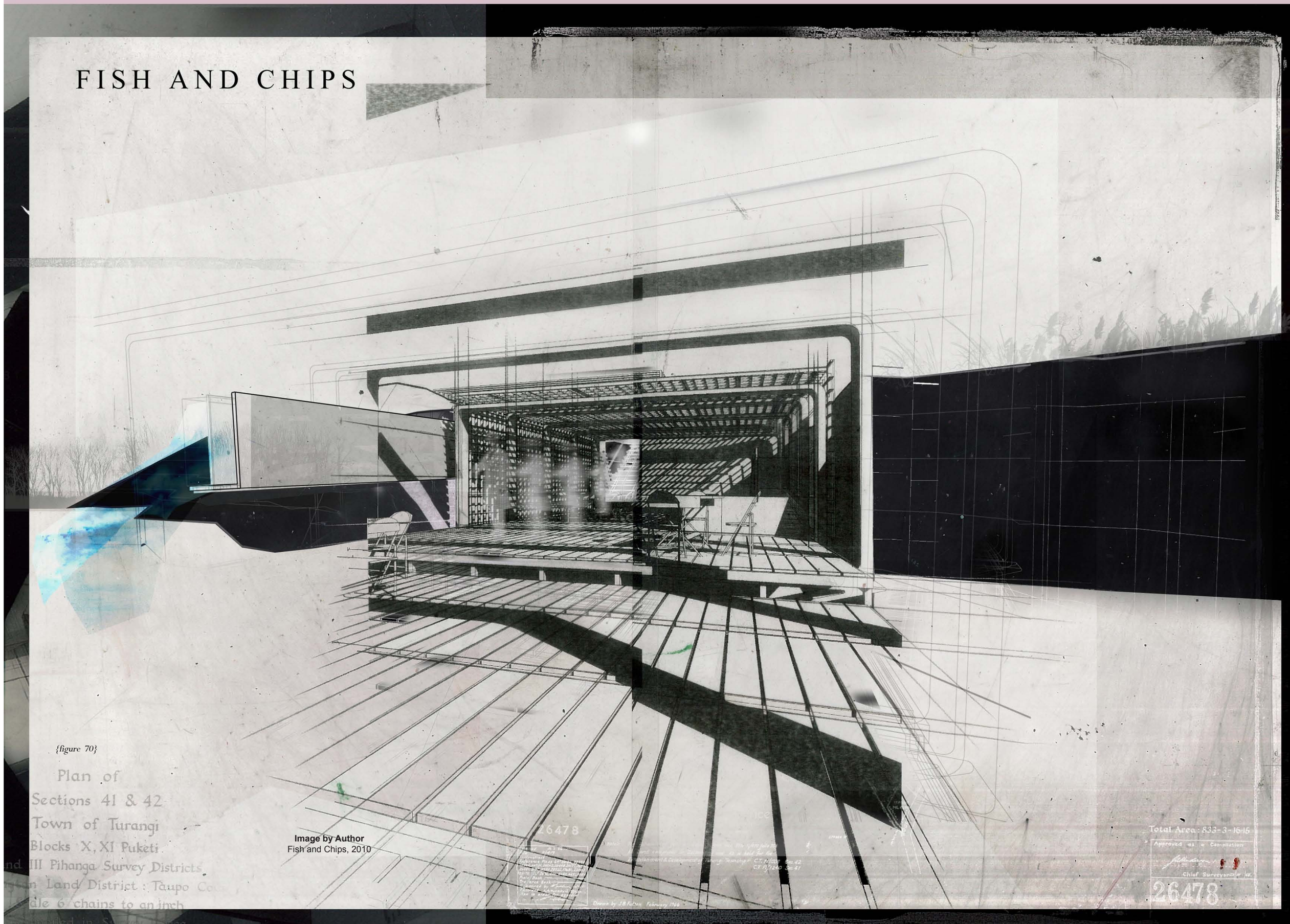
{figure 69}

The idea of introducing the trout hatchery as the primary programme for the architectural intervention has merit by itself, but would be supplemented by peripheral programmes. A function that attributes itself to the river, such as a fish and chip shop, is ideal. The idea of a fish and chip shop picks up on many ideas presented in previous chapters: the need for a local hospitality business to dilute some of the monopoly held by Burger King, the need for a quick food stop for travellers next to the main highway, and the need for a secondary related business to supplement the hatchery and create an atmosphere where travelling to and between is an experience in itself.

The programmatic requirements for a fish and chip shop are:

- a service area
- a raw preparation area
- display cabinets
- kitchen and assembly area
- eating areas (indoor and outdoor)
- waterproofings
- circulation area.

FISH AND CHIPS



{figure 70}

Image by Author
Fish and Chips, 2010

Image by Author
Image of Fish and Chips, 2011

{figure 71}

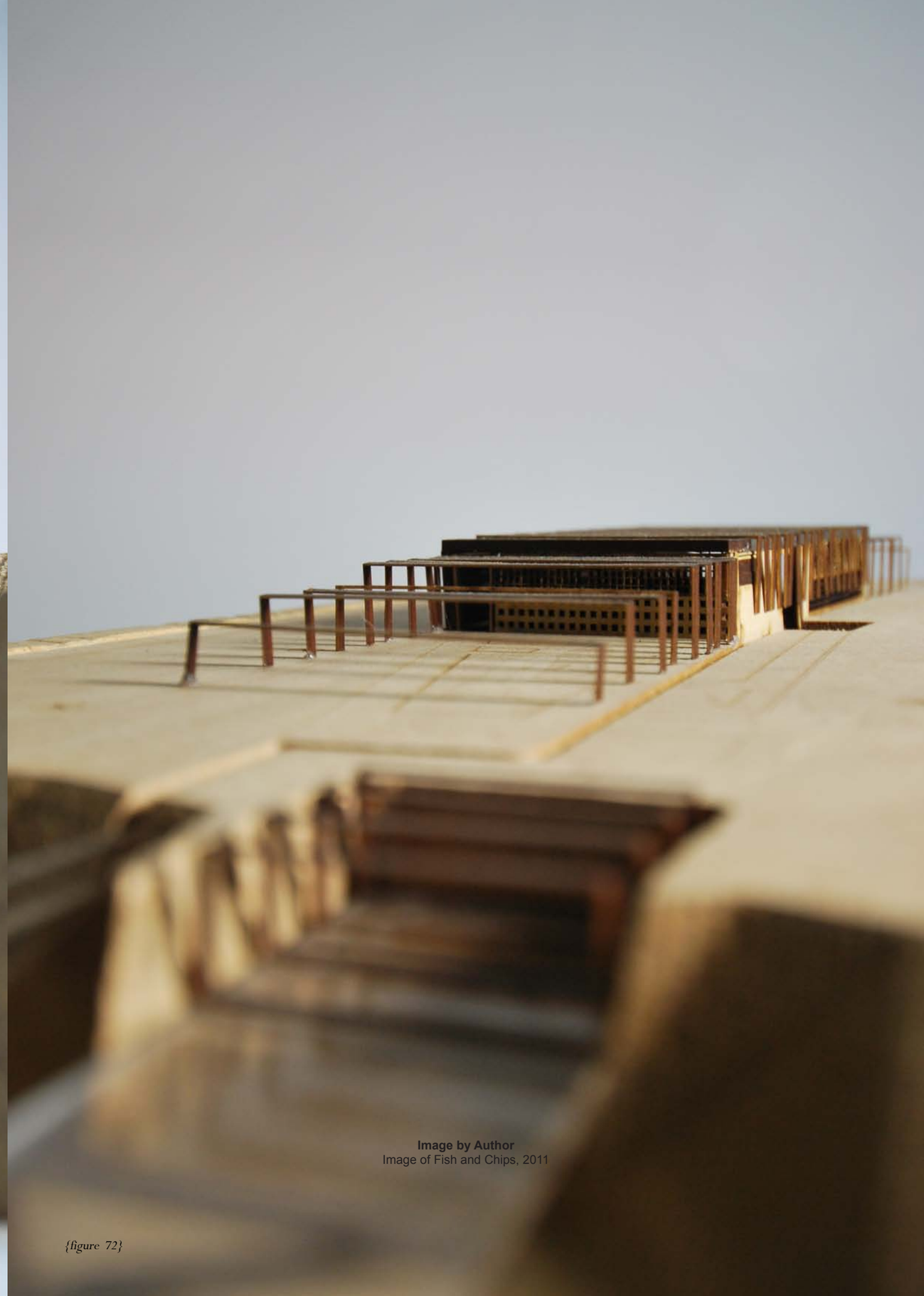


Image by Author
Image of Fish and Chips, 2011

{figure 72}

Image by Author
View down State Highway One, 2011

{figure 73}

Circulation between the hatchery and the fish and chip shop, because of the danger of dead space, should also be considered and programme applied. To both surround and penetrate the two primary programmes, a marketplace to be primarily used on Sundays is seen as the most suitable admission.

The programmatic requirements for the marketplace are relatively loose, requiring flat open space, with circulation space for trucks and transport, circulation and dividing space for retailers and shoppers, and landscape architecture installations for seating. The run-off from the hatchery provides a spine around which the market can function, and it leads to the fish and chip shop. The opposing end of the market penetrates the building, transitioning thresholds into a more permeable state. The market can function both inside and outside the hatchery building depending on the weather conditions and, as with the run-off, the footpath leading towards the town centre provides a spine for the market.

Details

Copper has a fluid presence, it alludes to time in its patina and performs well over a period of time with little maintenance. Its natural weathering effect produces an atmospheric condition that increases its capacity to create a dignified aesthetic. The fish and chip shop is an experimental subterranean installation, embedded in the river. It is directly concerned with the line where ground meets water, both physically and metaphorically. It is partly submerged in the river, at times at the mercy of the water level as it envelops the dock. It transitions from an intense interior experience into a wharf, its structure both essential and decorative, symbolically slipping into the water. Its status as an artefact, its vulnerability to the elements yet its rigid weatherproofness underline the fact that it is artefactual, monumental and functional. The changing heights of the water slowly strip the copper and timber of their colour, the weathering modifying the building into the surroundings, the earth taking back what was its own to begin with. The open air fades into the ground through a staircase, and the subterranean area is a centre of gravity for the wharf bursting the banks and collapsing into the water.

CELLAR VIEW

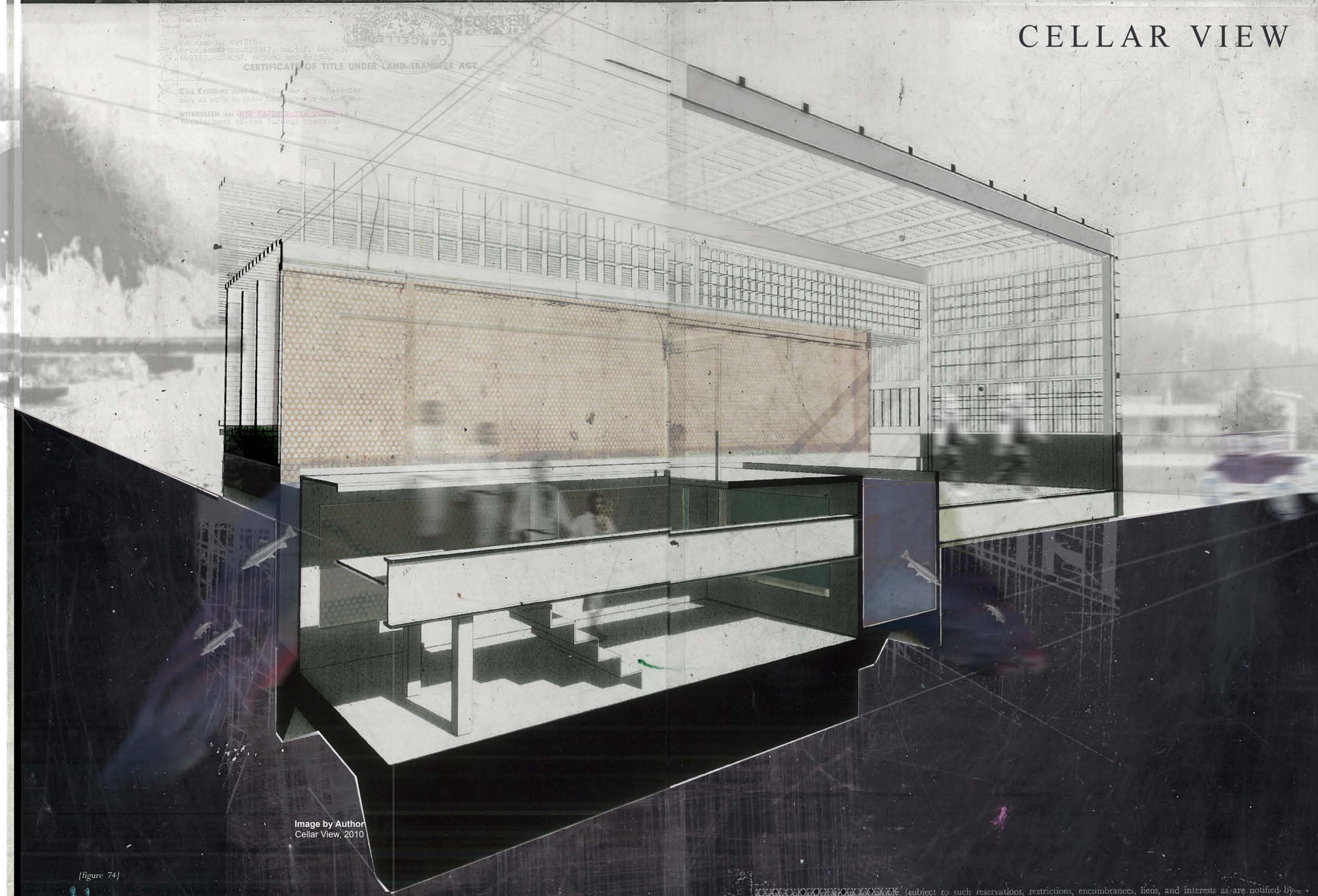
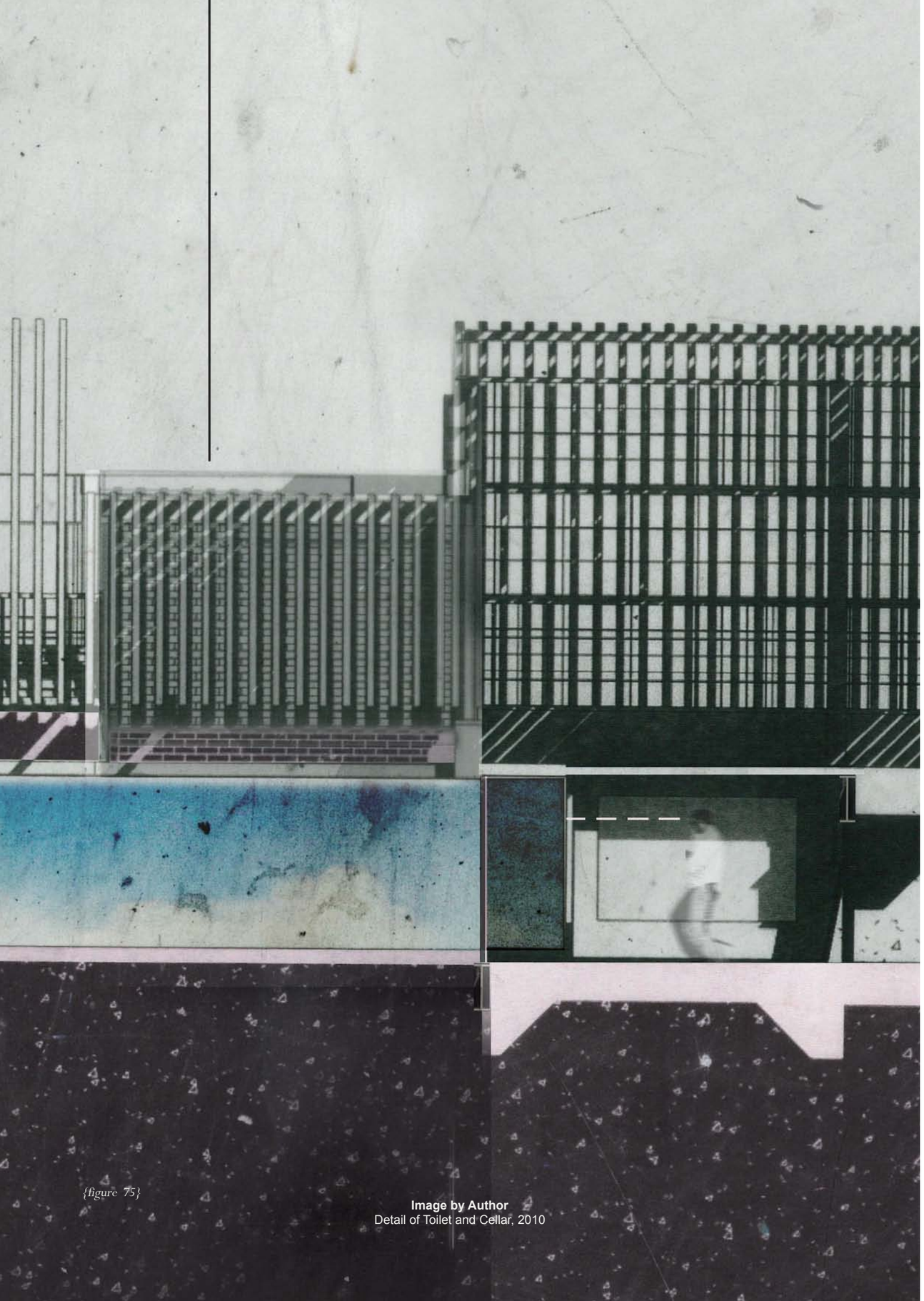


Image by Author
Cellar View, 2010

{figure 74}



{figure 75}

Image by Author
Detail of Toilet and Cellar, 2010

The hatchery functions as a gateway into the fishing experience for the young or uninitiated. Its controlled fishing environment echoes that of the National Trout Centre, and provides a learning experience in catching trout. It houses a subterranean viewing area, where users can observe trout in more detail. Surrounding the pool are display installations, detailing the town's history. The entrance wraps around the building, concealed from the road, inviting a full exposition of the facade and circulating traffic in a non-linear fashion. The hatchery is partially embedded in the earth - as the buildings' sacrificial facade gradually fragments, elements of the structure begin to emerge and its permanence becomes more assured. It is the centre of gravity for the fish and chip shop, which slowly gets pushed into the river.

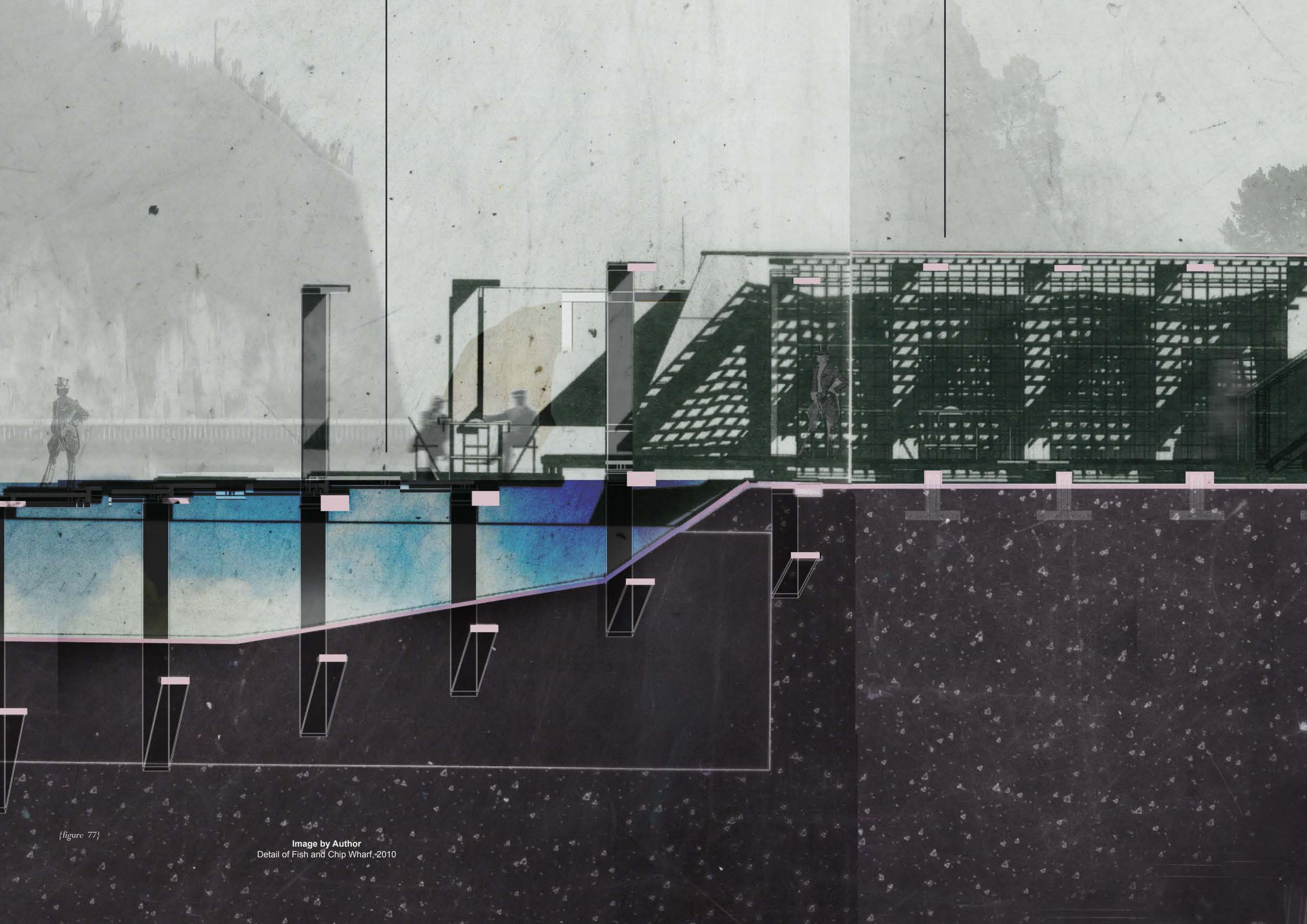
Future Development

It is important to note, as indicated earlier in the thesis, that architecture exists in time. Future development is crucial to Turangi if it is to expand as a township and begin generating interest in its history. The staggered nature of the facade structure slowly dissolving into the landscape provides a palate for creating a boulevard along the site. Due to the physical size of the site, a single structure would be overwhelming in scale if it occupied the entire area. Alternatively, as indicated in the sectional elevation, the hatchery is installation (a), to be followed if successful by installations (b) and (c). This creation of a new streetscape will lift Turangi's casual visitorship to unprecedented numbers, and create a new hub of activity which will feed into the town centre. This particular intervention creates a canvas for future opportunities and an adaptable future for Turangi.

WHARF

{figure 76}

Image by Author
Fish and Chip Wharf, 2010



{figure 77}

Image by Author
Detail of Fish and Chip Wharf, 2010

PREDICTING ARCHEOLOGY

DISCUSSION AND CONCLUSION

This thesis is resolutely about Architecture. It questions the trend in form alluding to movement, and offers an answer placed in site and material. The explosion of computer propelled tecbnology has affected architectural creation in every way. Achitecture as space is now considered corporeal from the moment the computer screen is powered. Throughout the course of this thesis, certain positions have been made and argued. Although the merits of what has been criticised are acknowledged, the intentions and aspirations of this discussion are clear. Time as a design driver's resonance is being diluted in favour of material performance and manipulating capacity, yet the natural world is being absorbed as an aesthetic driver in much of contemporary architecture. This technological change is asking users to change their perception on what architecture means to them if it is not physically located in-situ. Architecture as a discipline is shifting to one that sits atop site, rather than growing from. Stratification, and increasing architecture's reationship to site is predicted as the most credible way to reduce architecture's misinterpretation of copying movement from natural systems. The way to communicate movement in architecture is in a slower way- through degradation and manipulating transparancy of material.

This is a contemporary thesis using theories and literature that have existed for many years, attempting to revive ideas that may be perceived to have been lost in today's fast-tracked construction industry. The research attempted effectively to critically describe the concept of a living building, and the distinction between the aesthetic tendencies and the subconscious stratificated term that is expressed in the architecture. It asked whether natural elements are being misinterpreted when tranlated into digital space, and questioned the aesthetics of parametric architecture when the notions of movement and speed

are applied, and if there is a possibility to create architcture that embodies archeological integrity from the moment of conception. The tension between Time and Movement was explored, not as being mutually exclusive, but as hand in hand.

The conclusions drawn successfully acknowledged the merits of architectural reproduction as necessary when postulating a position purely existing in printed media, thus requiring a level of interpretation into its reresentation. The method of representation- blending analogue and digital techniques were It identifies a site in need of an architecture to test the ideas, and produces a design solution concluding that architecture's direction when applying digital creation should acknowledge a building's place over time, rather than place in time. The strongest statement relates to architecture and site, and the lack of connection to site by aspects of contemporary architecture. Although not explicit, David Leatherbarrow alluded to this when he said that a time-bound growth of skin covers the new surface with an accumulation that represents the tension between architecture and the conditions of its location. Architecture cannot become thus until it has remained on a site for a period of time. The results of the artist study postulated a position in which antiquity resonates through a modern lens. Rudimentary photographic techniques mature with time, and when applied to architecture can start to represent ideas originally disassociated with either discipline.

The predictions made about the intervention designed in chapter four tested this idea. The overtly detailed site analysis is postulated to give the reader a strong sense of the importance of site in architecture, and also to communicate that an equal interest can be abstracted from any site. The title of organic architecture is to be understood as a thesaurus, rather than a dictated term , as this name inspires visual connotations. However a layered approach to the term, that includes ambiguities and the suggestion that a living building is not purely aesthetic. This personification is applied to notions inherent in built architecture and the occupation of it. Nicholas Szczenpaniek's illustration of his building absorbing energy, modifying its surroundings, creaking and groaning, and being affected visually over time suggests an architecture that is at one with its situation.

Where the design intervention was successful was in its unifying of the argument into an aesthetically layered and dense architectural result. The facade panels, inarguably the core of translating the argument into architecture, were successful in the fact that they avoided display, favouring allusion. Their mediation between transparency and opacity and the arbitration reconciled between the movement of users around the site through architectural form were successful. The study on materiality was concise and directive, and the wrapping of programme into the architecture, encompassing the allusion to intensity of occupation, was comparable in its success. The building's nature of dissolving into the landscape reinforced the theme of monumentality and artefactual quality. There was a suggestion of using digital animation media to reproduce the sensations, yet I felt a resistance to this idea for the sake of reproduction. The slippage and stratification alluded to in the body of the thesis remains the critical architectural language, and diluting this thesaurus of interpretation reduces the authenticity.

Where the building was less successful was its translation and its reproduction on the page. Whereas every effort was made to provide a framework in which critical theory and descriptive terms inform the reader, the issue of presenting architecture in a book echoes a sentiment by Herzog and de Meuron in Natural History. "Architecture that looks good in reproduction ... is more marketable. But for the medium of architecture to survive, the only thing that counts is the one to one perspective. Why do people visit the cathedral in Cologne? It gives you an experience of space that you could never have imagined in a movie by Steven Spielberg ... It is absolutely essential to continue to aspire to these intrinsically architectural qualities[71]". The underlying critique of the final presentation was the gap between the admittedly large-scale drawings, and the physicality of a genuine situated experience.

The hypothesis in which movement and architecture have been abstracted provides an architectural language which is definitive when applied in conjunction with the position on situatedness. These parallels form a framework within which new architectural projects in contrasting situations can be prepared. While the scope of this thesis focuses directly on Turangi, its success will be determined when applied to another opportunity.

71 Ursprung, P (2005). Herzog and de Meuron, Natural History. Canada. Lars Muller Publishers, p 83.

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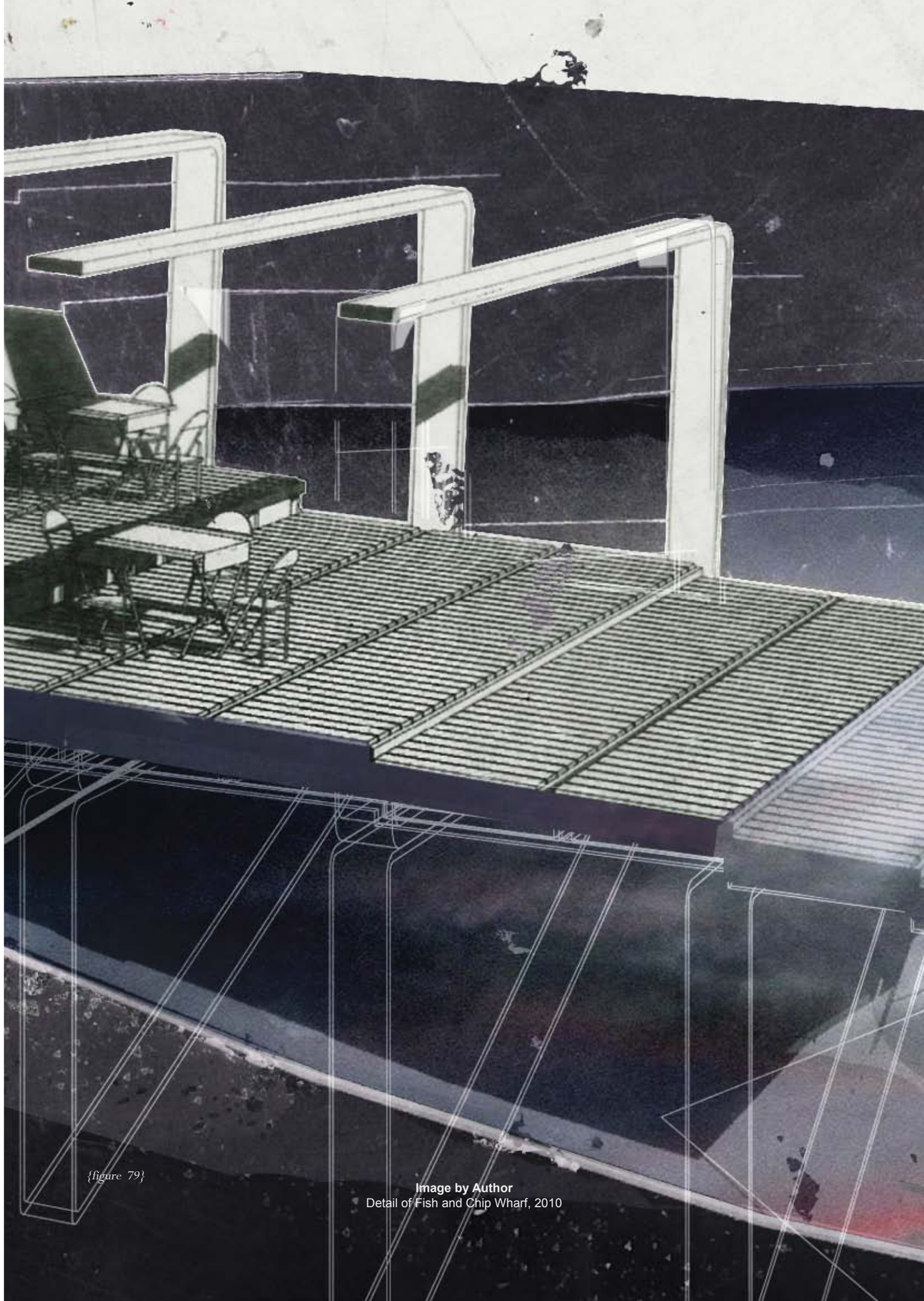
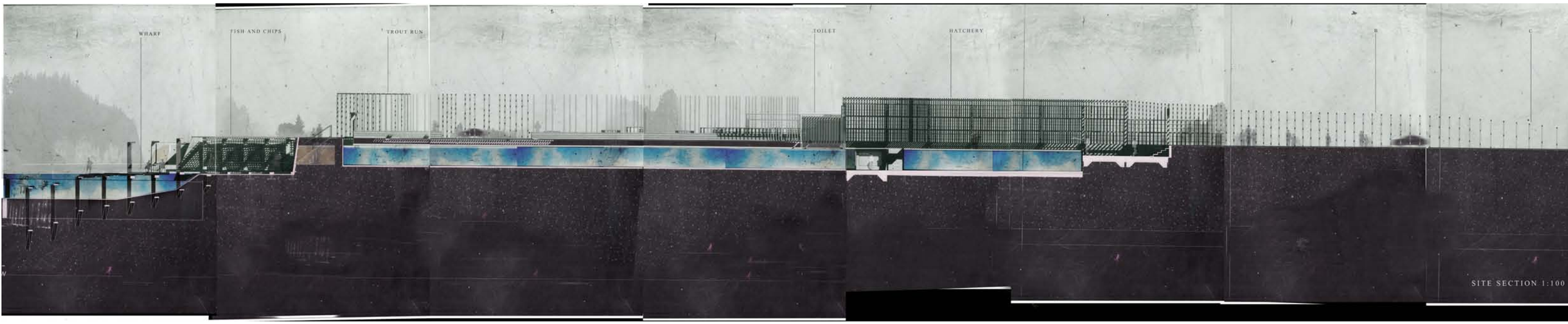


{figure 79}

Image by Author
Detail of Fish and Chip Wharf, 2010

PREDICTING ARCHEOLOGY



{figure 80}

Image by Author
Section of Site, Scale 1:100 at A4 high, 2010