

PEOPLE'S SUPERMARKET



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People's Supermarket
a 120 point thesis submitted to the Victoria University of
Wellington in partial fulfilment of the requirements for the
degree of Masters of Architecture (Professional)
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Victoria University of Wellington, 2015
School of Architecture

ABSTRACT

Public markets were once a very important place to a city. However with the growth of the city and heavy usage of traffic, big-box supermarkets start to find its way into the city. The supermarket revolution had overtaken the public markets identity in most urban cities. However, due to recent events known as the supermarket bully-boy tactics, brought an awareness to the public. In result, the public starting to turn away from these chain supermarkets and start to support the local produce. However, even with the support from the public, public markets still find hard to grow within the urban city.

This thesis investigates how a hybrid building could be the solution for the public markets in the city from being evicted due to urban land development. This is investigated by incorporating the public market as part of the building's design development. Besides incorporating the market into the building, the nature of the market as a public place needed to be retained.

As the chosen site for this project is situated in an area between two high activity neighborhoods, the project's design seeks to channel the vibrancy from the surrounding area through the building. The research had identified several public programs other than the market to be integrated into the project's design. The aim is to design a vibrant urban public place, engaging with the people and building a sense of community within the inner city area.

This design-led research thesis breaks-down the project's complexity into three separate faces to be investigated. The first design phase introduces the overall design scheme and describes the programs relativity to the project. This phase carried on with the investigation and documentation of the form finding process through a series of physical modelling and images.

This then led to the second phase of the research involving the market. This phase investigates the physical realms in public market design from a socio-spatial perspective and design principles for making farmer's markets a public space. The investigation considers the circulation route defined by the promenade and the layout of the stalls. Diagrammatic analysis was conducted throughout these investigations. The outcome of these investigations will reflect on the latter decision for the overall design outcome.

The research carried on to phase three where the final design outcome of the design is documented. The design process is generated through the combination of investigation outcomes gathered in phase one and two.

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INTRODUCTION

MARKETS VS SUPERMARKETS

There's a Supermarket in town... why do we need another market? What does the market provide that the supermarket does not? They both sell food produce required for human consumption don't they?

“Markets were once the nuclei of cities; now we're building supermarkets in the middle of nowhere, putting houses around them, and calling them towns. Perhaps this should come as no surprise as food has always shaped cities, but there is a difference! Food was once the most highly regulated commodity in existence; now it is overwhelmingly in corporate hands. Supermarkets enjoying the same monopoly over food the markets once did but unlike markets, they have no civic role to play” (Steel 144-145).

In that abstract, the author is clearly pointing out that urban markets are public spaces while supermarkets and malls are private ones (Steel 145). The vast expanding growth of these supermarkets can be viewed to affect the urban texture and behavior of a city. The public culture of food brings vitality and conviviality to urban life. Within the fast pace of contemporary life, anonymity and large-scale spaces of the modern city, food venues give us a sense of intimacy, a place to pause at an eminently human scale (Franck). These are the valuable urban social qualities that a public market place are able to provide and these places often being recognized as the 'third place' for the people apart from work and home.

The Public is Gone

Supermarkets in cities might provide places to shop, work and live, however, quality of life or human scale is not a priority. The priorities for the owners and developers; is the economic use of floor space to generate profit. The typology of supermarket buildings often known as the 'big- box' is frequently surrounded by masses of vehicle parking space. This typology and its supporting infrastructure cause separation from the urban context. When comparing them (supermarkets) to the public markets, they are far from encouraging a 'vibrant urban community', rather they could be seen as destructive insertion into the fabric of any city. French anthropologist Marc Augé calls this condition a 'non-places' and proposes that they only operate as instrumental linkages with little to none local identity and lack of quality living spaces. He contrasts these places to the traditional markets which he referred to as 'anthropological places', spaces that carry memories and associations to a certain place (Augé 78). These (including public markets) are the type of places where urban vibrancy are present. It is places where public life in all forms no matter it being unexpected, strange, dangerous or safe and comfortable, that is the essence of urbanity. When this vibrancy is all being dissolved and being located in a constricting 'box', the entire quality of urban existence is diminished. (Steel 147). A city needs successful public places. My proposition aims to overcome this is by postulating that an urban public market would make a significant contribution to the fabric of Wellington City. It can turn an unoccupied space into a location that people have a strong desire to inhabit, and over time engage a common connection to the place that forges a sense of community



Figure 1 - Wellington Harbourside Market (Top row) –
New World Supermarket (Bottom row)

Pictures taken on the same day as the Harbourside Market only operates once a week which is every Sunday. The pictures above showing the public's preference towards the farmers market over the supermarket.

The need for the Public Market

- The need to reinvigorate urban shopping districts and make inviting and safe public spaces.
- The need to support small scale economic activity and confront the problems of street vending
- The need to provide fresh, high-quality produce to inner-city residents.
- The need to protect open space and preserve farming around cities.

(Spitzer and Baum 16)

Currently in the city of Wellington, there are farmer's markets held once a week. These are well celebrated by the local community. This demonstrates a need for an everyday market. However, as the supermarket chains continues their expansion and control of the food trade, it urges the need for an everyday market even more. This movement had proven that control of food gives control over space and people (Steel 145), and that is exactly how the supermarket chains operates and performs what the local called 'bully-boy tactics'. By monopolizing the local food trade, local farmers only way to survive is to compete and supply to the supermarket chains. However, giving that only large wholesale farmers are able to produce the required quantities to supply for the supermarkets, small farmers who were unable to compete ought to look for alternatives in order to survive. And the farmer's markets is just the place for them.

Farmer's markets:

- Provide them opportunity to sell directly to the consumers and circumvent layers of middlemen.
- The face-to-face contact with consumers offers growers direct information about their buyer's preferences.
- They able to offer a diverse range of products, including new and old fashioned varieties of produce, specialty items, and organically grown produce.

(Spitzer and Baum 17)

Benefits of the Public Market

Most people who live in the city today are used to the city lifestyle and feeding from food brought into the cities by the supermarkets. Therefore many people overlook the impact and the importance of a public market to a city. This section will briefly elaborate some key benefits of a public market.

Provide Economic Opportunity

As mentioned in the previous section, public markets are a powerful business incubator. Public markets are places where small farmers, minorities and immigrants can seek to start and grow their business. And all they require are some basic infrastructures and minimal resources, public markets functions as an entry point for them (Spitzer and Baum; Project of Public Spaces).

Bring together Diverse People

A city consists of people of different ages, races, culture, and socioeconomic status, but rarely do we see an occasion where all these group of people gathered at one place. In a society so often marked by divisions rather than commonalities, the public market provides the one moment from daily life where everybody shares a commonality - Food. The public market and its informal mechanisms act as a neutral ground which encourages people to gather, make connections, share their similarities, and appreciate their differences (Spitzer and Baum; Project of Public Spaces).

Renew Downtowns and Neighborhood

As people gathers, and small local business economic grows, markets attracts a new life into the city. Looking back historically, most city centers were built around markets, because as markets attracts people and customers to spend money and time, it benefits the nearby shops and businesses as well (Spitzer and Baum; Project of Public Spaces).

To conclude, public markets creates an active **public place** in the city. It became a place where everyone gathers, forming a new community giving the neighborhood a sense of place and with its continuity over time, it gives the place a sense of identity.

MARKET AS HYBRID BUILDING

This section discusses the characteristics and qualities of the hybrid building typology. It will further investigate how it is suitable to foster a public place to ensure the permanency of a market within the urban context. Lastly, it will discuss the architectural strategies that are meant to be implemented into the design of this project.

The defining qualities of a successful market and as a public place can only be seen over space and time. As public markets in cities take place on open parking lots, abandoned land space, and streets, they struggle for permanency. ***How the role of architecture effects influence in the designing of a market on an urban plot in the city?***

Hybrid Building

Hybrid buildings bring people together at different times of the day, this encourages a much more efficient use of urban space. Hybrid buildings are said to "... leave room for any unpredictable changes in housing demands that might arise. The hybrid design task is not feared to an endpoint but to a strategy: the goal is to find an unambiguous motive for every situation" (Steenbergen, Muhl and Teh 2008). A hybrid building "turns against the combination of the usual programs and bases its whole raison d'être on the unexpected mixing of functions" (Fernández, Mozas and Arpa). Even though the relation of these programs might not initially be obvious, they ought to be compatible. This might be the combination of a function that uses a space during office hours, together with a function that combines uses of that same space during the night.

Why Hybrid?

Public markets in the city of Wellington inhabit negative spaces (e.g.: parking lots, on streets, abandoned lots) within the city. This is a potential problem as the important function these markets represent become vulnerable to displacements through development pressures due to the high costs of urban land. In order for public markets to survive in the city, we must first ensure a permanency.

One method to achieve this is to leverage the mixing of uses in a hybrid building. This will generate a potential to incorporate a public market within the urban grid while ensuring its permanency via diversity and added value to the site. Markets are 'places for people' (Gehl). A successful hybrid building have the qualities to foster social interactions for a public place like the market. Its characteristics of complexity, diversity and variety of programmes are keys to a vibrant urban space. By transprogramming several programs, regardless its incompatibilities, together it generates unexpected, unpredictable, and intimate relationship situations (Fernández, Mozas and Arpa 43; Tschumi 329). In the words of Bernard Tschumi, this creates an 'event'. "Architecture is as much about the events that take place in spaces as about the spaces themselves" (Tschumi 13). **'.... The hybrid opened up to the city and encouraged contact among strangers, intensified land use, densifying relationships and left room for indetermination.'** (Fernández, Mozas and Arpa 52).

CASE STUDIES & SITE ANALYSIS

CASE STUDIES

This section analyses a number of significant precedent to understand how each one of these projects contribute its significance to their respective cities. This section features several hybrid buildings, and public markets researching on how its architecture approach had responded to the urban public realm.

Markthal – Rotterdam – MVRDV

Project :	Markthal (Market Hall)
Location :	Rotterdam, Netherlands
Type :	Mixed-use / Hybrid
Programme :	Public Market Apartment 228 units Restaurants Underground Supermarket Underground Carpark

A new unique hybrid building by MVRDV, based in Rotterdam recently completed on October 2014. The architect claimed it to be the first of a kind for its typology which was composed of a public market and apartment building. The site in Binnenrotte, Rotterdam originally hosted an open-air market since early 1990's. Unfortunately, during 2004 the Rotterdam law enforces to forbid the sale of fresh food in open-air markets due to health regulations causing the site to be inhospitable for the market (Wortmann).

To perpetuate the market typology, the architect, MVRDV came up with a design concept and cross programming; a hybrid building composed of a public market within a shell of housing units. The reason behind the apartments being 'hybrid' into the building program is also due to the high demand of residential density in the inner city area (Wortmann).

Its design shaped like a horseshoe, creates a hollow through the building where the market is situated. The new market now is being sheltered beneath a 40 meter arch that contains 228 apartment units. Being as a public place, the building needs to be as open as possible to attract the public. At the same time, the design also have to respond to the new regulation of 'no fresh food in open air markets' and deal with some weather condition. As a solution, MVRDV used cable net structures, its principle is comparable to the tennis racquet, with glass mounted as facades. Along



Figure 2 - Front elevation

Source: https://farm3.staticflickr.com/2948/15391058456_4ccc34a83a_h.jpg

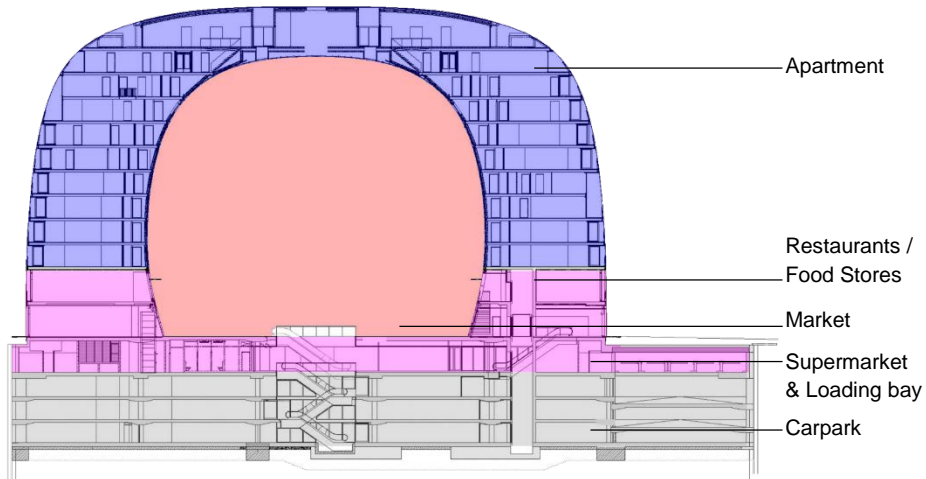


Figure 3 – Section of Mixed-used program

Source: Edited by author
http://www.archdaily.com/553933/markthal-rotterdam-mvrdv/5431b184c07a80548f0005c5_markthal-rotterdam-mvrdv_055436300-png/

with light wells on top of the arch, the two large glass facades allowed insurmountable amount of natural lighting into the building, so the people in the market felt as though as they were at the outdoors (Wortmann).

The new market hall, Markthal, features 96 fresh-food stalls open for business daily, 20 specialist food stores and restaurants, 228 apartments, and parking for 1,200 cars. A market that size located within the quieter part of the inner city is enough to attract a number of population from the neighbourhood however, to top it off and attract even more tourists and people, MVRDV collaborate with a local artist to fill the 11,000m2 ceiling with a panoramic artwork. The building connects the public and private through visual connection with windows in every apartment overlooking the market hall, giving the shoppers a glimpse of the domestic life going on around them and vice versa (Wortmann).



Figure 4 – Market hall viewed from Apartment window

Source: <http://www.skyscrapercity.com/showthread.php?t=1175309&page=19>

Bryghusprojektet – Copenhagen – OMA

Project :	Bryghusprojektet (Danish Architecture Center)
Location :	Copenhagen, Denmark
Type :	Mixed-use / Hybrid
Programme :	Office Commercial Residential Restaurants and Café Urban park and playground

The Bryghusprojektet is a hybrid building development which includes housing, office spaces, the DAC's headquarters, restaurants, shops, parking, an urban park and a playground. The building will be built on an underdeveloped area of the city, sitting in between the city center and the waterfront. The building's development on its urban setting performs as an 'urban motor' which links the city to the waterfront featured by a pedestrian passageway going under the existing motorway (Designbuild-network.com).

Although the Bryghusprojektet is a hybrid building, its main program is still the DAC's headquarters. To incorporate DAC's elements, along with other programs, OMA arranged it in a vertical sequence from below ground, resulting in each facility is positioned for a view over the city of Copenhagen. In an overall sense, the Bryghusprojektet will transform what was used to be a neglected, dull and hard to access part of the city, into a new active **public place**. A new place with different activities all blended around the development in one building (Designbuild-network.com).



FIGURE 5 - [HTTP://WWW.RE-THINKINGTHEFUTURE.ORG/BRYGHUSGRUNDEN-MIXED-USE-COPENHAGEN-OMA/](http://www.re-thinkingthefuture.org/bryghusgrunden-mixed-use-copenhagen-oma/)

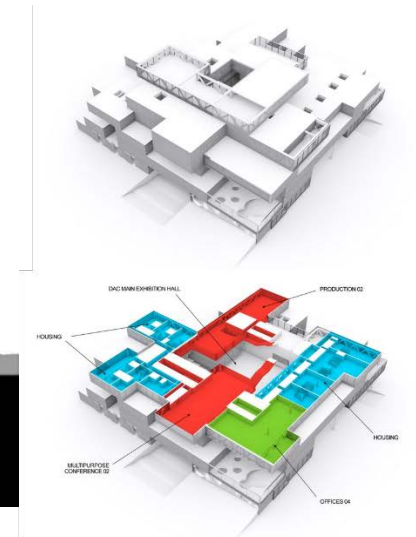
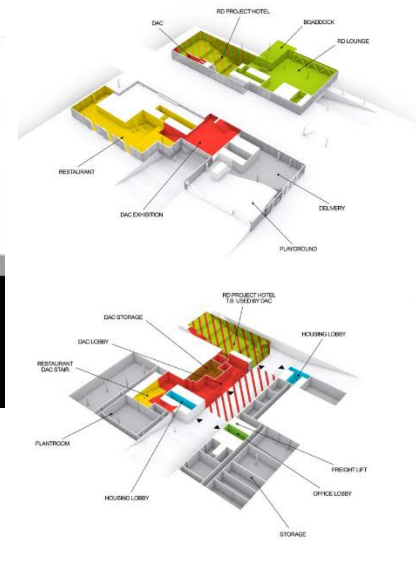
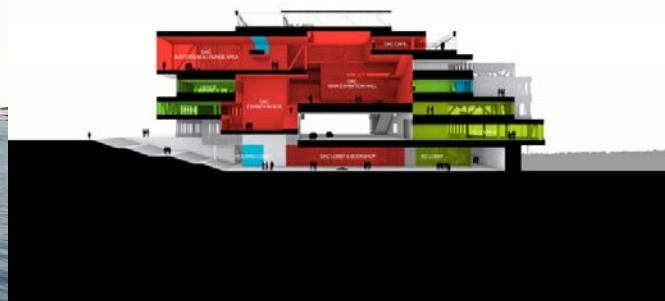


Figure 6 –
(Top) Aerial perspective
(Bottom) Perspective showing the building connecting the city center and the waterfront maintaining the motorway.



<http://www.re-thinkingthefuture.org/bryghusgrunden-mixed-use-copenhagen-oma/>

Metropol Parasol – Seville – J.Mayer.H

Project :	Metropol Parasol
Location :	Plaze de la Encarnacion, Seville, Spain
Type :	Mixed-use / Hybrid; Public
Programme :	Public Plaza Market Restaurants and Café Archaeological Museum Rooftop viewing platform

Situated on one of the largest square in the historical center of Seville, Spain, stands the world's largest wooden structure, the Metropol Parasol. Before the specular undulating waffle like parasols was once a lively neighborhood formed around a walled-in market until it was demolished in 1973. Since then the square had been neglected and used for public parking until the late 80's when archaeological remains were found during a renovation attempt to the zone. Completed in 2011, the Metropol Parasol had then changed the entire urban center (Bordas).

Plaze de la Encarnacion, according to the locals was the heart of Seville, and it is not until the completion of the Metropol Parasol, the heart regain its pulse. The Metropol Parasol contains an archaeological museum, a farmers market, an elevated public plaza, restaurants, and rooftop terrace for panoramic view of the city of Seville. Its impressive mushroom-like undulating timber structure attracts both local and foreign tourist, which helped to boost the local business and economy in surrounding neighbourhood (J.Mayer.H). The elevated plaza is able to host all sorts of public activities from music concerts to public protests. The markets functions as a civic space, gathered by local vendors who had been on the site for generations, and most important of all, the Metropol Parasol had retained the site's historical identity and yet creates a new identity to the city of Seville.

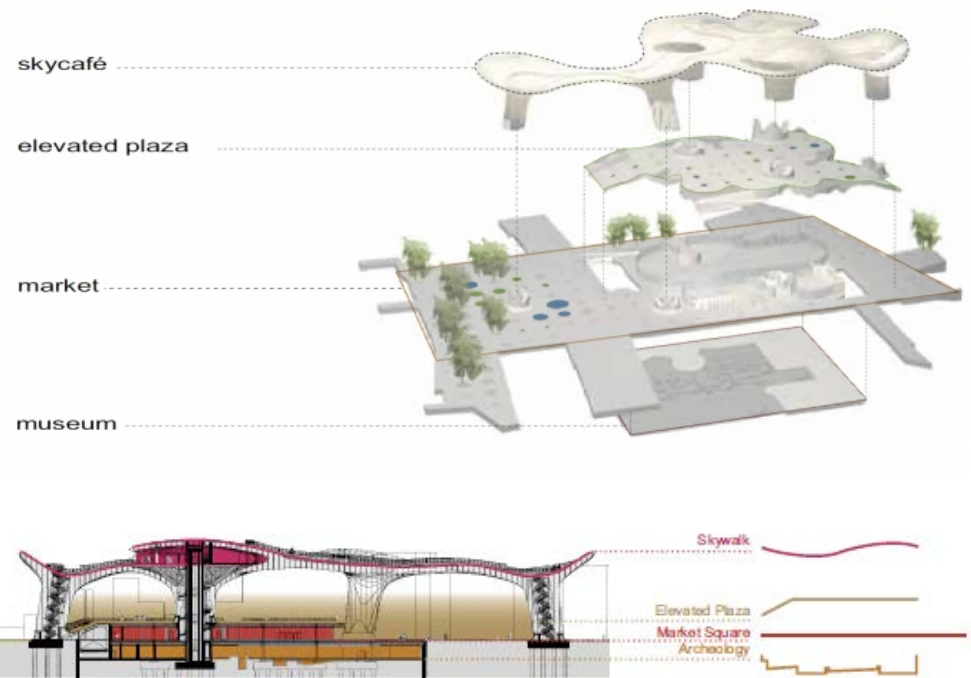


Figure 7 –

Top: Axonometric layers and section of mixed programs

Top left : Aerial View of the Metropol Parasol

Bottom Left : Perspective view showing entrances to the market on ground level and elevated plaza.

Source : http://www.solaripedia.com/13/393/5645/metropol_parasol.html

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Case Studies Findings

The projects from the case studies each presented its hybridity in its own way, however the commonality of these three projects are that they all created a successful public place. All three projects had elevated the vitality and robustness of neglected sites in the inner city area.

Markthal

- A hybrid building of public markets, restaurants and residential.
- Vertical layering of programs, clear defined circulation pattern for users to move through functions.
- Large openings on both ends as entrances and urban permeability
- Public and private spaces have separate circulation access however connected visually from each apartment units.

Bryghusprojektet

- A hybrid building of offices, cultural community center, residential and other public spaces.
- Programs layering stacked and scattered in a seemingly random order. This causes the overlapping of circulation between the users and the functions which encourages unexpected encounters and interactions.
- Urban permeability achieved by connecting the city and the waterfront with an underground pedestrian passageway. This design approach had maintain the existing motorway.
- The way the diversity of programs of this project and its permeability of the site had created an accessible public place and activated the surrounding environment.

Metropol Parasol

- A hybrid building of public market, restaurants, public plaza, archaeological museum and a rooftop terrace.
- Programs located on ground floor and elevated to rooftop to preserve archaeological ruins underground. Public plaza to allow flexibility and freedom for all public events.
- The characteristics of this project which outstood the other two case studies, is the Metropol Parasol created a new *sense of identity* to the city.

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SITE ANALYSIS

The site, situated between two important zones – the Wellington Waterfront and the heritage Courtenay place precinct. The polarity between the two gives this site a unique location for an everyday market in Wellington city.

Courtenay Place is a vibrant and active part of the Wellington city with its mixed-use environment of entertainment, food, offices and residential. It is also the only part of the city apart from Cuba Street which extended its activities till nighttime. Courtenay Place also serves as a key pedestrian route through Te Aro linking the central business district (Lambton Quay), Cuba Street to Oriental Parade.

Wellington Waterfront is a large and extended public place that attracts various public events at different times of the day and night, in different areas and time throughout the year. Spreading across from Wellington Railway station to Te Papa Museum, the waterfront gathers a diversity of uses that allows gathering of large crowds down to intimate meeting areas.

While occupying an ideal location between the two distinctive areas of the city, the site lacks any identity nor spatial definition. The site is currently occupied by a public car park and a car rental center, which do not reflect to the active surrounding area and is very unspectacular. With that, the public circulation around the site enforces separation between Courtenay place and the waterfront.

Site Surrounding Buildings and Existing Points of Interest



Figure 8 - Zoning

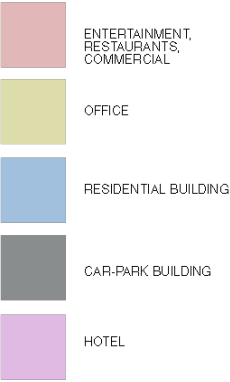


Figure 9- Points of Interest



Figure 10 - Marked zone showing Courtenay Place area

The typology of the surrounding buildings around the area of the site comprises a well-balanced mixture of commercial and residential buildings. Restaurants, bars, cinemas, and shops were all occupied on the street level on Courtenay Place. The consistency and continuity of its street frontage allows places for pedestrian to linger thus increase the social value and encourages a higher level of pedestrian activity.

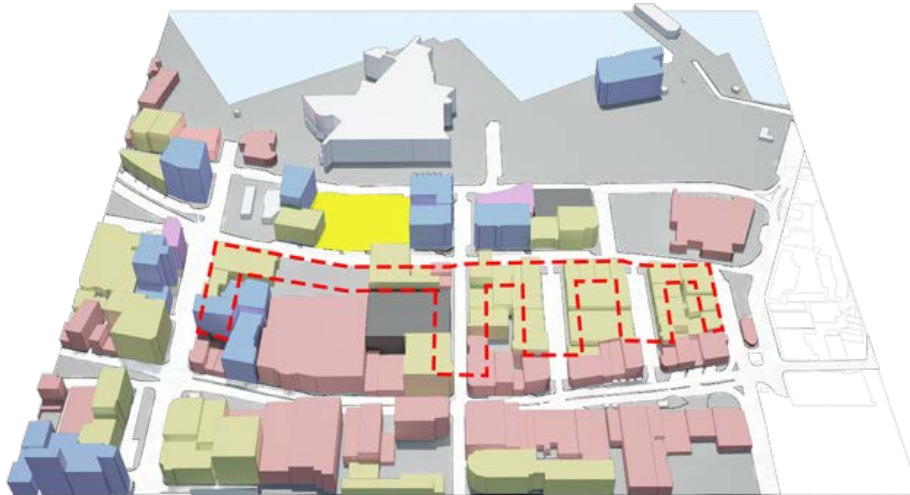


Figure 11 - Marked zone showing area towards Wakefield Street

However, the level of pedestrian activity decreases towards Wakefield Street and Cable Street due to the inconsistency on the street frontage. From Courtenay Place to Wakefield Street and Cable Street, pedestrian will pass by rows of shops, offices, residential buildings, and car-park building.

Site Activation – ‘Meeting Point’

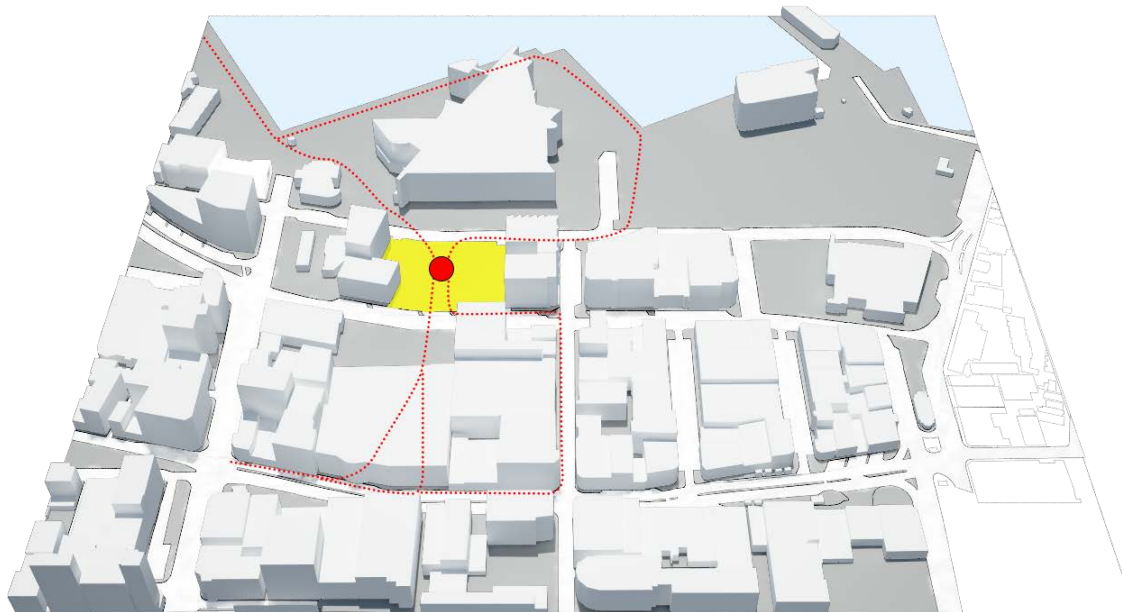


Figure 12 - Meeting Point

The site shows great potential as a ‘bridge’ to connect from Courtenay Place to the Waterfront. However, looking at the existing situation the site lacks of any identity nor a sense of destination. Therefore, with a strong building footprint, touching on all sides of the site, would break the monotony. The proposed building would become a meeting point between the Waterfront and Courtenay Place and adding a new impulse onto the urban grain on this part of the city. As the site currently serves as a pedestrian thoroughfare, the new design enhances the site with a sense of destination while maintaining its existing thoroughfare. This approach will not only improve its existing urban permeability, it can also increase the social value as a public place.

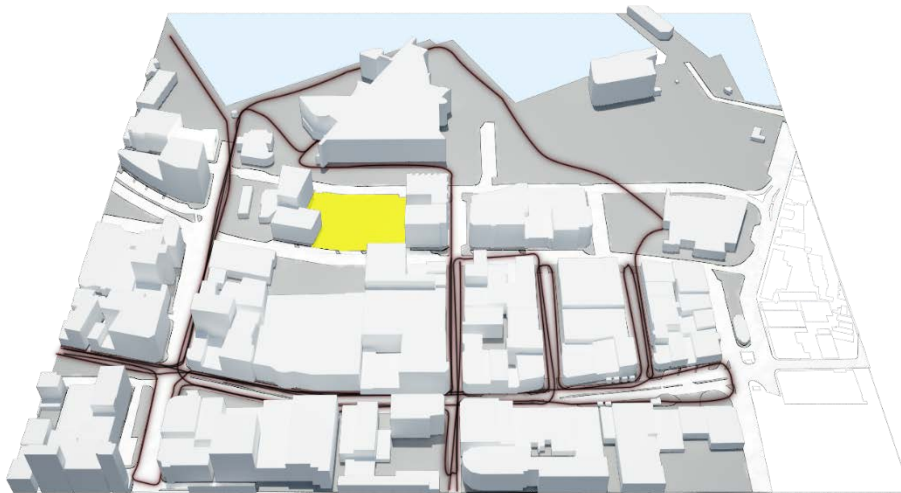


Figure 13 - Existing Pedestrian Circulation Pattern

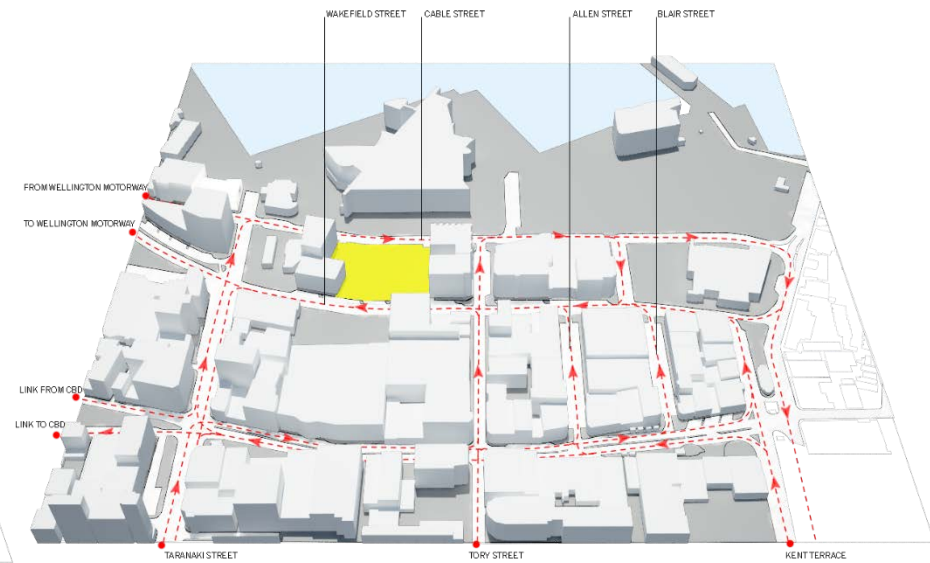


Figure 14 - Traffic Circulation pattern

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DESIGN-LED RESEARCH

DESIGN PHASE 1- PROGRAM AND SITE STRATEGIES

Programs

Markets – The market features local produce and food products and an extensive selection of prepared foods. It will be divided into an outdoor and indoor space. The indoor market will be equipped with amenities allowing meat and dairy farmers to sell their products. The outdoor market will host various types of markets (flea market, arts and crafts market, night market and the existing Harbourside Market) to keep the place active from morning till night.

Restaurants – The project will include several restaurants and cafes on the first floor spanning the range from food court to a destination restaurant. Each of the restaurants will feature fresh and locally grown ingredients from the market and the food court will provide opportunities for small restaurateurs to start their business.

Apartments – One important physical realm for a successful market to respond to its surrounding neighbourhood and integrate with its community group. The project will include two apartment buildings that will adapt to its surroundings. These blocks will be composed of mid-rise buildings to ensure intimacy, life, and activity at street level.

The building as a mixed-use development responds to the urban context as a new typology and able to achieve 24 hour occupancy. Its diverse programming will activate and stimulate the presence of pedestrian from the surrounding neighborhood.

Culinary school – an additional function in the mix of the programs to provide educational service to the public to learn how to turn their fresh produce from the market into delicious food on their dining table.

Underground carparking – Although the project emphasizes on public pedestrians, the need for a car park is inevitable. With the carpark being located underground, had allowed the ground level to be occupied fully by the market. The car park provides parking spaces for the residents above and a separate section for market vendors and stallholders. Dedicated service elevators will be provided for stall vendors, which is accessible to both the market level and the restaurants level.

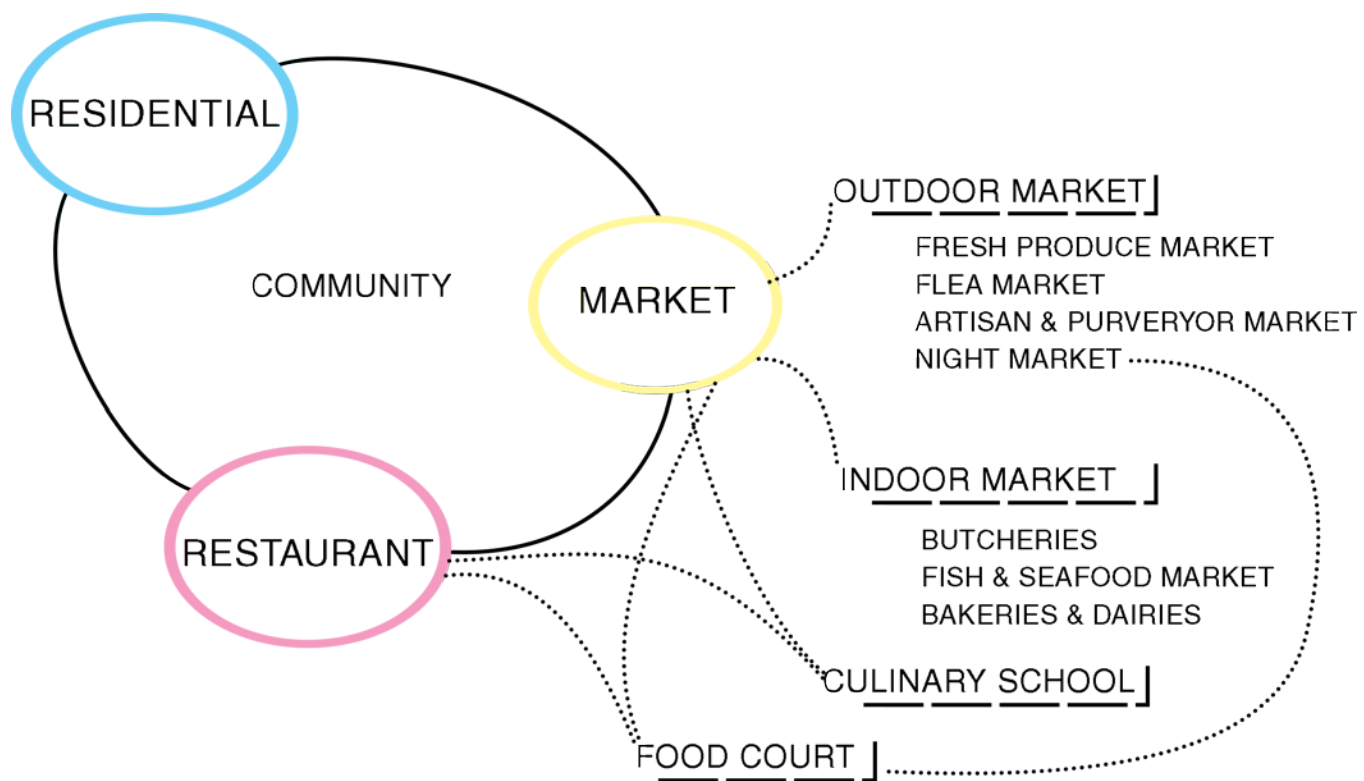


Figure 15 - Program Connection

The Scheme – Market centered space

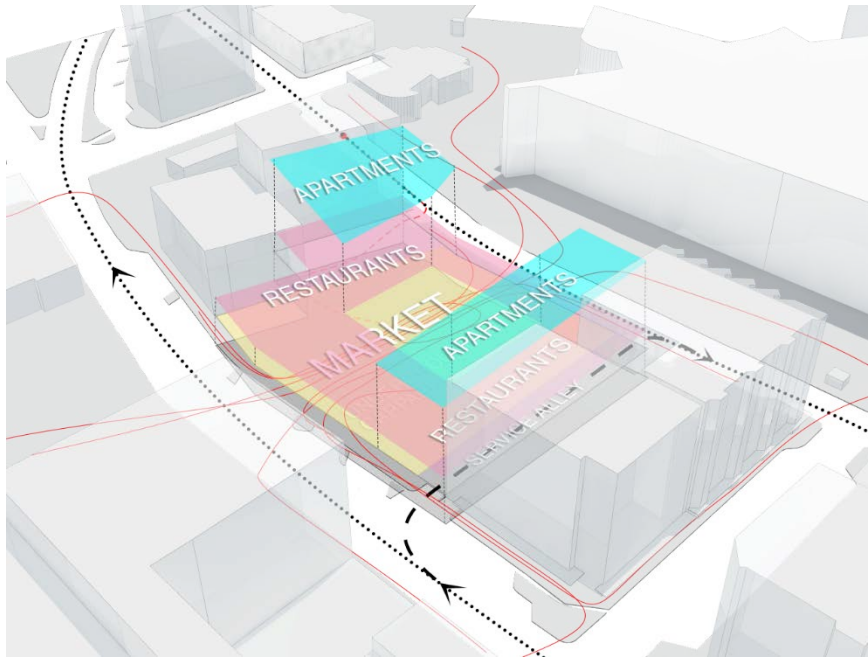


Figure 16 – Schematic diagram of the hybrid building design.

- Centralized market square with flexibility to host different markets at different times of the day. Open access on both ends to invite pedestrians from surrounding neighbourhood.
- Restaurants will overlap the market square encouraging the functions to form an intimate relationship and drawing larger public into the building.
- Apartment blocks located on the corners immediately responds to the neighbouring apartment buildings. The shifting of the mass creates spaces ranging from the bustling spaces for social interaction in the courtyard to the dynamic and expansive views offered from the tower volume.

DISCUSSION

This design typology had been in the urban presence for a long period. A mixed-use land focused on markets supports civic engagement and gives character to the neighbourhood (Parham 88). As Jane Jacobs discussed, the need of mixed-uses that is able to bring people to the street at different and sometimes overlapping times to the area, becomes a fertile environment for diversity and opportunities for secondary diversity to flourish (Jacobs 198). However, with the introduction of supermarkets, these characters start to fade away. Supermarkets may provide vast amount of products ranging from fresh produce to home use products, but with only one main use, retail. To use Osmond's term supermarket is not designed to be a sociopetal space. Sociopetal spaces are spaces that encourage the interaction of people by merging and overlapping paths and spaces (Cherulnik 132). Markets offer opportunities for social interactions that are less prevalent in contemporary public space and bring a diversity of people together in public space.

Design Strategy

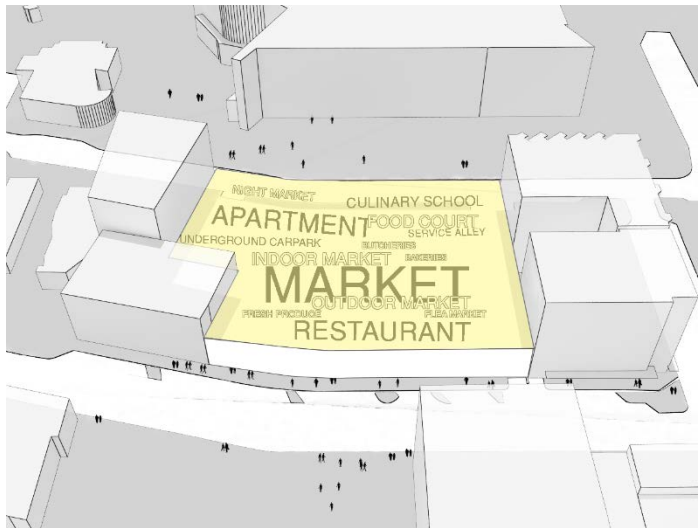


Figure 17 - Mass volume filling the site up to the boundary compacting all programs within the site boundary.

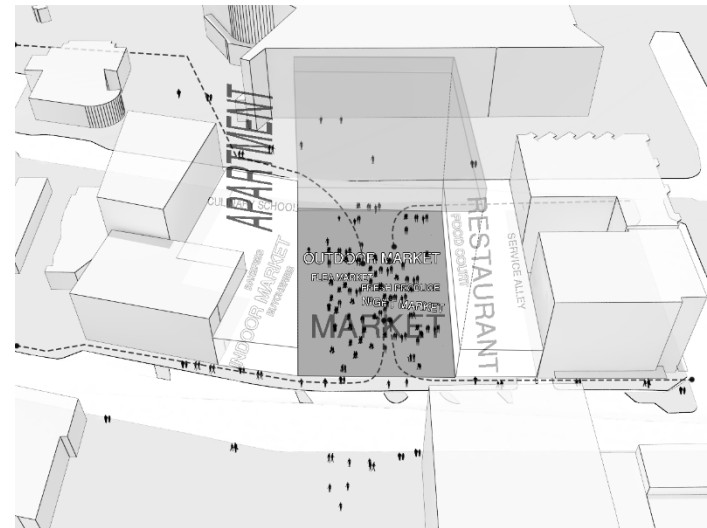


Figure 18 – Cutting out the center of the volume block creates an open urban plaza. This action breaks the monotony within the site boundary and creates an urban permeability within the surrounding areas.

The centrality of the site between two well-known landmarks in the city (Reading Cinema and Te Papa Museum) became obvious for the design to be center oriented. The majority of the ground floor level is comprised of the market. By pushing the other programs to the boundaries of the site, leaves a large open square for the market. An indoor market located towards the Wakefield street edge of the site, host the lobby to the culinary school above.

On the same level, restaurants with prominent entries located on the ground level at building's corner towards Cable Street. The intention is to draw the public's attention from the street level and up into the building. The restaurants will represent a range of choices, from family casual to foodie destination. The market will also host food vendors serving street snack food. Outdoor seating will be provided on the terraces to create a vibrant and robust environment.

The apartment buildings sit on top of the market and restaurants towards the corner of the site adjacent to the neighbouring buildings. The apartment buildings overlook the market and are carefully set back to buffer from the hustle and bustle from the market below.

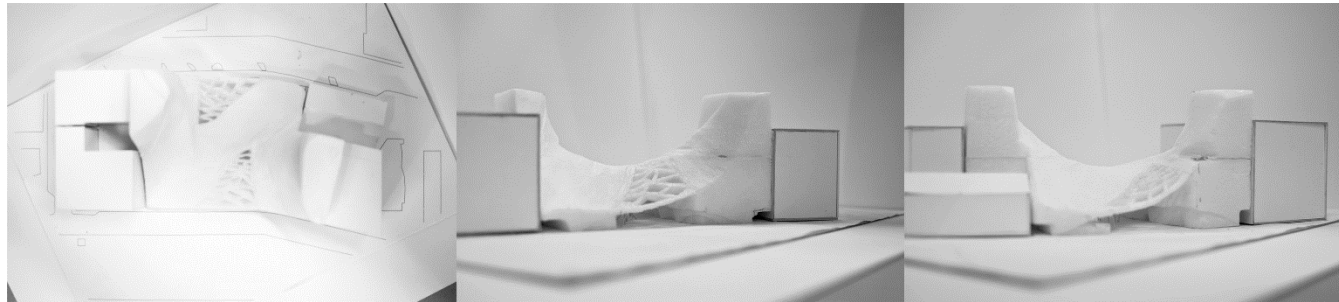


Figure 19 – schematic section diagram showing the proposed design within urban context

Form Finding

This section documents the form finding process carried out using the design scheme as a general framework. This process was carried out using physical mock models of scale 1:500, photographs and hand-drawn sketches of the overall visual representation. A total of 8 different models were made for this investigation, and each iteration dealt with different properties including site conditions, physical connections, mass and form. The methodology of making physical models and its transition from conceptual images to three-dimension allows a different viewpoint towards the project with a better understanding of mass and form, aiding towards to the later stages of design development.

MODEL 1



- Form derived through the motion of vortex, starting from the center of the site pushing towards the corner and upwards forming a taller mass which is for the apartments. The central space is where the market space will be sheltered by a parabolic canopy.
- Restaurants and food court will be located on the second floor with open terraces and glass windows facing the streets. This engages visual connection with the pedestrian.

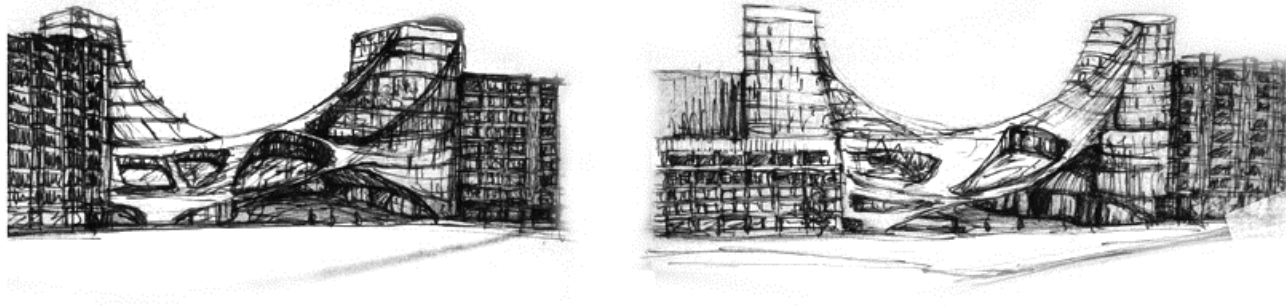
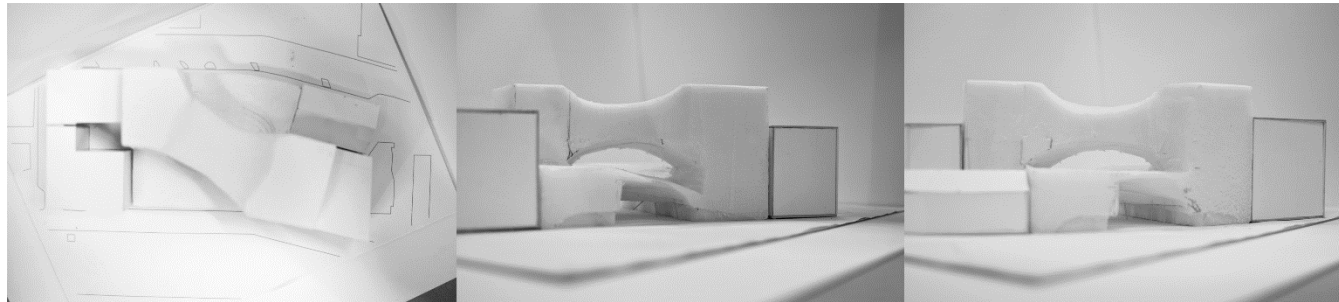


Figure 20 – (top row from left to right) Plan; View from Cable Street; View from Wakefield Street

(Bottom Row) – Author's illustration

MODEL 2



- In this iteration it was made obvious that the apartment blocks were connected. The curvature bridged was designed diagonally in that manner as an attempt to deviate the prevailing winds (coming from NW and SW).
- The hollow arch as seen in the picture was carved out of the block to allow natural sunlight into the market space below.
- The large promenade in between the indoor markets and restaurants will be the fresh market ground.

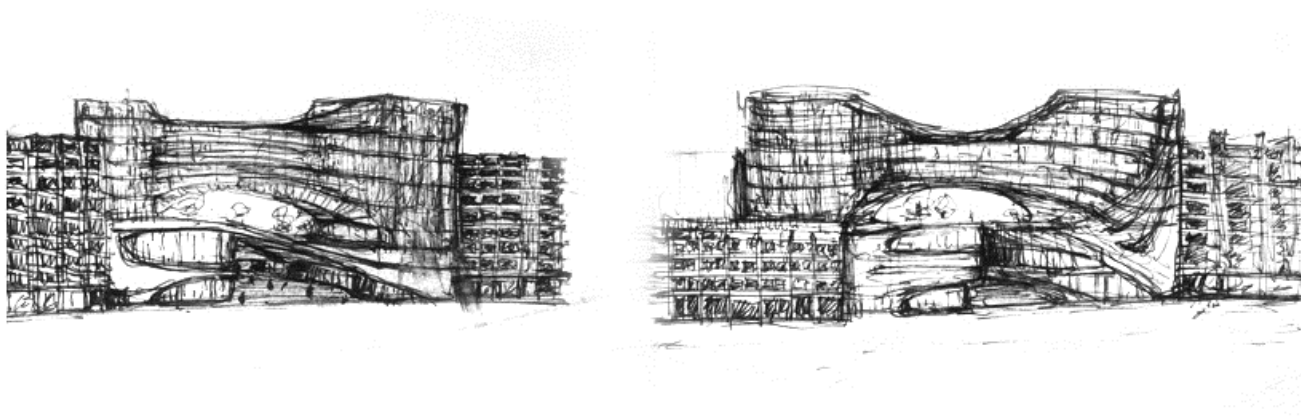
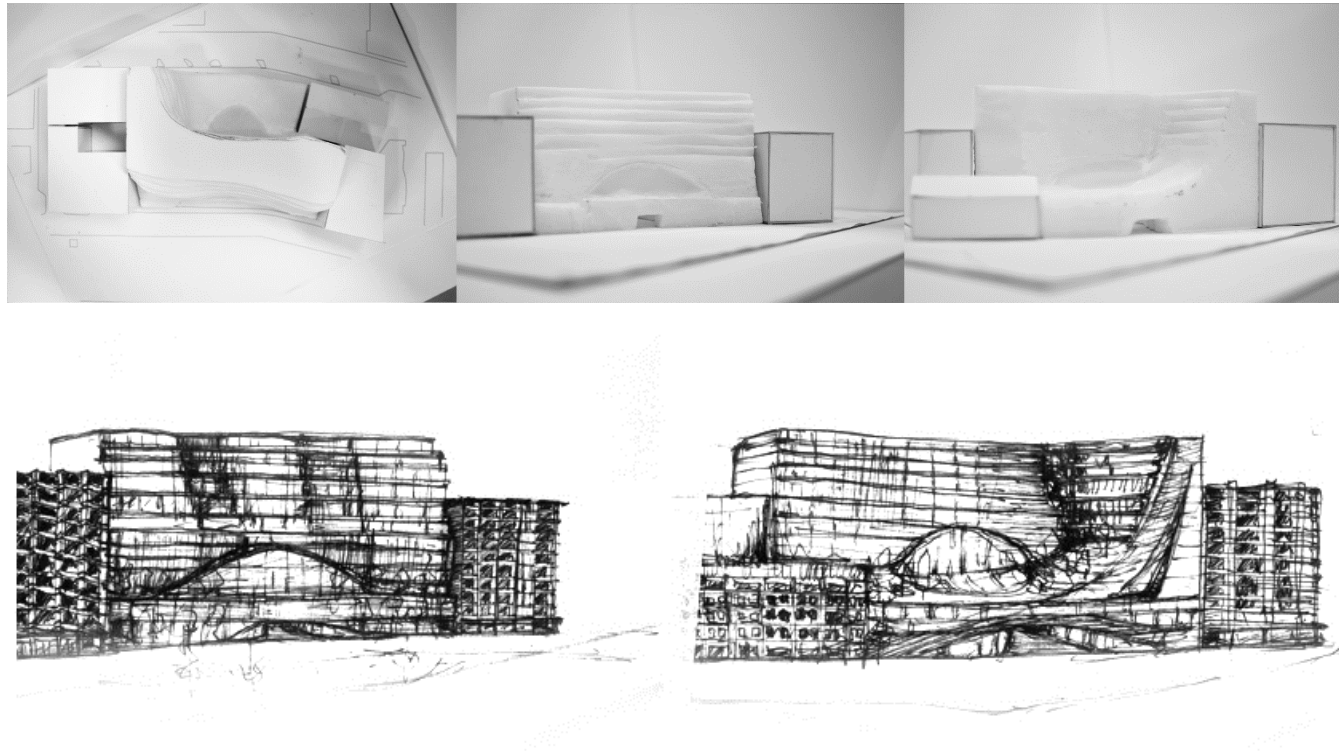


Figure 21 - (top row from left to right) Plan; View from Cable Street; View from Wakefield Street

(Bottom Row) – Author's illustration

MODEL 3



- This iteration is an attempt to protect against the prevailing wind. The apartment block was designed along the Cable Street end acting as a barrier to deviate and disperse the north westerlies. The building was designed in an undulating cascading form, to slow down the gusting wind speed.
- Similar to one of the case studies, the Markthal, in which the large opening is covered with glass structured by steel cable-net. Not only that allows natural lights into the market space, it is also an important element for visual connection with the pedestrians. On that level is also an open terrace and rooftop garden accessible through the restaurants.

Figure 22 - (top row from left to right) Plan; View from Cable Street; View from Wakefield Street

(Bottom Row) – Author's illustration

MODEL 4

- While the design is still based on the initial scheme, this iteration 'wrapped' the programs in a 'shell' composed of horizontal lamellas. Its purpose is to filter prevailing winds and allows natural lights through. A void is carved out from the center of the block, which from outside-in is to fill light into the market space, while from inside-out, it creates a deep atrium space which encourages physical and visual connection from all levels.
- The ground level remains the market promenade with opening through Wakefield Street to Cable Street, and other programs spreads out and spirals upwards.

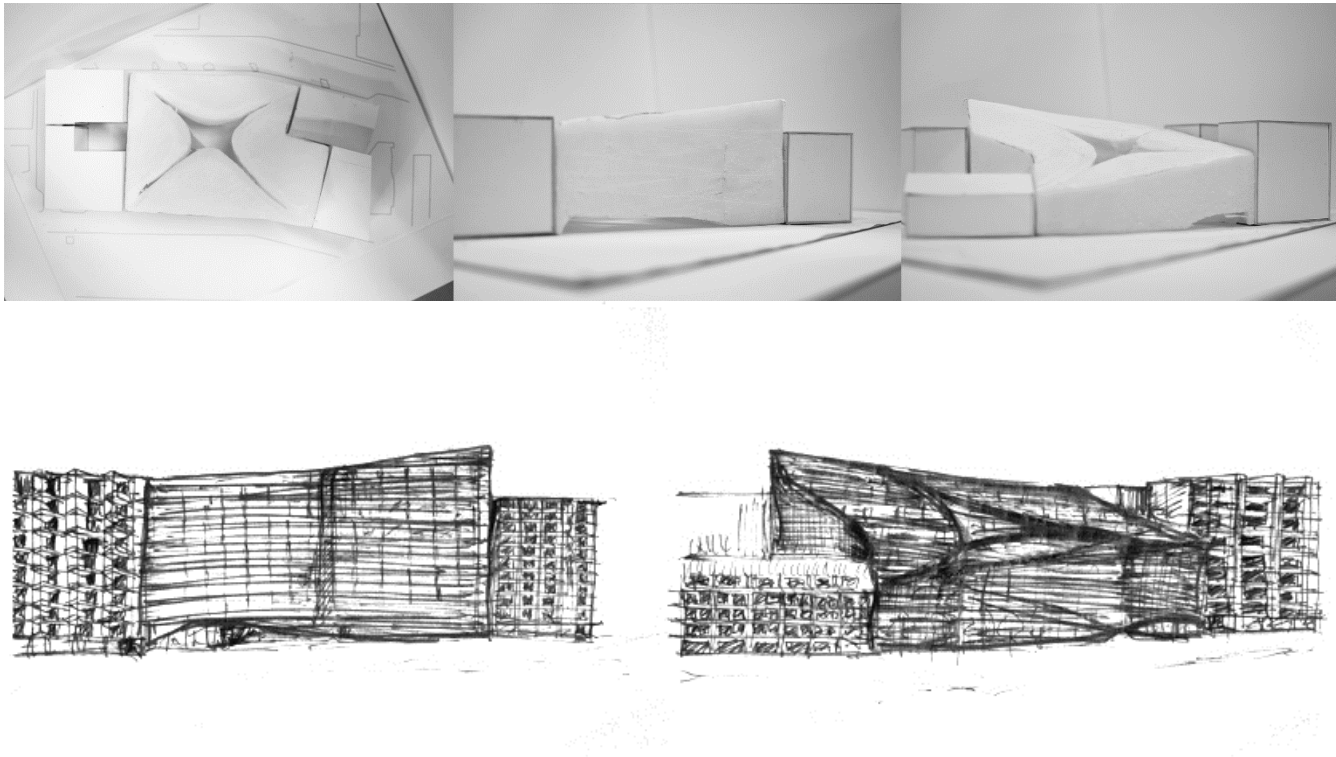


Figure 23 - (top row from left to right) Plan; View from Cable Street; View from Wakefield Street

(Bottom Row) – Author's illustration

MODEL 5

- This iteration goes for an attempt of making the apartment 'float'. The apartment blocks were lifted above ground and only supported by columns to provide maximum floor area for the public spaces.
- To protect from prevailing winds and still allows maximum natural lights through, the facades were designed to be made out of glazed curtain walls.

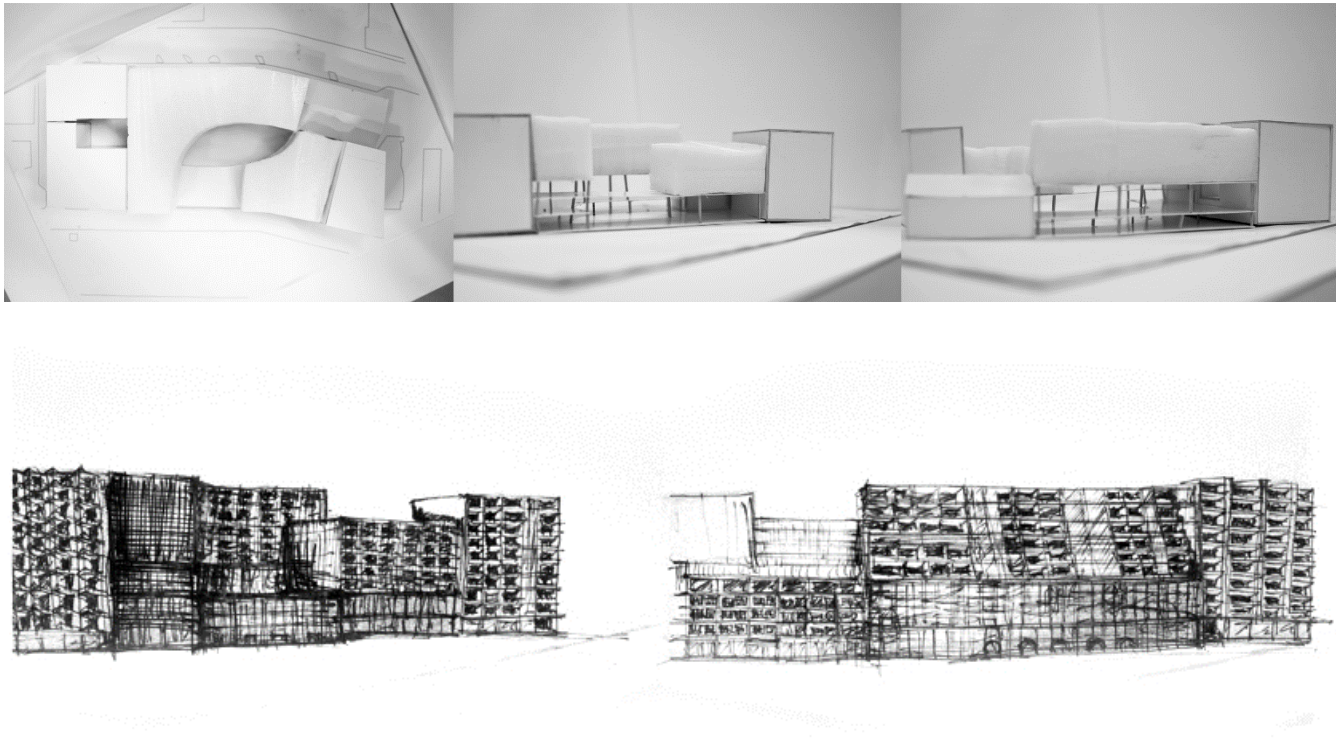


Figure 24 - (top row from left to right) Plan; View from Cable Street; View from Wakefield Street

(Bottom Row) – Author's illustration

MODEL 6

- This iteration is an iteration of Model 1. With the same formal approach using the motion of vortex, pushing the apartments to the corners and forming a central courtyard in the middle.
- Restaurants and food courts located on the second level with an open terrace and glass facades, to gain visual connection and attracts the pedestrian into the building.
- The residential units were designed with the option of the market view or the city harbour view.

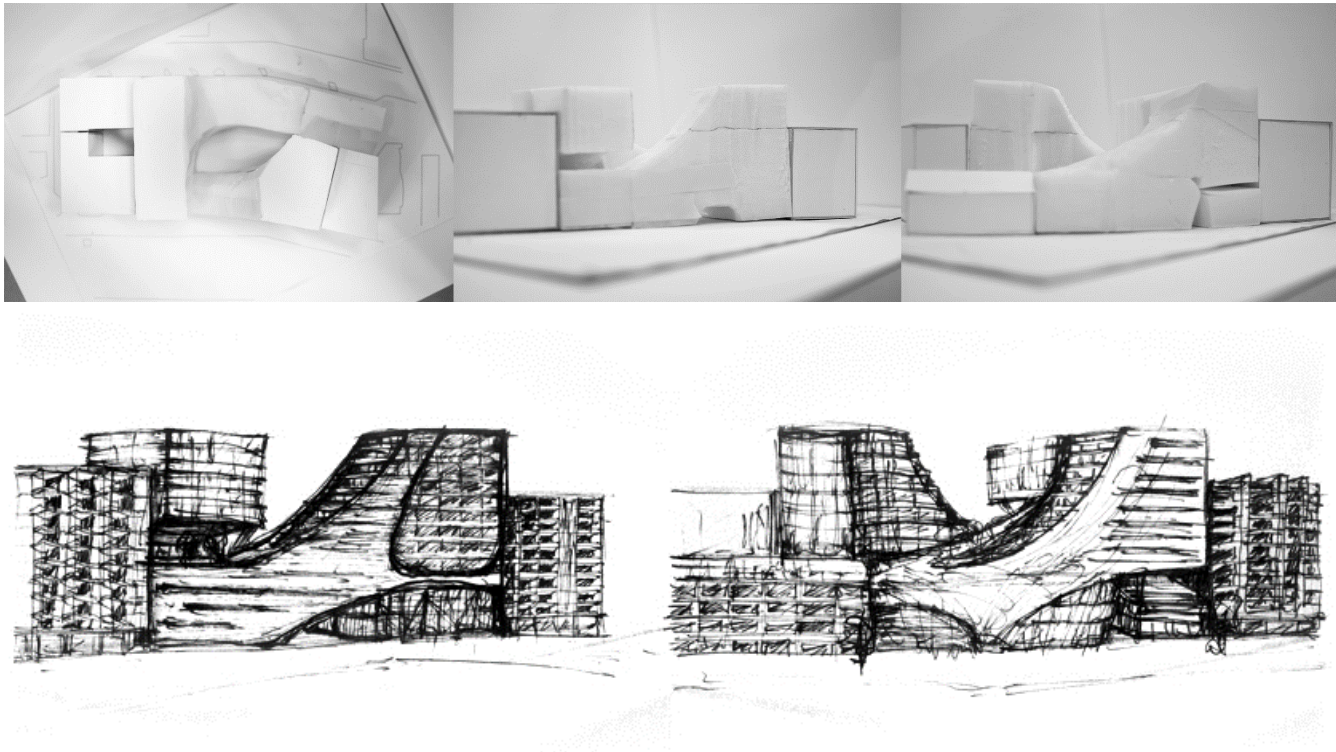
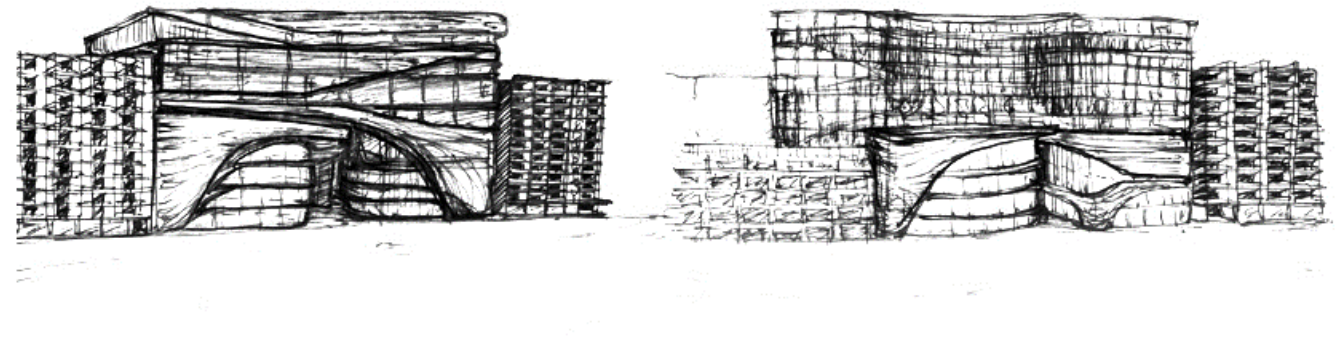


Figure 25 - (top row from left to right) Plan; View from Cable Street; View from Wakefield Street

(Bottom Row) – Author's illustration

MODEL 7



- This iteration is an iteration of Model 3. The approach of this iteration splits into two slabs of program, the apartment and the public spaces.
- Indifferent to Model 3, this iteration does not feature an opening arch and the market promenade weaves its way through the building.
- Although this design responded to the prevailing winds, however the mass did not respond well to the surrounding urban landscape and did not comply with the scheme of the project.

Figure 26 - (top row from left to right) Plan; View from Cable Street; View from Wakefield Street

(Bottom Row) – Author's illustration

MODEL 8

- This iteration is slightly different to most of the other designs. The outdoor market space is split in the center by the indoor market. This design approach is to activate the street edge on both Wakefield Street and Cable Street. The outdoor area were going to be sheltered by a glass roof and overlooking these spaces are the café terraces located on the level above.

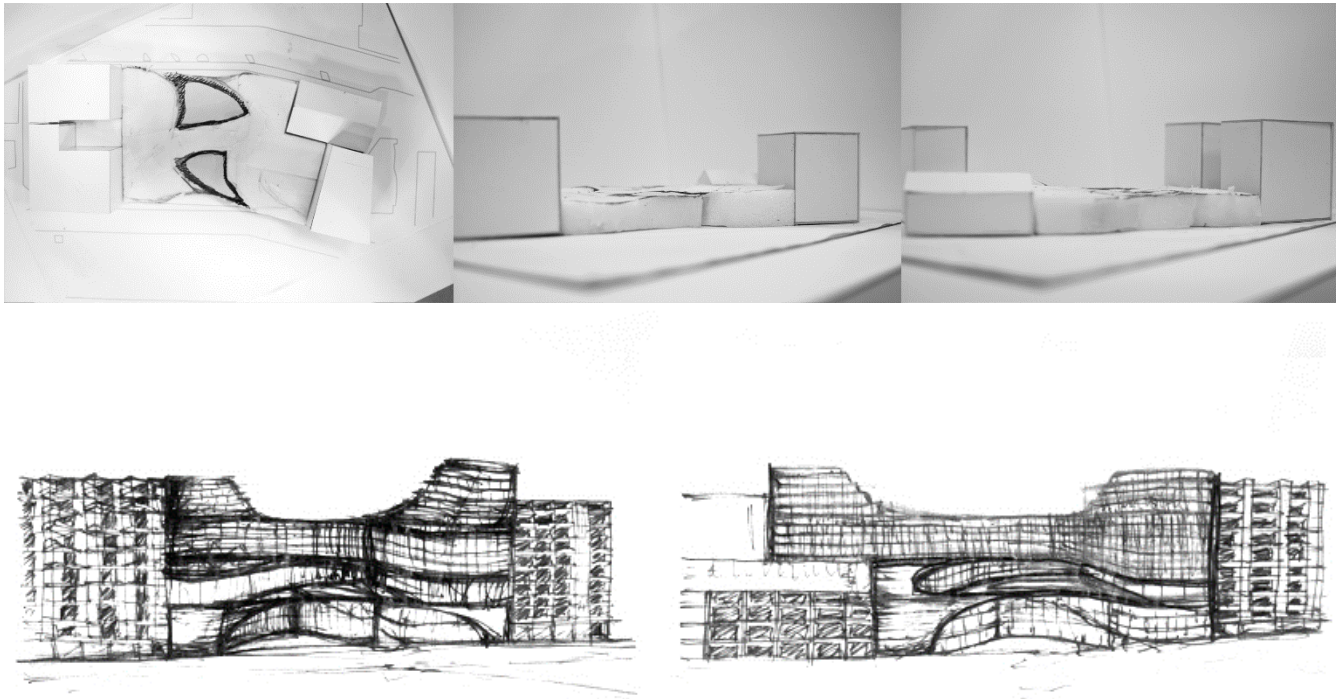


Figure 27 - (top row from left to right) Plan; View from Cable Street; View from Wakefield Street

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Critical Reflection

The form finding process investigation had aided realization of several key aspects which needed to be developed within further design stages.

There are several iteration in this process which did not responded well to the surrounding urban grain (iteration 2, 3, 4 and 7), mainly due to its large scale in relation to the surrounding context. The design should take on breaking the monotony of boundary-ness, emphasizing on the permeability visually and physically, and maintain the vitality with active edges. Model 1, 5, 6 and 8 showed some qualities mentioned and had the potential moving forward for further development.

In further development stages, the aim of design will be focusing on the proximity of programs and its engagement between the users and functions. Therefore, another series of iterations will be documented to investigate and understand the relation between users and planning techniques.

DESIGN PHASE 2- THE MARKET

Investigation

This chapter investigates the physical realms in public market design from a socio-spatial perspective and design principles for making farmer's markets a public space. Diagrammatic analysis was conducted throughout these investigations. The outcome of these investigations will reflect on the latter decision for the overall design outcome.

A public market in the city brings a certain quality to urban life – sense of belonging, engagement, and character. In most supermarket, employers were usually absent from the proximity of food items, creating a self –service environment and its physical layout of aisles as transit space had precluded social interaction (Sommer, Herrick and R.Sommer).



Permanency of Design – The permanency of program through the design of the public space is an overarching principle for the preservation of the market overtime (Francis and Griffith). Within the hybrid building, the proximity of programs and its connectivity and engagement of spaces will determine the level of activity of uses.



The promenade – the central movement corridor fundamental to any market, where visitors and pedestrians stroll past stalls of products on display and mingle. Often narrow in width to create a more intimate socially interactive atmosphere where people rub elbows and neighbors greeting one another (Francis and Griffith).



Flexibility – a resilient market design- related to the functional variety of the market, the attention to the different time frame (different markets at different time of the day drawing different groups of people), to ensure active usage throughout the day.



The grid – a system that gives order (stalls layout configuration and circulatory pattern) and legibility in the market.

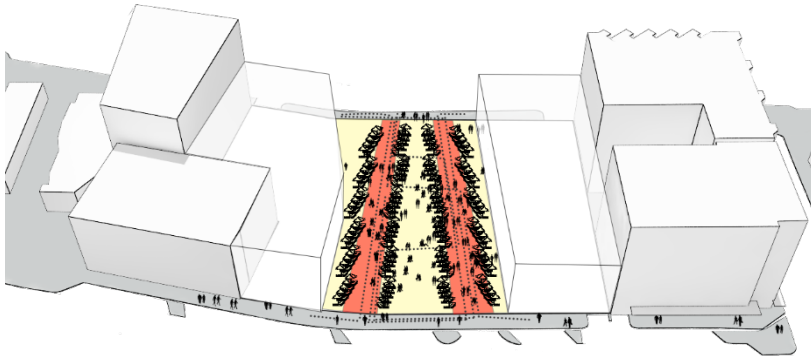


Figure 29 – The Promenade

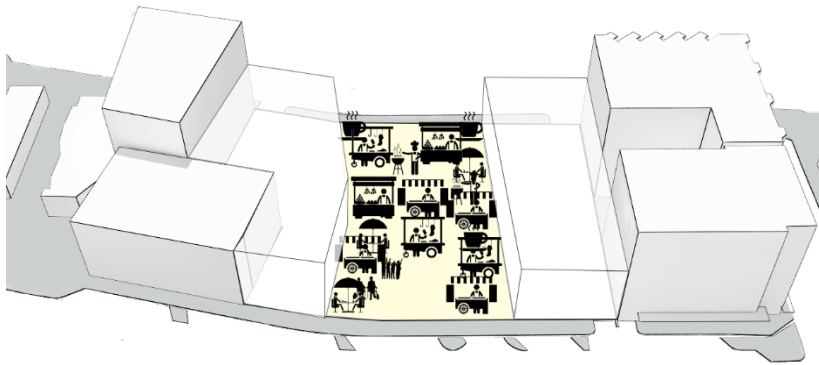


Figure 30 – Flexibility

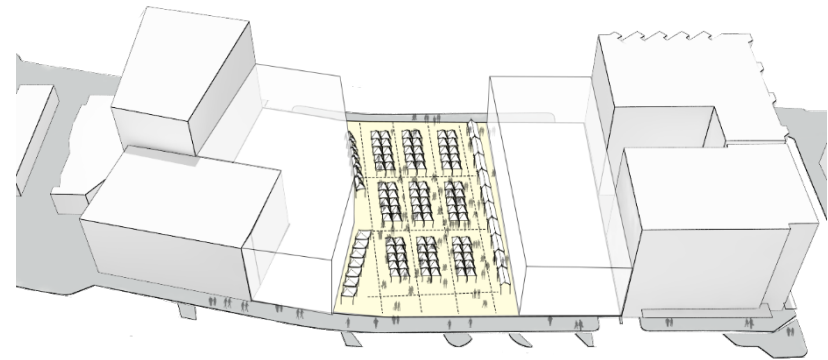


Figure 28 – The Grid

The market layout

The size of a market will rarely be the same over the period of a week or month. The planning of the market layout needs to be flexible to accommodate these changes (Behrens and Watson 217). All stalls have to be exposed to the visitors and passerby to ensure a successful market. The interrelationship between stalls and passing pedestrians requires that stall configuration takes on a linear pattern. Fresh produce is positioned from the entrance and into the central of the market square. This is to invite the pedestrians from the street into the square. The wet market is located on the east corner of the site with access from both Wakefield Street and Cable Street. It will have glass curtain walls on the street front to create an active edge on the street. The appropriate length of linear stalls runs for 18-22m before allowing a break for circulation. Any less than this, breaks the shopping environment and while the longer run will tend to make shoppers avoid the central stalls. On top of that, a successful market needs to ensure an even pedestrian flow to avoid marginalized or 'dead' area. Its circulation routes must be wide enough so that people can stand by a stall and those with trolleys or prams can move easily between the stalls (Behrens and Watson 215).

Local case study



Figure 31 – **Harbourside Market Layout**
Fresh Produce Market → looped circulation path

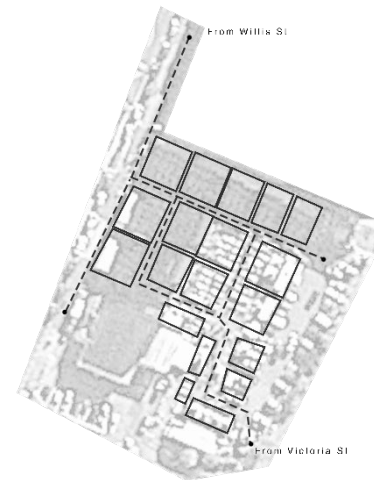


Figure 32 - **Victoria Street Market Layout**
'E' gridded layout circulation

MARKET LAYOUT ITERATION 1



Figure 33 - Market layout iteration 1

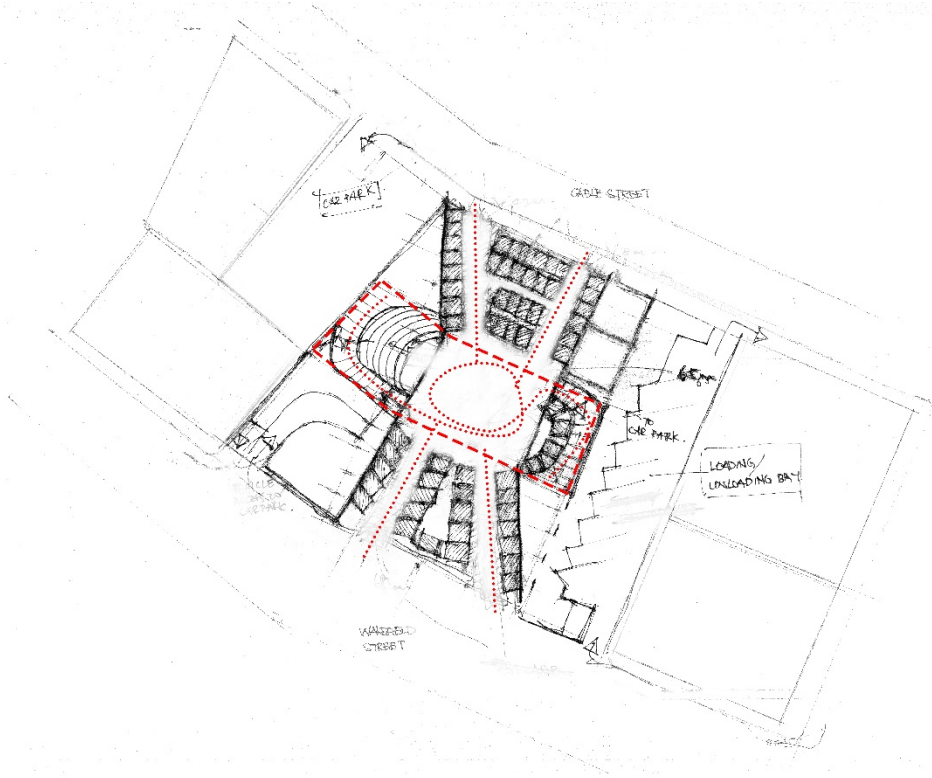
This first iteration distinguishes two different grids, one that consist of a long axial lines, directly connected to the main street and a secondary network of shorter lines (almost perpendicular to the major one) that connects all spaces of the inner part of the square.

- Stalls are arranged in parallel to the long axial lines and form a break after every four stalls that is equivalent to ± 20 meters. This spatial configuration forms a strong linearity and encourages a clear navigation in the market square.
- Stalls serving prepared food is located on the second floor with the restaurants. Access only from Wakefield Street and Cable Street.
- A service alley is placed on the west boundary of the site with its access via Wakefield Street and exit through Cable Street.

Discussion

The configuration in this iteration forms an uneven pedestrian flow. The connection between the market and the restaurants on the second level had been broken by its access staircase facing the street. As entrances were parallel to each other, it splits the pedestrian flow to either one or the other leaving little to no chance where the pedestrian will pass through both spaces.

MARKET LAYOUT ITERATION 2



In this iteration, the market layout is formed on the major linear axis.

- Stalls from the entrance of Wakefield Street are configured in four parallel rows forming two diverging routes leading to the central courtyard. On the other side, stalls configuration are perpendicular to the linear axis to draw visual attention from the street.
- Restaurants and cafes on the second floor is accessed via the central courtyard.
- Loading bay remains the same (iteration 1)

Discussion

This iteration is an attempt to resolve the problem from iteration 1. Second floor will now be accessed through the central courtyard. The central courtyard which was not present in the first iteration allows pedestrian to slow down their pace and to linger in that space encouraging social connection. However, the arrangement of the market stalls still creates an uneven pedestrian flow. Instead of a continuous circulation path, it forms a single direction path into the central courtyard.

Figure 34 - Market layout iteration 2

MARKET LAYOUT ITERATION 3



- The market square is divided into three separate courtyards; Wakefield Courtyard, Cable Courtyard, and Market Courtyard. Fresh produce of fruits and vegetables will be displayed on Wakefield and Cable Courtyard. The Market Courtyard will operate as a public space and allows the flexibility for the expansion of the market.
- The indoor market is situated on the left side of the market square. Multiple access from the market square and main streets.
- Loading/unloading bay located underground with car park to allow extra floor area on the street level.

Discussion

This iteration had taken the similar approach from iteration 2, with having a central courtyard. The difference in this iteration is having 3 courtyards 2 with fixed market stalls leaving the central courtyard empty, an attempt to design a continuous circulation path. The continuous circulatory path was designed in attempt to avoid 'dead-zones' in the market space caused by uneven pedestrian flow. However, with permanent fixed stalls, it limits the flexibility and the growth of the market.

Figure 35 – Market layout iteration 3

Critical Reflection

Throughout the series of layout iterations, the processes employed helped in developing a clear understanding between the relations of the users and planning techniques. Designing the market layout itself is fairly straightforward, however when incorporated a diversity of functions and users in a close proximity, there are several key aspects that needed to be responded to. For example, Iteration 1 had attempted the layout of a typical market, linear promenade configuration with two aisles of market stalls back to back. This layout works well for only the market, however during non-market hours when the stalls are kept away, it will just be a large empty space with no connectivity nor engagement with any other programs in the building.

As mentioned from the start of this section, some key attributes needed to contribute into designing a successful public market which are permanency of design and flexibility. By looking at these attributes on its own might set confusion on how these two would work together, as they both sounded completely contrasting to each other. The permanency of design gives an identity to a place, setting it as a public market instead of a programmable event on a public space and the flexibility of design emphasizing on the diversity of programs and events engaged by the users over the space. Between these two attributes is a defining boundary of what creates a place and designing a space, and by blurring the boundary is what determines a successful public market with a sense of place, freedom social connectivity and builds a new sense of identity.

DESIGN PHASE 3-FINAL DESIGN

This section discuss the overall design process towards the final design decision and documents an overview of the final design. Iteration 1 in this section was designed prior to the professional review in August. Critical reflection of Iteration 1 identified key aspects which lead to the development for the final design. The Final Design addresses the issues and while further developing the existing design scheme.

As the project developed, it became clear that too much control over the design of the market will cause the market to lose its sense of place and identity. Public markets operate as a flexible framework for independent, local business and grows within a strong community base. They must also be responsive to political, social and economic fluctuations which can be potentially erratic. So rather than trying to impose a new, finished physical market, a flexible open space would be best to facilitate its intended activities.

Iteration 1

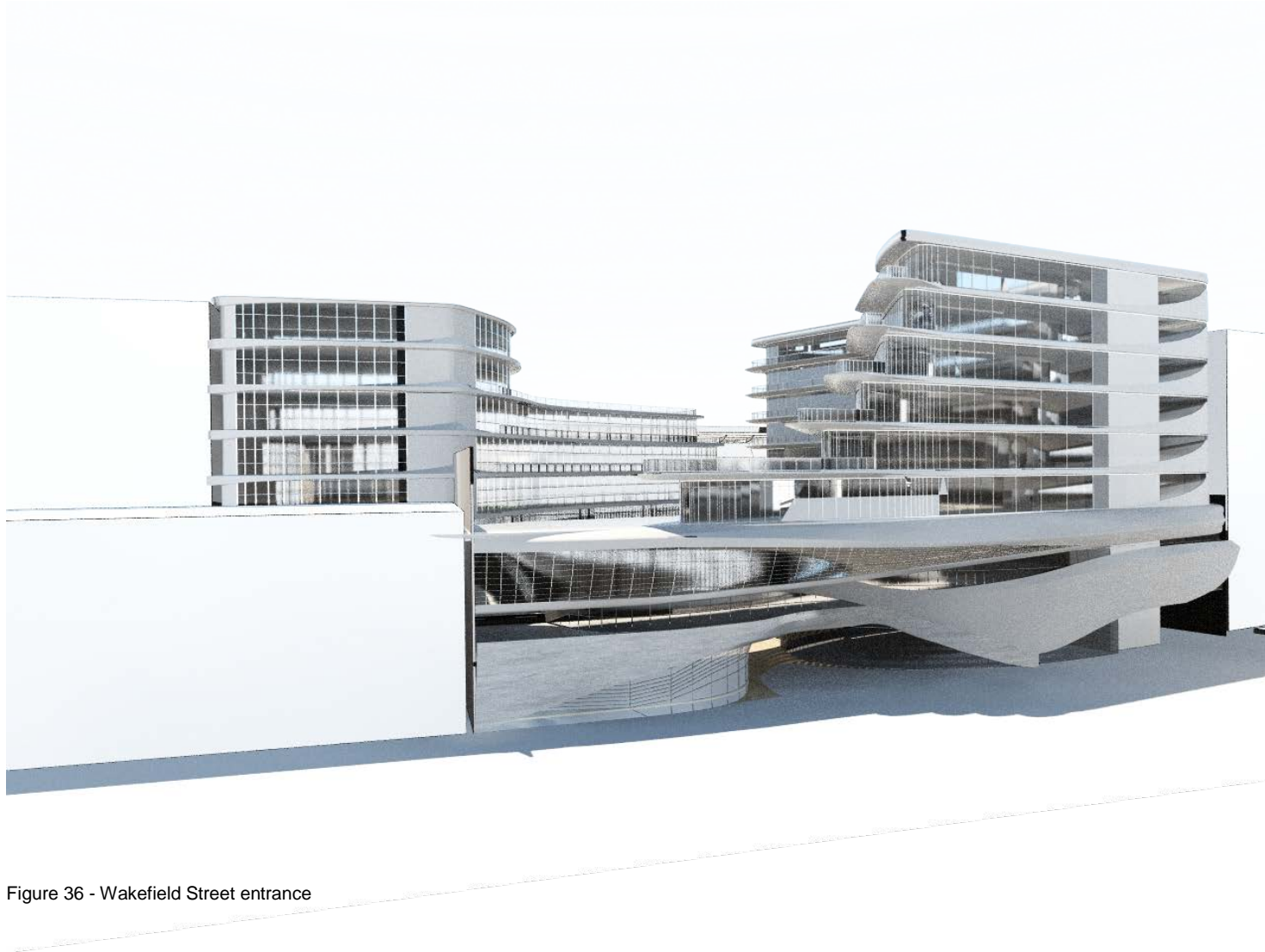


Figure 36 - Wakefield Street entrance

FORMAL APPROACH

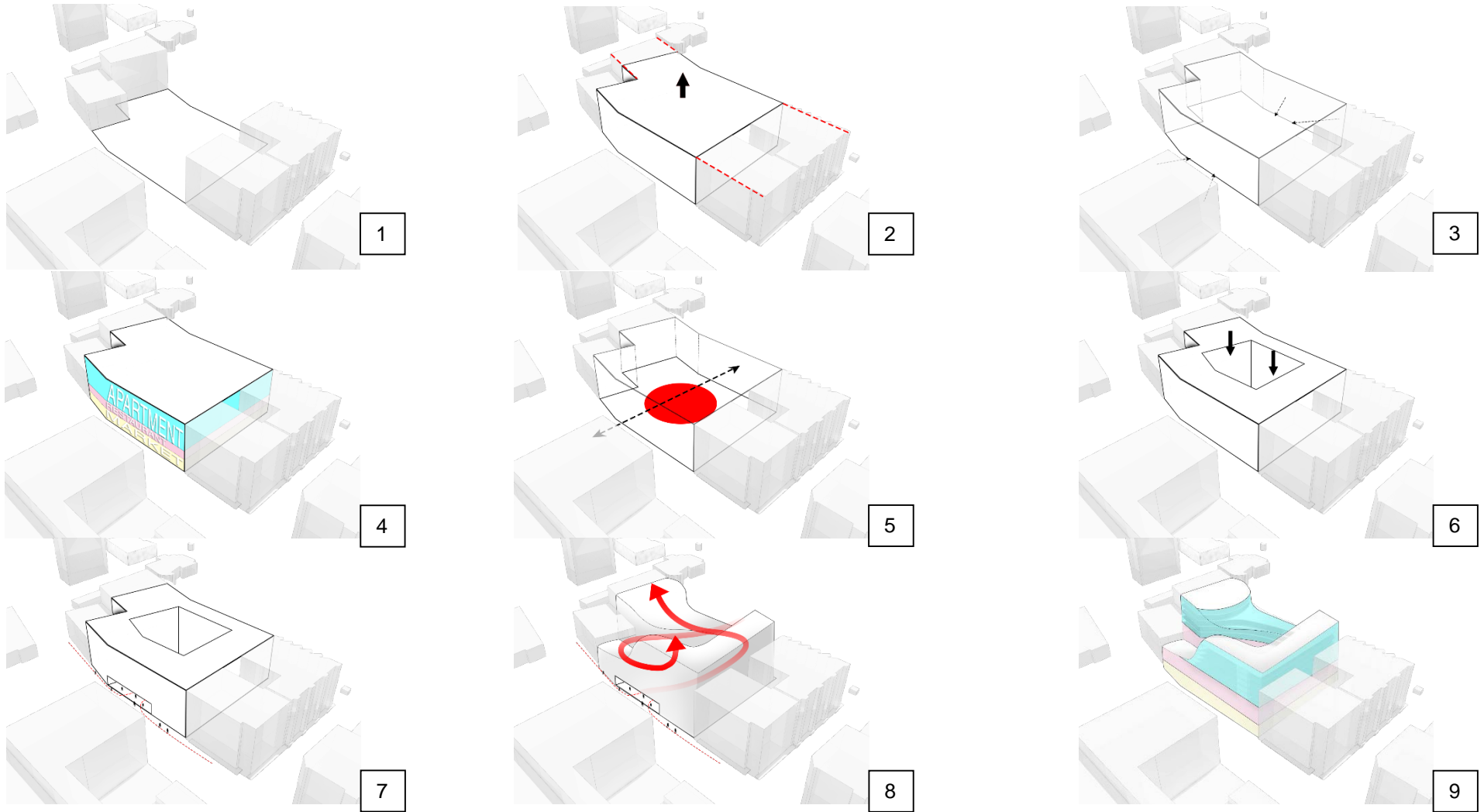


Figure 37 - Formal Approach Diagrams

- 1 Site
- 2 Block extrusion to adjacent building heights
- 3 Entrances to the market
- 4 Vertical Layering of programs
- 5 Core space and urban connection
- 6 Courtyard – Forms a ‘negative space’ within the urban fabric thus enhancing site permeability
- 7 Permeability - Opens a wide pedestrian promenade linking through both ends of the main street. In addition, flights of stairs connects the promenade directly to the second floor, extending street life to the upper levels restaurants and food courts directly.
- 8 Motion of vortex – this approach forms around the courtyard allowing natural sunlight penetrating into the voided space.
- 9 Layering apartment floors

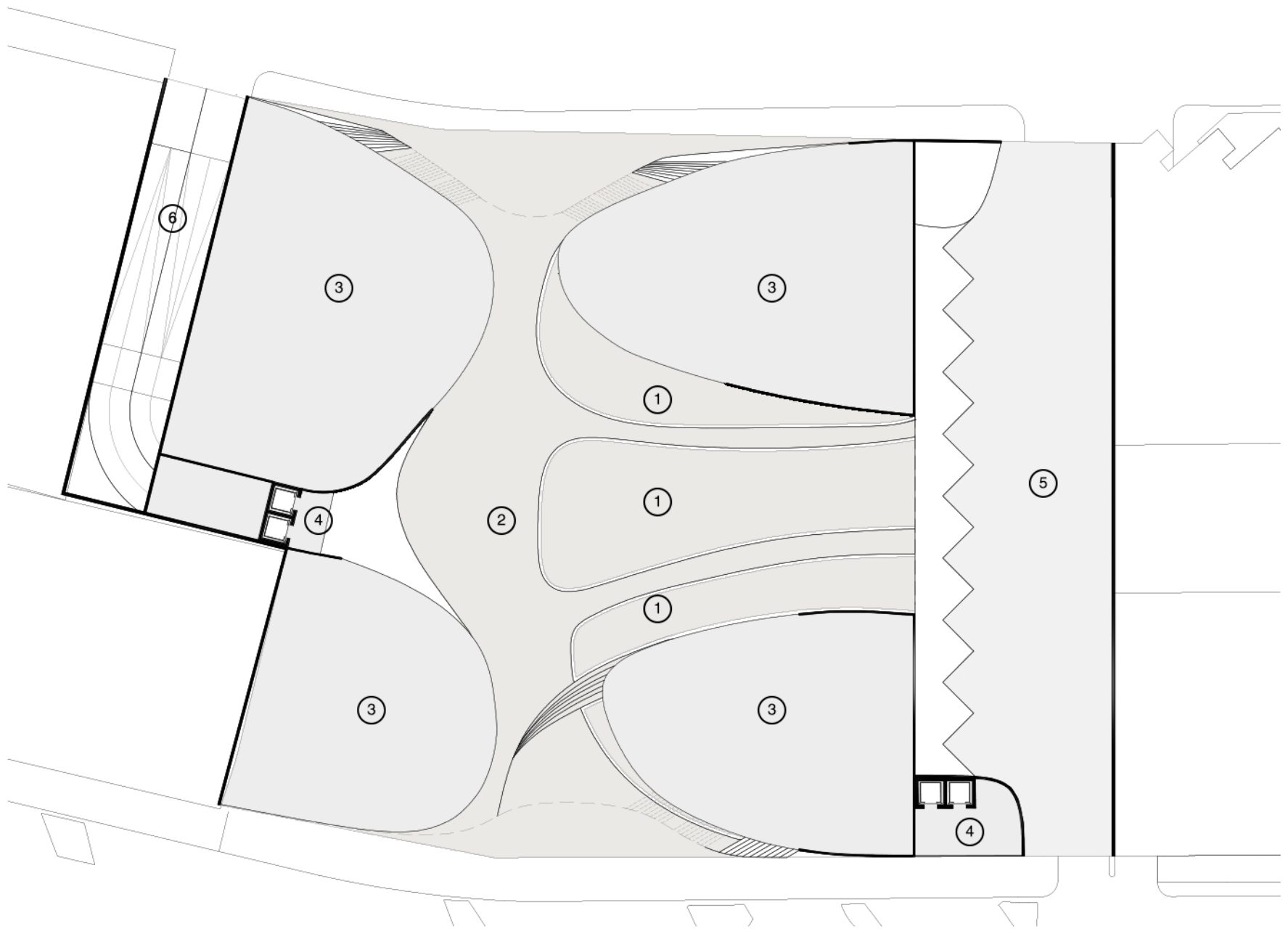


Figure 38 - Ground Floor Plan Scale 1:500



GROUND FLOOR PLAN

- 1- Outdoor Market Plaza
- 2- Market Promenade
- 3- Indoor Market
- 4- Apartment Lobby
- 5- Loading/Unloading Bay
- 6- Underground Carpark access

General Overview

The curved design approach is an attempt to draw the public through the building welcoming them with a large promenade into the market plaza, and four indoor markets on each corner. The outdoor market plaza was designed and defined with kerb and concrete pavement. The intention for placing the indoor markets on each corner, is to spread the spatial ground functionality. The circulation path will force the overlapping between users and function which encourages social interaction.

Circulation

- Public access from both ends of the building.
- Primary path across the promenade was clearly defined. Secondary paths were influenced by the spreading of markets on every corner.
- Apartment lobby only accessible through swipe cards.
- Large trucks for farmer vendors gain access to the loading/unloading bay from Wakefield Street and exit through Cable Street. The loading/unloading bay is connected directly to the market plaza .
- Underground carpark is accessed only via Cable Street end. Vendors with smaller vehicles are able to unload in the underground carpark and service lifts are provided which connects to the second level.

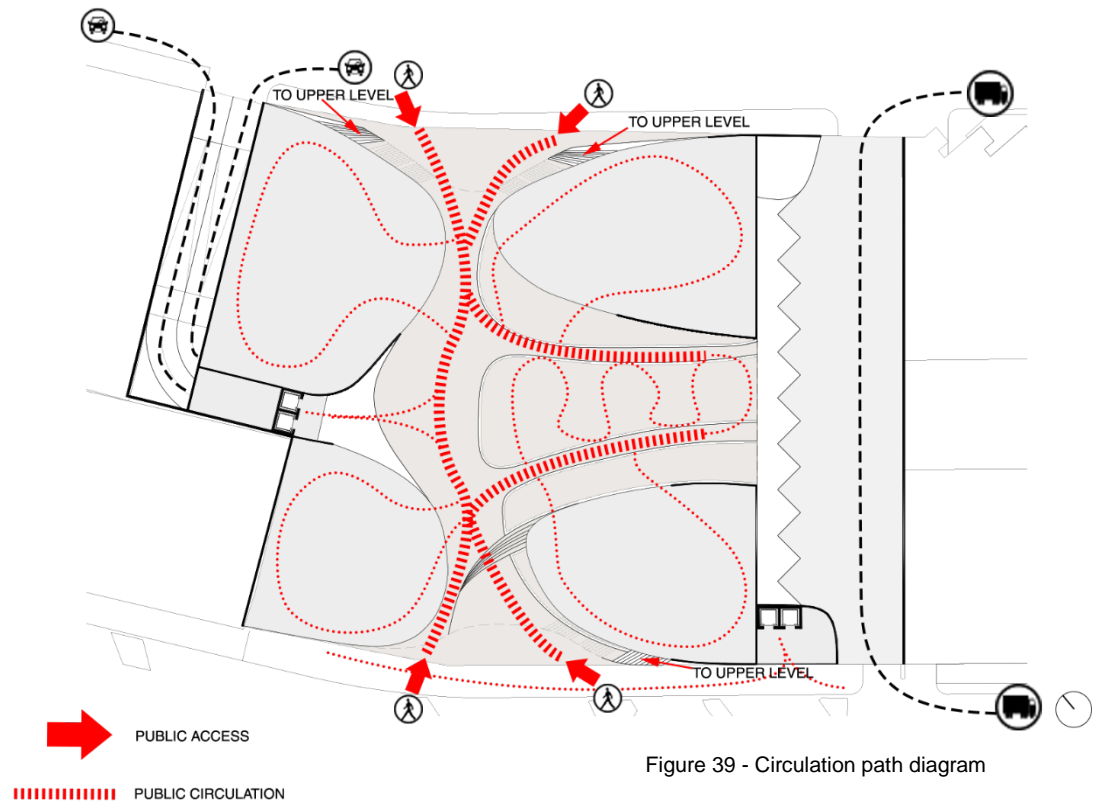


Figure 39 - Circulation path diagram

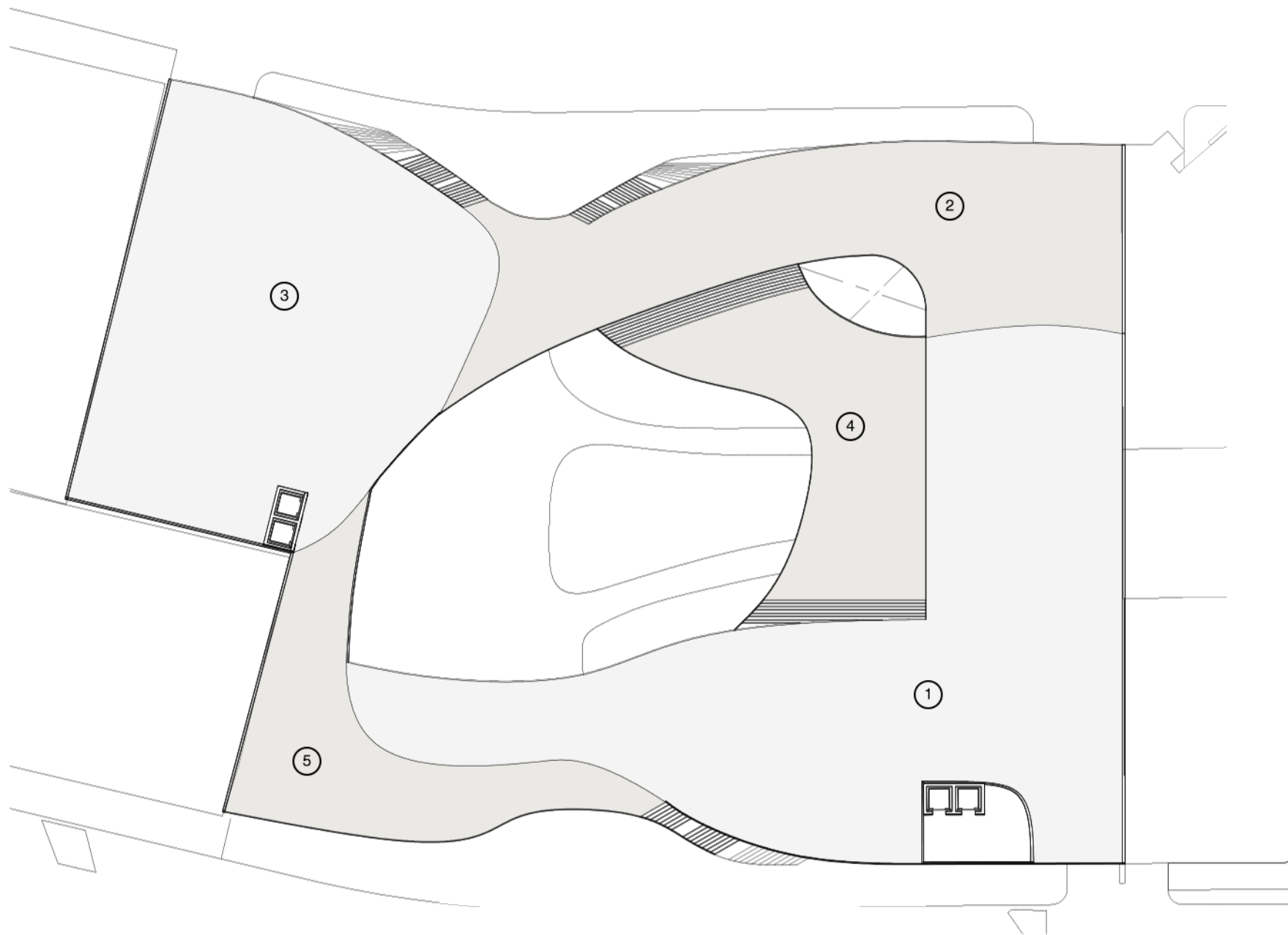


FIGURE 40 - FIRST FLOOR PLAN SCALE 1:500



FIRST FLOOR PLAN

- 1- Restaurant & Food Court
- 2- Open Terrace food court
- 3- Restaurant & Culinary School
- 4- Food Court
- 5- Extension
- 6- Culinary School

General Overview

This floor is mainly restaurants and food court. The staircases design were extended to the street to attract pedestrians. Open terraces on this level is to create visual connectivity with the pedestrian from the street below encouraging interaction between the users and functions. This level was design with a split mezzanine floor where the temporary food market will be located. The mezzanine floor is designed to be lower than the first floor with the intention bring the connection closer to the users on the lower level.

Circulation

- Pedestrian access from staircase located on both ends of the street. Circulation on this floor forms a continuous loop.
- No access to this floor through the market plaza.
- Apartment lobbies are not accessible on this level.

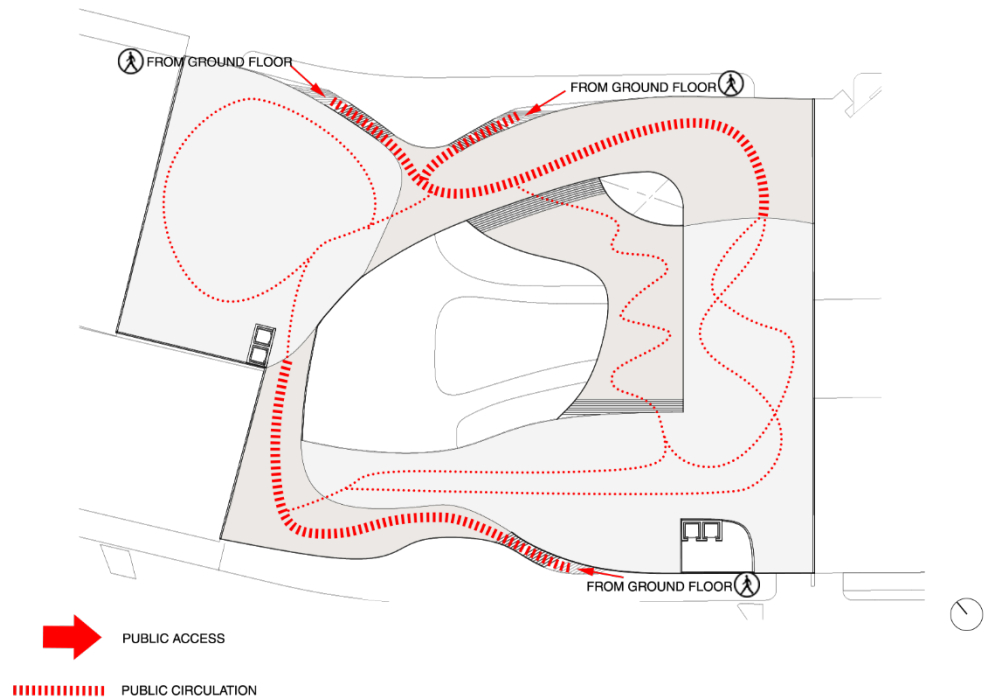


Figure 41 - Circulation path diagram



Figure 42 - View from Cable Street



Figure 43 - View from Market Plaza

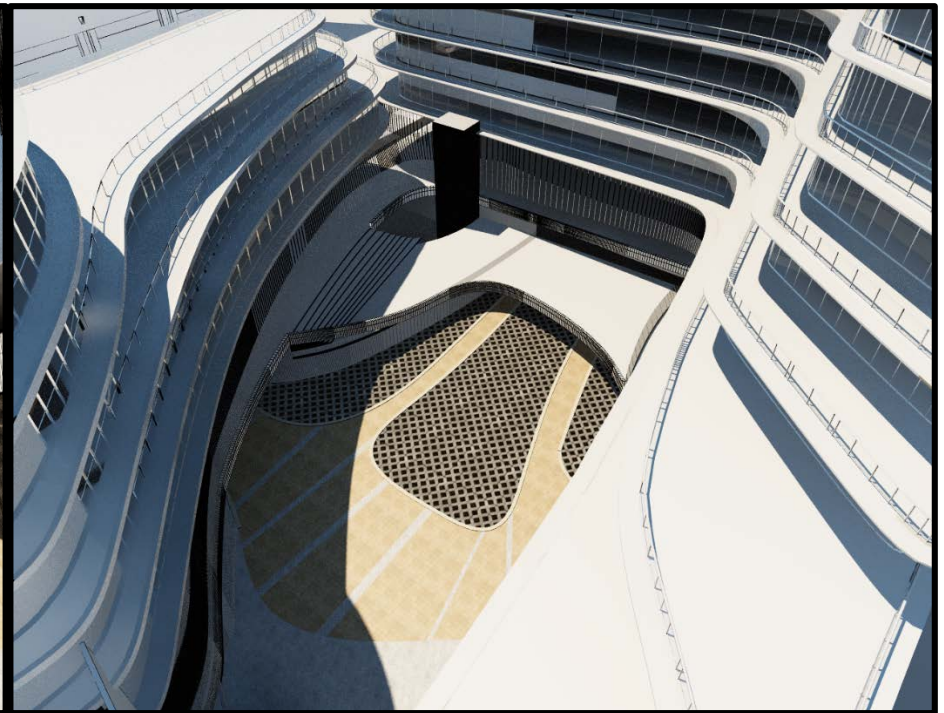


Figure 44 – View into Market Plaza

Critical Reflection

In this iteration, is mainly testing out the result obtained through Phase 1 and Phase 2. However, this iteration was not successful in terms of its formal design approach and spatial circulation. For instance:

- The apartment blocks were too close with each other without proper edge treatment,
- The design failed in terms of site consideration as it obstructed neighboring apartment's sunlight,
- The emphasis on site permeability had not been fully successful due to visual obstruction of the restaurants on first floor and second floor,
- Circulation path which sets the boundary between public spaces and private spaces were not clear and causes interruption at some areas of the design.
- There was a failed connection between the market plaza and the restaurant level. Service lifts and public lifts were not provided.

Moving forward from this stage, the approach will emphasize more on spatial purposefulness to develop a clear circulation and engaging users at a fundamental level. Its circulation consideration must not only be given to pedestrian accessibility but also the market vendor's accessibility.

Final Design

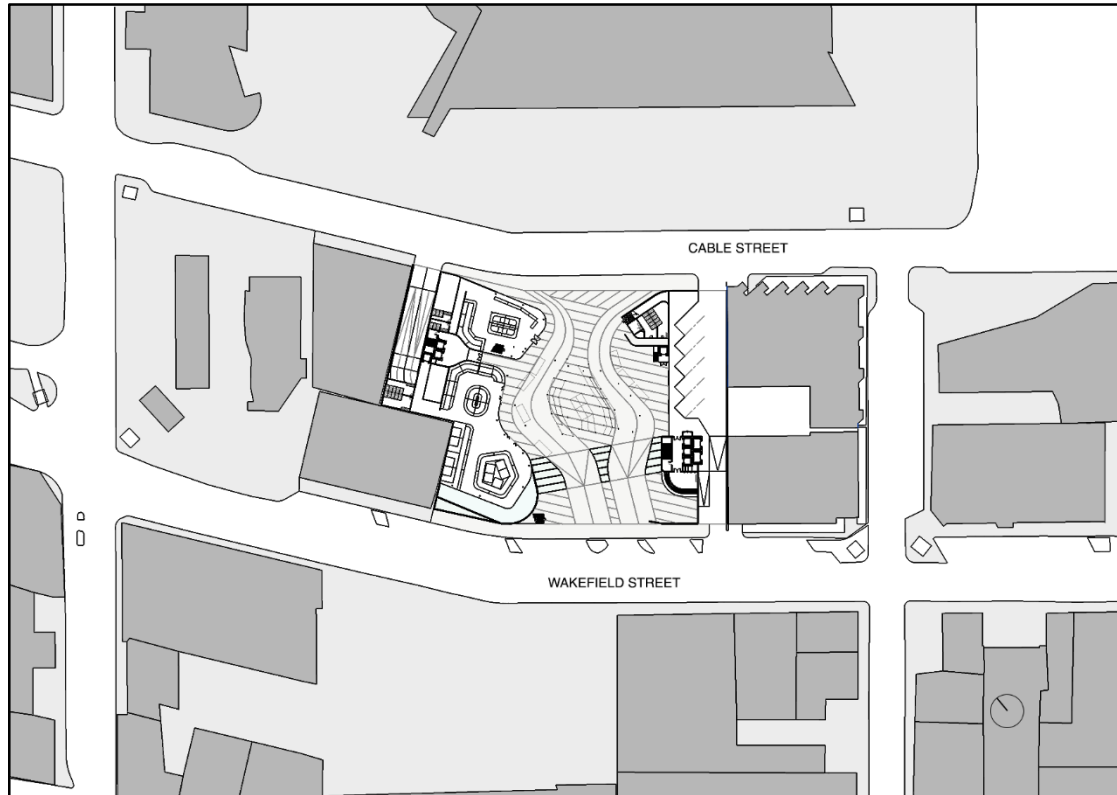


Figure 45 - Site Plan

Design Overview

- Ground Floor Plan
- First Floor Plan
- Typical Apartment Layout
- Section A-A
- Section B-B
- Formal Approach
- Renders

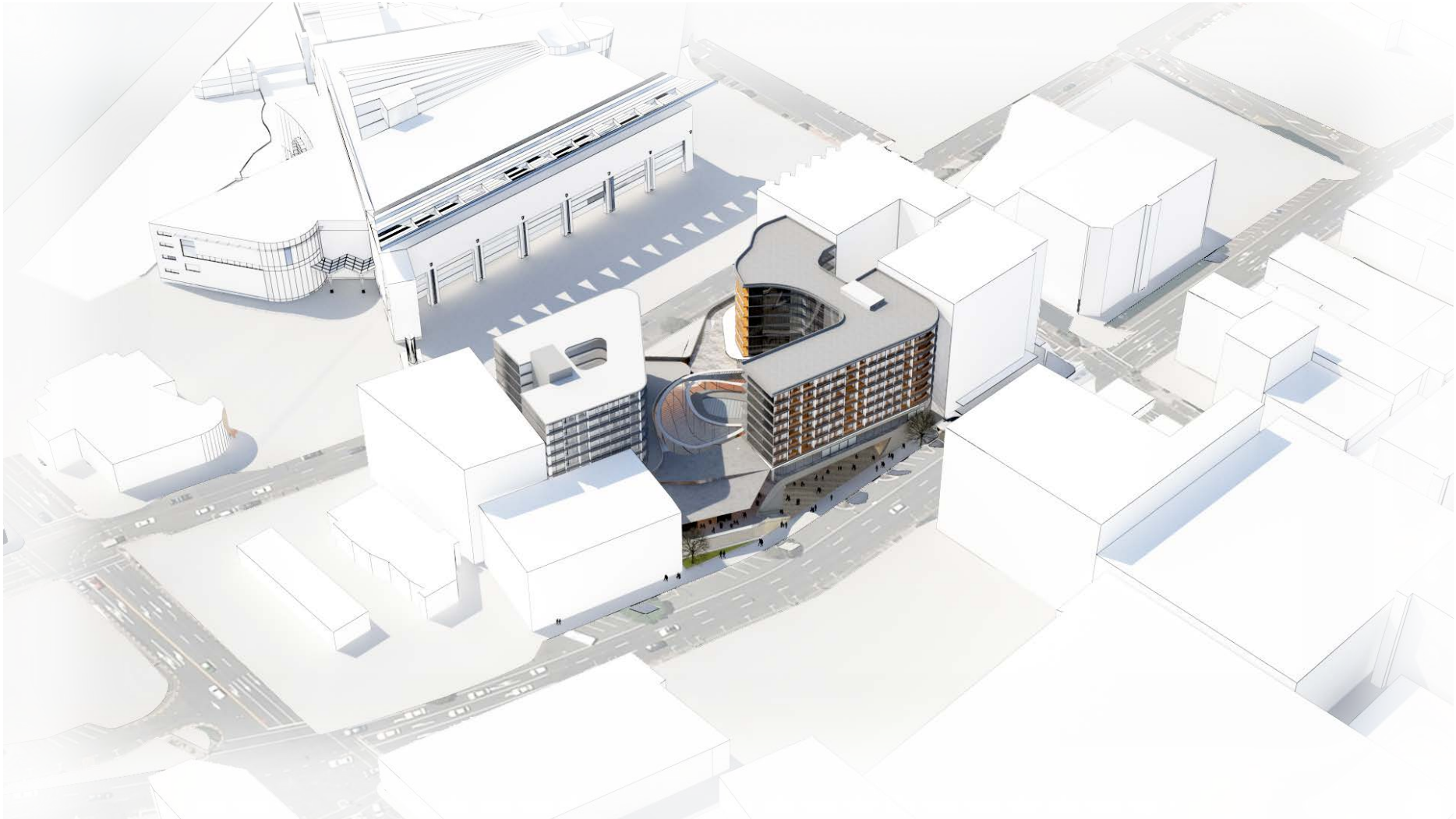


Figure 46 - Aerial Perspective

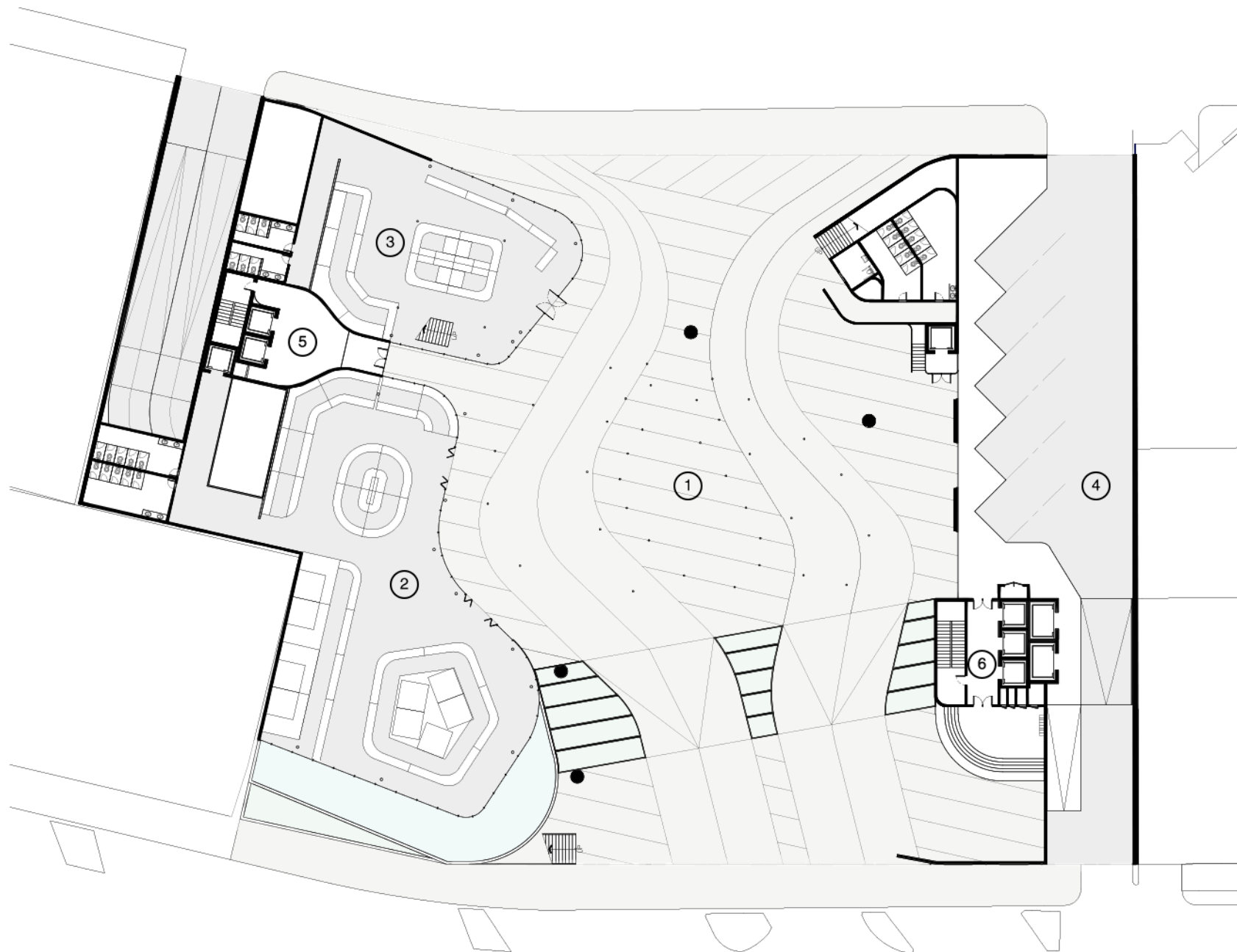


Figure 47 - Ground Floor Plan Scale 1:500



GROUND FLOOR PLAN

- 7- Outdoor Market Plaza
- 8- Indoor market (Butcheries and Fishmongers)
- 9- Indoor Market (Bakeries and Dairies)
- 10- Loading/Unloading Bay area
- 11- Apartment Lobby
- 12- Apartment Lobby

General Overview

The market plaza was designed to provide maximum flexibility. Although maximum flexibility was emphasized, the market layout still needs to be in an order to avoid interruption on circulation path. Thus, this had been resolved by using the structures of the glass canopy to path out the main promenades and by using concrete pavements to indicate the grids.

Circulation

- Pedestrian access from both ends of the street. Access from Wakefield Street will go up a gentle ramp due to site condition and general accessibility (wheelchairs, pushcarts, etc.).
- Staircase to the restaurants on the second level is extended towards the streets connecting directly to the pedestrians. Lifts are provided for the disabled.
- Apartment lobbies are only accessible through swipe cards to ensure residents security and safety.

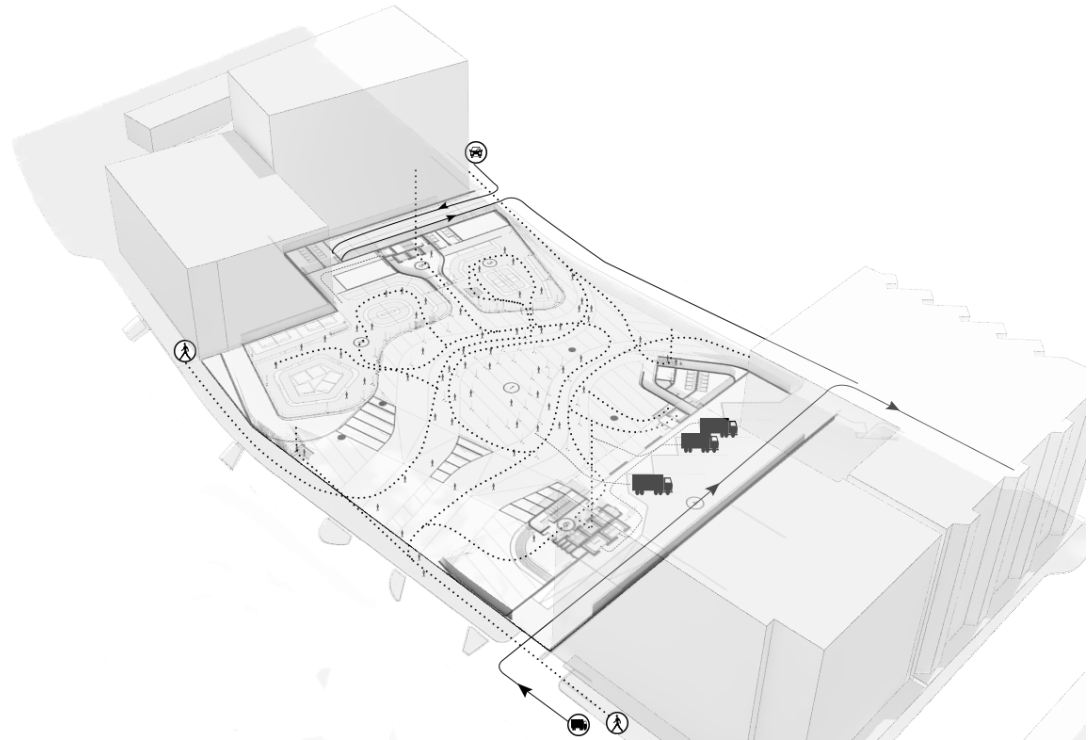


Figure 48 - Circulation path diagram

- Underground carpark is accessed only via Cable Street end. Vendors with smaller vehicles are able to unload in the underground carpark and service lifts are provided which connects to the second level.

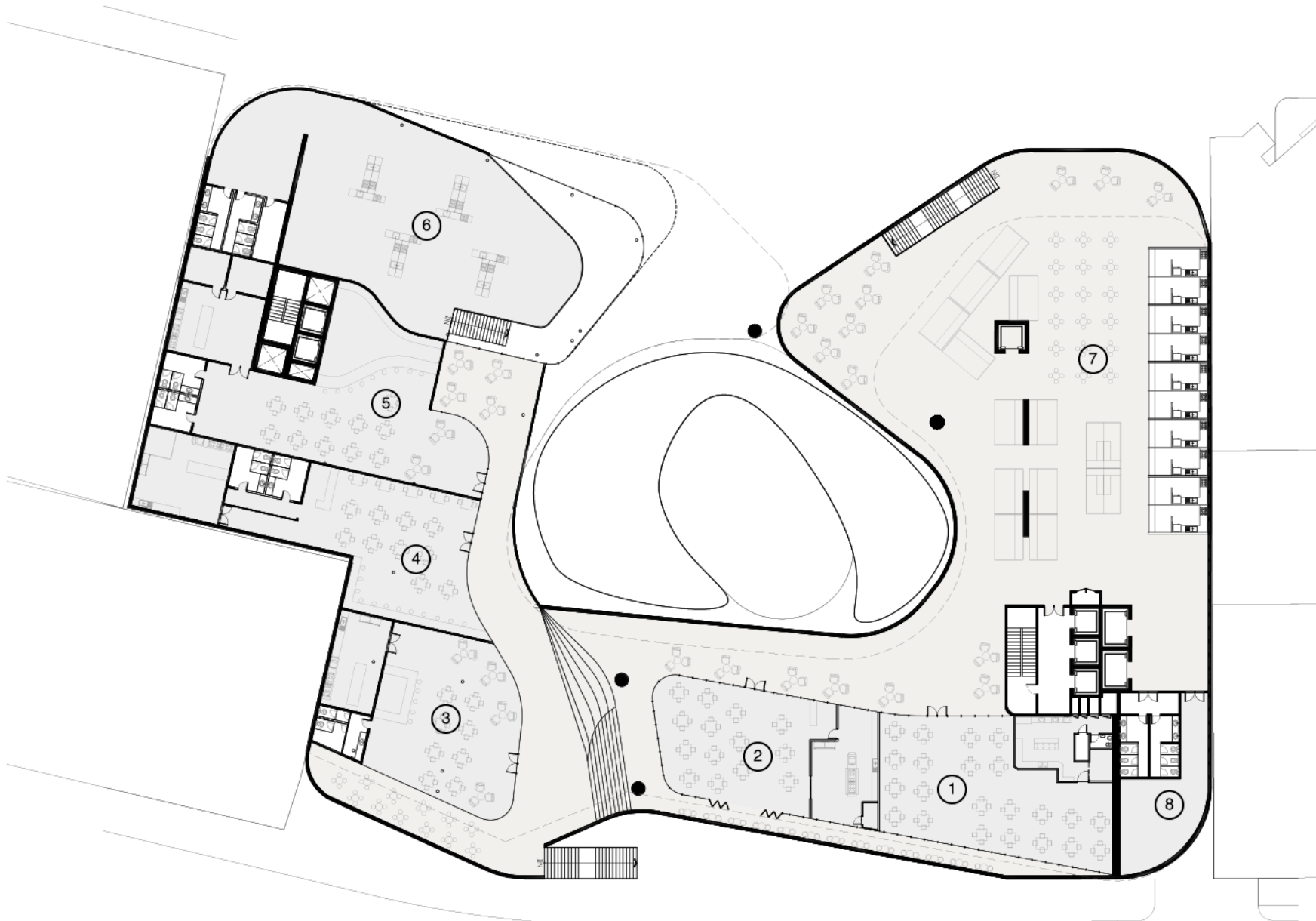


Figure 49 - First Floor Plan Scale 1:500

FIRST FLOOR PLAN

- 7- Restaurant
- 8- Restaurant
- 9- Restaurant
- 10- Restaurant
- 11- Restaurant
- 12- Culinary School
- 13- Lock-up food stalls & Food Court
- 14- Storage

General Overview

Five restaurants and a food court provides the diversity of food for the public. This level is designed in split levels to provide extra volume on the ground floor and to comply with the site conditions and loading bay. Restaurants facing Wakefield Street are designed with glass curtain walls and open terrace for outdoor seating. This design approach attempts to connect with the pedestrian visually. Towards the Cable Street end of the building, is a row of permanent food stalls and large seating area. This large space were also designed to occupy temporary food stalls, to increase the diversity of food.

Circulation

- Pedestrian access from staircase located on both ends of the street.
- Culinary school although located on this floor, however, it can only be accessed from the ground floor in the bakeries and dairies market.
- Apartment lobbies are not accessible on this level.

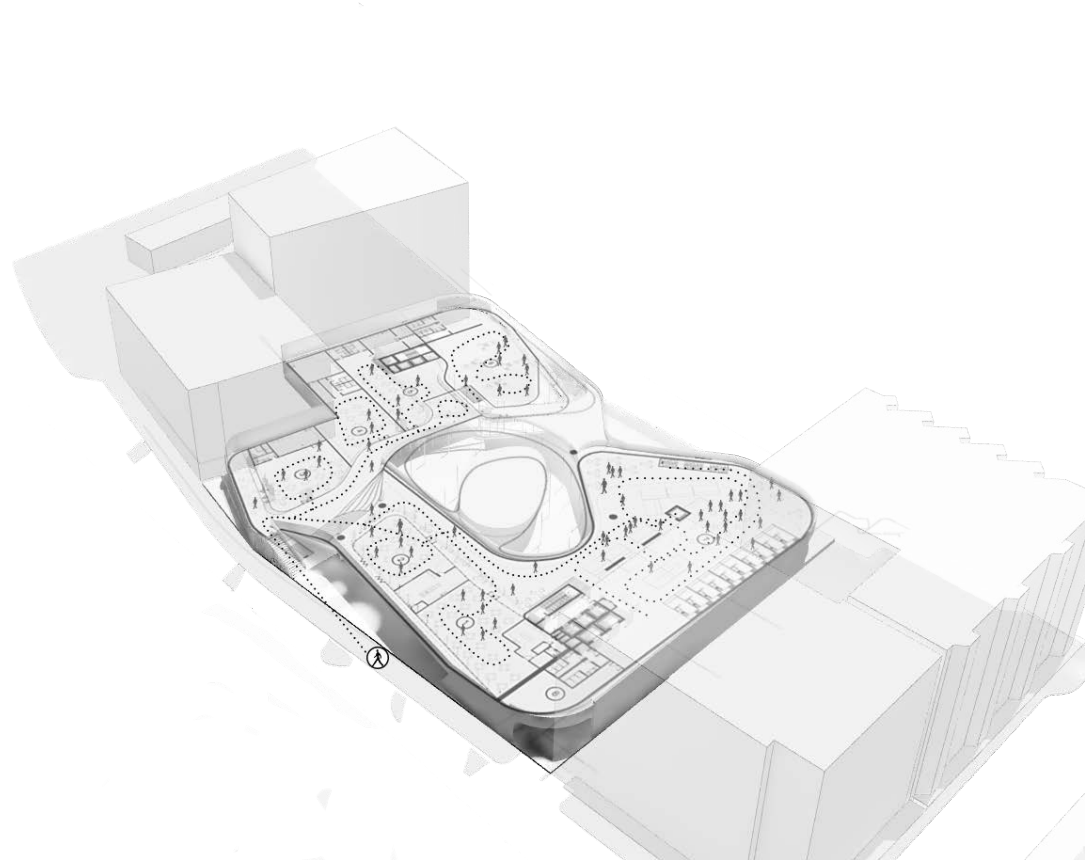


Figure 50 - Circulation path diagram



Figure 51 – Typical Apartment Floor Plan Scale 1:500



TYPICAL APARTMENT FLOOR PLAN

General Overview

This design features two apartment buildings. Block A located on Cable Street end, and Block B located on Wakefield Street and stretched towards Cable Street. Apartment units on Block A has three facing units, the Waterfront, the Market, and the Courtenay place. Block B features a large glass façade facing the market plaza. Market facing apartment units were not designed for this block is to avoid direct facing with the units on Block A and allows maximum sunlight into the space. In this design, 'lightwell' are designed to avoid light obstruction to neighboring apartments.

Circulation

- Both apartment buildings can be access through swipe card from the underground carpark and ground floor lobby.

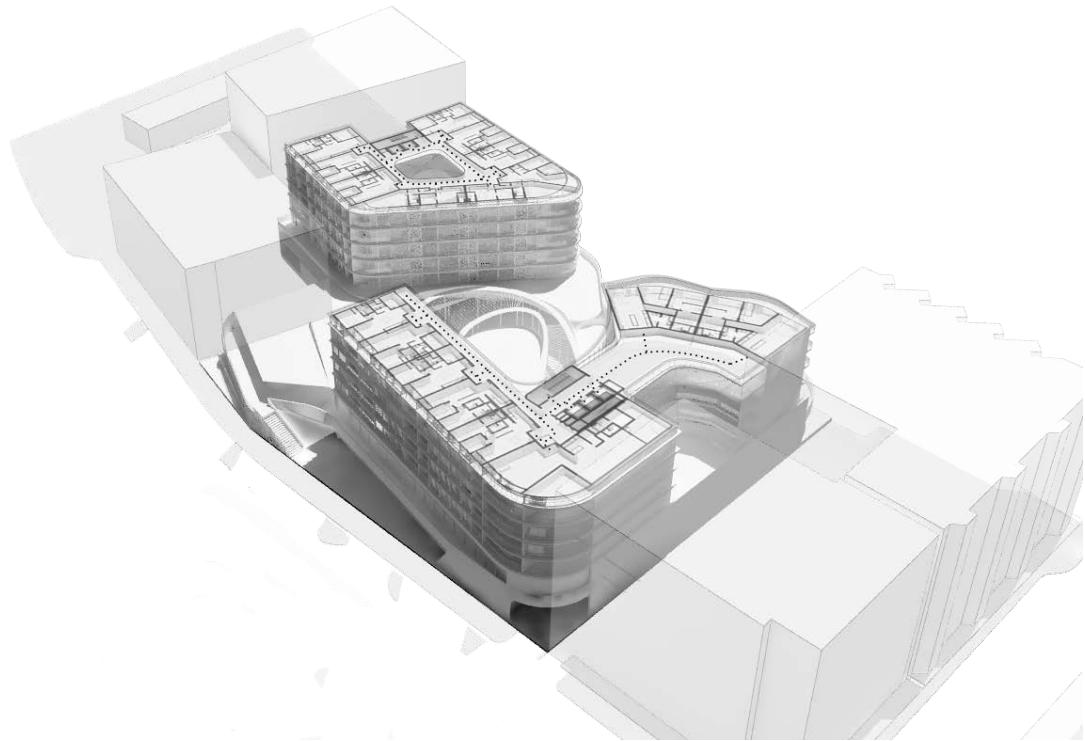


Figure 52 - Circulation path diagram

SECTION A-A

- 1- Indoor Market
- 2- Restaurant
- 3- Culinary School
- 4- Apartment
- 5- Lightwell
- 6- Underground Carpark

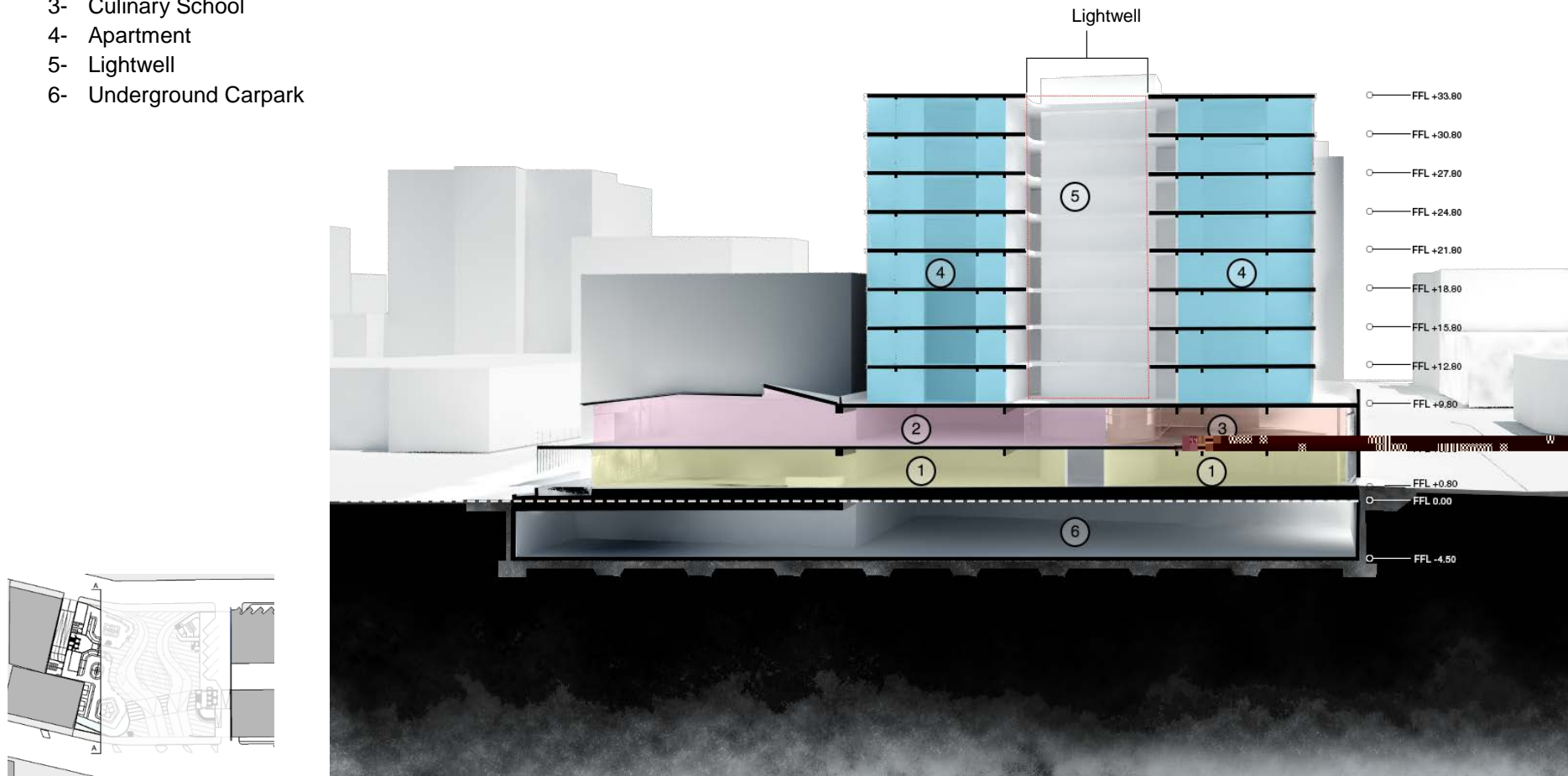


Figure 53 - Section A-A

Section B-B

- 1- Market Plaza
- 2- Indoor Market
- 3- Restaurant
- 4- Restaurant / Food Court
- 5- Underground Carpark

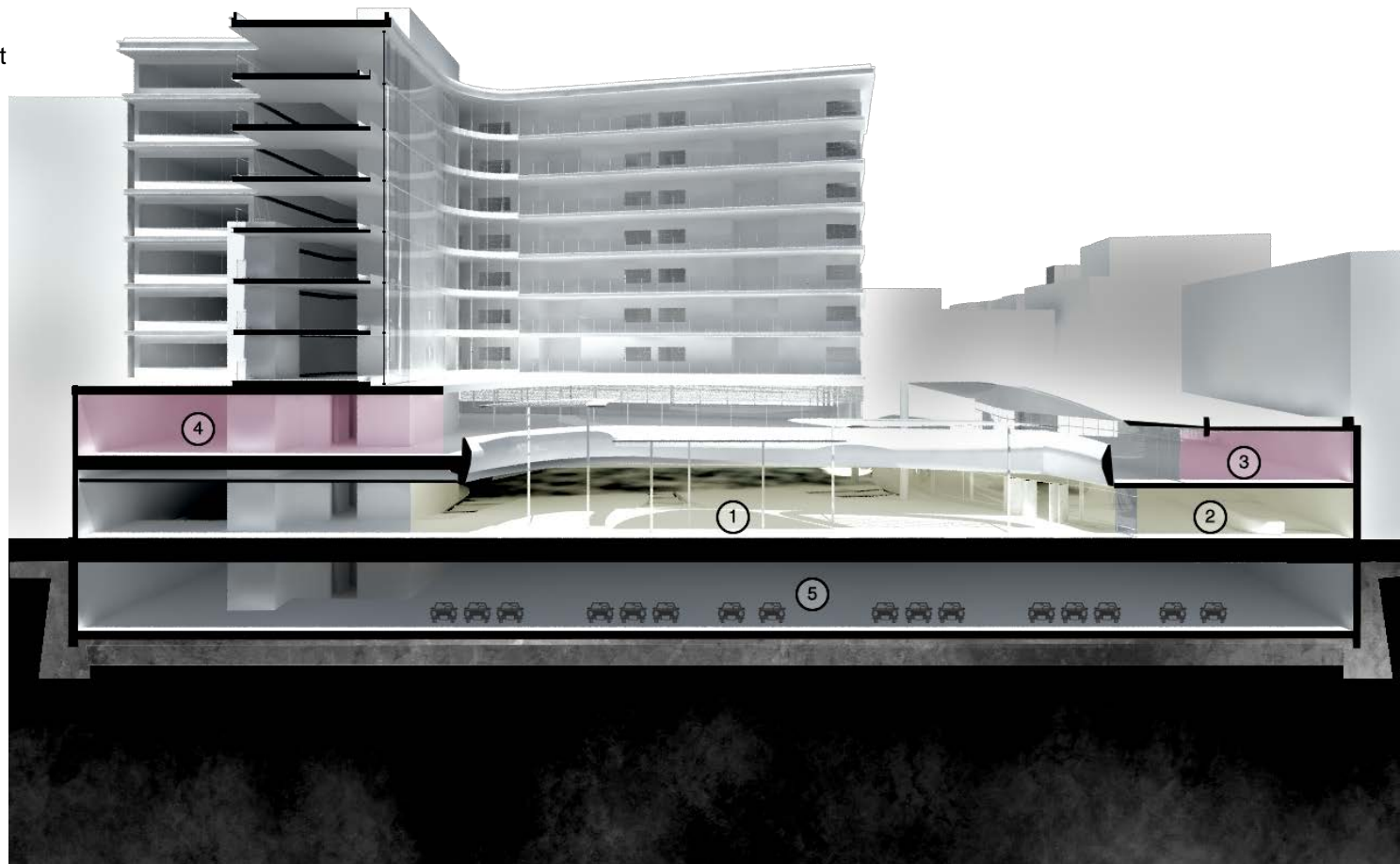
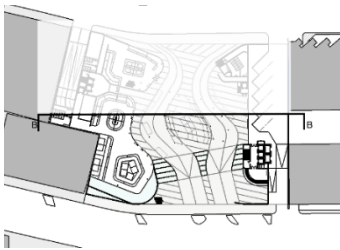


Figure 54 - Section B-B

FORMAL APPROACH

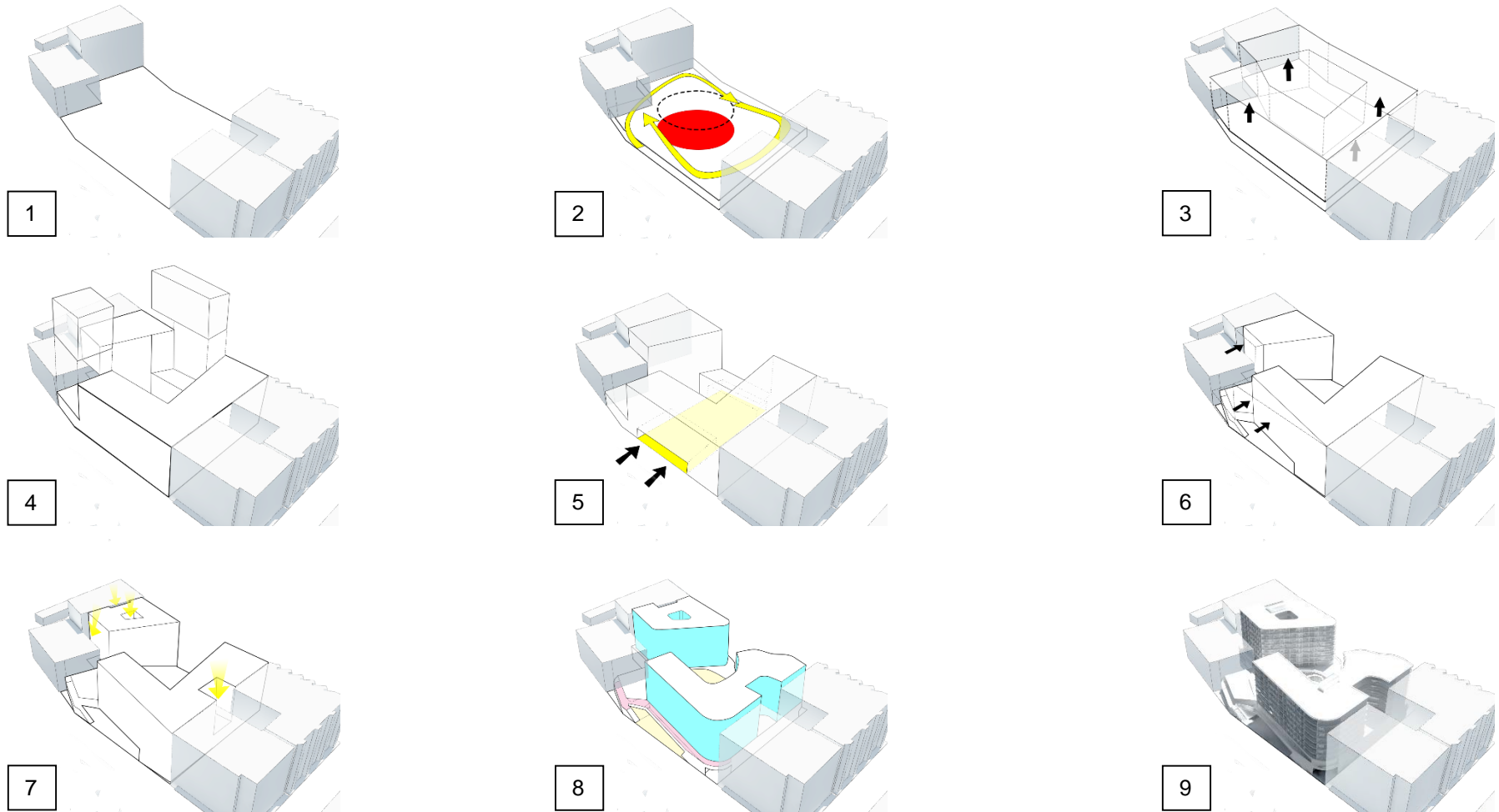


Figure 55 - Formal Approach Diagrams

- 1 Site
- 2 Motion of vertex- drawing public circulation from ground floor to upper floor in a loop form.
Void the center block to create a courtyard space for the market plaza
- 3 Block extrusion with height adjacent to neighboring buildings and to contain the apartment units.
- 4 Subtracted volumes to enhance visual permeability from both ends and allows better natural light penetration into the market plaza.
- 5 Large volume subtracted to create the entrance promenade to the market plaza.
Permeability - Opens a wide pedestrian promenade linking through both ends of the main street. In addition, flights of stairs connects the promenade directly to the second floor, extending street life to the upper levels restaurants and food courts directly.
- 6 Building setback from the boundary as urban street edge treatment for a more pedestrian friendly environment.
- 7 Apartment blocks angled, setback, and subtracted volume to create 'lightwells' allowing penetration of natural light into the apartment units and avoid the obstruction of natural light of neighboring buildings..
- 8 Vertical layering of programs
- 9 Overall view of design.



Figure 56 - Perspective view From Wakefield Street



Figure 57 - Perspective view from Cable Street



Figure 58 – Indoor Market-Butchery



Figure 59 – Outdoor Market

CONCLUSION

CONCLUSION

This thesis investigates how a hybrid building could be the solution for the public markets in the city from being evicted due to urban land development. This is investigated by incorporating the public market as part of the building's design development. Besides incorporating the market into the building, the nature of the market as a public place needed to be retained.

As the chosen site for this project is situated in an area between two high activity neighborhoods, the project's design seeks to channel the vibrancy from the surrounding area through the building. The research had identified several public programs other than the market to be integrated into the project's design. The aim is to design a vibrant urban public place, engaging with the people and building a sense of community within the inner city area.

The hybrid architecture celebrates its complexity and diversity of programs. Due to its complexity, this thesis breaks down into three separate phases. *Phase 1* investigates the set of programs, scale, site and form. *Phase 2* investigates the market layout and its circulation. *Phase 3* integrate results from both phases and develop the design of the hybrid building.

The challenge faced during the investigation is the boundary between permanency and flexibility of design. It is important for the public to recognize the building as a public market and the freedom of using the place without the fear of being controlled by the space. Therefore through the placement of functions and the circulation of people through the architecture, the final design was able to engage with the users through its physical and visual connections. The market promenade had performed not only as the main circulation core for the building, it also activates the surrounding urban block making the space permeable, and as a result produces a sense of vibrancy.

The thesis research had achieved a design outcome which were able to create a new public place, generate greater levels of activities within the inner city area and most importantly, keeping the public market as part of the inner city area. Hopefully looking forward to the future, this hybrid architecture will be a new typology within the urban development and infiltrating the city with more public markets.

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