

# 06

CHAPTER SIX

## DESIGN INFORMANTS

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SYNTHESISING EXISTING INFRASTRUCTURE  
AND FORMULATING AN ARCHITECTURAL  
INTENTION FOR THE DESIGN DEVELOPMENT

Introduction

Contextual Informants

Conceptual Informants

Programmatic Informants

Precedent Studies

6.1  
Introduction

The Architectural Hypothesis states that a city’s unique identity is collectively influenced by both the natural and cultural processes that are constructed in our cultural developments into habitable artificial environments. By reimagining existing infrastructure through a proposed architectural intervention, it enables the potential to construct a symbiotic relationship that acknowledges non-human natural systems as agents, and also acknowledges the constraints of human practices; therefore the following research questions can be posed:

- How can dehumanised infrastructural complexes be reinvented in a symbiotic relationship with ecological and socio-cultural existence?
- How can a newly established architectural identity, through the exploitation of infrastructure and resources its scale, language, accessibility and edge conditions establish an intangible dialogue with the polarised conditions of the city centre and residential areas?
- How can an infrastructural reinvention of an adaptable recreational and socio-economic typology, through a discharge into its context, amplify the positive opportunities in and significance of the spatially fragmented Apies River 'island' as 'other space' between city and suburb?

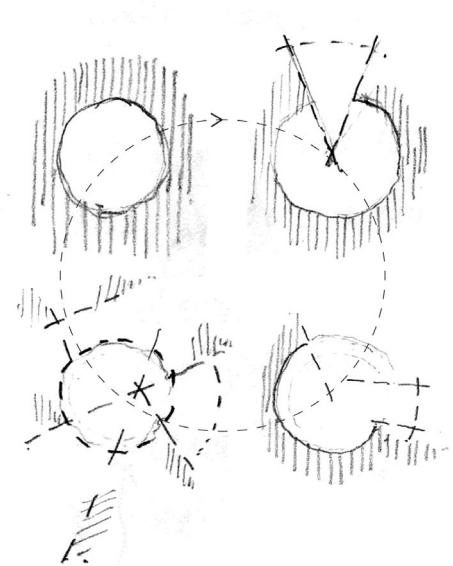
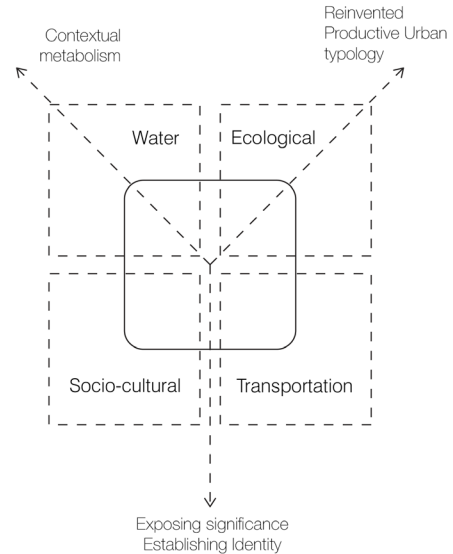


Figure 6.1: Dormant potential of the ecological processes to be exploited through a continual architectural reinvention as contextual metabolism. (Author 2015)

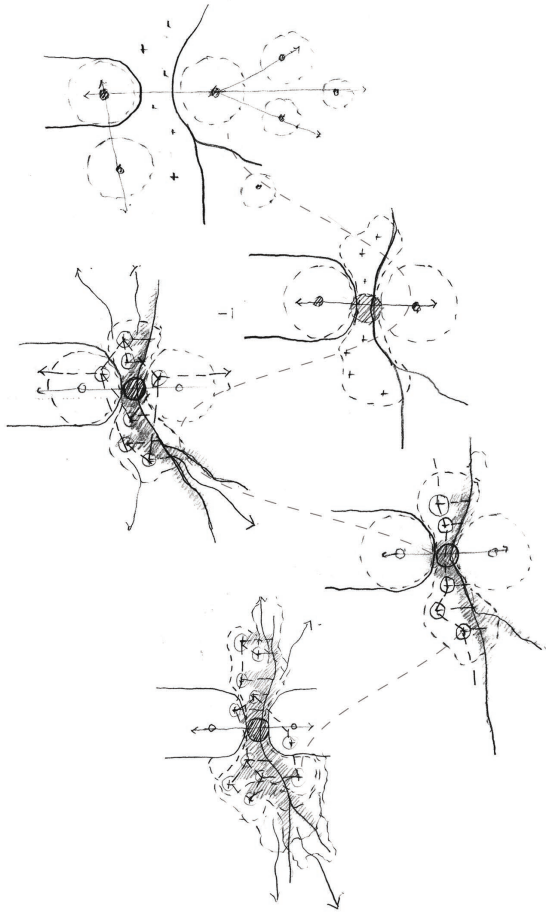


Figure 6.2: Extracting opportunities  
Exposing the significance of the site and infrastructural  
opportunities. (Author 2015)

The method of structuring a response to the design process was directed by three main informants to iteratively formulate a synthesised conceptual approach to the design development, as outlined in the following chapter.

The first informant, the contextual conditions, synthesises the infrastructural investigations from the scale of the city to the scale of the site, towards exploiting potential opportunities of integrating and activating the existing conditions through an architectural intervention.

The second informant, the conceptual approach, is founded in the theoretical premise of reconstructing the realm of the existing artificial environment as an integrated domain founded in both nature and culture.

Finally, the programme as cultural urban arena that responds to the contextual and conceptual informants, is unpacked. Various opportunities for recreational and socio-economic appropriations are investigated to encourage continuous urban scenarios of public engagement that exploit the numerous ecological potentials of the river and the existing landscape.

Precedent studies, as inspired by the three main informants, are investigated to construct a synthesised architectural intention for the design development as presented and discussed in the final section of this chapter.

## 6.2

## Contextual Informants

The contextual informants for structuring an architectural intention for the design development of the building are explored through a graphical investigation as a response to the existing conditions of the surrounding precinct – as elaborated in the illustrations and their discussion to follow.

*Actual Territories' constitute the city's built negative, the interstitial and the marginal, spaces abandoned or in the process of transformation. These are the removed lieu de la memoirs, the unconscious becoming of the urban systems, the spaces of confrontation and contamination between the organic and the inorganic, between nature and artifice. Here the metabolization of humanity's discarded scrap, or nature's detritus, produces a new horizon of unexplored territories, mutant and by default virgin, that are for Stalker 'Actual Territories'. The term 'actual' indicates the process in which space comes into being. The 'actual' is not what we are, but rather that we are becoming, that is to say the 'other' that becomes other.*

Stalker in (Lang 2008:222)

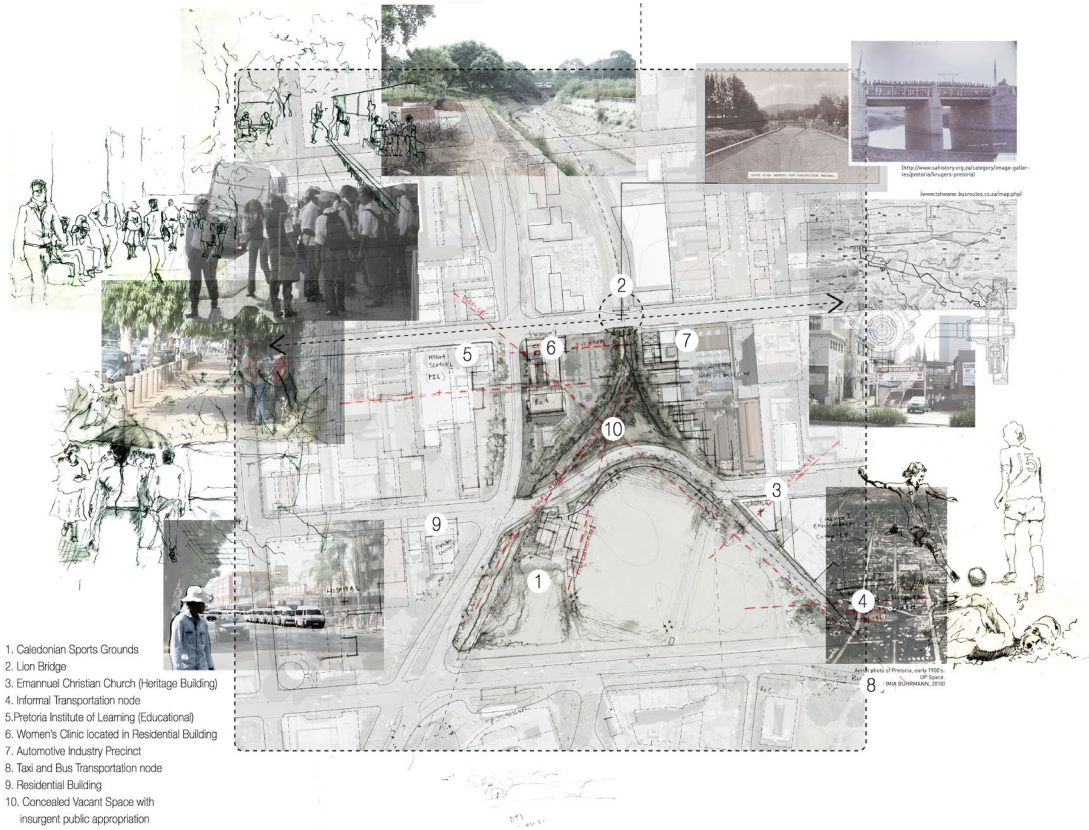


Figure 6.3: Illustrates the initial intuitive contextual response to the site and its formal and spatial conditions during a concept development workshop. Model constructed by workshop colleague Marie Oberholzer, through a discussion on the contextual conditions between the author and the workshop colleague.





- Significant Landmarks:
1. Church Square
  2. Sammy Marks Square
  3. Lilien Ngoyi Square
  4. State Theatre
  5. South African Reserve Bank
  6. Caledonian Sports Fields
  7. Union Buildings



1. Caledonian Sports Grounds
2. Lion Bridge
3. Emmanuel Christian Church (Heritage Building)
4. Informal Transportation node
5. Pretoria Institute of Learning (Educational)
6. Women's Clinic located in Residential Building
7. Automotive Industry Precinct
8. Taxi and Bus Transportation node
9. Residential Building
10. Concoaled Vacant Space with insurgent public appropriation

Figure 6.4 locates the site within the identified city framework and vision for the river, while simultaneously illustrating the significant contextual activities observed during an experiential walkabout through the precinct. (Author 2015)

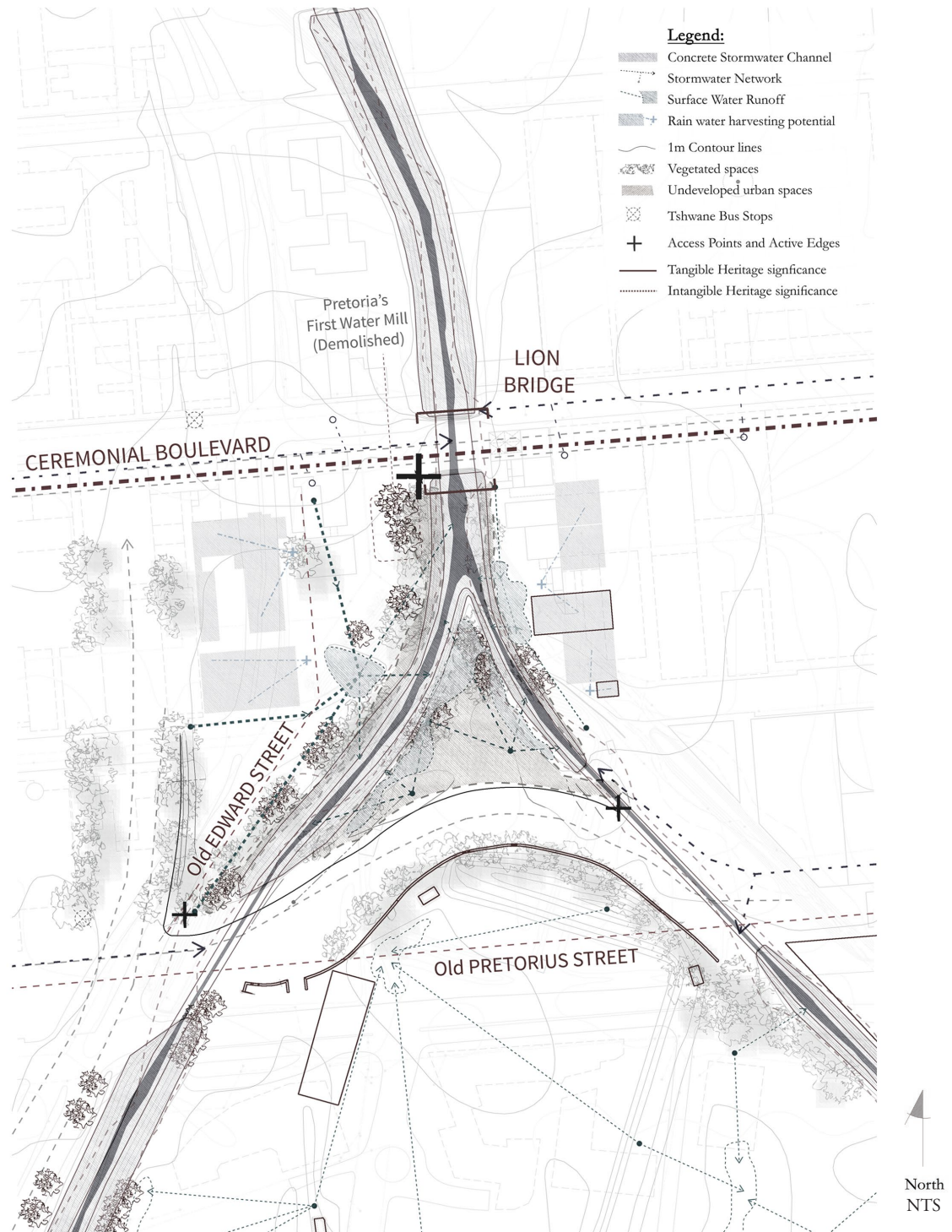


Figure 6.5 illustrates an extraction of the main contextual informants from the existing infrastructural maps discussed in Chapter 6: Infrastructure at the Scale of the Site, and synthesises it into a collective map that emphasises the opportunities for intervention and gives a guiding background to the conceptual informants. (Author 2015)



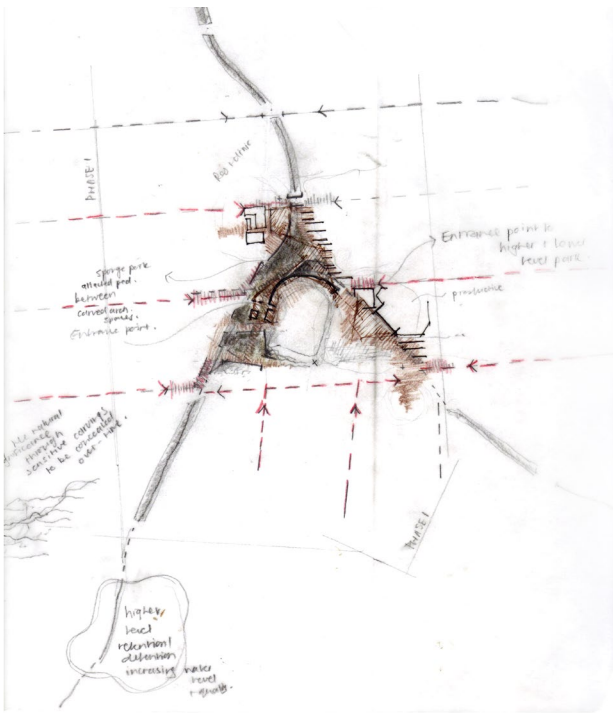


Figure 6.6 : Existing movement and access points around the site. (Author 2015)

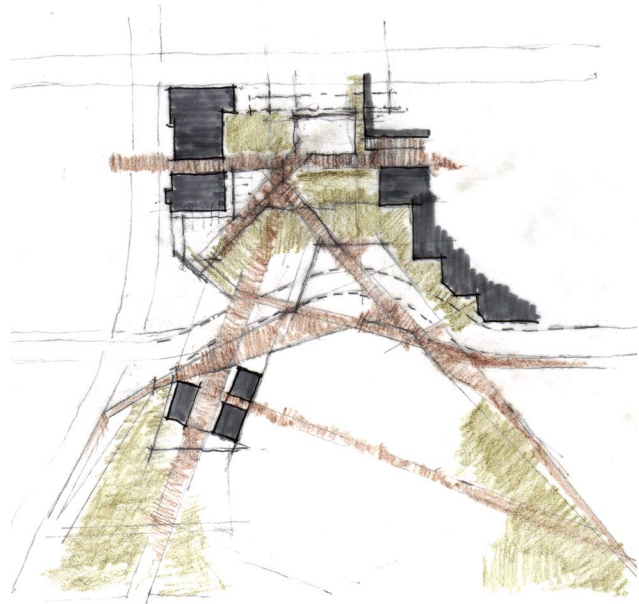


Figure 6.7 : Proposed significant pedestrian movement through and around the site connecting significant spaces within the precinct. (Author 2015)

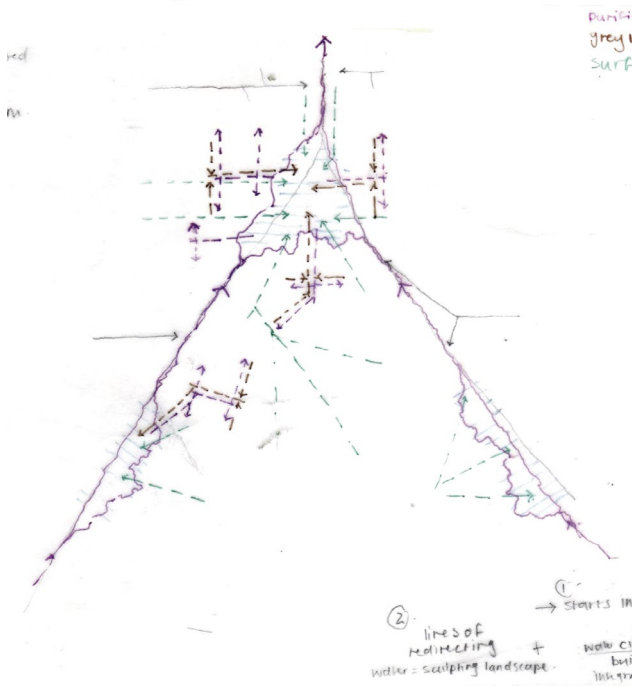


Figure 6.8: Proposed integration of water processes within the site. (Author 2015)

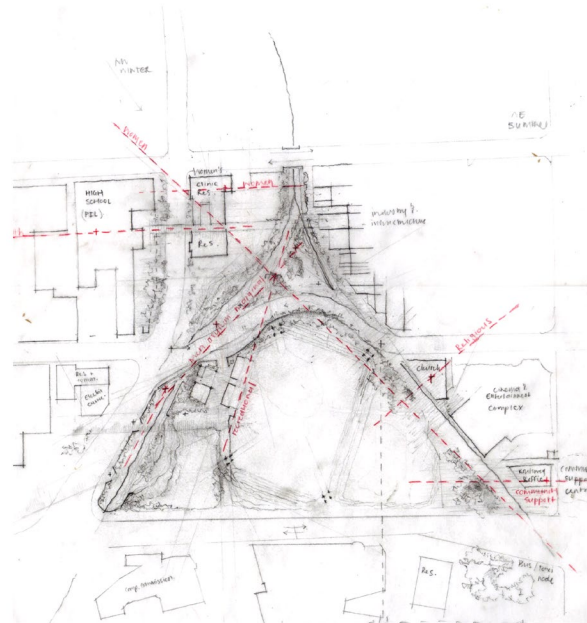


Figure 6.9: Identifying the main intervention edges as the Stanza Bopape ceremonial boulevard as well as the industrial edge along Walker Spruit. (Author 2015)

6.3

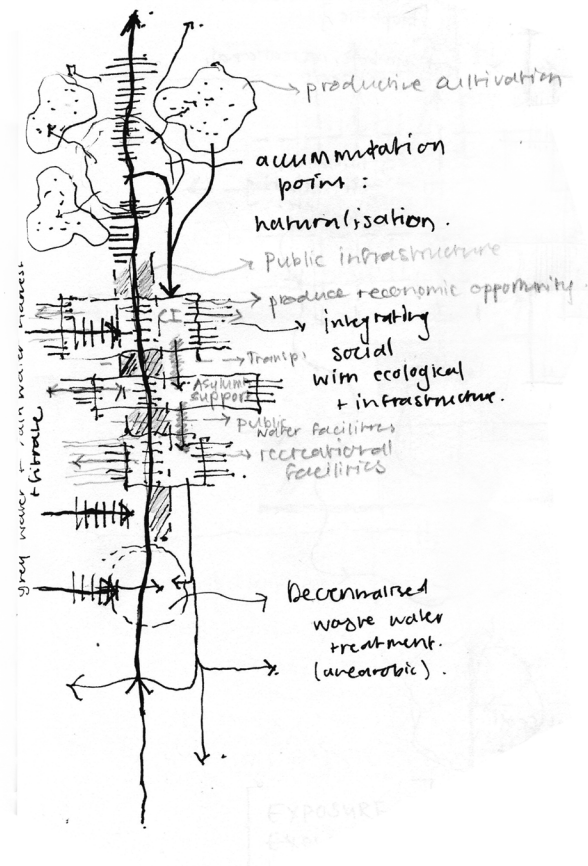
Conceptual Informants

Developed from both theoretical and contextual investigations for the project, the conceptual informants focus on the recreation of an artificial landscape through the reinvention of existing and proposed infrastructure as generator of public space and recreational and socio-economic opportunities.

The recreation of this artificial landscape is addressed through a double-ended approach of sculpting the landscape and natural processes, while simultaneously appropriating or developing a structural response to contextual and conceptual informants, in order to identify points of integration for the activation of infrastructure as generator of public space and recreational and socio-economic opportunities.

By reimagining existing infrastructure as part of the production of form and space, the marginalised urban voids are regained for innovative design interventions, alternative occupation, and a new public appropriation that connects the city to the water. The proposed intervention aims to become an architectural filter as an extension of the existing infrastructure of the urban realm, Stanza Bopape Street and the regenerated Apies River Island, that:

- contains and activates the potential of the recreational landscape;
- offers new public space through a relationship between Stanza Bopape Street and the river;
- increases the area's ecological contribution through reinscribing an identity;
- amplifies its historical and cultural significance through a relationship between the proposed interventions and historical remnants surrounding the site;
- capitalises on the spatial, material, and socio-economic possibilities of infrastructure; and
- provides an enigmatic experience beyond its infrastructural use.



The architectural intervention will seek to address the reality of the consequential disenfranchised spaces, while simultaneously challenging the architectural intervention itself as alternative strategy that allows for a diverse range of adaptive appropriations, in order to prevent the perpetuation of static consequences in future transformations.

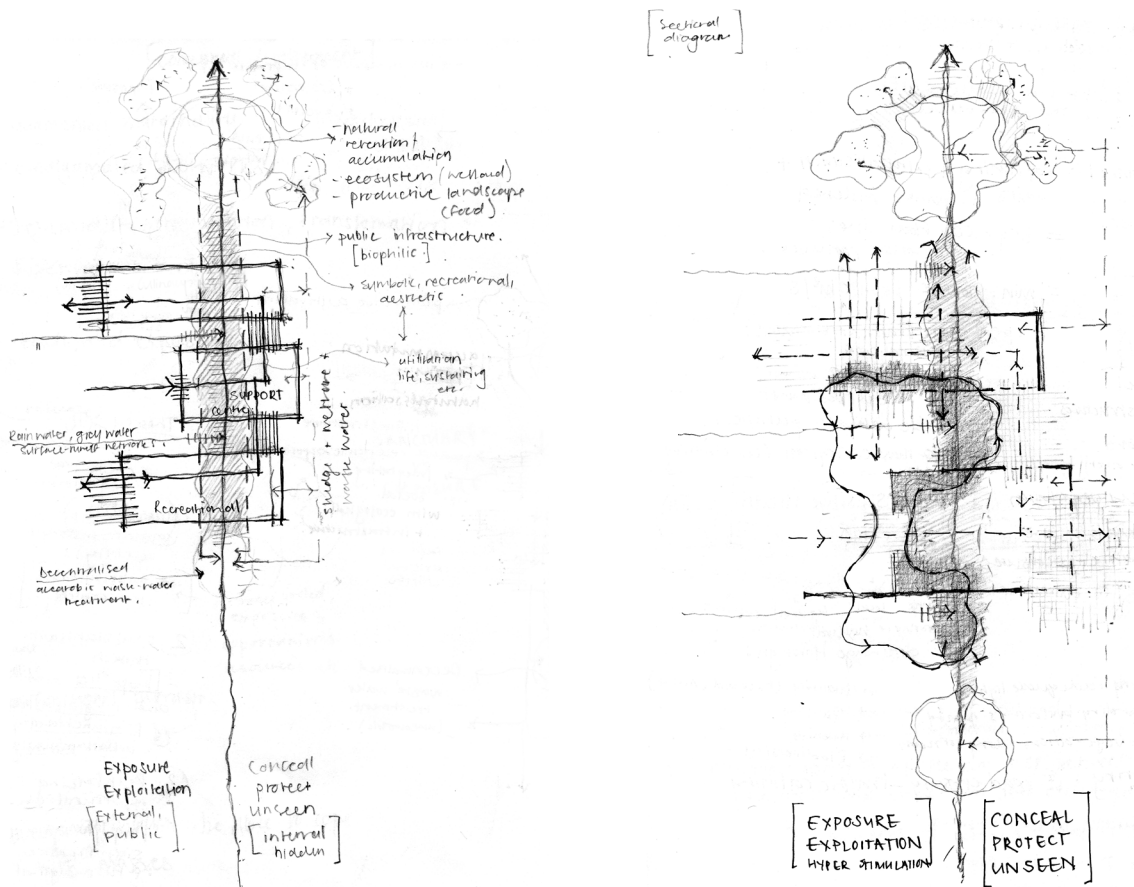
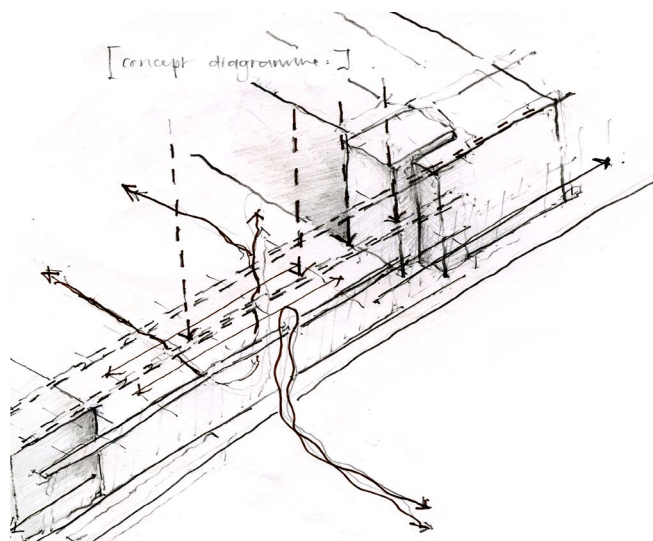
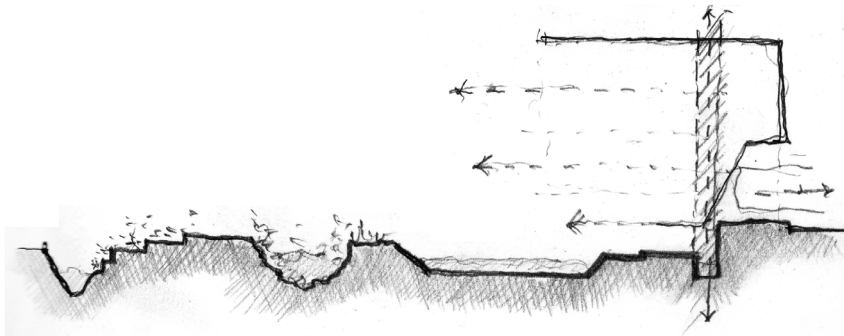
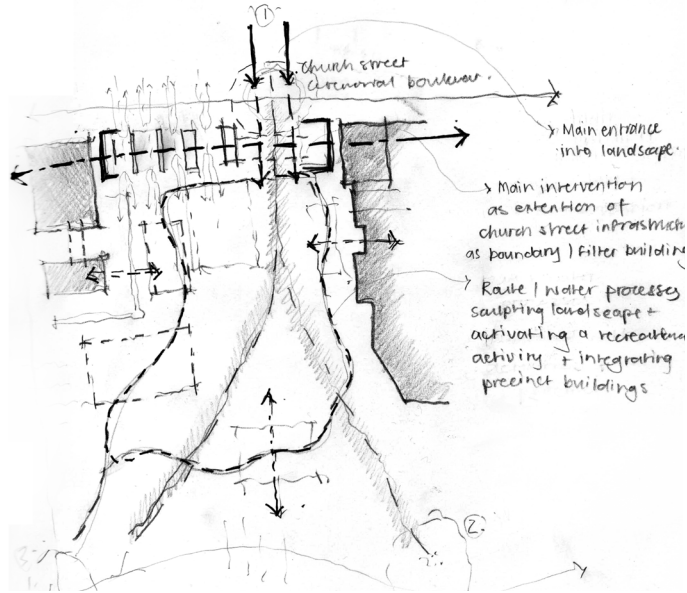


Figure 6.10: The development of the conceptual diagrammatic response to the site, illustrating the integration of the ground level linear water systems as a directional process, integrated with the exploitation of its ecological, social and economic opportunities, through an architectural intervention that facilitates these processes and their opportunities, creating spatial experiences that enhances these opportunities while simultaneously protecting and preserving the site's historic and environmental significance. (Author 2015)





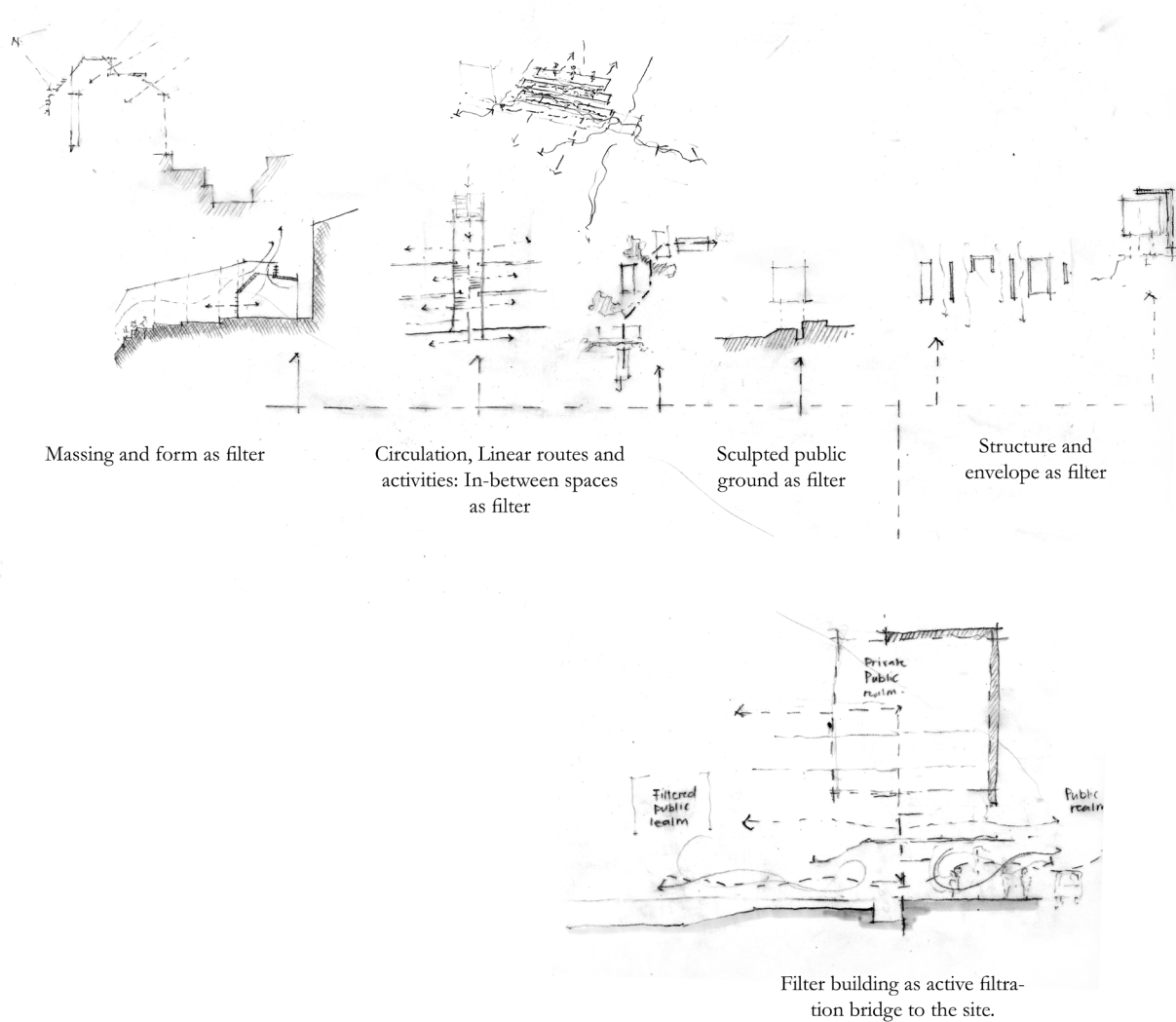


Figure 6.11: Summary of the conceptual intentions of the site and building that aims to become an architectural filter as an extension of the existing infrastructure of the urban realm, Church Street and the regenerated Apies River Island. (Author 2015)

## 6.4

## Programmatic Informants

## 6.4.1

## Defining the Programme

The programmatic response is developed as a response to the contextual informants and conceptual intentions for exploiting infrastructural opportunities through the creation of a constructed artificial landscape that is driven by the production of directive and generative public space, as well as the reinvention of existing infrastructure as socio-economic agent.

The programme as cultural urban arena becomes an adaptive, dynamic infrastructural device of a performative public spectacle, established on the Ceremonial Boulevard between Church Square and the Union Buildings. This intensified public realm would consist of a decentralised urban stormwater filtration system and a cultural memory park, as social, economic and recreational facilities bordering the inner city and its surrounding suburbs.

The proposed recreational and socio-economic appropriations represent possible scenarios of the animated infrastructure. Thus the programmatic response requires an alternative reimagination of a hybrid typology that addresses the need for inter-operability and adaptable appropriations that would encourage urban scenarios of social and economic engagement at different time cycles, continuously activating the precinct and enhancing a symbiotic relationship towards resilient urbanisation.

## 6.4.2

## Potential Client Profile

Determined by the programmatic response and the infrastructural nature and scale of the investigation, the potential client would be a public-private partnership between local government authorities and City Property.

Various departments of the local government authority, the City of Tshwane Metropolitan Municipality, currently participate in the management and development of different categories of the city's infrastructural services. A collaborative strategy between the following three departments as public stakeholders is to be implemented in the management of the proposed design intervention, and are identified as the following:

The Department of Agriculture and Environmental Management. Their current responsibilities include the management and maintenance of parks, landscaped public spaces, nature reserves, resorts and public swimming pools.

Their various partnerships with private stakeholders aim to ensure a sustainable environment. One of the initiatives within the environmental management department relevant to the project includes The SEED (Sustainable Energy and Climate Change) programme that aims to encourage the integration of environmental concerns into urban development within the city through a focus on the efficient use of natural resources.

A subdivision of the Department of Agriculture and Environmental Management includes the Parks and Horticulture division that aims to conserve and develop the city's natural resources through the promotion of outdoor leisure facilities, such as public swimming pools, for the benefit of the residents of and visitors to the city.

The second municipal stakeholder identified is the Sports, Recreation, Arts and Culture department that focuses on the provision and maintenance of recreational facilities as well as arts, culture and heritage in the city.

Their responsibilities include the holding of events and provision of programmes to enhance sports, art and culture, as well as the maintenance and provision of facilities for events and cultural festivals. Their various initiatives also integrate with the programmes of the Department of Arts and Culture that provide financing, management, advocacy and networking of cultural development through various partnerships with organisations such as BASA (Business and Arts South Africa), a public/private partnership, to promote greater participation in the arts by South African businesses locally and internationally.

The third municipal stakeholder is identified as the Service Infrastructure department, specifically the Water and Sanitation subdivision responsible for the development, provision and maintenance of sustainable, high quality water and sanitation services, especially through the Water Conservation Programme and its extended social benefits.

The private stakeholder is identified as City Property, a residential and commercial property management company involved in a diverse range of development projects, ranging from traditional shopping malls, convenience shopping centres, industrial workshops, warehouses, offices, shops and flats .

Their focus in the city of Pretoria is mainly on the transformation of existing buildings through the investment and upgrading of affordable inner city accommodation and commercial and retail space, as well as recent investment in the development of tertiary educational institutions surrounding the project precinct. The residential building adjacent to the proposed project is currently owned by City Property and provides affordable accommodation to students and youth in the CBD. The project therefore aims to extend the recreational and socio-economic value that the site has to offer through the integration of the existing and proposed programmes.

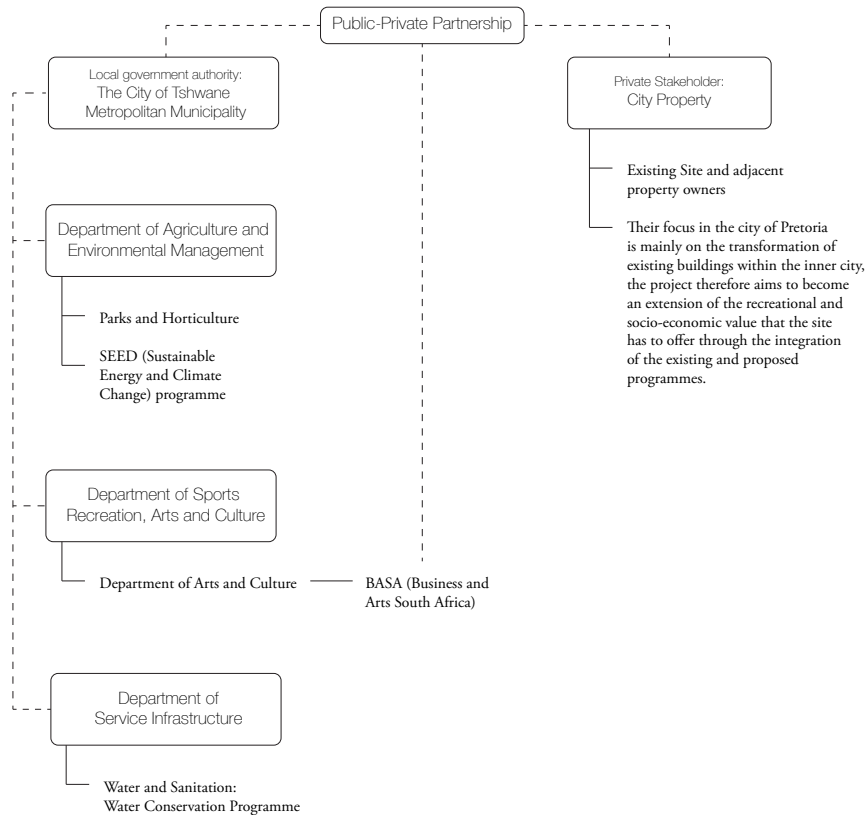


Figure 6.12 illustrates a diagrammatic summary of the various identified public and private stakeholders, as well as some of the significant initiatives that could benefit the development of the proposal. (Author 2015)

## 6.4.2

## Defining the Programmatic and Spatial Requirement

Programmatic Breakdown and Spatial Requirements			
Programmatic function	Area	Design population	Programmatic and Spatial Design Considerations
<b>Recreational Landscape</b>			
Entrance Lobby / Tourist Information Centre	120 m <sup>2</sup>	10	Transparent entrance platform, suspended behind Lion bridge as Entrance to the Park. To accommodate an information and management desk to recreational facilities, exhibition activities and auditorium and meeting space administration. To accommodate a central information area with regards to all tourist related activities, as well as information on the built heritage significance of the surrounding locations and a small exhibition of the Apies River historical transformation itself.
Market Spaces	24 m <sup>2</sup> per stall	6 stalls	Façade enclosures to be adaptable to allow an integration with the pedestrian activity on the Ceremonial Boulevard and Pretorius Street. Stalls to include lockable storage space.
Outdoor Sports Court	1000 m <sup>2</sup>	420	Multi-functional outdoor sports court and public gathering space. Size requirements according to a standard basketball court. To be sunken 1800mm below street level to act as a flooding surface detention structure in case of any flooding occurrence at the confluence of the Apies River and Walker Spruit, exceeding the 75years flood line that is contained within the stormwater channel.
Public Swimming Pool	188 m <sup>2</sup>	90	To accommodate three 25m training lanes with an extended full depth leisure swimming area and additional shallow pool.
Ablution and Changing Room Facilities			As per SANS 10400 requirements - See Table 6,2
Outdoor Wall Climbing / Accessible Roof	250 m <sup>2</sup>		To be fixed to the structural circulation towers and accessed from the Soft landscaped recreational park with integrated walking routes extending from both sides of the site. The vegetation palette of the park will accommodate some of the established indigenous plant species growing along the channel edges as documented in the ecological mapping of the site. To include space for public transportation (bus and taxi) drop-off points as well as parking for staff and vehicle workshops adjacent to the park.
Landscaped Park Area	Appr. 2000 m <sup>2</sup>		
<b>Recreational Social Club, Restaurant / Event Space</b>			
Dining Area, Social or Event gathering space (Ground and First Floor)	300 m <sup>2</sup>	150 (incl. 20 personnel)	Adaptable open floor space to be appropriated as programmatically required for everyday or event use. Ground Floor threshold to read as open to the landscape and material finishes to express an extension of the hard landscaped outdoor spaces.
Lounge / Bar Area (Ground and First Floor)	180 m <sup>2</sup>		
Catering Kitchen (Ground Floor)	75 m <sup>2</sup>		Ground Floor Catering Kitchen to serve as main food preparation and cooking facilities and include the following: Delivery area, Cold Storage, Dry Storage, Food Preparation Area, Cooking Area, Cleaning Area and Refuse Area.
Serving Kitchen (First Floor)	30 m <sup>2</sup>		First Floor Serving Kitchen to be serviced by Ground floor Kitchen through a dumbwaiter for food purposes.
Delivery and Refuse Area	75 m <sup>2</sup>		
Ablution Facilities			As per SANS 10400 requirements - See Table 6,2
<b>Public and Private Furniture, Installation and Sculpture Art Facilities</b>			
<b>Ground Floor:</b>			
Retail Space	160 m <sup>2</sup>	16	Small scale retail space for the workshop art pieces and potential exhibition sales.
Reception	15 m <sup>2</sup>		Access point and administration office to the workshop and studio spaces.
Workshop Space	175 m <sup>2</sup>	12	Artist wood and small scale metal workshop space. Light to be an important consideration as well as a spatial relationship with the first floor studio space. Separate space to be considered for loud activities.
Material Storage space	130 m <sup>2</sup>		Recycled metal from the vehicle mechanics, surrounding site and adjacent scrap yard to be stored with other materials.
Ablutions			As per SANS 10400 requirements - See Table 6,2
<b>First Floor:</b>			
Reception	25 m <sup>2</sup>		Access and administration point to the public co-working office spaces.
Waiting / Informal meeting area	25 m <sup>2</sup>		Waiting and informal discussion areas to the public co-working office spaces.
Public Office Space	75 m <sup>2</sup>	7	Public Office equipment and workspace available to rent on a short term basis for freelancers and part-time workers or travel related business providing an environment of productivity and opportunities for exchange. Public and Semi-private spaces to be considered. A spatial relationship with the creative studios and workshop to be considered.
Artist Studio Space	125 m <sup>2</sup>	10	Public Artist studio space to serve the workshop as design and desk working facility, therefore a spatial relationship with the workshop and public offices is important.
Exhibition Spaces 1 and 2 (First and Second Floor)	175 m <sup>2</sup> per venue	36	Open exhibition space for workshop pieces. The interior arrangement of the space and partitions must be adaptable to suit different exhibition requirements. Large access openings and a mechanical hoist to be provided for the relocation of exhibition pieces to the first and second floor. Southern daylight is an important environmental consideration for the interior spatial quality of the exhibition spaces.
Ablutions			As per SANS 10400 requirements - See Table 6,2

Public / Student Conference facility			
Reception	15 m <sup>2</sup>		Access and administration desk for the management of the auditoriums and meeting / conference spaces. Building Administration and management office. Lobby waiting spaces to the auditorium and meeting rooms, could also be appropriated as informal discussion areas.
Building Administration Office	20 m <sup>2</sup>		
Waiting Area	80 m <sup>2</sup>		
Auditorium 1 and 2	150 m <sup>2</sup>	150	To provide auditorium seating for approximately 75 - 100 people per auditorium. Sightline calculations and acoustic treatment considerations to determine structural, spatial and material finish resolution. Sound lobbies to be considered at access points. See diagramme xx (sightline and acoustic research)
Meeting / Conference rooms	75 m <sup>2</sup>	25	Adaptable conference / meeting spaces. To be appropriated as a single venue or adapted to smaller spaces with internal partitioning. Acoustics and privacy, the control of interior lighting conditions for digital display equipment as well as access from the serving kitchen to be important considerations. To provide food and drink serving facilities to conference and auditorium events. A dumbwaiter to be provided to be served by the ground floor catering kitchen in terms of food preparation and cooking requirements. As per SANS 10400 requirements - See Table xx
Serving Kitchen Ablution Facilities	25 m <sup>2</sup>		
Horticulture workshop			
Greenhouses	250 m <sup>2</sup>		The following design considerations are important influences to the productivity of the greenhouses and are elaborated on in diagrammes. Materiality, orientation and volume of internal space to ensure stable climatic conditions, sun exposure, adaptable roof and wet wall coverage for lighting and ventilation, irrigation and feeding system, humidity control and drainage requirements. Office space with a computer system and small weather station to monitor and control the climatic conditions and irrigation system of the greenhouses. Storage space for the irrigation and feeding tanks of the greenhouses, to be either automatically or manually controlled by the computer system in the office space. Preparation and storage area for pre- and post greenhouse produce. To include workbenches, water supply, lockable storage for equipment and supplies as well as maintenance space and equipment for small scale machinery. Space for the mixing and storage of compost. Odour control of composting area to be considered.
Control room / Office	15 m <sup>2</sup>	1	
Feeding Storage	10 m <sup>2</sup>		
Potting Shed / Workshop	75 m <sup>2</sup>	4	
Composting Area	25 m <sup>2</sup>		
Refuse Storage	15 m <sup>2</sup>		

Table 6.1: Programmatic breakdown and spatial design considerations. (Author 2015)

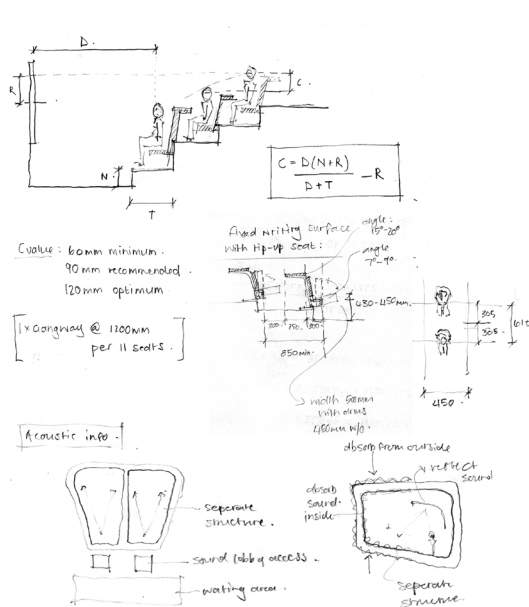


Figure 6.13: Diagrammatic journal sketches of auditorium spatial requirements and sightline calculations. (Author 2015)

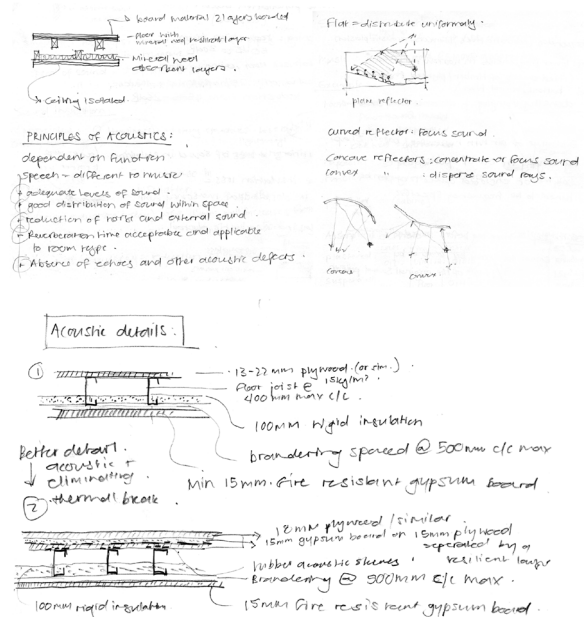


Figure 6.14: Diagrammatic journal summary of acoustic investigation for material requirements. (Author 2015)

## 6.4.3

## Defining the SANS 10400 Requirements

**SANS 10400 Classification and Sanitary Requirements**

Group	Design Classification			Population requirements	Area
	Programmatic function	Class of Occupancy	Occupancy		

**Ground Floor**

1	Recreational Park and dedicated Outdoor Sport and Public Pool Viewing	A1	Entertainment and Public assembly	1 person per 1 m <sup>2</sup>	400 m <sup>2</sup>
	Outdoor Sports Court	A5	Outdoor Sport	Number of Participants	608 m <sup>2</sup>
	Public Swimming Pool	A5	Outdoor Sport	Number of Participants or Recreational: Area /2	188 m <sup>2</sup>
2	Workshop	D2	Moderate Risk Industrial	1 person per 15m <sup>2</sup>	175 m <sup>2</sup>
	Retail Shop	F2	Small Shop	1 person per 10m <sup>2</sup>	160 m <sup>2</sup>
	Building Staff / Personnel	G1	Offices	1 person per 15m <sup>2</sup>	112 m <sup>2</sup>

**First Floor**

3	Social Club (Ground and First Floor)	A1	Entertainment and Public Assembly	Number of fixed seats	480 m <sup>2</sup>
	Exhibition Space	C1	Exhibition Space	1 person per 10m <sup>2</sup>	175 m <sup>2</sup>
4	Co-working Spaces and Public Media station	B3	Low Risk commercial Service	1 person per 15m <sup>2</sup>	100 m <sup>2</sup>
	Public and private Studios	B3	Low Risk commercial Service	1 person per 15m <sup>2</sup>	125 m <sup>2</sup>

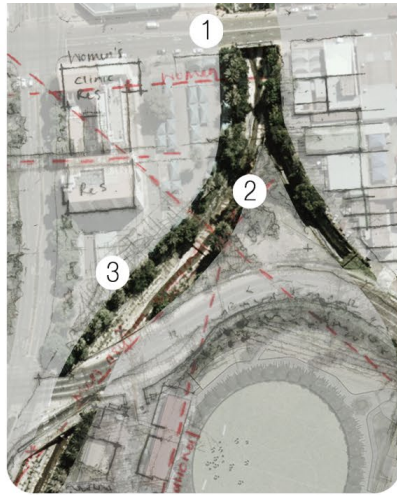
**Second Floor**

5	Meeting Rooms	B3	Low Risk commercial Service	1 person per 15m <sup>2</sup> or fixed seats	110 m <sup>2</sup>
	Auditoriums	A3	Places of Instruction	1 person per 5m <sup>2</sup> or number of fixed seats	150 m <sup>2</sup>
	Exhibition Space	C1	Exhibition Hall	1 person per 10m <sup>2</sup>	175 m <sup>2</sup>

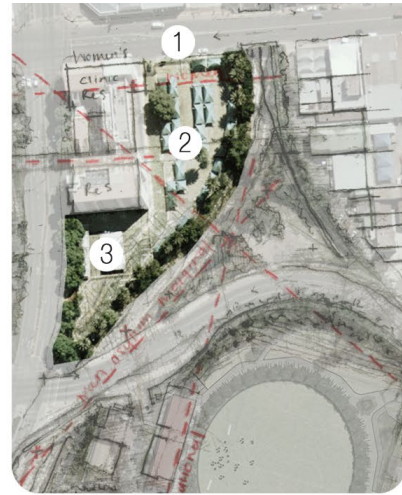


Maximum design population	Sanitary requirements							
	Male				Female			
	WC	WHB	Urinal	Shower	WC	WHB	Shower	
400	1	1			1	1		
20	1	2	2	2	3	2	2	
90	4	5	6	6	10	5	6	
<b>510</b>	<b>6</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>14</b>	<b>8</b>	<b>8</b>	
12	(Included in Building staff Provision)							
16	No Separate provision required							
8	1	2	2		3	2		
<b>36</b>	<b>1</b>	<b>2</b>	<b>2</b>		<b>3</b>	<b>2</b>		
150 (incl 20 personnel)	1	2	2		3	2		
18	1	1	1		1	1		
<b>204</b>	<b>2</b>	<b>3</b>	<b>3</b>		<b>4</b>	<b>3</b>		
7	(Included in Studio provisions)							
10	1	2	2		3	2		
<b>17</b>	<b>1</b>	<b>2</b>	<b>2</b>		<b>3</b>	<b>2</b>		
25	1	1	1		1	1		
150	1	1	1		1	1		
18	1	1	1		1	1		
<b>193</b>	<b>3</b>	<b>3</b>	<b>3</b>		<b>3</b>	<b>3</b>		

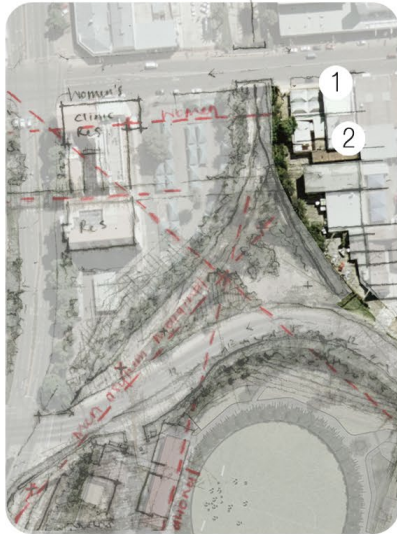
Table 6.2: SANS 10400 requirements. (Author 2015)



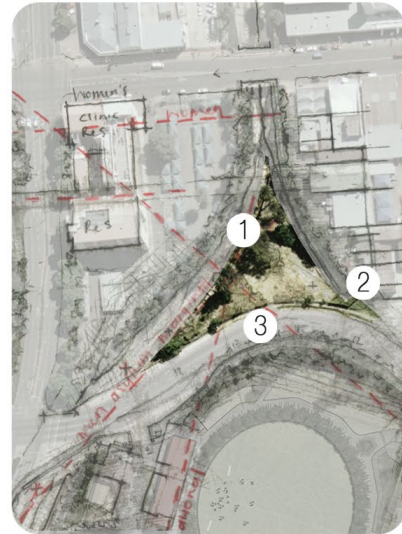
1. Entrance Lobby / Tourist Information Centre
2. Recreational Landscape and Circulation Route
3. Horticulture Greenhouses



1. Recreational Social Club, Restaurant / Event Space
2. Recreational Landscape
3. Horticulture Workshop



1. Public and Private Furniture, Installation and Sculpture Art Facilities
2. Outdoor Wall Climbing / Accessible Roof



1. Landscaped Park Area
2. Parking Area for Public Transport
3. Pedestrian bridge to Caledonian Fields

Figure 6.15 illustrates locating the proposed programmatic response to the site's contextual conditions. (Author 2015)

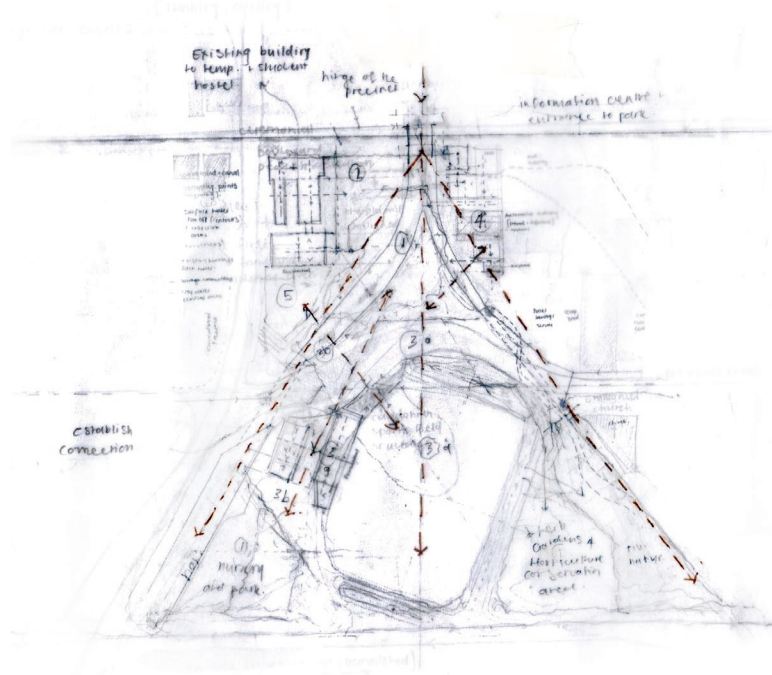


Figure 6.16 illustrates the development of the programmatic response to the existing and proposed contextual conditions. (Author 2015)

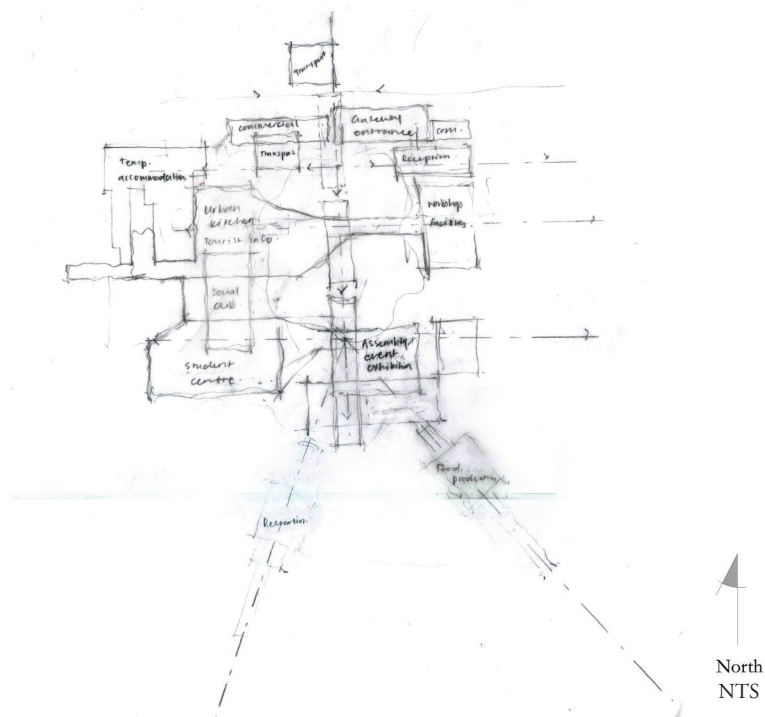


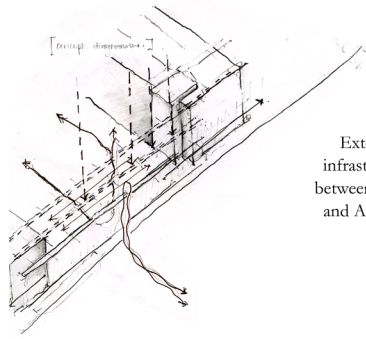
Figure 6.17 illustrates a further development of the programmatic response to the existing and proposed contextual conditions. (Author 2015)



### Conceptual Development

By reimagining existing infrastructure as part of the production of form and space, the marginalised urban voids are regained for innovative design interventions, alternative occupation, and a new public appropriation that connects the city to the water.

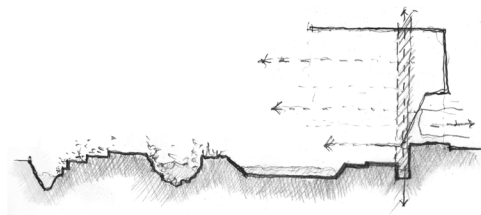
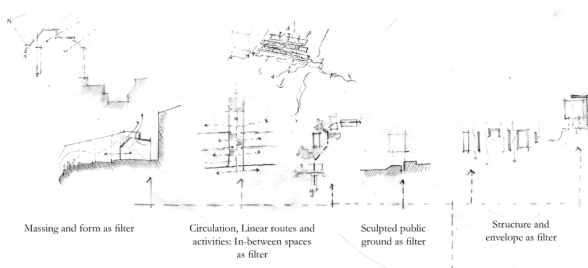
The proposed intervention aims to become an architectural filter as an extension of the existing infrastructure of the urban realm, Stanza Bopape Street and the regenerated Apies River Island.



Extension of existing infrastructure as threshold between the urban condition and Apies River landscape

Site Parti diagramme:  
Infrastructure activating spatial opportunities

1. Filter building as active infrastructural edge to the site.
2. Constructed water channel activating the recreational public realm.
3. Multifunctional outdoor court as public square and detention flood structure.
4. Filter wall as active system edge between the Apies River channel and recreational activities.

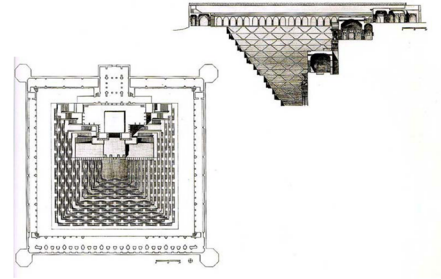


Sculpted Recreational Landscape

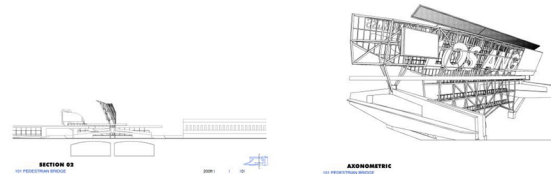
Structural and Service spine with Infrastructural towers  
Internal and external edge response as threshold between city, structure and the 'artificial' landscape

### Conceptual Precedent Studies

Precedent studies, as inspired by the conceptual intentions, are investigated to construct a synthesised architectural intention for the design development.



Habitable infrastructure as public spatial agent beyond its infrastructural use.  
Ancient Indian Stepwells



Contextual Infrastructure:  
Edge response and threshold conditions  
Morphosis, Pedestrian Bridge 101



Urban Filter: Transparent transitions between city, structure and landscape  
Jean Nouvel, Cartier Foundation



Adaptable Infrastructure: as space for experiments and spontaneous appropriations  
J Mayer H, Schaustellen



6.5.1

Ancient Indian step wells

Project Information:

Location: All across India

Earliest date recorded: Approximately 550 AD

Relevance: Habitable infrastructure as public spatial agent beyond its infrastructural use

Louis Rousselet, a famous French world traveller, beautifully captured the ecological and biophilic potential of an ancient Indian well in 1864 as "[a] vast sheet of water, covered with lotuses in flower, amid which thousands of aquatic birds are sporting" Rousselet in (Livingston 2002:14).

Initially constructed around approximately 550AD, as a practical solution to the retention and supply of water for drinking and bathing facilities in extremely dry areas experiencing water scarcity, these ancient Indian step wells later became an important asset to their surrounding communities, offering more than just a practical solution through their contribution as public gathering spaces.

The structure of the step wells consists of an underground vertical shaft, used for the storage and harvesting of water. The steps or inclined subterranean walkways surrounding these wells provide access to the water itself as well as to the extended spaces used for leisure and religious activities.

The architecture of the wells differs according to type and locality, and is expressed through the carved decorations in the incorporated temples and public resting areas. These leisure areas provided relief from daytime heat and were mainly used by women collecting water and practicing their religious prayer and offering activities within these wells (Fabrizi 2014).

Ancient Indian step wells inspire significant architectural features, specifically the use of water integrated with space and public activities to contribute culturally and spiritually to the existence of the wells, beyond their utilitarian function.

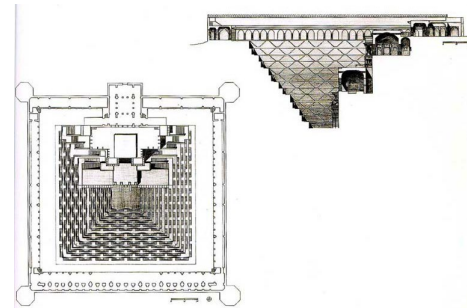


Figure 6.18: Chand Baori Stepwell in Rajasthan, India Plan and Section, (Fabrizi 2014)



Figure 6.19: Chand Baori Stepwell in Rajasthan, India Photo by Saumil Shah, (Fabrizi 2014)



Figure 6.20: Agrasen ki Baoli, Jantar Mantar, New Delhi Photo by Emma Rowe, (Fabrizi 2014)

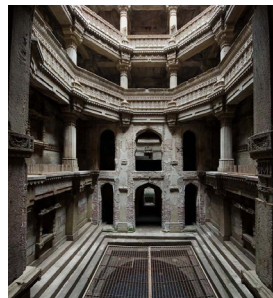


Figure 6.21: Adalaj Stepwell, Gujarat, India Image from Lord's flickr page (Fabrizi 2014)

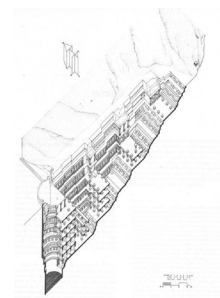


Figure 6.22: Rani ki Vav, Gujarat, India : Axonometrical Section (Fabrizi 2014)



6.5.2

Morphosis Architects, Pedestrian Bridge 10

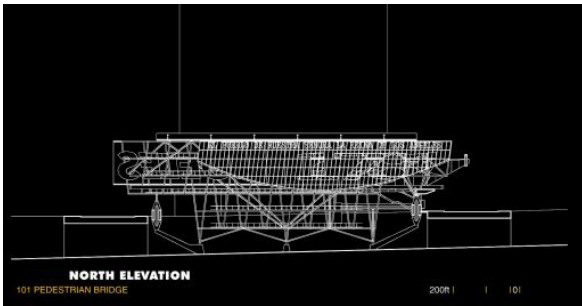


Figure 6.23: North Elevation drawing (Morphopedia 2009)



Figure 6.24: Section drawing (Morphopedia 2009)

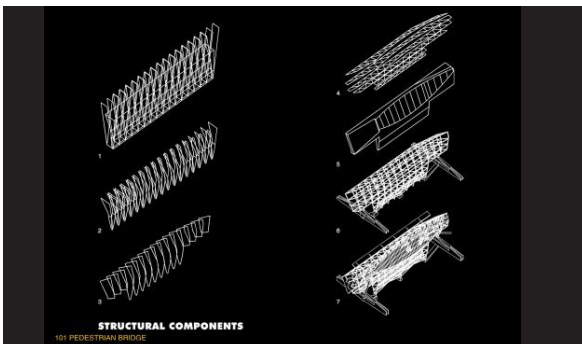


Figure 6.25: Exploded structural drawing (Morphopedia 2009)



Figure 6.26: Axonometric drawing (Morphopedia 2009)

Project Information:

Location: Los Angeles, California, United States of America

Design Date: Competition entry 1998

Client: Metropolitan Transportation Authority, Los Angeles

Project team:

Lead Designer: Morphosis Architects

Partner: AIJK Architecture and City Design

Civil Engineer: Ove Arup and Partners

Structural Engineer: Ove Arup and Partners

Collaborative Artist: Jenny Holzer

Relevance: Bridging the division between significant public facilities through contextually responsive infrastructure

The relevance of the precedent study is directly related to the prevalent condition of transportation infrastructure spatially fragmenting the public realm within the city of Pretoria. The main intention of the 101 Pedestrian Bridge Project Design Competition was to reimagine the existing infrastructural entities to exploit the potential of an improved civic connection between Union Station and the City Hall, separated by the 101 Freeway.

The design proposal by Morphosis Architects emphasises the contextual significance of the potential project through an extension of the historic district (Olvera Street) as overpass into the Civic Centre, activated by retail activities, unconventional artificial landscaping and exhibition areas for artists.

The parti response of the structure acknowledges the two different contextual edge conditions with its linear edge facing new Los Angeles to the south, supporting a curved panel of weathered Corten steel, with the original name of the city engraved. This semi-transparent façade encloses a public “living room” in the middle of the city. The northern edge response supports an electronic display of scheduled events reflecting the extent of its cultural activities. A large staircase leads to the elevated platform as observation deck, orientating pedestrians to the historical Main Street axis and city skyline (Morphopedia 2009).

6.5.3

Jean Nouvel, Cartier Foundation, Paris

Project Information:

Location: Boulevard Raspail, Paris, France

Completion Date: 1994

Client: Gan Vie

Project team:

Lead Designer: Jean Nouvel, Emmanuel Cattani & Associés

Project Manager: Didier Brault

Structural Engineer: Ove Arup and Partners

Landscape Architect: Ingenieur et Paysage

Relevance: Architecture as urban filter and extension of the landscape

*Reproducing the lines of the boulevard, the glass walls enable passers-by to admire the extraordinary interplay between structure and nature that characterizes the building – Jean Nouvel in (Sveiven 2010).*

Described by Nouvel as ‘the phantom in the park’, the Cartier Foundation, as boundary to a garden within an urban environment, successfully filters the external and internal conditions, creating a fluid transition between the experience of the structure and the experience of the landscape through the lightness of its steel and glass materiality as well as the adaptability of the boundary enclosures. From the street entrance, the transparency of the structure allows for the reading of the extent of the site’s depth aesthetically expressing the rhythmic relationship between the repetitive column structures and vertical landscape elements such as trees.

Despite its scale and mass, the contemporary exhibition space seemingly blends into its context through its sensitively curated relationship to neighbouring buildings and the reflectiveness of the façade, allowing visitors to experience the building and context simultaneously at different scales.

*An architecture that plays on blurring the tangible limits of the building and rendering the reading of a solid volume superfluous, in a poetics of ambiguity and evanescence – Jean Nouvel in (Sveiven 2010).*



Figure 6.27: Entrance facade of the Cartier Foundation  
Photo by Tasha Farris, (Farris 2009)



Figure 6.28: Ground Floor open threshold  
Photo by Annette Galinski, (Galinski 2011)

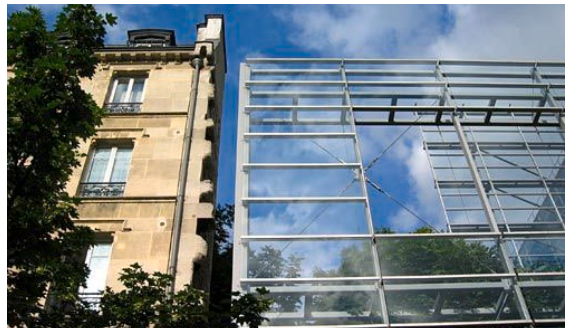


Figure 6.29: Relationship to the adjacent existing building  
Photo by David F. Gallagher, (Sveiven 2010)



Figure 6.30: Integration of the structure and the landscape  
Photo by David F. Gallagher, (Sveiven 2010)



6.5.4

J Mayer H, Schaustelle, Munich



Figure 6.31: Aerial photograph of the Schaustelle in context  
Photo by Rainer Viertlböck, (Schaustelle 2013)

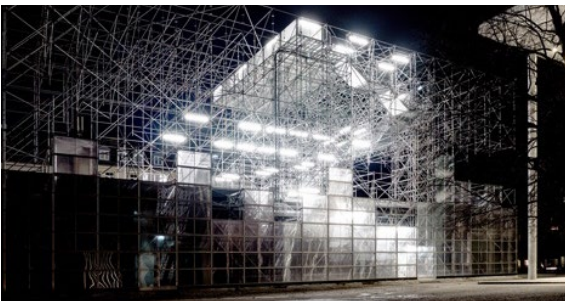


Figure 6.32: Schaustelle activity at night  
Photo by Dennis Bangert, (Schaustelle 2013)

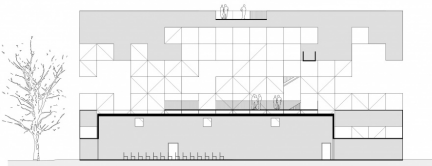


Figure 6.33: Longitudinal Section through the building illustrating the Main auditorium / exhibition space and social platforms above. (Kaltenbach 2014)



Figure 6.34: Building components of the Schaustelle transported to be reused after being dismantled  
Photo by Frank Kaltenbach, (Kaltenbach 2014)

Project Information:

Location: Pinakothek der Moderne, Munich, Germany

Date: February - September 2013

Client: Freistaat Bayern, Ministerium für Wissenschaft, Forschung und Kunst, Stiftung Pinakothek der Moderne

Project team:

Architects: Team J Mayer H: Jürgen Mayer H., Marcus Blum, Paul Angelier

Relevance: Adaptable infrastructure as space for experiments and spontaneous appropriations

As a temporary open-ended platform for interaction, interdisciplinary exchange and adaptability, the Schaustelle designed by Jürgen Mayer H. is a 400 m<sup>2</sup> scaffolding structure facilitating the operations of the Pinakothek der Moderne under renovation. Named as ‘show site’, the functionality and structural integrity invokes a variety of associations, specifically that of spontaneous appropriations and potential development.

The lightness and transparency of the structure allows a simultaneous experience of the interior spaces and activities against the backdrop of revealed moments of the city beyond. Visitors are led into the higher-level exhibition platforms and central social spaces through a central circulation staircase.

A major influence on the skeletal structure, housing exhibitions, film screenings, talks and other events of the adjacent museum, was the reusability of its construction elements such as the scaffolding itself, the containers, and the synthetic cladding, expressing its conceptual intentions of suitability, extensibility and reduction to its structural essence (Schaustelle 2013).

