

EQUILIBRIUM

PUBLIC SPECTACLE FOR SOCIAL INTEGRATION

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REEM AL-THANI
2015

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the Name of Allāh, the Most Gracious, the Most Merciful

EQUILIBRIUM

PUBLIC SPECTACLE FOR SOCIAL INTEGRATION

*A thesis submitted in partial fulfillment of the requirements for the degree
Master of Design in Interior Studies [Adaptive Reuse] in the Department of
Interior Architecture of the Rhode Island School of Design*

By

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DEDICATION

اللَّهُمَّ انْفَعْنِي بِمَا عَلَّمْتَنِي وَ عَلَّمْنِي مَا يَنْفَعُنِي وَ ارْزُقْنِي عِلْمًا يَنْفَعُنِي

To my grandfather and family for their unconditional support

'O Allaah benefit me with what You have taught me, and teach me that which will benefit me, and grant me knowledge which will benefit me.'

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ABSTRACT

This thesis explores the ways *socio-cultural methods of integration* can influence architecture, using built form as a catalyst for connection in fragmented cities or communities.

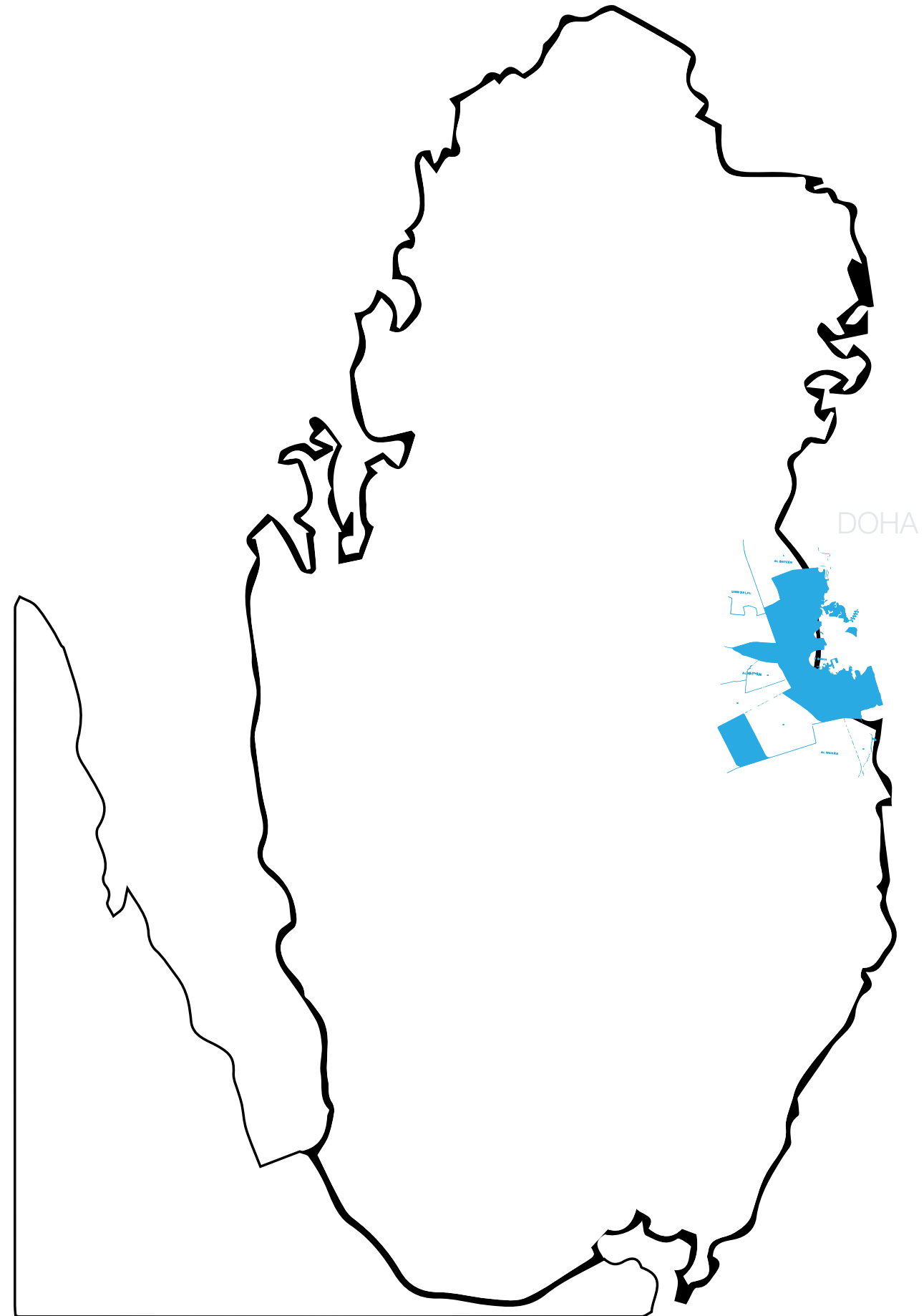
Architecture plays a role in accentuating or diminishing socio-cultural segregation that exists in developing cities with diverse cultures. Doha, Qatar, with a population split between 13% National and 87% Expatriate, is an example of a developing city with extreme diversity that struggles to maintain its local community alongside foreign influx. The situation is jarringly apparent in the form of isolated architecture that has overtaken the city with glass towers and megastructures that are out of context with the desert weather and way of life. Isolated architecture enforces social boundaries through physical boundaries and strategically limited access. Social change will not be achieved by eliminating the expats or stripping the nationals of power or ownership of place; a *democratic architectural intervention* can create an *equilibrium* that heightens sense of social responsibility and allows for social integration.

However, until that equilibrium is found, the society of Doha continues to become more fragmented due to lack of awareness and understanding of the integration that needs to occur, both on a social and architectural level.

Integrating diversity through architecture requires three interconnected elements: first behavioral integration – a willingness to change has to be present on some level for socio-cultural development to accrue. Second, programmatic integration, outlined through public sphere theory – the needs of public spaces and public engagement, emphasizing free access, meeting strangers and freedom of expression. Giving a voice to the voiceless – storytelling allowing all to share their perspective on city life for a leveling ground and sense of equality. Third, architectural integration demands a public space typology, that allows for democratic architecture in design considerations and hosting public engagement activities.

The site is a part of the city's fabric that can host all the qualities needed for social and architectural integration. The water tower presents itself in a very standoffish manner throughout the city, almost forgotten due to its apparent abandonment. It is an obsolete icon of the city's development, giving it an almost untouchable air of isolation and independence, though it once served all residents of Doha equally – making it a perfect location to create a public spectacle in which to tell stories of the city and its people.

This thesis proposes an architectural intervention driven by acknowledgment of a human need for space that address the underlying issues of a diverse society.



THESIS OUTLINE

What is the problem? Segregation

QATAR: Existing situation context, What are the effects of segregation on Qatar? How segregation manifested in Qatar? Social isolation and Architectural isolation.

What is the solution? Integrating diversity through architecture

Solution is broken down into 3 interconnected parts that inform the over all design leading to a more integration.

1

Behavioral Integration

QATAR NATIONAL VISION 2030:Government willingness to change.
QATAR: public space peoples behavior research? How people interact in Qatar?
CULTURAL DIPLOMACY: How to raise awareness and acceptance?

2

Programmatic Integration

PUBLIC SPACE: Why public space? What is public space? What does a public space need?
QATAR: Public space people's behavior research
PUBLIC SPHERE: Why public sphere? What is public sphere?
PUBLIC ENGAGEMENT: Why public engagement? What is public engagement? Types of public engagement that help integration?

Programmatic solution development: Story telling

What is story telling ?
What is the human experience in a story telling spaces?

3

Architectural Integration

PUBLIC SPACE: What are the architectural elements in a public space typology?
ARCHITECTURAL DEMOCRACY :What are the elements considered in democratic architecture translated into design?
Four factors by Ralph Erskine. Questions on what are democratic architecture?
PUBLIC ENGAGEMENT: How architecture responds to needs of public engagement?

Architectural solution development: The water tower

HOST BUILDING: The search for isolation
THE WATER TOWER: What makes this host building the most appropriate? History of the water tower.
SITE ANALYSIS
EXISTING BUILDING CONDITIONS

Site specific design solution development:

PUBLIC SPECTACLE

WHAT IS THE PROBLEM: SOCIO-CULTURAL SEGREGATION EMPHASIZED THROUGH ARCHITECTURE

Doha, Qatar, as a study case of a developing city with extreme diversity.

QATAR:

Existing situation context.

What are the effects of segregation on Qatar?

How segregation manifested in Qatar?

Social isolation and Architectural isolation.

CONTEXT

Socio-cultural segregation is an underlying issue that occurs in many culturally diverse cities. Doha, Qatar is as an example of extreme diversity thats struggling to maintain its local community and foreign influx.

QATAR:

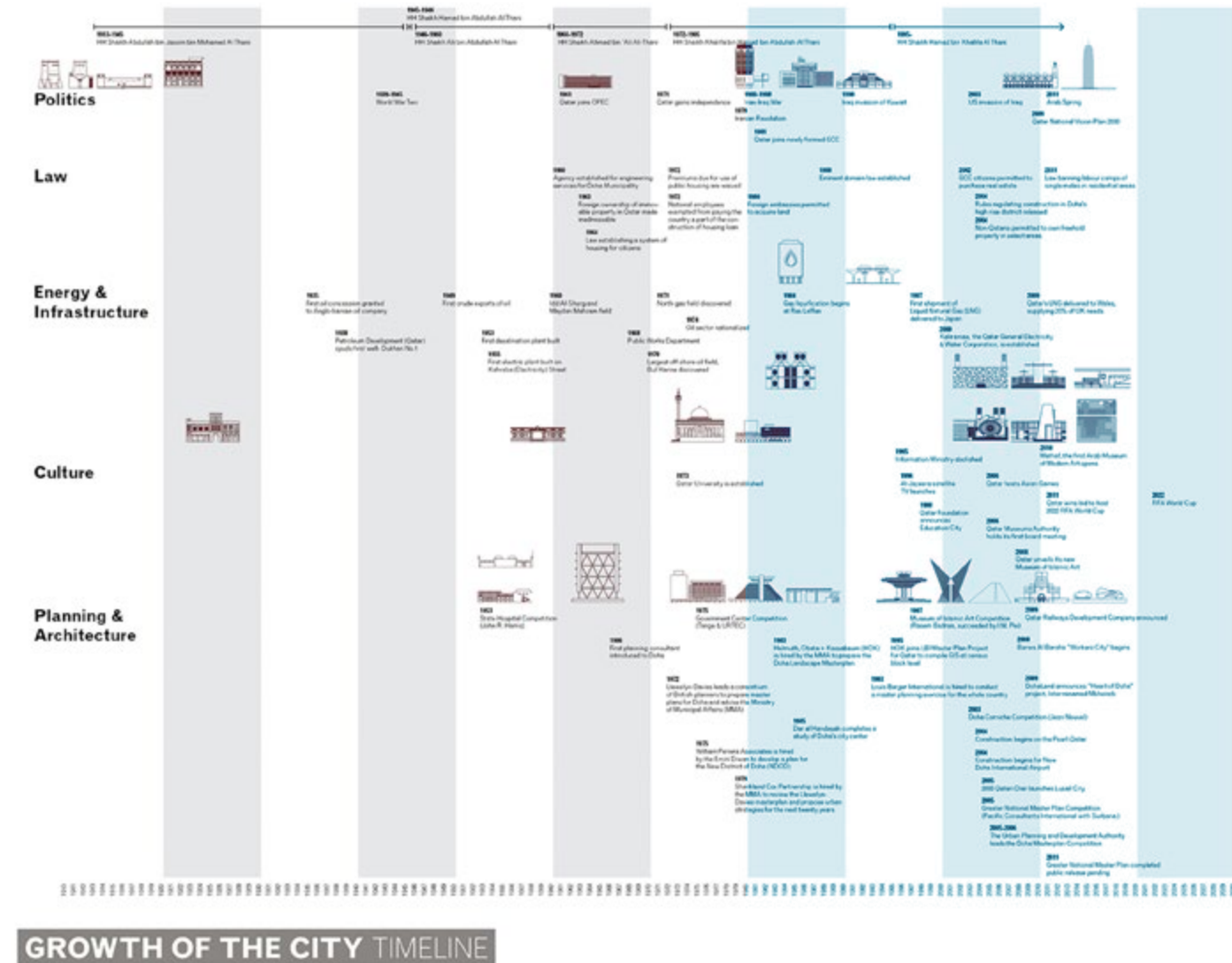
Existing situation context:

Since the 1980s the city of Doha, Qatar has transformed due to an unprecedented rate of growth. Architecture might be the most visible change, however the underlying social-cultural segregation between locals and expats (non-citizen) still remains unaddressed.

The demographic imbalance of 13% locals versus 87% expats has altered the sense of belonging and ownership by exaggerating the hierarchy of the locals. This limits the ability to move forward with an integrated society. The present social construct is too rigid to allow the change that is needed to accommodate the influx of expats, allowing people in the same city to exist in isolation from one another.

POLITICAL STRUCTURE

Constitutional monarchy: *“Constitution formulates the hereditary rule of the Thani family,elected legislative body and makes government ministers accountable to the legislature.”*¹



¹ "Administration & Politics." Fanack Chronicle. October 27, 2014. <http://chronicle.fanack.com/qatar/administration-politics/>.

QATARI:

Citizen of Qatar, people who are typically entitled through bloodlines or legal granted citizenship.

ARAB AND NON-ARAB EXPATRIATE:

Foreigners coming from different countries, for a duration from of 6 months - 45 years or more, legally sponsored by local or under resident permit for an organization.

The people who come from different backgrounds have made there home in Doha live anywhere from 3- 45 years in the country with no sense of ownership or integration to the local culture, never developing a sense of belonging .The idea of non-local = worker generalizes everyone who is not from Qatar, framing how they nonlocals are treated and accepted.

WORKER:

From domestic workers to construction workers, they are under the sponsorship of a local. They are in the country from 3 months to 3 years.



Qatari Arab Expat Worker



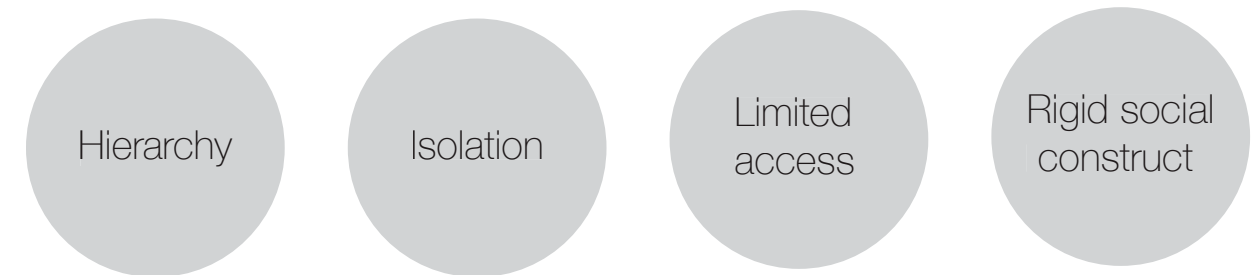
OUTSOURCING:

In a rapidly growing country outsourcing has become the norm in every aspect of life. This includes people who create the development, however this creates a gap and clearly defined lines between local and outsourcing skillsets. This emphasizes the social cultural segregation and architectural isolation on different levels.

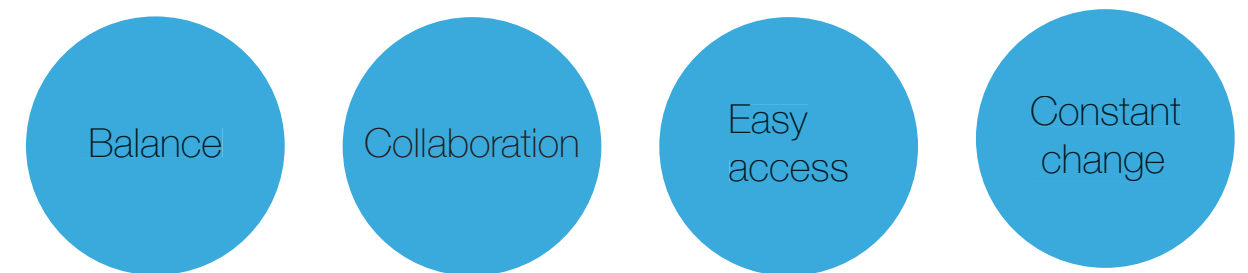
This development doesn't allow for the time needed for skill development of its inhabitant, this causes the need for outsourcing people who already accumulated the skill.

However, the lack of knowledge transfer to locals increase the dependency on outsourcing to maintain the city's development.

Existing space conditions: SEGREGATION



New space conditions: INTEGRATION



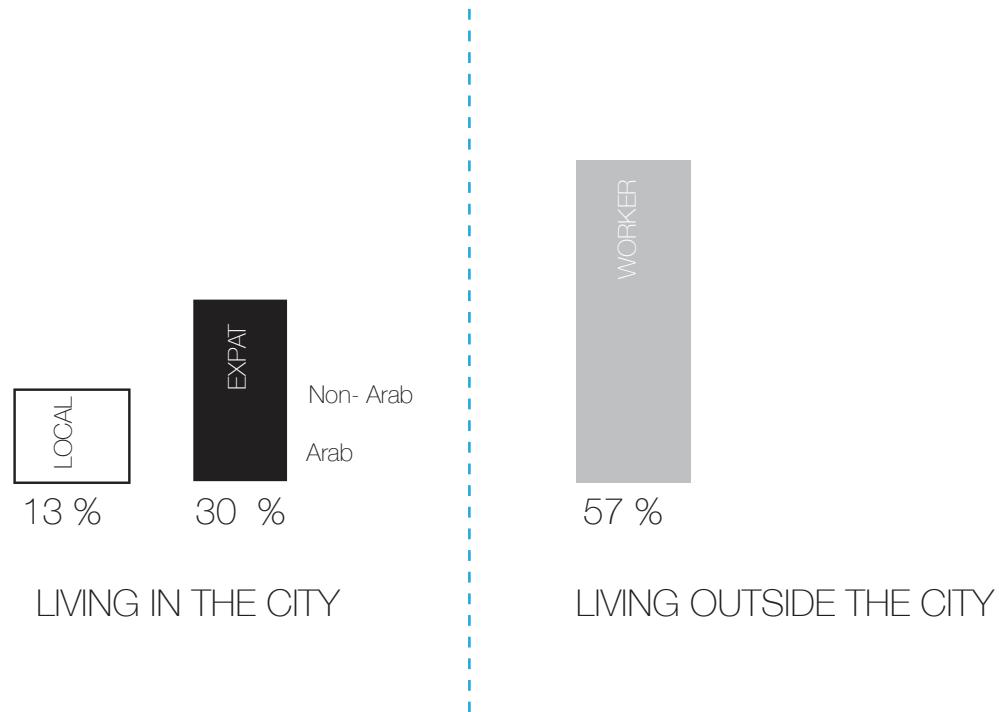
ISOLATION MANIFESTATION:

Diversity created by outsourcing allows for isolation to manifest both socially and architecturally. Social integration and infiltration doesn't happen very often creating different experiences of the same city.

Malls are considered a socially accepted space on a global level and Doha is no different from other major cities around the world.

Malls and less frequently museums are the two locations where social cultural segregation is ever slightly infiltrated. However, they are capital driven and not design for people to interact.

ISOLATION



"The evolution of urban space in Doha is facing a turning point that will lead to new spatial transformations that will shape a built environment reflecting its inhabitants rather than being an imposed urban shell containing them."

SOCIAL ISOLATION:

Diversity + Imbalance

Generalizing the expat population under the worker status doesn't reflect the real situation and their contribution in the country's development. Cementing the hierarchy limits the ability to collaborate or move forward with an integrated society. The rigid social construct does not have the capacity for change needed with the constant people influx.

BEHAVIOR:

People move to Qatar , not expecting to live in the United States but expecting to live in Doha which is at its current state a replica of international style architecture and segregated social circles.

Qatari (loss of heritage and identity)
 Expat Arab (home that doesn't belong)
 Expat Non-Arab (temporary state of contribution)

ARCHITECTURAL ISOLATION

Manifestation of and lack of integration

Architecture is adding to the social isolation in the diverse cultural demography of the city; emphasizing the social boundaries through physical boundaries and access. This results in alienation and segregation of people's perception of space ownership in both public and private spaces.

The city architecture is a reflection of the constant change and loss of identity. If we don't want a future that looks like a sci-fi movie, we need to negotiate now what change we want and how the collaboration between Qataris and expats works.

1

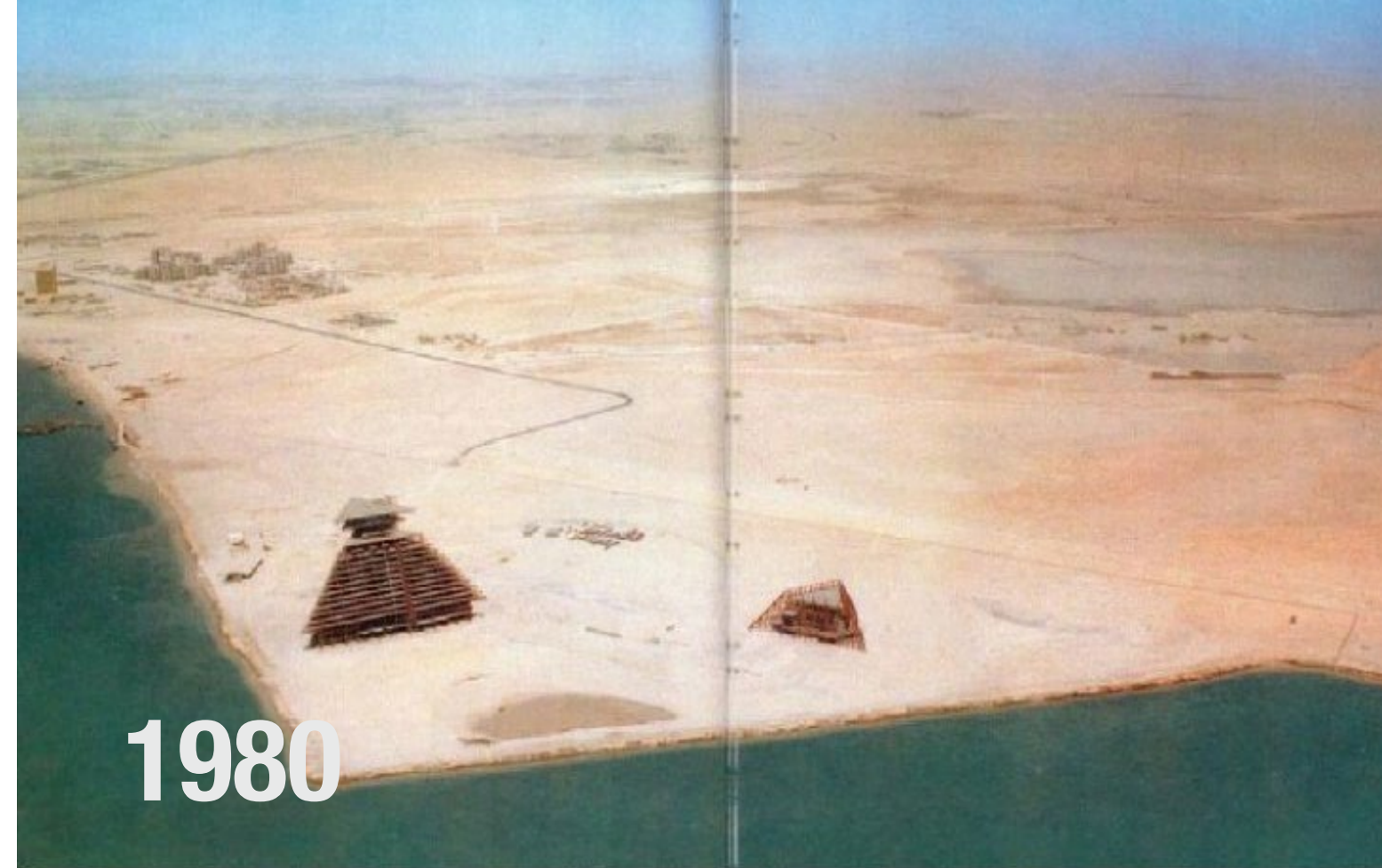
MODERNITY IN THE DESERT

*We talk of many things we don't understand.
Modernity in the desert! The latest
joke in a world full of jokes.
But this is the desert,
where dust hovers in the air like butterflies
in a graveyard.
Where sand blankets everything-
acacia and palms, the tents
of Bedouins, even camels,
the ships of dunes.*

*So little can grow in the desert.
Our palaces scream cutting-edge.
Our A/Cs hiss like snakes.
Cell phones! Cyber cafes!*

*But remember, the desert is a fox
dressed like a woman. ¹*

¹ "Modernity in the Desert." In Gathering the Tide an Anthology of Contemporary Arabian Gulf Poetry, edited by Patty Paine and Jeff Lodge, by Samia Touati and Soad Al-Kuwari, 167. Reading, U.K.: Garnet Pub., 2011.

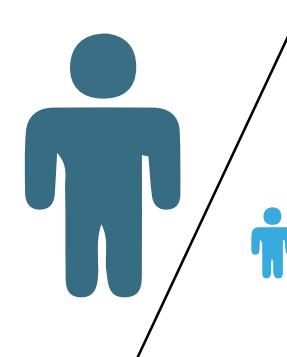




future DOHA:QATAR completed February 28 2007:SYD MEAD:PASADENA CALIFORNIA

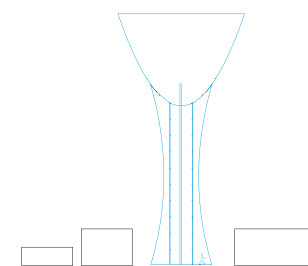
"The first thing you notice is this unbelievable horizon – deserts with massive blue, pink and green skies," says Al Qadiri. "It's like you're on the surface of another planet... the starkness creates this post-apocalyptic feel. When you're surrounded by sand and sky, there are no limits to the gargantuanism you can dream of – the Hanging Gardens of Babylon, the Tower of Babel, these are all Arab ideas! And now it's the space race for skyscrapers."¹

¹ Orton, Karen. "The Desert of the Unreal." Dazed. November 9, 2012. <http://www.dazeddigital.com/artsandculture/article/15040/1/the-desert-of-the-unreal>

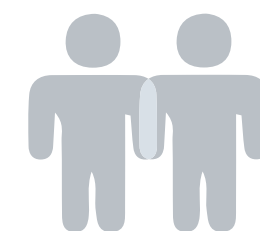


SEGREGATED SOCIETY

=

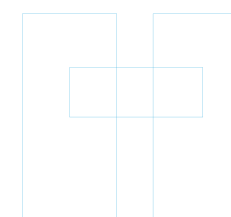


DISCONNECTED ARCHITECTURE



INTEGRATED SOCIETY

=



INTERCONNECTED ARCHITECTURE

WHAT IS THE SOLUTION: INTEGRATING DIVERSITY THROUGH ARCHITECTURE

Researching different ways to overcome segregation through an in-depth understanding of socio-cultural integration. Solution is broken down into three interconnected parts that inform the over all design leading to a more integration.

- 1** BEHAVIORAL
INTEGRATION
- 2** PROGRAMATIC
INTEGRATION
- 3** ARCHITECTURAL
INTEGRATION

WHAT IS THE SOLUTION: BEHAVIORAL INTEGRATION

To overcome segregation created by diversity, behavior plays unequivocal role, Qatar as a society and government, what cultural diplomacy can do to influence integrated behavior.

1

QATAR NATIONAL VISION 2030:
Government willingness to change.

QATAR:
Public space people's behavior research?
How people interact in Qatar?

CULTURAL DIPLOMACY:
How to raise awareness and acceptance?

QATAR NATIONAL VISION 2030

Qatar is the setting for this thesis and the Qatar notational vision document outlines the social development elements that need to drive the change.

*"Under the QNV 2030, Qatar will serve as a regional and global example with an increased role in the Middle East and the world."*¹

Qatar has developed a national vision for 2030 that depends on four pillars to secure the society and country's future (diagram). Part of the Social Development pillar you can see what has been set in place as government willingness for integration by provide values and goals;

*"Develop a spirit of **TOLERANCE**, constructive **DIALOGUE** and **OPENNESS** towards others at **THE NATIONAL** and **INTERNATIONAL** levels."*

*"**INTENSIFICATION OF CULTURAL EXCHANGE** with the **ARAB PEOPLES** in particular and with **OTHER NATIONS** in general."*

*"Sponsorship and support of **DIALOGUE AMONG CIVILIZATIONS**, promoting **COEXISTENCE** between different **RELIGIONS AND CULTURES**."*²

Qatar's National Vision Rests on Four Pillars



Human Development

Development of all its people to enable them to sustain a prosperous society.



Social Development

Development of a just and caring society based on high moral standards, and capable of playing a significant role in the global partnership for development.



Economic Development

Development of a competitive and diversified economy capable of meeting the needs of, and securing a high standard of living for, all its people for the present and for the future.



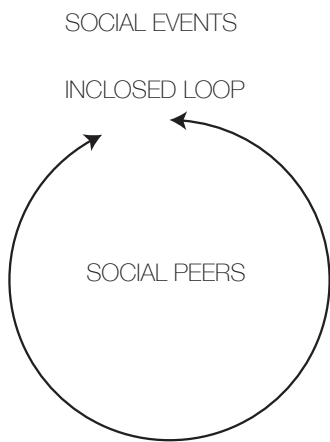
Environmental Development

Management of the environment such that there is harmony between economic growth, social development and environmental protection.

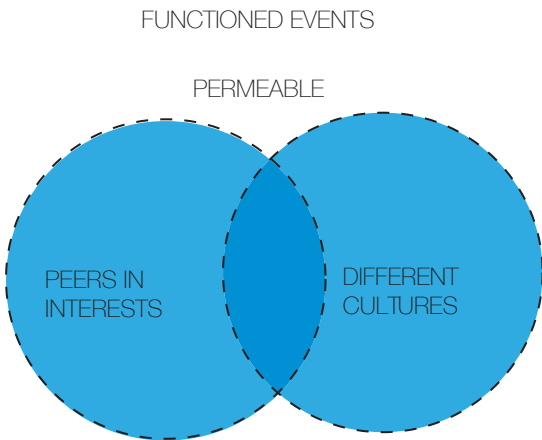
¹ "Social Development," In Qatar National Vision 2030. Doha: General Secretariat for Development Planning, 2008.

PEOPLE IN QATAR

HOW DO PEOPLE ENGAGE?
HOW DO YOU MEET PEOPLE?



- SOCIAL:
(by invitation only)
- 1. Weddings
 - 2. Dinners
 - 3. Family gatherings
 - 4. Peer gatherings



- FUNCTION:
(anyone can join)
- 1. Walking
 - 2. Festivals
 - 3. Education
 - 4. Work

CULTURAL DIPLOMACY

"Cultural Diplomacy may best be described as a course of actions, which are based on and utilize the [exchange of ideas, values, traditions](#) and other aspects of culture or identity, whether to [strengthen relationships, enhance socio-cultural cooperation](#) or promote national interests; Cultural diplomacy can be practiced by either the public sector, private sector or civil society."

Cultural diplomacy can be used as a tool to overcoming segregation.

Qatar has focus on developing cultural diplomacy in the past few years by participating in years of cultural exchange with different countries to build social and political ties. However, the importance of soft power, does not seem to have translated into the social fabric.

The political scientist Prof. Joseph S. Nye has made the renowned distinction between the two, describing 'soft power' as:

"The ability to persuade through [culture, values and ideas](#), as opposed to 'hard power', which conquers or coerces through military might".¹

¹ "What Is Cultural Diplomacy? What Is Soft Power?" Institute for Cultural Diplomacy.

Focusing the values and outcome of cultural diplomacy internally can allow for more awareness and acceptance between cultures. Mark Leonard outlined the four purposes for public diplomacy in the twenty-first century:

*"Increasing familiarity
Increasing appreciation
Engaging people
Influencing people's behavior"²*

² Culture is an essential component of international relations. Bound, Kirsten, Rachel Briggs, John Holden, and Samuel Jones. Cultural Diplomacy. London: Demos, 2007.



WHAT IS THE SOLUTION: PROGRAMATIC INTEGRATION

Outlined in public sphere theory, needs of public spaces and public engagement emphasizing free access, meeting strangers and freedom of expression.

2

PUBLIC SPACE:

Why public space?
What is public space?
What does a public space need?

QATAR:

Public space peoples behavior research

PUBLIC SPHERE:

Why public sphere?
What is public sphere?

PUBLIC ENGAGEMENT:

Why public engagement?
What is public engagement?
Types of public engagement that help integration?

PUBLIC SPACE

Programmatically public space provides most qualities to deal with segregation and integration in a spatial format, taking into consideration that it is the most shared.

“(b) a common realm of streets, plazas, parks, malls, and buildings where access is unrestricted and strangers interact with each other (Madanipour, 2003; see also Hénaff and Strong, 2001)”¹

Suggesting that any physical space can be ‘public’ in four major ways. It is space that:

1. Openly accessible
2. Uses common resources
3. Has common effects
4. Is used for the performance of public roles

The term “public space” has many implications that need to be defined in this context. Democracy and Public Space by John Parkinson provided the foundation for understanding this term. What is public space? What does a public space need? Outlining three elements of access, meeting strangers and the common good/interest. The outline also provides an extensive understanding of the role of public space in spatial terms.

One of the most crucial parts of making a space public is access:

“It is freely accessible space, particularly space in which we encounter strangers.”²

The idea of free access is closely correlated with the idea of ownership and belonging.

*“Freely accessible places where:”
‘everything that happens can be observed by anyone,’
(Geuss, 2001: 52)³*

¹ Parkinson, John. “Democratic Theory, Democratic Performance.” In Democracy and Public Space: The Physical Sites of Democratic Performance. Oxford: Oxford University Press, 2012.
² Ibid
³ Ibid

“While the idea of open accessibility is fundamental to many definitions of public space, the associated emphasis on strangers and unscripted encounters is more complex than some authors acknowledge.”¹

WHAT DO PEOPLE DO IN A PUBLIC SPACE?

Two major aspects of creating public space is the ability to meeting strangers and to serve a common good/ interest.

MEETING STRANGERS

Unlike private spaces, where it's much clearer who the space belongs to and who is a stranger. Free access locations encourages a diversity of people in a public space, thus allowing for the meeting of strangers and interaction,

“Where strangers are encountered whether one wants to or not, because everyone has free right of entry (Geuss, 2001: 52).”²

The definition of space or clarity of function still doesn't take away from being able to interact with strangers in an unchoreographed manner.

COMMON GOOD/ INTEREST

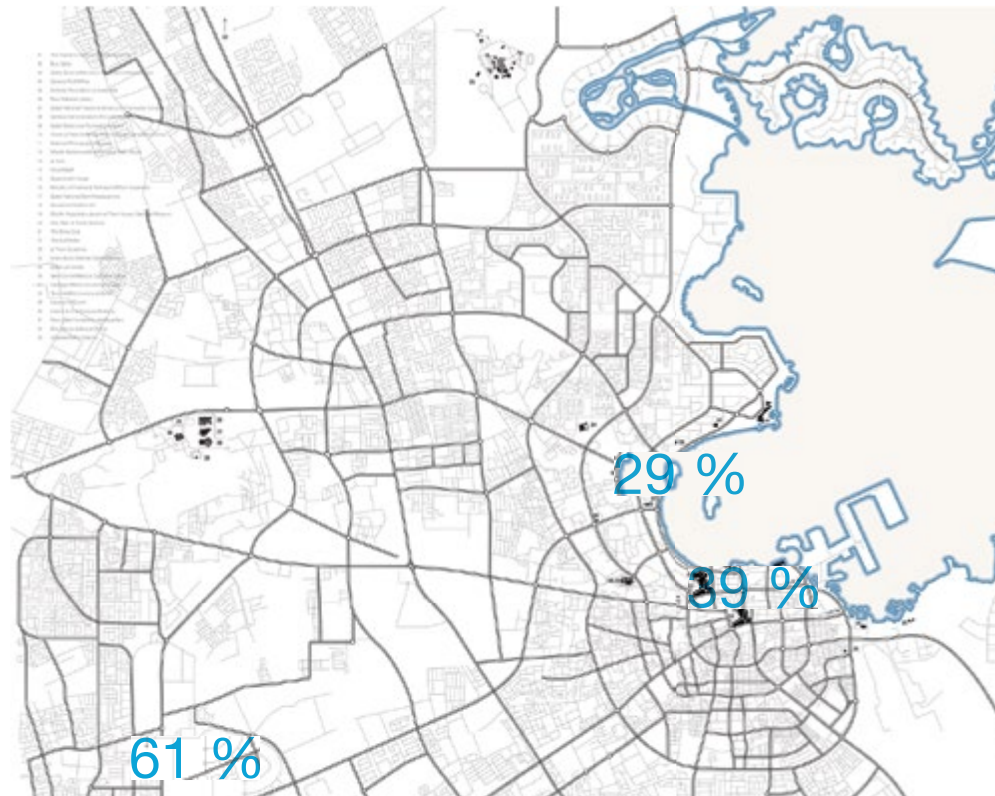
Why do people go to public space is mainly attached to a common good or interest; the outdoor park experience, the water front, the talk, the concert, the mall, for food, etc.

“The things that concern, affect, or are for the benefit of everyone, Arendt's second sense of ‘public’ (1958: 52).” This realm includes ‘common goods’ (Hardin, 1968), goods like clean air and water, public transport”³

¹ Parkinson, John. “Democratic Theory, Democratic Performance.” In Democracy and Public Space: The Physical Sites of Democratic Performance. Oxford: Oxford University Press, 2012.
² Ibid
³ Ibid



PUBLIC SPACE IN QATAR



Hutzell, Kelly, and Rami El Samahy. "4dDoha: Buildings." 4dDoha. 2013. <http://www.4ddoha.com/projects/4dDoha/>.

61% ASPIRE ZONE AND VILLAGGIO MALL

Sports
Outdoor park
Shopping
Indoor walking

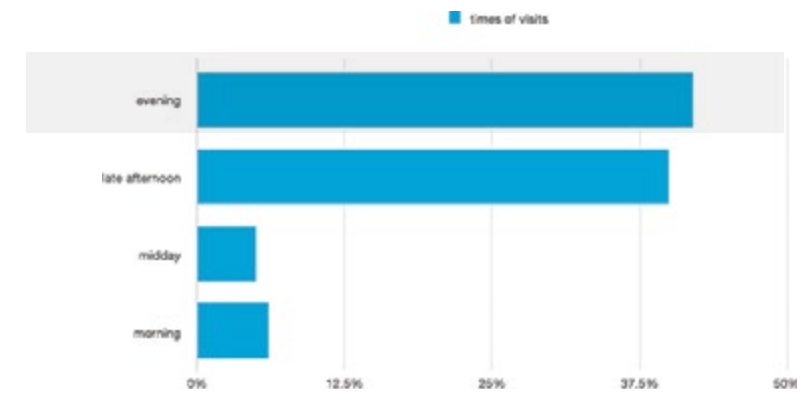
39% SOUQ WAQIF

Adapted traditional market
Food
Outdoor walking
Shopping
Entertainment
Culture

29% CORNICHE

Water front promenade
Outdoor park
Free
Walking space ¹

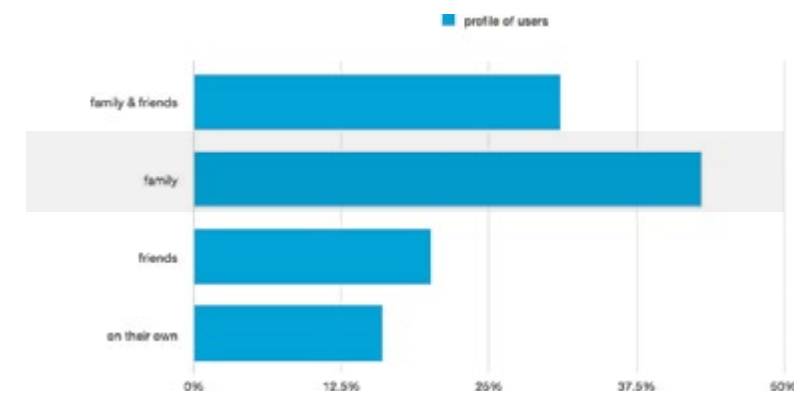
¹ Salama, Ashraf M. A., and Florian Wiedmann. "Dynamics of Population and Urban Environments of Doha." In Demystifying Doha on Architecture and Urbanism in an Emerging City, 194-197. Burlington: Ashgate Publishing Company, 2013.



WHAT DO PEOPLE DO THERE?

Mall/ Park
Walking / Shopping
Family / Family and friends
In the evening

Shopping and sports
Traditional market
Water front /Walking outdoor



HOW DO PEOPLE SPEND TIME?

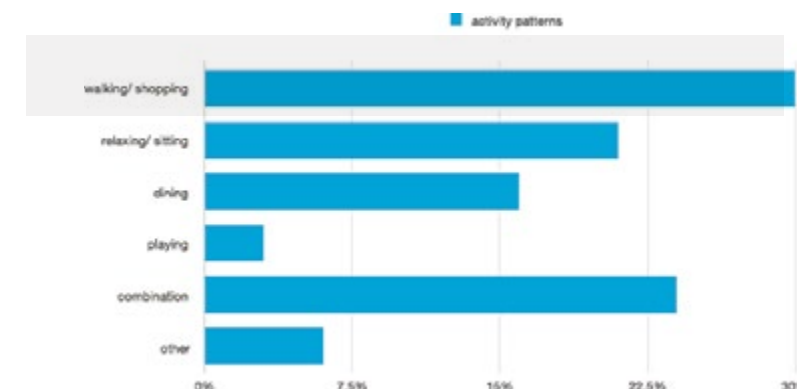
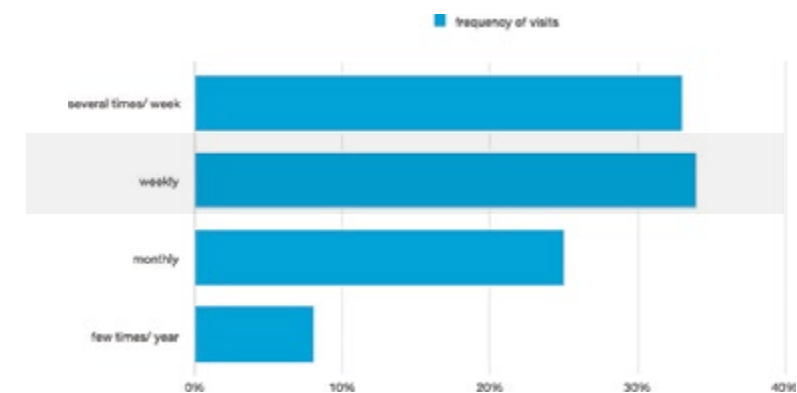
QATARI

2-3 hours of income generation
5-6 hours of leisure and cultural activity
1 hour of learning and education

EXPAT

6-7 hours of income generation
3- 4 leisure and culture activity
30- 25 minutes learning and education ¹

¹ The Ministry of Development Planning and Statistics (MDPS), Time Use Survey, doha: N.p., 2014. Print.



PRECEDENT OF PUBLIC SPACE

MÅLØV AXIS FLUENT LANDSCAPES,
MÅLØV, DENMARK, 2008.

Måløv Axis and the adjacent city spaces is a visionary project underlining the lively Måløv city character in close contact to the amazing surrounding landscape. The movement through the axis will – beyond being easy accessible for everyone, safe and clear – provide a spatial story relating to the distinctive character of Måløv and create an experience for citizens and visitors.

The main idea sets off in a reading of the area wide landscape and natural context. The landscape is a characteristic moraine landscape shaped through the impact of the glacial period. The glaciers have left a rolling landscape with kept ice holes, valleys and plains. A beautiful and recreational landscape accessible from north via Måløv Nature park and from south via Søndergaard lake and the Måløv wedge.

As a result the Måløv axis will appear as a fluent landscape building on the great historical values in the landscape creating a vibrant area full of city life and natural environments, rich on experiences, interesting and safe for everyone. A new connecting urban space in the city intertwining the existing and the new values.¹



DATE
2008

ASSOCIATED NAMES
Adept and LiWplanning

BUILDING TYPE
Landscape Architecture

BUILDING USAGE
public space/ connector

DIMENSIONS
1000m2



ANALYSIS:

Creating an open public space that connect the new and old part of the city with an iconic intervention that draws from its surroundings and context needs.

The design considers that different programs that can be needed in a public space, from moments of pause, gathering spaces (large-small groups), play, moving through the tunnel.

Activation of underutilized space through public programming. Allowing for a journey experience where there was no walkability before with the highway cutting between old and new part of the city.

¹ <http://www.landezine.com/index.php/2011/06/fluent-landscapes-malov-axis-by-adept-architects/>

PUBLIC SPHERE

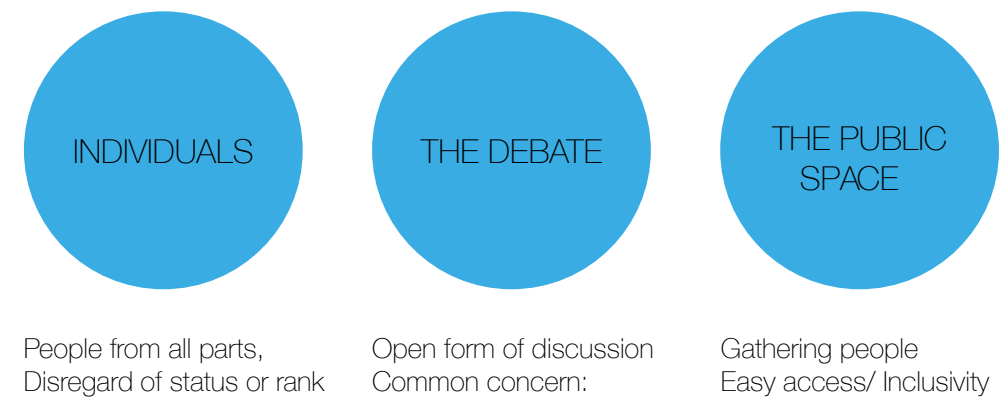
A. Public Spheres

Open-public sphere is the urban site that brings together the various social structures within society. **This sphere stitches different urban components and units** (communities, neighbourhoods, districts) together at central state-managed venues, spaces, institutions, and services, **which do not belong to a particular locality**. It is a place that is, in Sennett's terms, "*a human settlement in which strangers are likely to meet*".⁴⁴ It offers respite from constraints of the locality. **It is where everyone is a stranger, without social responsibility or roles**. This sphere contributes to the shared public image and character of society that shape people's feelings and perspectives.⁴⁵ It is far from natural; rather, it **is cultural and ideological**.⁴⁶ This category matches what the majority of social scientists and theorists, such as Jurgen Habermas, Manuel Castells and Richard Sennett, consider as the public sphere.⁴⁷ Architecture of this sphere takes shape over a long period of time and **develops out of dominant cultural and architectural perspectives**. Al-Muizz Street, the central thoroughfare of Old Cairo, for example, represent a chronological development of Islamic Cairo, and its religious and cultural significance is entirely different from Cairo's downtown, with its predominantly classic European-style buildings of the late nineteenth century (Figures 4.3 and 4.4).

HOW DOES A PUBLIC SPACE BECOME PUBLIC IN THE PEOPLE'S PERCEPTION?

This topic is explored by German philosopher Habermas, who terms it, "public sphere theory." The individual, the debate and the public space are the main elements for creating a participatory democratic approach. Discussed extensively in "Clash of the European public spheres" a paper by Ancuta-Gabrielai Tarta. This theory is referenced and is the base for the understanding of public sphere in the Arab world like that in "Making Homes in Cairo" by DR. M. Gamal Abdelmonem.

*"The public sphere is neither merely the public nor simply the conditions of equality and universal access that permit the free exchange of ideas; it also encompasses the actual process through which private individuals come together to form public opinion."*¹



WHAT IS THE PUBLIC SPHERE?

*"By 'the public sphere' we mean first of all a realm of our social life in which something approaching public opinion can be formed. **Access is guaranteed to all citizens**. A portion of the public sphere comes into being in every conversation in which private individuals assemble to form a public body. They then behave neither like business or professional = people transacting private affairs, nor like members of a constitutional order subject to the legal constraints of a state bureaucracy. Citizens behave as a public body when they confer in an unrestricted fashion--that is, with the **guarantee of freedom of assembly and association and the freedom to express** and publish their opinions--about matters of general interest. In a large public body this kind of communication requires specific means for transmitting information and influencing those who receive it."*²

¹ Murphy, Thomas. "Public Sphere." New Dictionary of the History of Ideas. 2005. encyclopedia.com

² Hohendahl, Peter, and Patricia Russian. "Jürgen Habermas: 'The Public Sphere' (1964)." New German Critique No. 3, no. Autumn, 1974 (1974): Pp. 45-48.

PUBLIC ENGAGEMENT

3.1. Community Engagement Matrix

| Community Engagement Methods | Level of impact | | | |
|-------------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|-------------------------------------|
| Communication methods | | | | |
| | Green | Blue | Orange | Yellow |
| | L1: High municipality - wide impact | L2: High area and/or group impact | L3: Modest municipality - wide impact | L4: Modest area and/or group impact |
| Dialogue (p.30) | SR | SR | O | O |
| SpeakOut (p.30) | O | O | O | O |
| Quick 1 question online poll (p.31) | O | O | O | O |
| Open space (p.31) | O | O | O | O |
| PlaceSpeak (p.31) | O | O | O | O |
| Charrette (p.32) | SR | SR | O | O |
| Community mapping (p.33) | O | O | O | O |

WHAT IS PUBLIC ENGAGEMENT?

NCCPE Definition (National Co-ordinating Center of Public Engagement)

“Public engagement describes the myriad of ways in which the activity and benefits of higher education and research can be shared with the public. Engagement is by definition a two-way process, *involving interaction and listening*, with the goal of generating mutual benefit.”¹

¹ “What Is Public Engagement?” National Co-ordinating Centre for Public Engagement. <https://www.publicengagement.ac.uk/explore-iv/what-public-engagement>.

WHY PUBLIC ENGAGEMENT?

Public engagement is a more interactive driving force for human interaction on different levels. Through public engagement, individuals can acknowledge each other’s differences through different ways of engagement.

TYPES OF PUBLIC ENGAGEMENT THAT HELP INTEGRATION?

Looking at different ways to over come segregation through public engagement:

DIALOGUE:

Dialogue: Allowing space for facilitated engagement and free flowing conversation. Through a set structure the participants are free to direct the content and actions that encourage storytelling and broad contribution.²

OPEN SPACE:

Open space: Allowing of set meeting based on common interests, where participants are teachers who are learning in an inclusive environment where views and opinions are accepted.³

² Community Engagement Toolkit. BRITISH COLUMBIA: SOCIAL PLANNING AND RESEARCH COUNCIL OF BRITISH COLUMBIA, 2013.
³ Ibid

PRECEDENT OF PUBLIC ENGAGEMENT

WATERTOWER SKYSCRAPER, SUDAN

Addressing this water issue, polish firm H3AR architect and design recently proposed a building that allows access to underground waters through the application of water pumps. The form of the building was inspired by a water tower and also by the symbol of the african savanna – the baobab. The building houses water pumps, a treatment plant but also a hospital, a school and a food storage center. This building is meant to provoke economical development but also stimulate cultural exchange and the coexistence of the three different religions and languages in Sudan.

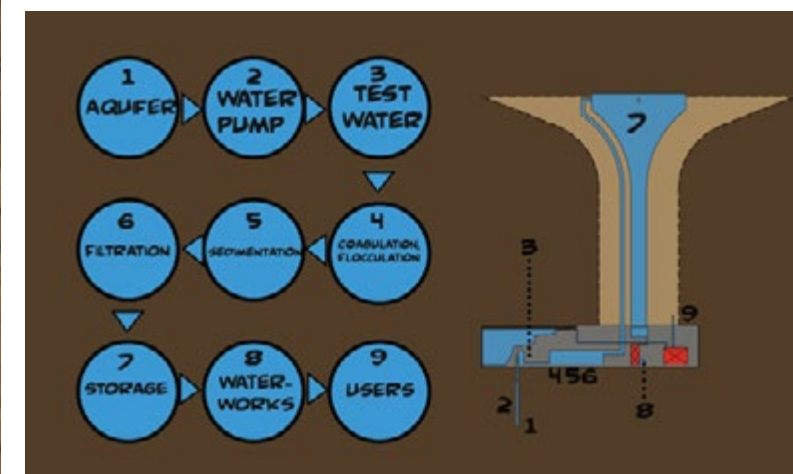
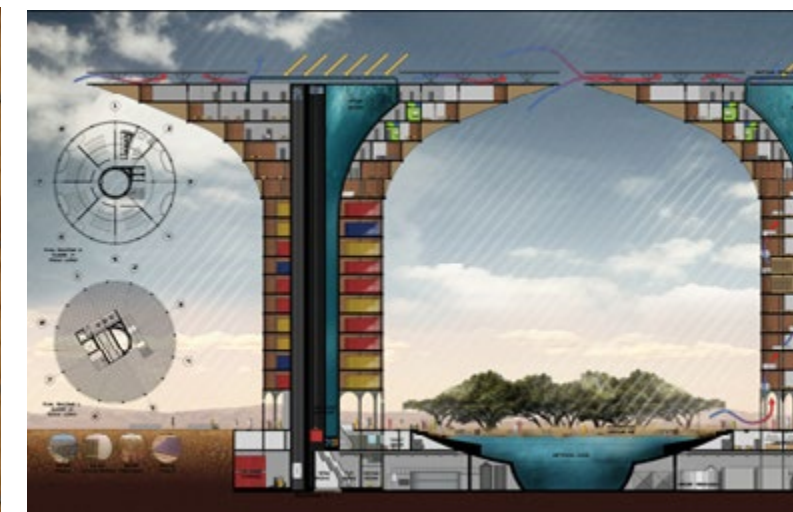
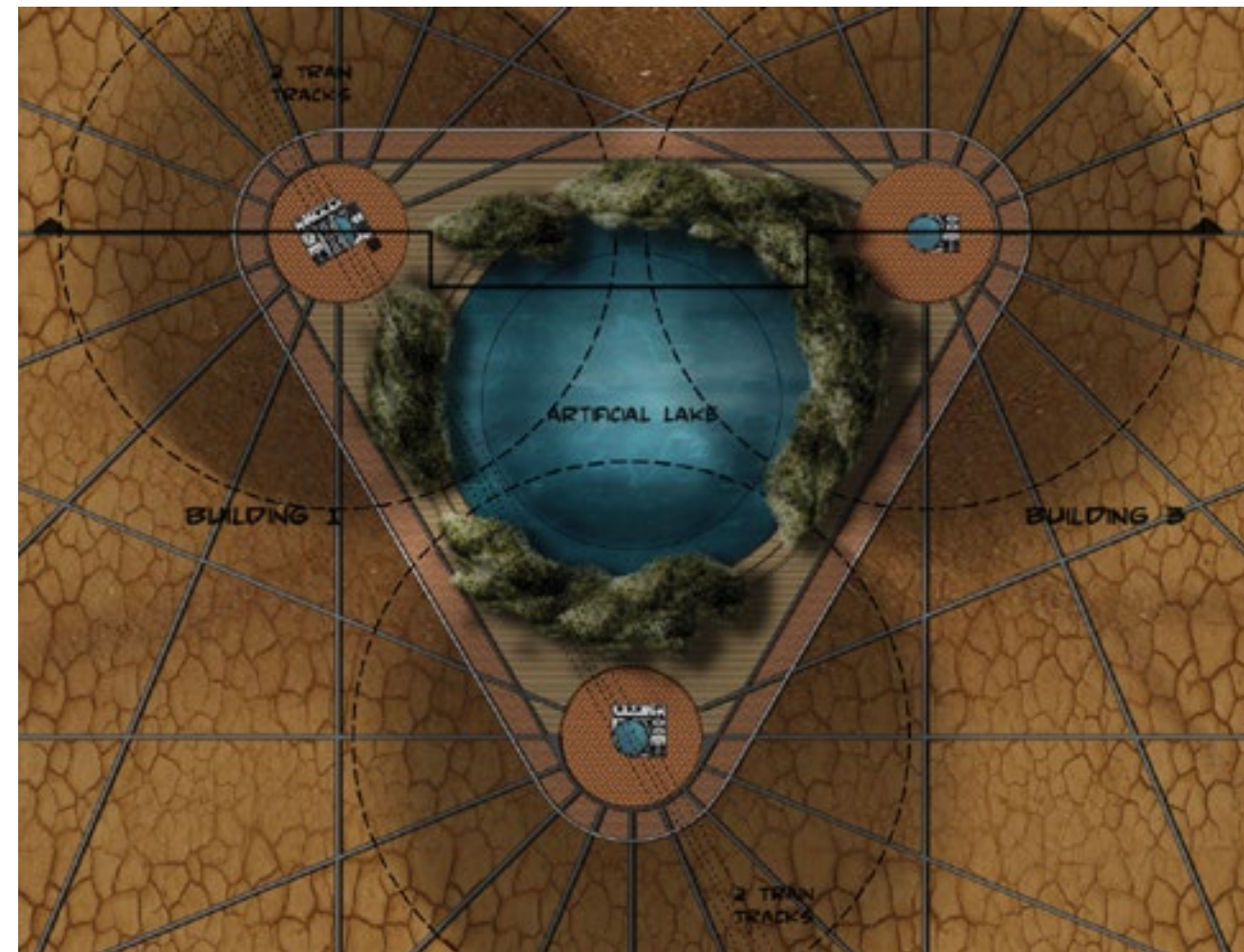
Two water circulation processes would be in place. First set of extracted water is meant to heat or cool the building, and is accessible to the users. Second, set of extracted water is used for the building itself (i.e. kitchen, toilets).¹

ANALYSIS:

This is a hypothetical project but very interesting for considering the typology and function of a water tower in the desert (drought conditions).

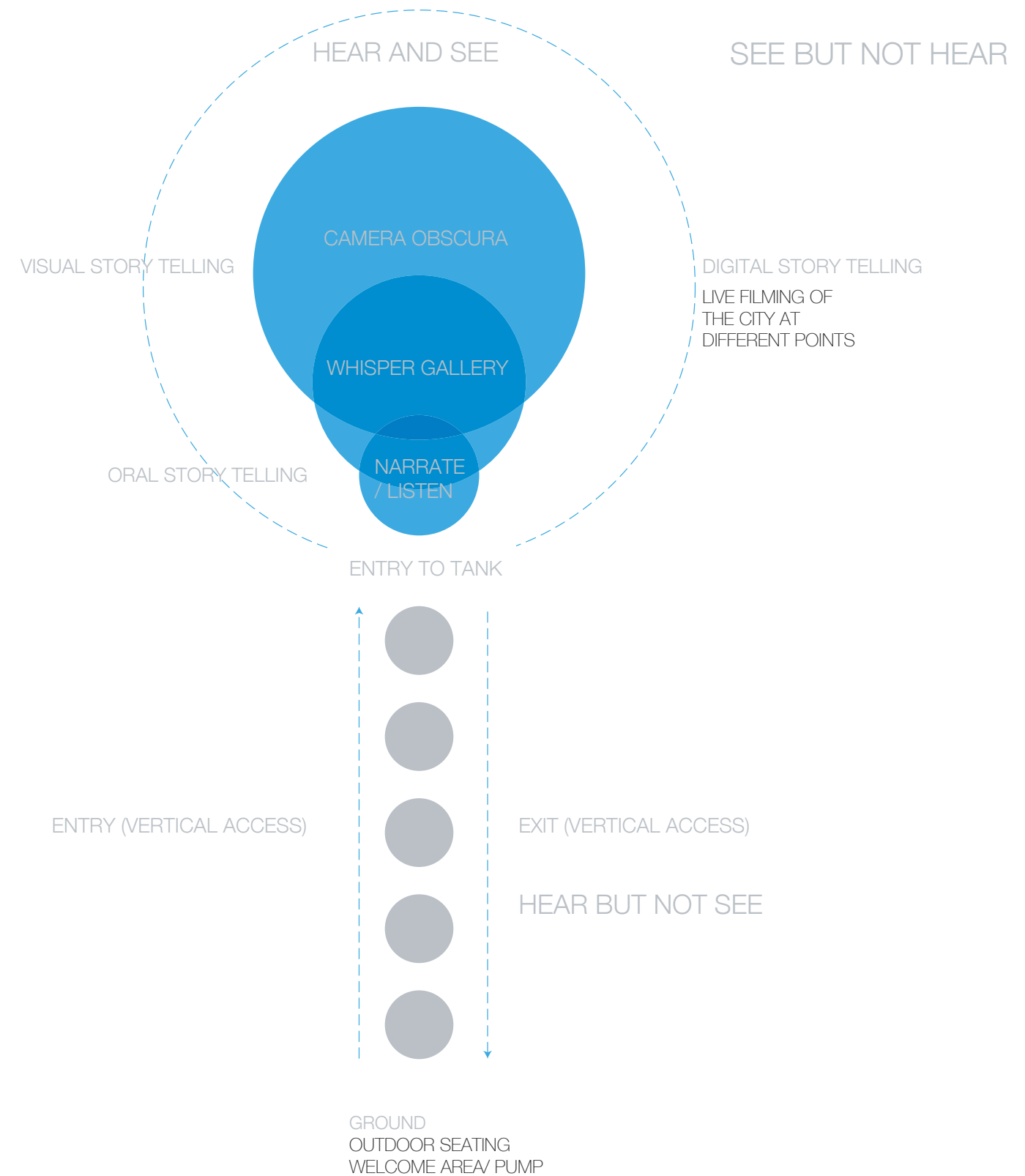
Historically people/ communities gathered where water was available or in close proximity. example, rivers, wells, sea, etc.

This project proposed that we create that condition using new methods of architecture to provide water and create communities where it is needed. Utilize the space by addressing peoples needs, from water, shelter, education, entertainment. A vertical tribe.



¹ <http://www.archdaily.com/52910/watertower-hugon-kowalski/>

PROGRAMMATIC SOLUTION DEVELOPMENT: STORY TELLING



STORY TELLING



A man in heavy robes animatedly telling a story to an eager crowd. By Gentz, Wilhelm [CC-BY-SA-2.5 (<http://creativecommons.org/licenses/by-sa/2.5>)], via Wikimedia Commons

PROGRAM SUMMARY:

A public space for people to come and share their story in any form; oral, written, visual or digital.

The goal of this space is to allow people to many ways of self expression and a sense of belonging in a highly segregated society.

Providing a platform for sharing stories where there is no hierarchy, where people can have a come together with people from different background and skills levels to share their stories.

People expressing themselves in the only way they know, so they don't have the capacity for seeing things differently or sympathizing with others ways.

WHAT IS STORY TELLING?

"Stories describing events in images and in oral and written language are at the heart of world cultures. Stories serve as entertainment, education, cultural tradition, and morality instruction. Scientific research reinforces the idea that the human brain is wired for storytelling, because people have been telling stories as a means of creative expression and comprehension ... But despite increasingly sophisticated technology, the human need to tell individual and collective stories remains the same. Storytelling is a way for people to tap into their common humanity and contribute their individual experiences and insights to the crucible of the human condition."

1

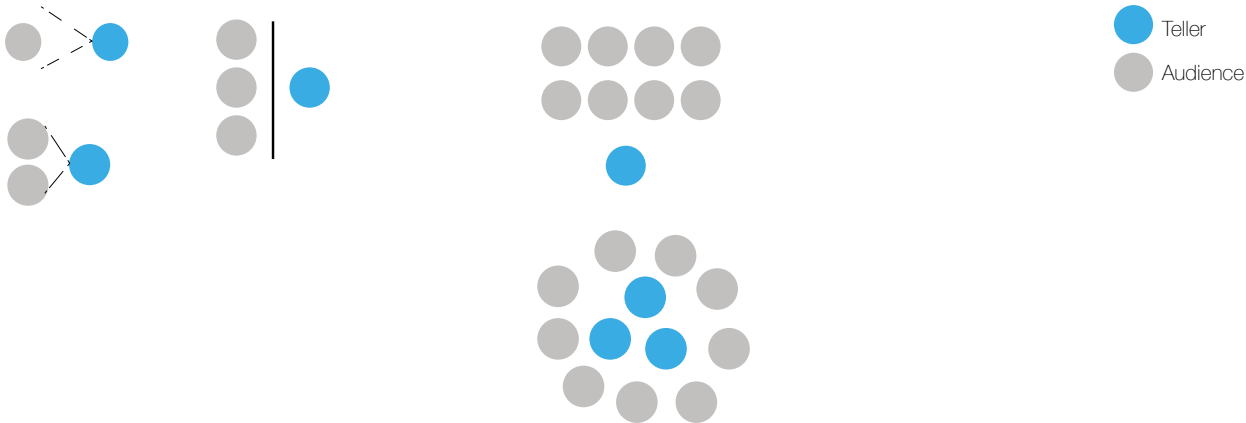
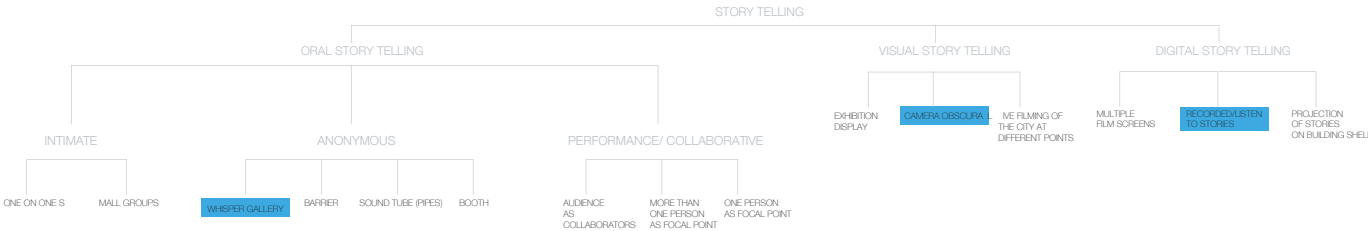
TYPES OF STORY TELLING:

- Oral
- Visual/Image
- Written
- Digital
- Music
- Performance

HOW STORYTELLING AFFECTS THE BRAIN



"INFOGRAPHIC: The Science of Storytelling." Onespot. May 22, 2014. <https://www.onespot.com/blog/infographic-the-science-of-storytelling/>.



1 Warnes, Kathy. "Storytelling." 2013. <http://0-search.ebsco-host.com.librarycat.risd.edu/login.aspx?direct=true&db=ers&AN=89677641&site=eds-live>.

WHAT IS THE SOLUTION: ARCHITECTURAL INTEGRATION

Public space typology, that allows for democratic architecture in design considerations and hosting public engagement activities.

3

PUBLIC SPACE:

What are the architectural elements in a public space typology?

ARCHITECTURAL DEMOCRACY:

What are the elements considered in democratic architecture translated into design?

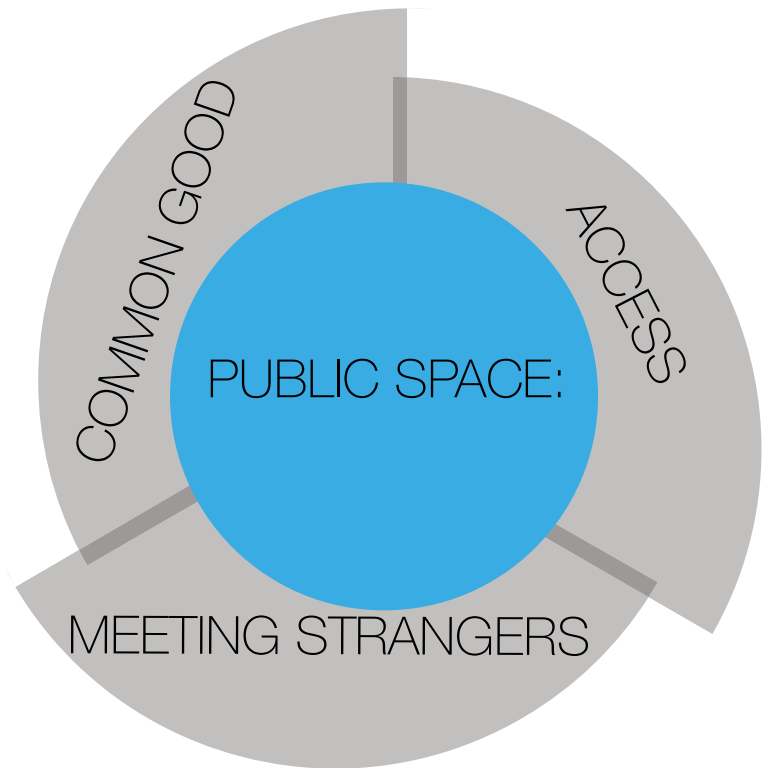
Four factors by Ralph Erskine. Questions on what are democratic architecture?

PUBLIC ENGAGEMENT:

How architecture responds to needs of public engagement?

PUBLIC SPACE

WHAT ARE THE ARCHITECTURAL ELEMENTS IN A PUBLIC SPACE
TYPOLOGY?



PHYSICAL SPACE: PROPERTIES

“Public recreational facilities like *parks, baths, promenades, arenas, concert halls*.”¹

“Other public facilities like *libraries, schools and assembly rooms, public toilets*, some places of worship, and even cemeteries that can take on the characteristics of mini-cities in their own right;”²

TPOLOGY:

“*Infrastructure*, including *power, water, and transport systems* allowing people to access all these things,”³

BUILT ENVIRONMENT: SITE POSITIONING

“The built environment of the city, which not only shapes such things as the *availability of light and air* but also is of concern to those who want a beautiful city (however that is defined), or a *city that preserves memories and heritage*, among other things; The natural environment surrounding and sometimes *penetrating the built environment*, considered as a recreational facility and as the *broader ecosystem* of which built environments are a part;”⁴

1 Parkinson, John. “Theorizing Public Space.” In *Democracy and Public Space: The Physical Sites of Democratic Performance*. Oxford: Oxford University Press, 2012.
2 Ibid
3 Ibid
4 Ibid

ARCHITECTURAL DEMOCRACY

WHAT ARE THE ELEMENTS CONSIDERED IN DEMOCRATIC ARCHITECTURE TRANSLATED INTO DESIGN?

The play on hierarchy and power is crucial to my thesis/context, by proposing a democratic architectural approach, it is clearer to understand and define what it really is.

There is debate on what democratic architecture is, however, there are major shared understandings. The architect Ralph Erskine breaks it down to participation, minority rights, efficiency, and sustainability/ respecting context. Which seems to be the consensus among modernist architects like Louis Sullivan and Frank Lloyd Wright who both agree on organic architecture as being the most democratic.

“Architecture and urban planning — be it at macro or micro level, a private villa or an office block — must not only be a showpiece of design and technology, but also give expression to those [democratic ideals of respect for human dignity, equality and freedom that are fostered in our society.](#)”¹

FOUR FACTORS BY RALPH ERSKINE FOR ARCHITECTURAL CHANGE IN SWEDEN

Democratic participation in decision -making processes: public / client input must be included and integrated into process.

Minority rights:

“Serious consideration of the needs of children, the aged, immigrants and other subcultures and minorities would introduce further new form-elements in architecture and planning.”

Economy in the use of energy:

“The architecture of glass buildings however beautiful, is recognized as symbolic of a naive, wasteful and irresponsible culture, and laws on energy conservation have made such architecture impossible. A new, wise, responsible and beautiful architecture must be invented.”

Economy in the use of all resources:

“The fourth, always operative for most utility buildings, can also be considered as a fundamental condition of human rights in a world where limited resources are so inequitably distributed between classes, races or nations”²

QUESTIONS ON WHAT IS DEMOCRATIC ARCHITECTURE:

A series of lectures in Princeton University raised a series of questions about understanding the use of democratic architecture. The possibilities and limitations are debatable.

*What kinds of spaces democratic activity requires?
What might constitute a particularly “democratic style”?
What sense?*

Historical explorations will complicate some of the more or less simplistic equations that tend to get offered in many debates on architecture and democracy:

MATERIALITY:

Expressing theory and spatial perception through materiality.

“That certain materials unambiguously reflect democratic values ([glass = democratic transparency](#))”

FUNCTION OF BUILDING:

The building should be of substantial value to the country/city/community from government to community center:

“That sites of binding collective decision-making should somehow [communicate dignity and seriousness](#);”

ACCESSIBILITY:

Most of all free access is the main translation of democratic architecture. Democracy is the ideology of equality and non-hierarchical interaction. However accessibility extends to ADA needs and views through transparency.

“That [accessibility is somehow key](#) to “democratic buildings;”

3

FORMS:

Round:

Form is another aspect of democracy. The round shape is considered most democratic because it provides equal footing to all spaces:

“That an architecture parlance of democracy would need to take the form of [“round tables”](#)

Organic:

The other side of form conversation is organic architecture, allowing it to be part of the site and grow from an organic need.

“Forums; that authentic democratic architecture needs an [organic democratic community](#) (as in some of Frank Lloyd Wright’s writings)”

FLEXIBILITY/ CHANGE

The idea of architecture responding to the immediate need that is always changing is also challenging what the formal spatial aspects of a space should be.

“That true democratic architecture would offer the people an [“empty place,”](#)

[“Temporarily occupy it, but never permanently”](#)

¹ Ralph Erskine, quoted in “Ralph Erskine”, Times Online, 2005.0319.

² Lasdun, Denys. “Ralph Erskine: Democratic Architecture: The Universal and Useful Art.” In Architecture in an Age of Scepticism: A Practitioners’ Anthology, 74-75. New York: Oxford University Press, 1984

³ “Architecture, Urban Space, and Democracy.” Princeton University Center for Human Values. January 1, 2014. http://uchv.princeton.edu/lectures_seminars/political_thought/architecture_democracy.php.

PUBLIC ENGAGEMENT

HOW ARCHITECTURE RESPONDS TO NEEDS OF PUBLIC ENGAGEMENT?

SPATIAL ARRANGEMENTS:

NON-HIERARCHAL

Circle, in the round form is the best type of seating arrangement it provides the equal footing and eye contact needed for interaction empowerment.

ACCESSIBILITY

Consideration for any effort to engage the public:

"The guiding principle driving accessibility is that all people in the community should have the opportunity to influence municipal policy and decision-making."

An important factor to address in order to ensure public consultation is accessibility. These include:

LOCATION

An all-encompassing consideration needs to apply to host structure of public space.

"Physically accessible to all members of the public."

MATERIALITY

Material and presentations are visually appealing and accessible as possible.

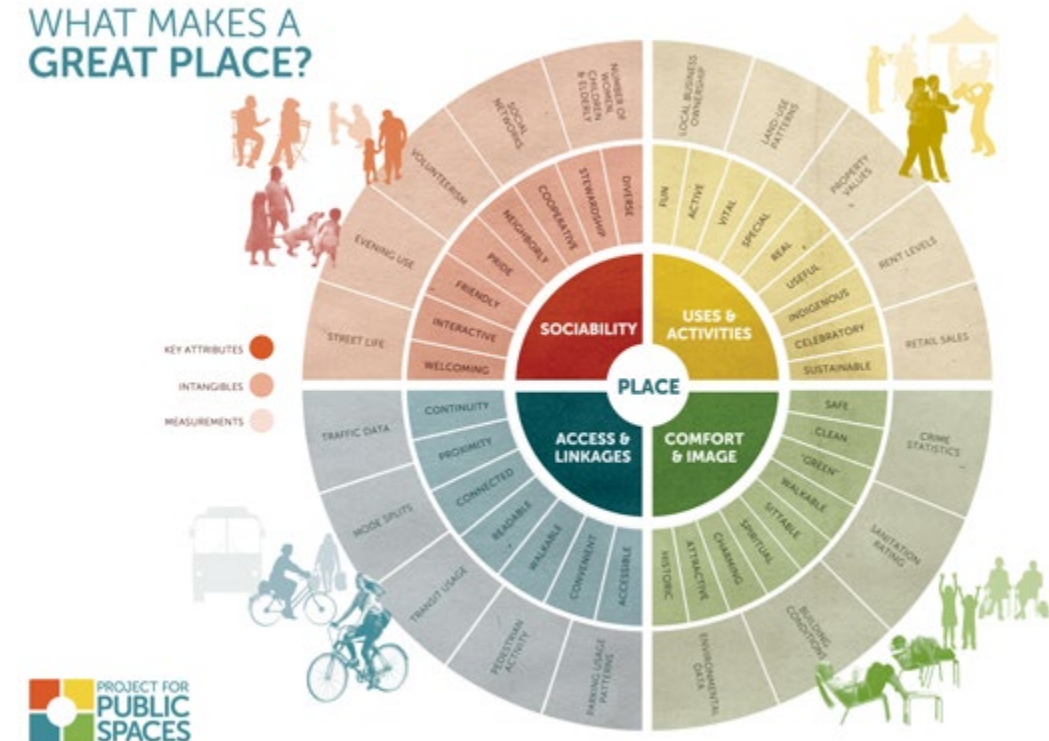
LIGHTING

Good lighting should be provided in and around the venue.

ACOUSTICS

It is also important to hold meetings in venues that have good acoustics so that visually and hearing impaired people can clearly hear what is being said. Hearing loops or sign language interpreter.

WHAT MAKES A GREAT PLACE?



<http://www.pps.org/reference/grplacefeat/>

"People who feel like they belong usually also feel like they can contribute, which means that they are empowered to shape a part of their lived public experience and enhance the quality and effectiveness of civil society in general."

1

SENSE OF BELONGING

To make clear that public engagement meetings are socially inclusive events:

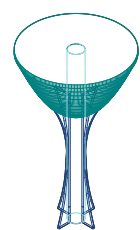
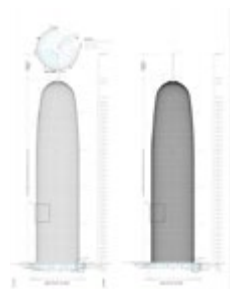
Welcomed and their contribution is valued.

The physical layout of the room or venue also contributes to the inclusiveness of discussion (e.g., dialogue circle instead of standard rows of chairs).

**ARCHITECTURAL
SOLUTION
DEVELOPMENT:
THE WATER TOWER**



HOST BUILDING



ISOLATED STRUCTURES MATRIX

| | ICONIC TOWERS | GOVERNMENT/ OIL TOWERS | WATER TOWERS |
|---------------------------------|--|--------------------------------------|---|
| TARGET (USED BY) | BUSINESS | GOVERNMENT WORKS AND BUSINESS ACCESS | NO PUBLIC ACCESS (WATER DISTRIBUTION WITH NO HIERARCHY) |
| USE | OFFICES, ENTERTAINMENT | BUSINESS AND GOVERNMENT OFFICES | INFRASTRUCTURE |
| TIME/ USAGE | 6 AM- 9 PM | 6 AM - 5 PM | |
| FREQUENCY | WEEKDAYS | WEEKDAYS | OCCASIONAL MAINTENANCE |
| GEOMETRY | | | |
| TPOLOGY | GLASS TOWERS | GLASS TOWERS | CONCRETE STRUCTURE |
| RELATION TO STREET | SIDE STREET ACCESS NO SIDE WALK | MAIN STREET ACCESS THROUGH PARKING | STREET ACCESS |
| RELATION TO CITY | WATER FRONT (SKYLINE) | BUSINESS CENTER | CENTRAL |
| RELATION TO CONTEXT / SYMBOLISM | FUTURE DEVELOPMENT | POWER AND GOVERNMENT | CITY DEVELOPMENT AID |
| ACCESS | LIMITED | SEMI-LIMITED | NO ACCESS |
| RELATION TO OTHER STRUCTURES | ISOLATED LAND LOTS WITH STREET CUT OFF | ADJACENT BLOCKS WITH PARKING LOT | CENTRAL TO LOCATION / HIGHER THAN OTHER BUILDINGS |
| YEAR BUILT | 2008- 2012 | 2006 -2010 | 1979 |
| HEIGHT | 640 - 800 FEET | 470 - 560 FEET | 177 FEET |
| OCCUPANCY | | 50% | 100% |
| | | | 0% |

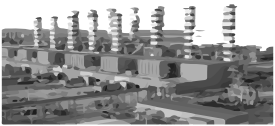
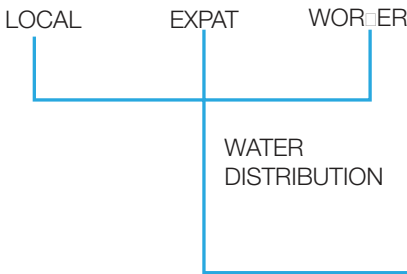
THE SEARCH FOR ISOLATION

After looking at the context and trying to understand which typology expresses this sense of isolation in the city, development of this matrix is a defining moment for the site selection.

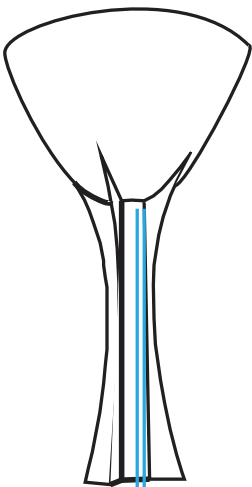
Doha has many diverse architectural identities, but the more internationally important buildings are built, the more isolated they become from one another. From people, context and needs. Most represented is the glass architecture taking over the center of the city's new financial district.

The towers are still new and might have a chance of a future, even though they are predicted to quickly devolve to ghost towns. However the water tower is a completely isolated infrastructure that is abandoned with no actual access.

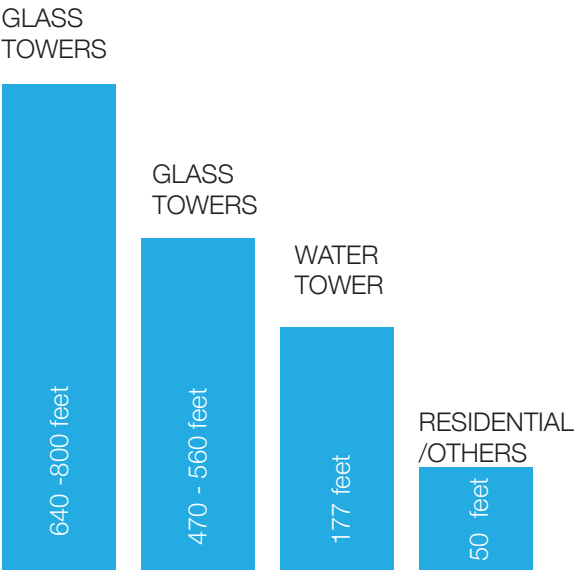
| Completed Residential Buildings Connected to Public Utilities | | | |
|---|-------|-------------|----------|
| Year | Water | Electricity | Sewerage |
| 1997 | 83% | 97% | 63% |
| 2004 | 88% | 99% | 73% |
| 2010 | 97% | 99% | 80% |



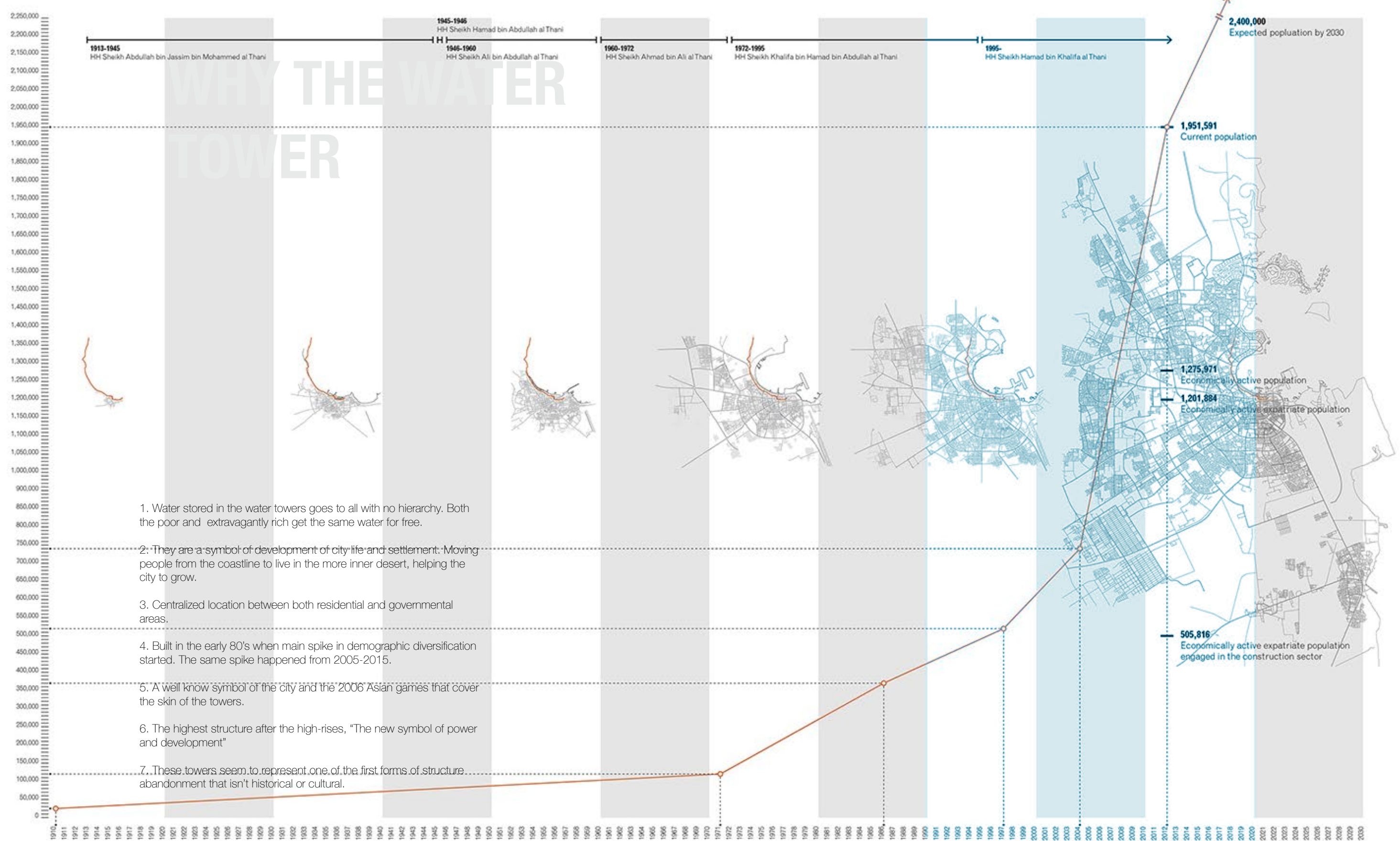
DESALINATION WATER PLANTS



*The water stored in the water tower goes to all with no hierarchy. Poor to extravagantly rich get the same water for free.



The highest structure after the high-rises
The new symbol of power and development



TIMELINE

1979
CONSTRUCTION

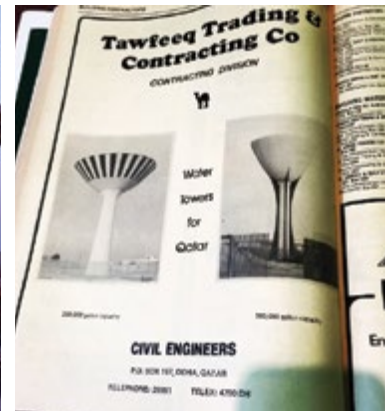
WATER TOWER

2002 OUT OF
WATER CYCLE

2005
SURVEY

2006 ASIAN
GAMES CAMPAIGN

2015
ABANDONED



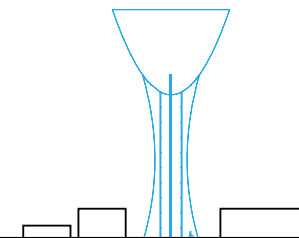
Connected to main water distribution system from 1980 - 2007: connection to main water distribution system water comes from north where water desalination plants are located. travel through pipes from under ground system, that allow water to be stored in the tower, and redistribute to different parts of the city.



OWNER
Qatar General Electricity and Water Corporation - KAHIRAMAA is the sole distributor of water and electricity in Qatar.
Phone: +974 44845555 /+974 44845464
Fax: +974 44845496
email: pr@km.com.qa
website: <http://www.km.com.qa>
Address: PO Box 41. Al Dafna Area, 61 Corniche Road, Doha, Qatar

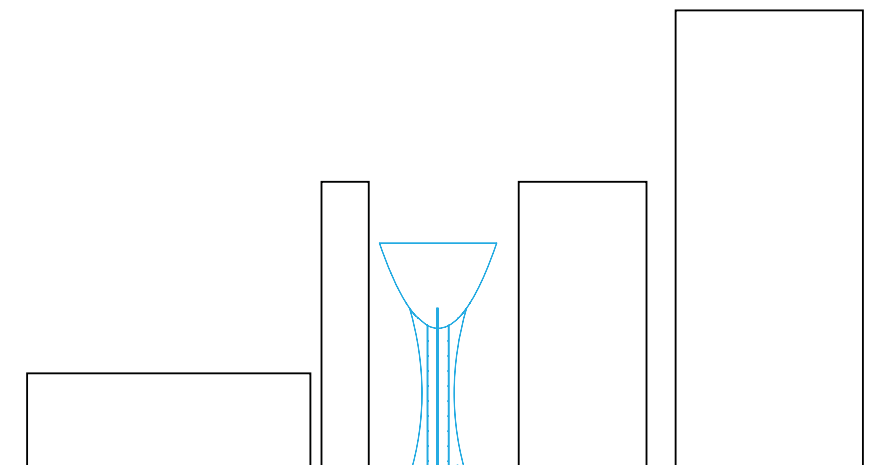
1979 CONSTRUCTION

the precast concrete construction of the tower coincides with major development in the city's infrastructure systems for major expansion.



1980's Development growth
out of architectural context

ABANDONMENT



2014 Abandonment
out of architectural context

TYPOLGY TIMELINE



The water tower of Svampen (the Mushroom), was inaugurated in May 1958 in Örebro.



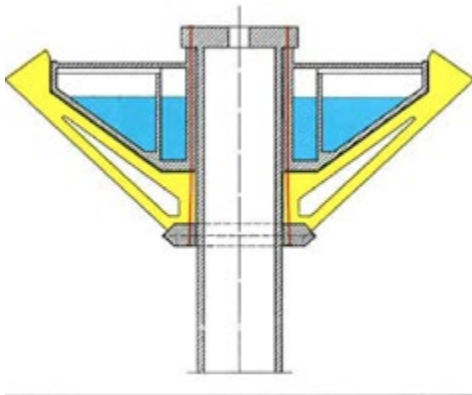
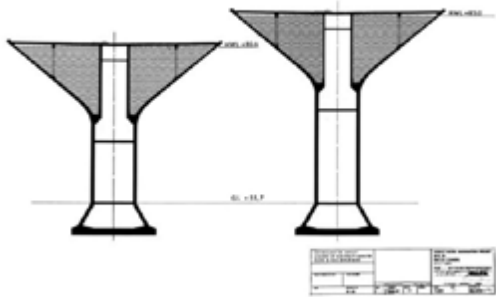
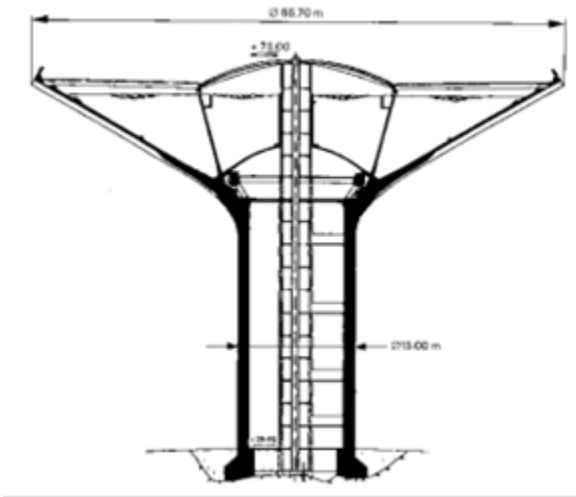
The mushroom-shaped concrete water tower of Roihuvuori in Helsinki, Finland was built in the 1977.



"Torres mushrooms" Kuwait City, Kuwait 1976.



Water tower in the Riyadh city, Saudi Arabia 1979 .



SWEDEN

A mushroom water tower

AN UNUSUAL, possibly unique, mushroom-shaped water tower not only supplies the inhabitants of Örebro, Sweden, with water, but houses both radio and television transmitting stations, and a café from which diners get a wonderful view of the surrounding country. The café, which sits over the top of the water reservoir, is served by two lifts, each of which carries ten people. In addition, the tower has a spiral staircase.

The entire structure is built from pre-stressed concrete. The top of the mushroom weighs 3,200 tons, and was lifted into position on 29 hydraulic jacks after being constructed on the ground during the building operations.

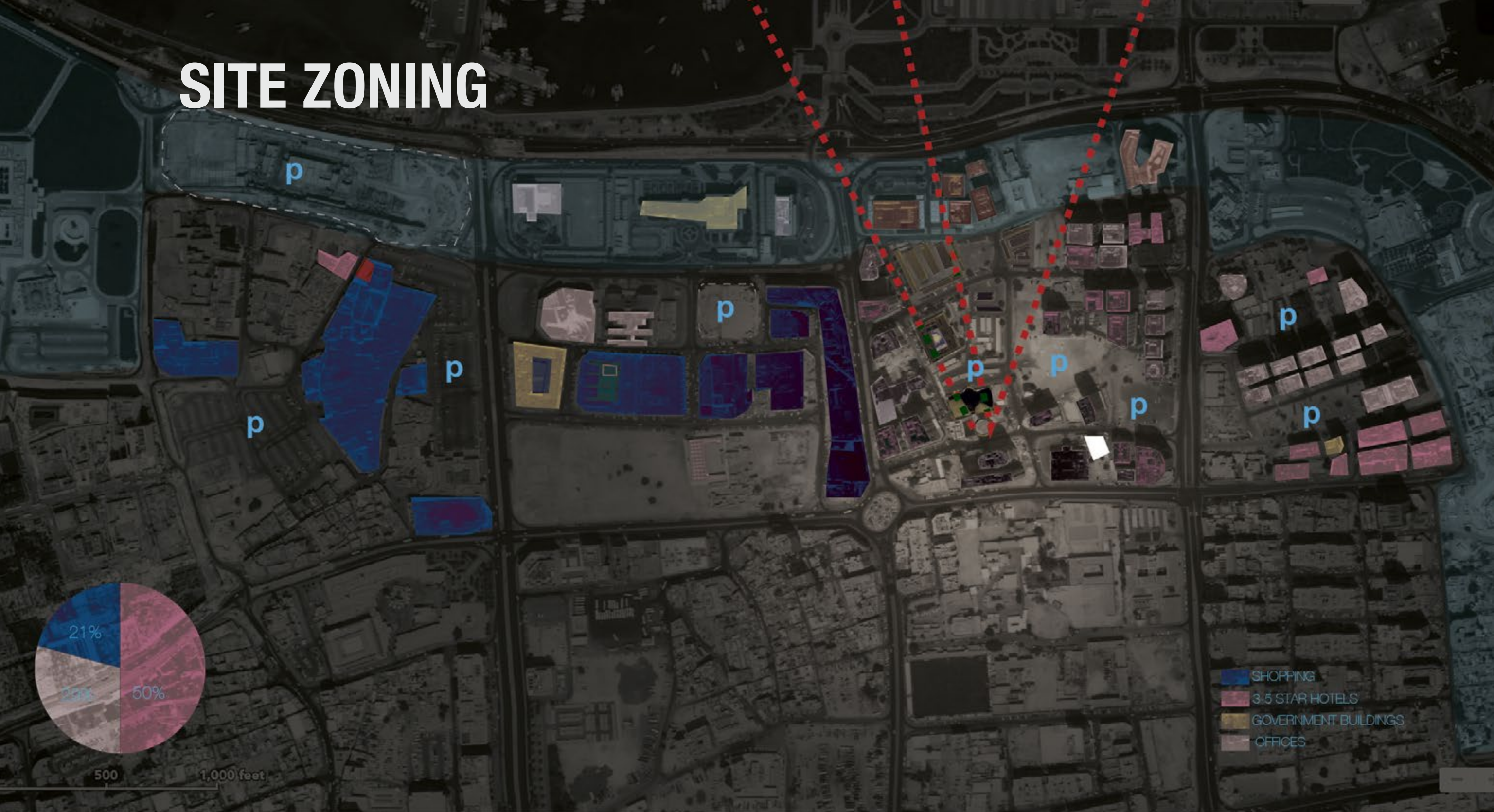
The tower is 190 feet high, has a stem measuring 34 feet across, and is 148 feet in diameter at its widest section near the top. It holds nearly two million gallons of water, and can supply water to the top floor of a ten-storey building.

“Over the years it has given some 8 million people the opportunity to [see Örebro from on high](#). Perhaps, indeed, it is [the most frequently visited water tower in the world](#)! Nowadays you will find a [conference area](#) and [Café Nova with its marvellous views at Svampen](#). And of course the inhabitants of Örebro still obtain their drinking water from the big Svampen reservoir.”

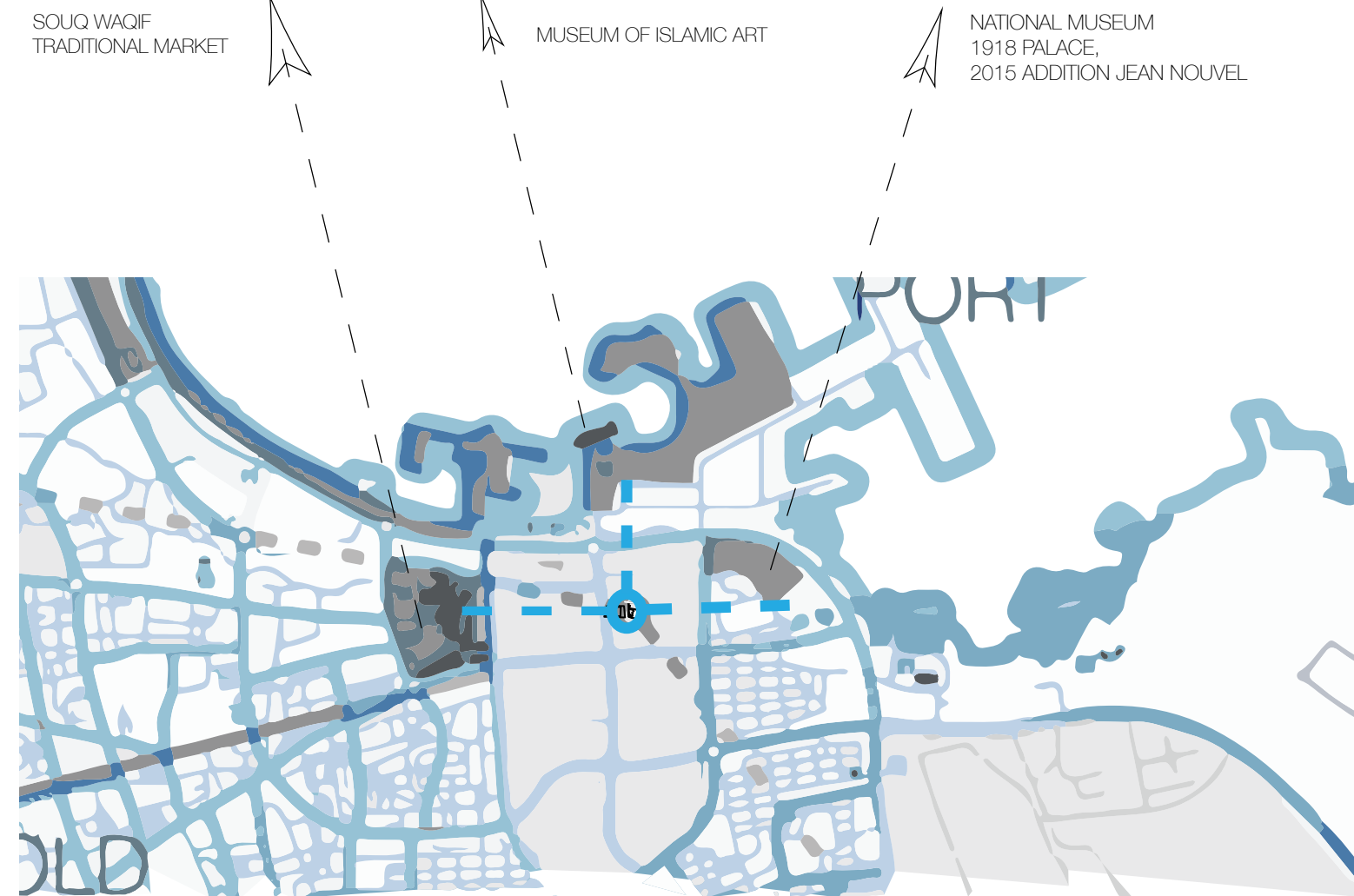
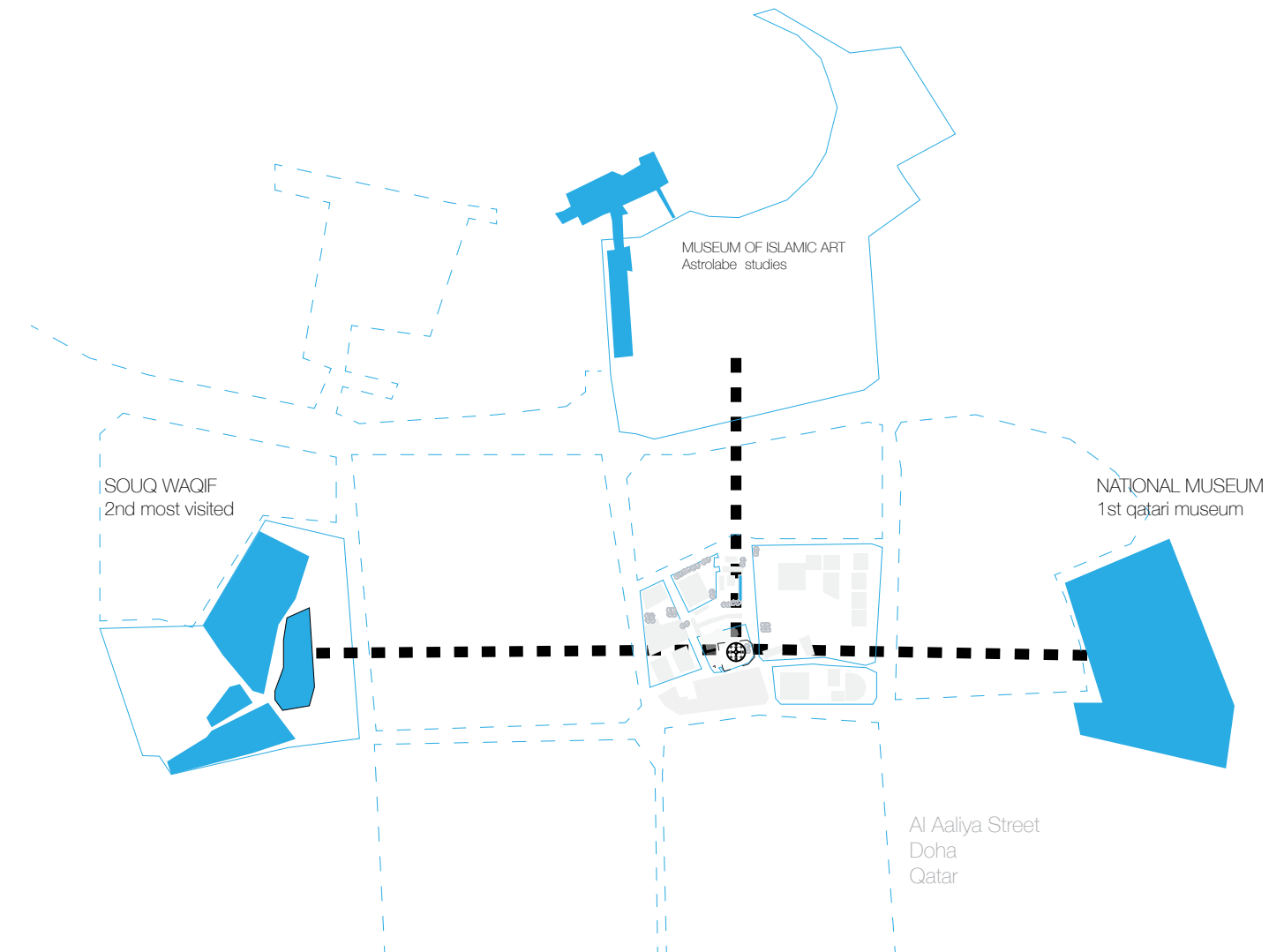
“The [mushroom-shaped](#) concrete water tower of Roihuvuori in Helsinki, Finland was built in the 1977. It is 52 metres (171 ft) high and can hold around 12,000 cubic metres (420,000 cu ft) of water.”

SITE ANALYSIS

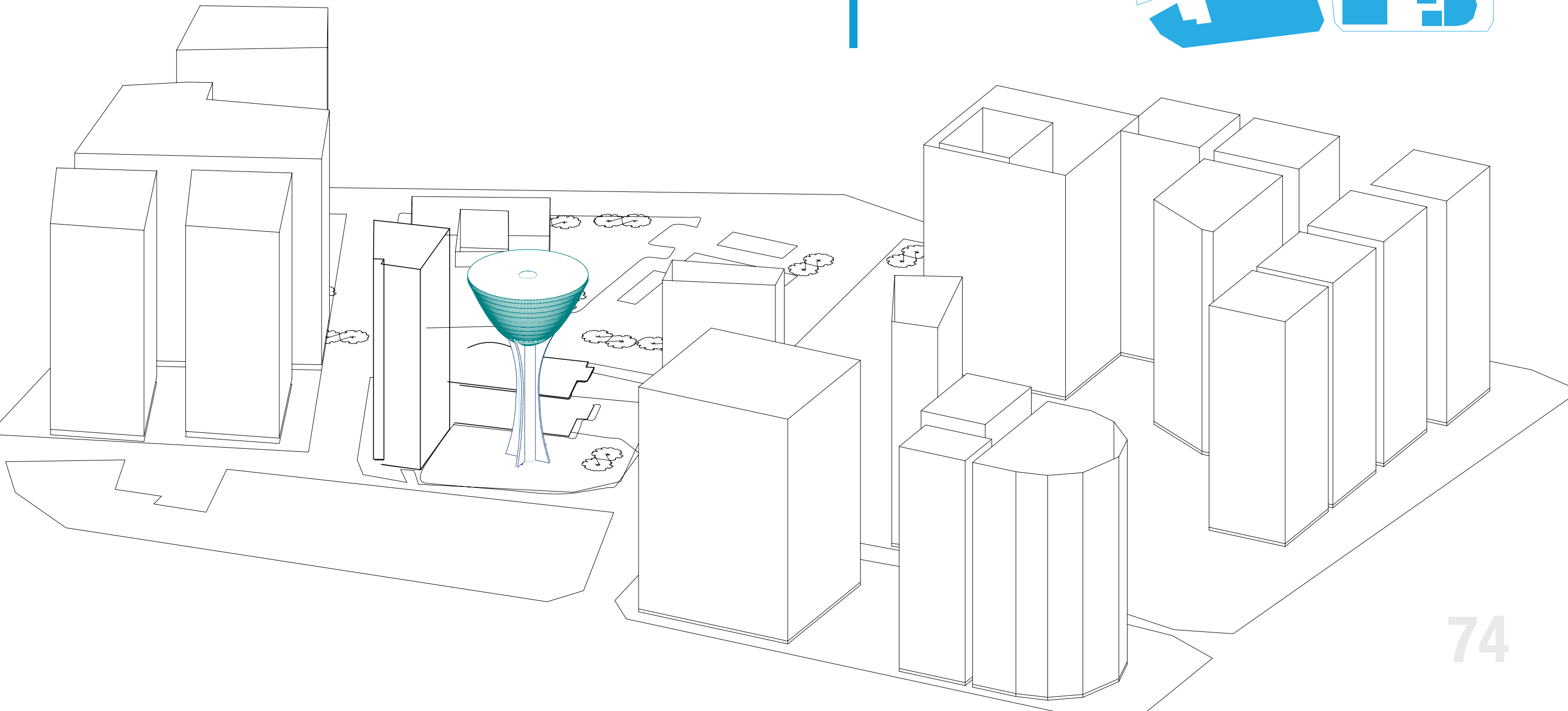
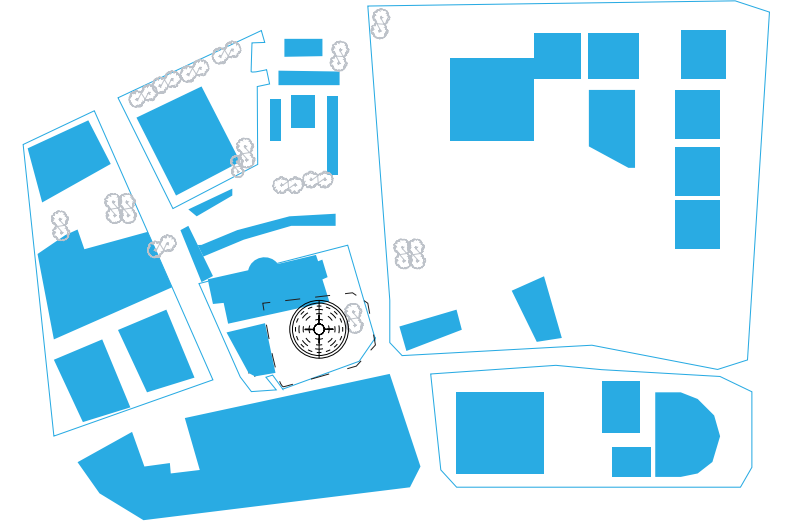
SITE ZONING



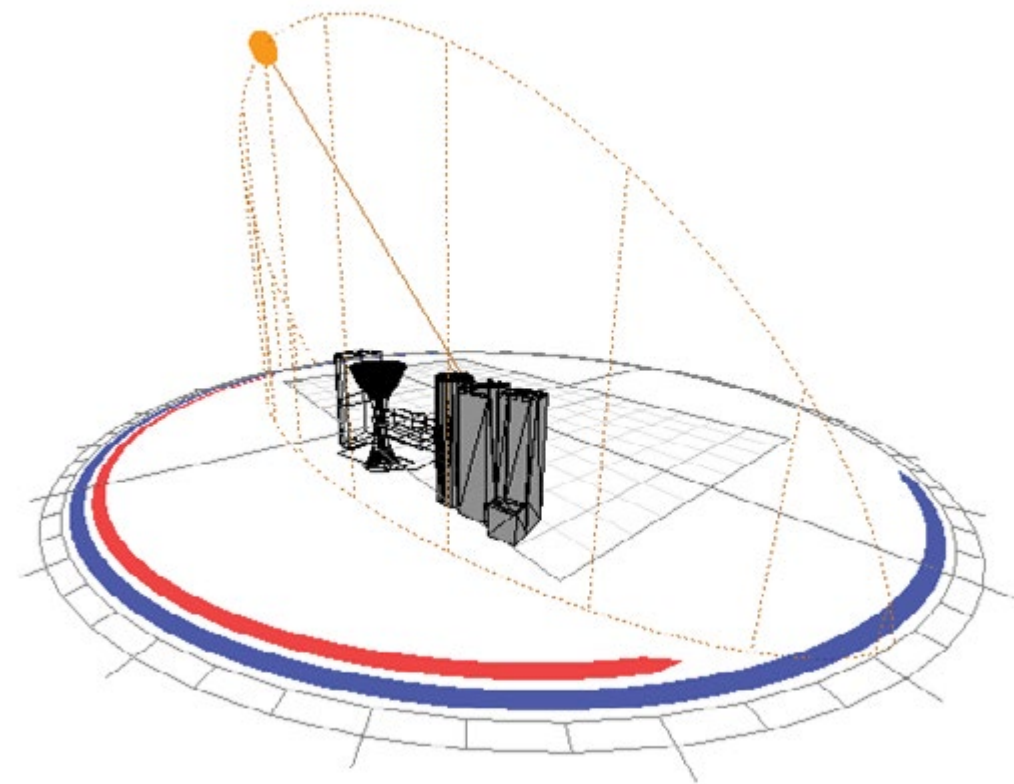
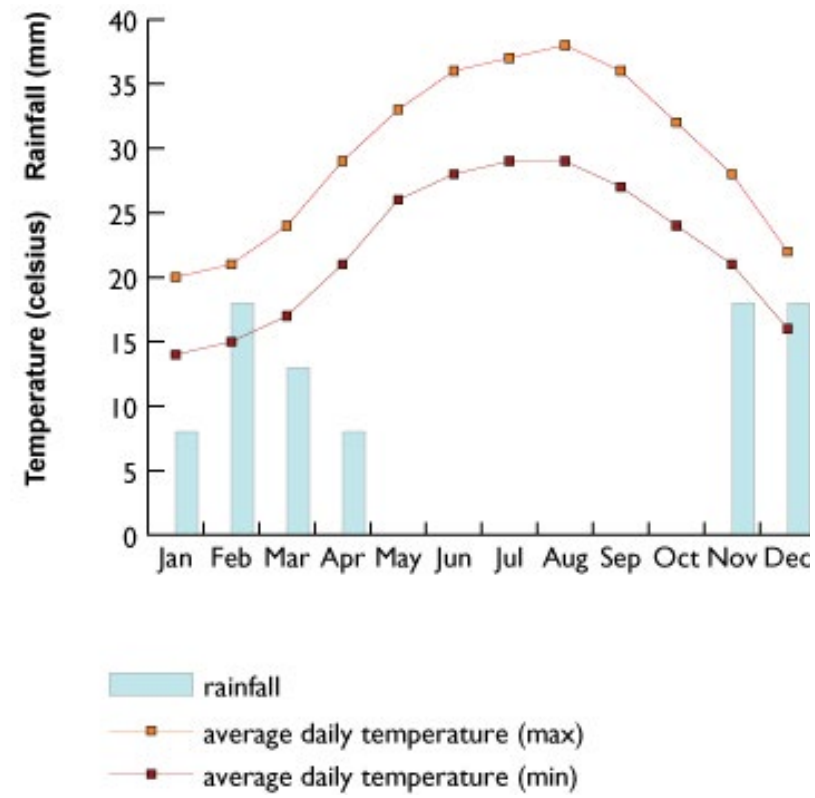
SITE POSITIONING



SITE PLAN



ENVIRONMENT



EXISTING BUILDING CONDITIONS

EXISTING BUILDING CONDITIONS

CONSTRUCTION TYPE:

602.2 Types I and II.
Types I and II construction are those types of construction in which the building elements listed in Table 601 are of noncombustible materials, except as permitted in Section 603 and elsewhere in this code.

SECTION 601 GENERAL

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

| BUILDING ELEMENT | TYPE I | | TYPE II | | TYPE III | | TYPE IV | TYPE V | |
|---|--------------------|------------------|------------------|----------------|------------------|---|---------------------|------------------|---|
| | A | B | A ^d | B | A ^d | B | HT | A ^d | B |
| Primary structural frame ^g (see Section 202) | 3 ^a | 2 ^a | 1 | 0 | 1 | 0 | HT | 1 | 0 |
| Bearing walls | | | | | | | | | |
| Exterior ^{f, g} | 3 | 2 | 1 | 0 | 2 | 2 | 2 | 1 | 0 |
| Interior | 3 ^a | 2 ^a | 1 | 0 | 1 | 0 | 1/HT | 1 | 0 |
| Nonbearing walls and partitions | See Table 602 | | | | | | | | |
| Exterior | | | | | | | | | |
| Nonbearing walls and partitions | | | | | | | See Section 602.4.6 | | |
| Interior ^e | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| Floor construction and associated secondary member (see Section 202) | 2 | 2 | 1 | 0 | 1 | 0 | HT | 1 | 0 |
| Roof construction and associated secondary members (see Section 202) | 1 1/2 ^b | 1 ^{b,c} | 1 ^{b,c} | 0 ^c | 1 ^{b,c} | 0 | HT | 1 ^{b,c} | 0 |

CURRENT OCCUPANCY CLASSIFICATION:

SECTION 312 UTILITY AND MISCELLANEOUS GROUP U
312.1 General.

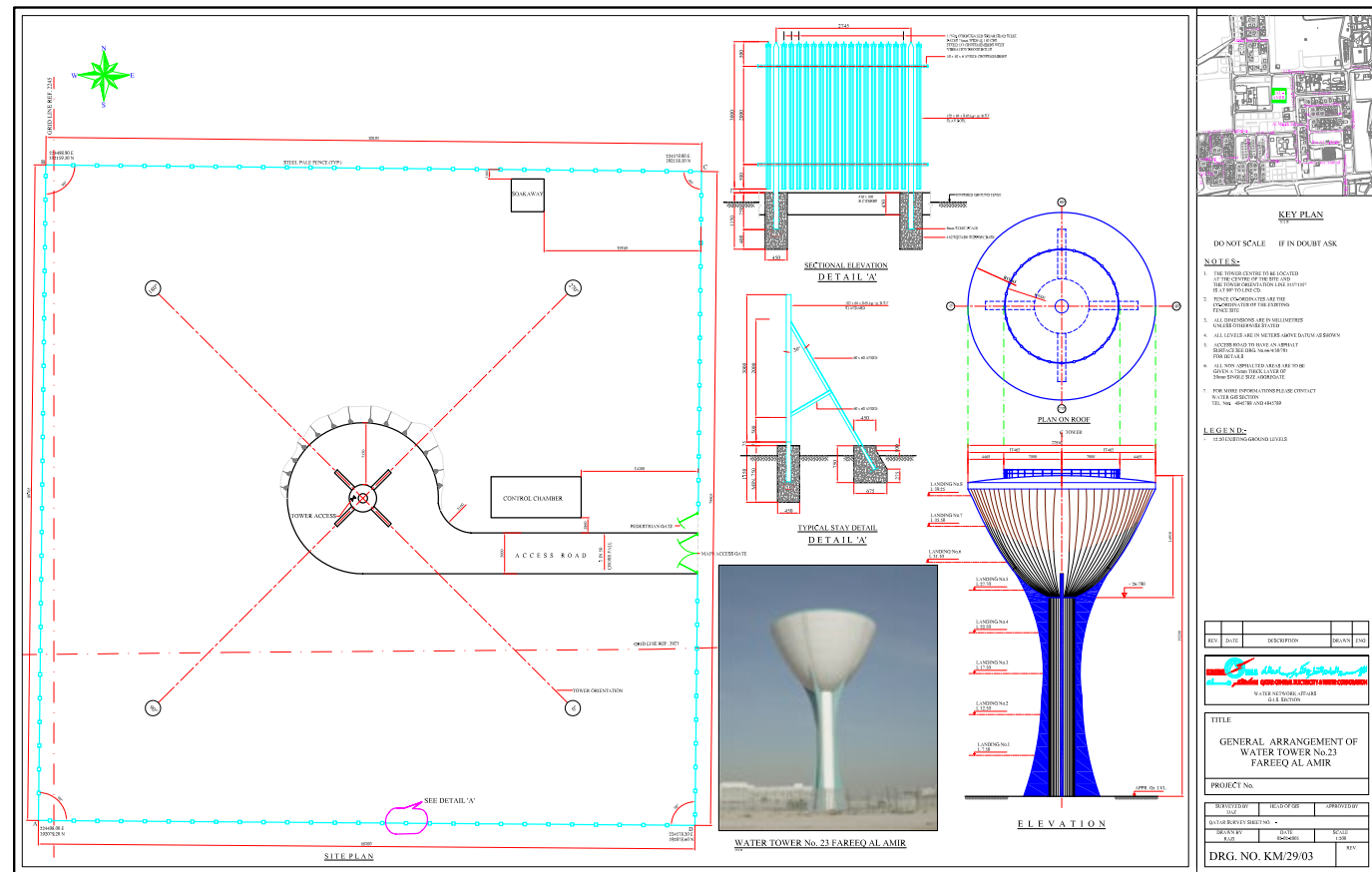
Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

- Agricultural buildings
- Aircraft hangars, accessory to a one- or two-family residence (see Section 412.5)
- Barns
- Carports
- Fences more than 6 feet (1829 mm) in height
- Grain silos, accessory to a residential occupancy
- Greenhouses
- Livestock shelters
- Private garages
- Retaining walls
- Sheds
- Stables
- Tanks
- Towers

TABLE 503—continued ALLOWABLE BUILDING HEIGHTS AND AREAS^{a, b}

| GROUP | | TYPE OF CONSTRUCTION | | | | | | | | |
|-------|---------------|------------------------|--------|---------|--------|----------|--------|---------|--------|--------|
| | | TYPE I | | TYPE II | | TYPE III | | TYPE IV | TYPE V | |
| | | A | B | A | B | A | B | HT | A | B |
| | HEIGHT (feet) | UL | 160 | 65 | 55 | 65 | 55 | 65 | 50 | 40 |
| | | STORIES(S) AREA (A) | | | | | | | | |
| M | S | UL | 11 | 4 | 2 | 4 | 2 | 4 | 3 | 1 |
| | A | UL | UL | 21,500 | 12,500 | 18,500 | 12,500 | 20,500 | 14,000 | 9,000 |
| R-1 | S | UL | 11 | 4 | 4 | 4 | 4 | 4 | 3 | 2 |
| | A | UL | UL | 24,000 | 16,000 | 24,000 | 16,000 | 20,500 | 12,000 | 7,000 |
| R-2 | S | UL | 11 | 4 | 4 | 4 | 4 | 4 | 3 | 2 |
| | A | UL | UL | 24,000 | 16,000 | 24,000 | 16,000 | 20,500 | 12,000 | 7,000 |
| R-3 | S | UL | 11 | 4 | 4 | 4 | 4 | 4 | 3 | 3 |
| | A | UL | UL | UL | UL | UL | UL | UL | UL | UL |
| R-4 | S | UL | 11 | 4 | 4 | 4 | 4 | 4 | 3 | 2 |
| | A | UL | UL | 24,000 | 16,000 | 24,000 | 16,000 | 20,500 | 12,000 | 7,000 |
| S-1 | S | UL | 11 | 4 | 2 | 3 | 2 | 4 | 3 | 1 |
| | A | UL | 48,000 | 26,000 | 17,500 | 26,000 | 17,500 | 25,500 | 14,000 | 9,000 |
| S-2 | S | UL | 11 | 5 | 3 | 4 | 3 | 5 | 4 | 2 |
| | A | UL | 79,000 | 39,000 | 26,000 | 39,000 | 26,000 | 38,500 | 21,000 | 13,500 |
| U | S | UL | 5 | 4 | 2 | 3 | 2 | 4 | 2 | 1 |
| | A | UL | 35,500 | 19,000 | 8,500 | 14,000 | 8,500 | 18,000 | 9,000 | 5,500 |

1979 CONSTRUCTION

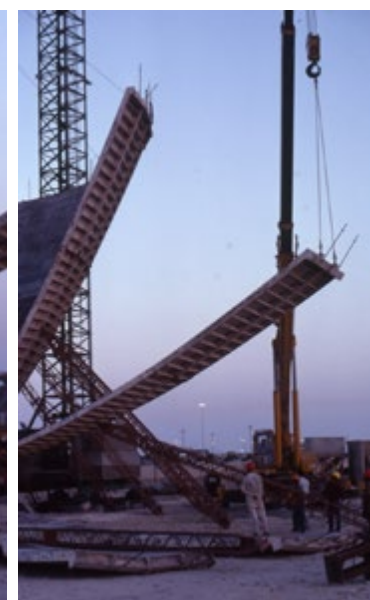


Brown, Jill. Constr-001, Water Tower Construction. Oxford: St. Antony's College, Middle East Centre Archive. Print

Brown, Jill. Constr-002, Building Water Tower. Oxford: St. Antony's College, Middle East Centre Archive. May 1979. Print

Brown, Jill. Constr-003, water tower construction. Oxford: St. Antony's College, Middle East Centre Archive. May 1979. Print

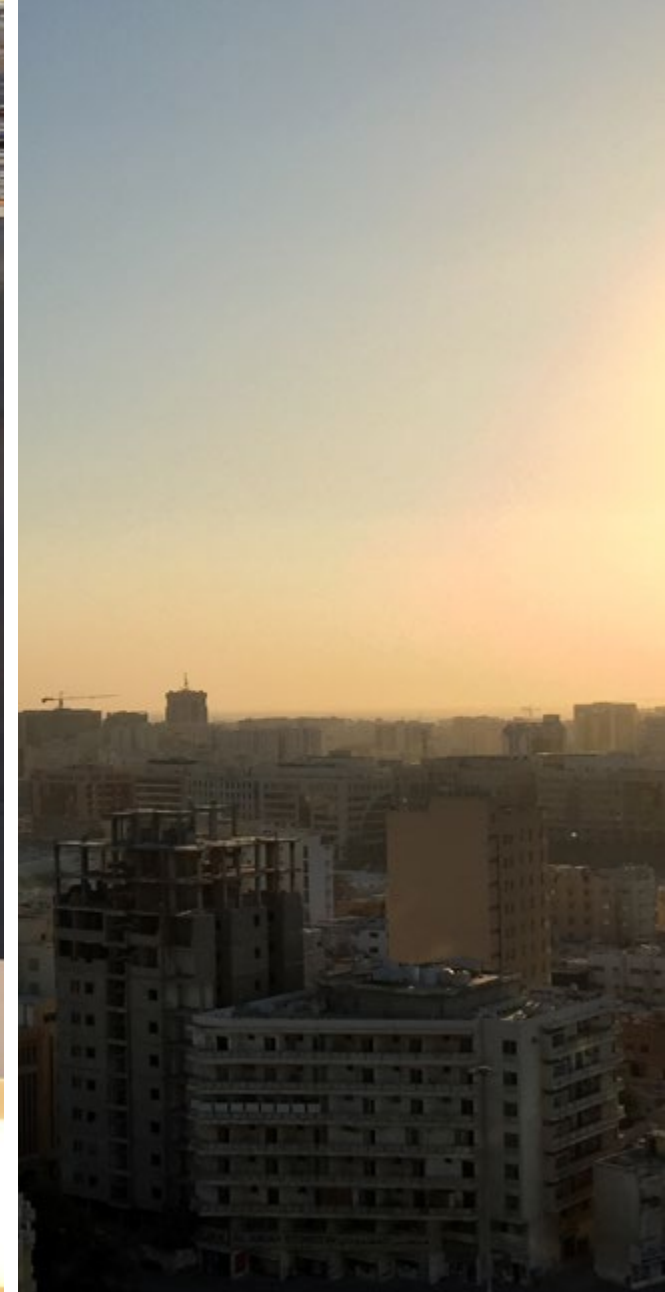
Brown, Jill. Constr-004, water tower construction. Oxford: St. Antony's College, Middle East Centre Archive. May 1979. Print



By Jill Brown (1942-2011) a photographer and photojournalist. These photographs are from her time in Qatar in the late 1970s and early 1980s.

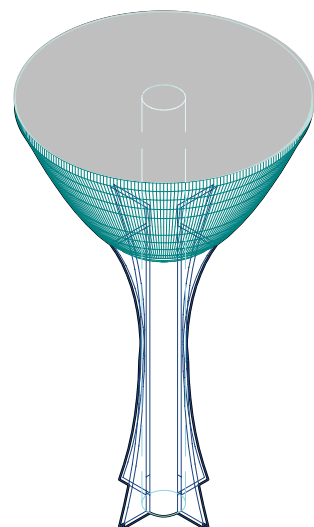
They show the cast in place construction of the towers.

TOP VIEW



View from top of building adjacent to tower, showing the sight lines of the tower over looking the new skyline, promenade, and open water.

The heights of building surrounding area vary however the sight lines are clear with lower government buildings and parking lots



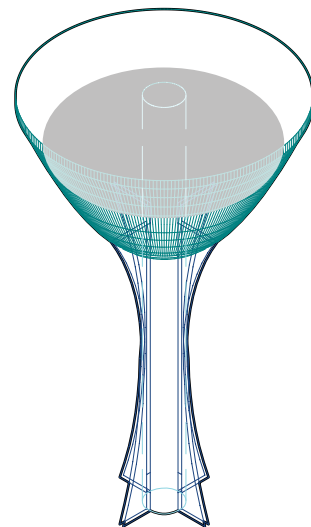
Top of the water tower is inclosed with a hatch for the central core, there is a fence around the allowable area as shown in plans and elevations.

From the 11th floor one could see the top of the tower on eye level

9TH FLOOR



From 9th floor one can see the entirety of the tank at eye level, looking down one can see the concrete floor and full ground site.



OVERALL VIEW



1



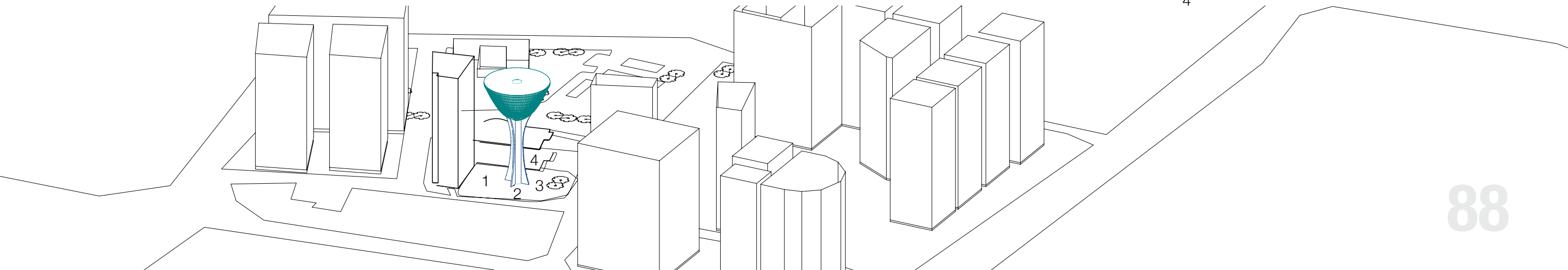
2



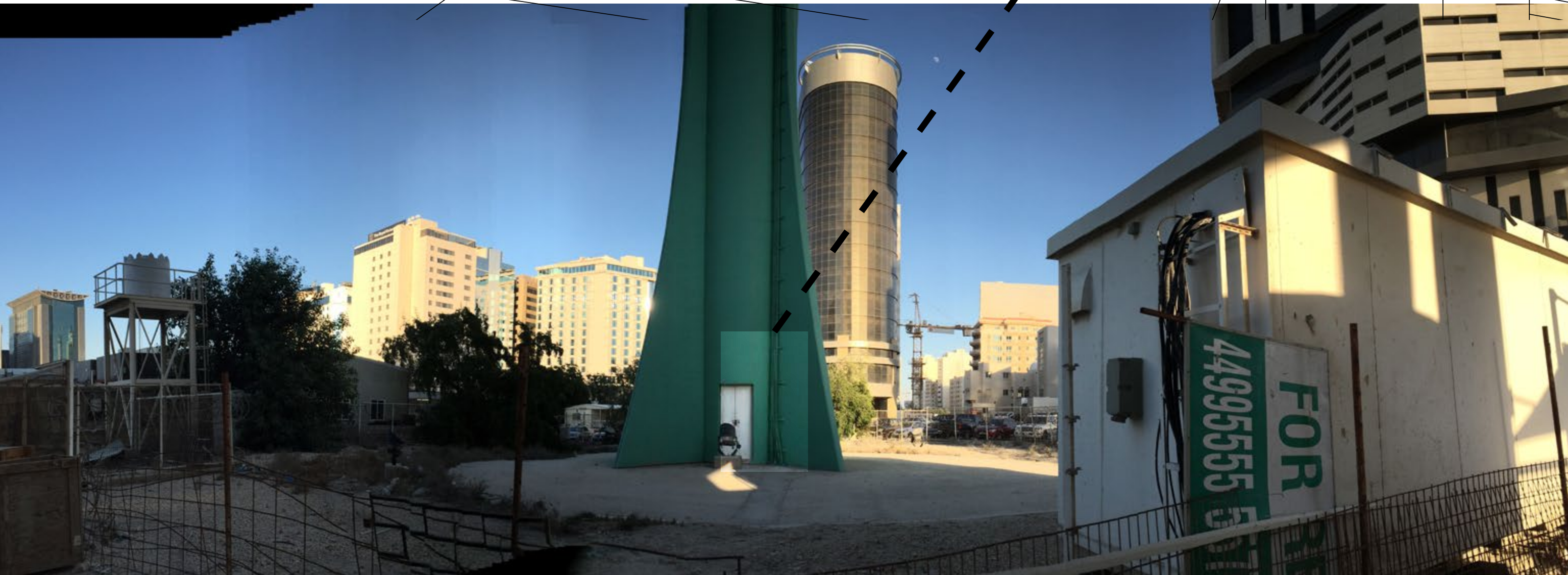
3



4



DOOR AND GROUND

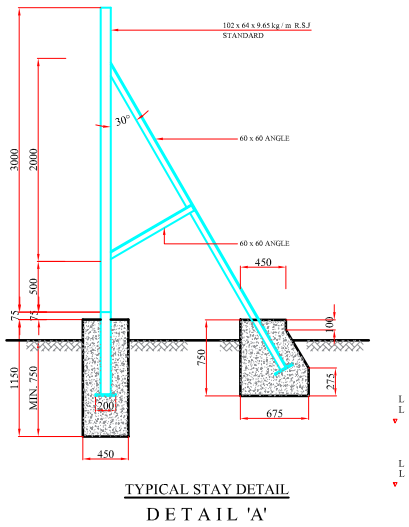
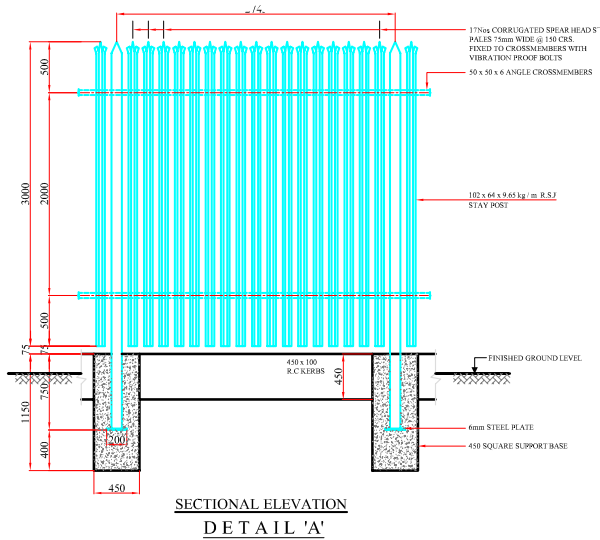
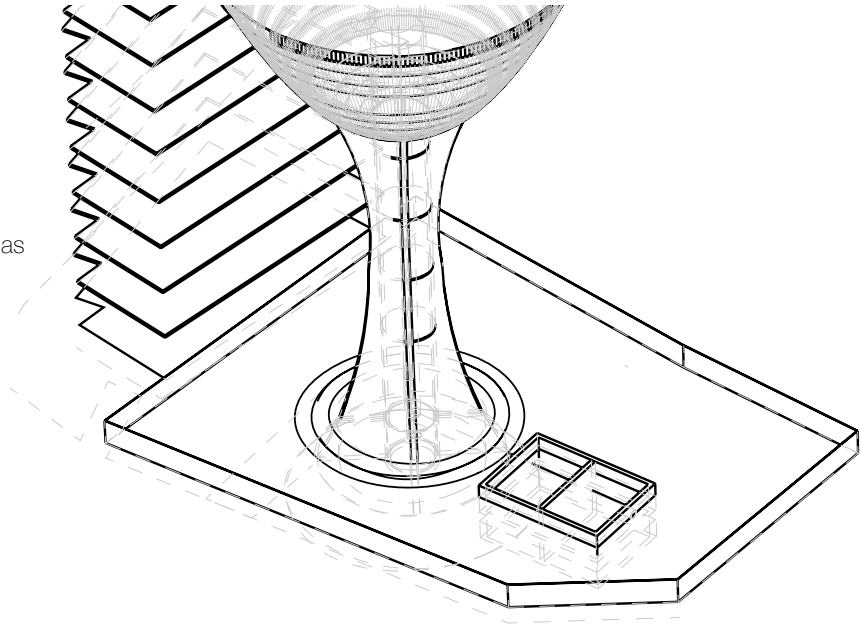


FENCE



The fence was specifically design for all the towers as detailed in the drawings.

The tower is name the museum water tower to its location close to the museum of islamic art.



MAIN PUMP

The images show the main pump with water pipes going into the tower from underground.



BUILDING ANALYSIS

BUILDING FOOTAGE

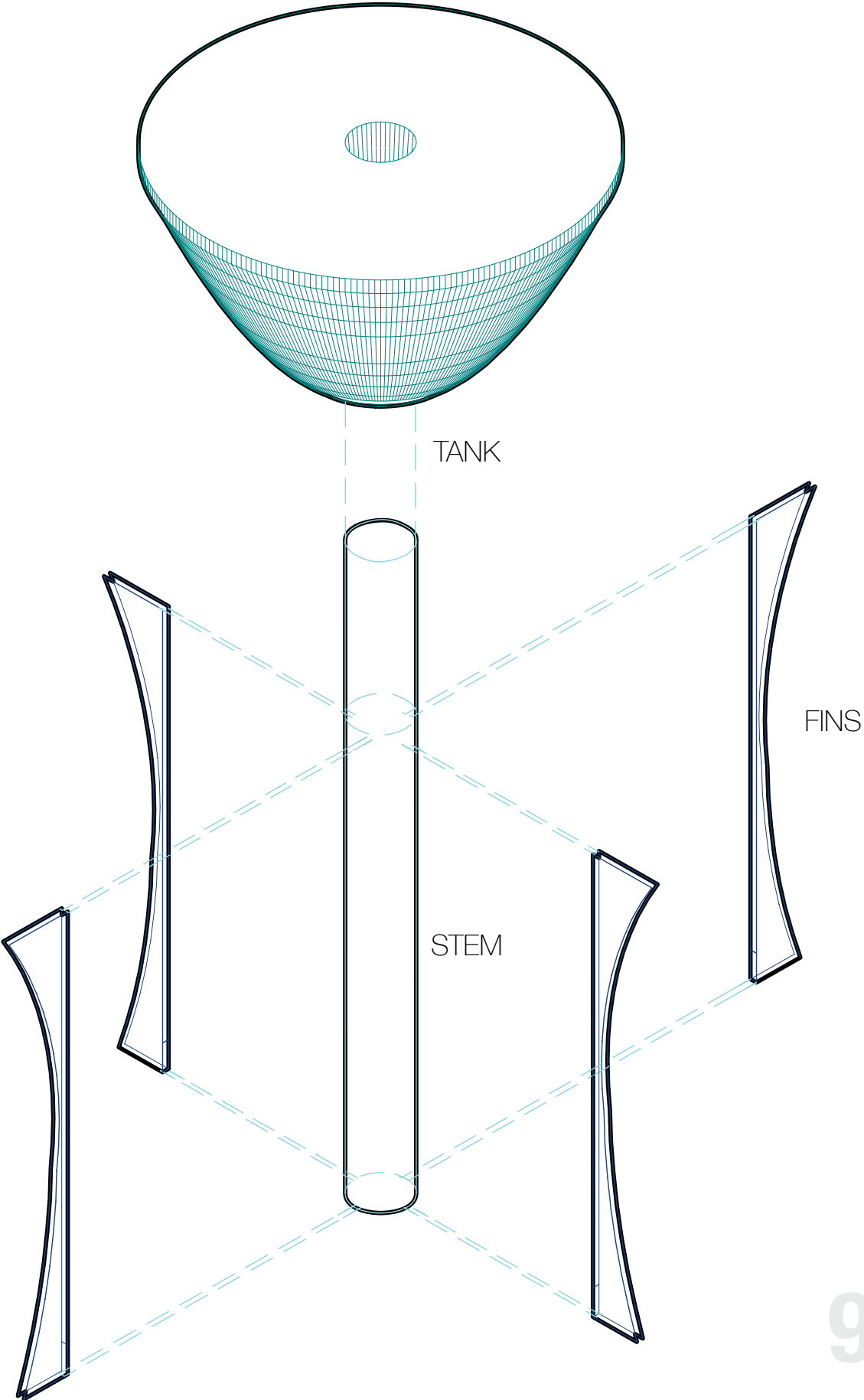
| GROSS SQUARE FEET | NET USABLE SQUARE FEET | NET STRUCTURAL SQUARE FEET | |
|-------------------|------------------------|----------------------------|---------|
| | 7,443.46 | 188.53 | 7631.99 |

| NET USABLE SQUARE FEET | NET ASSIGNABLE SQUARE FEET | NET NONASSIGNABLE SQUARE FEET | |
|------------------------|----------------------------|-------------------------------|----------|
| | 6870.88 | 572.58 | 7,443.46 |

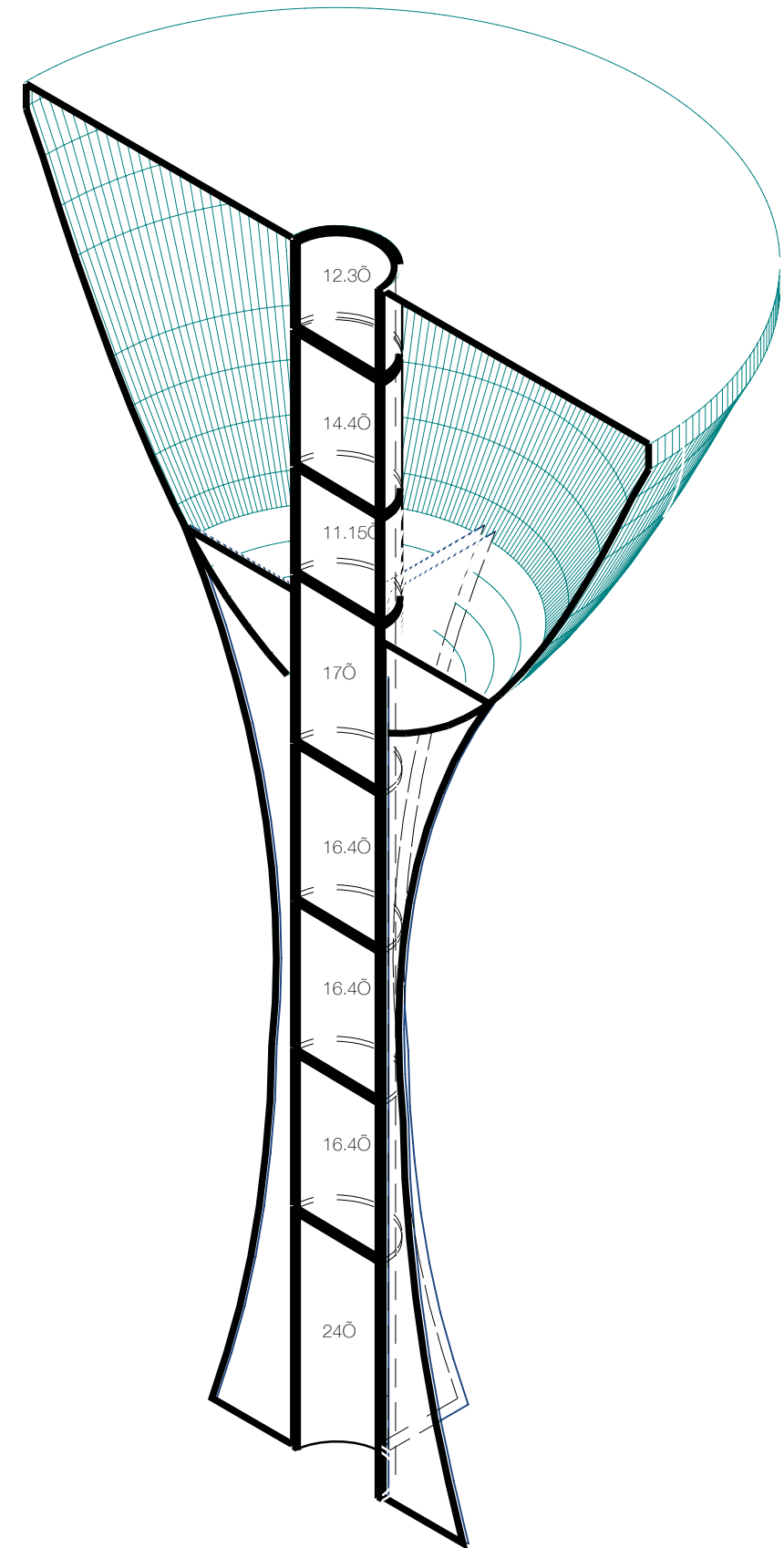
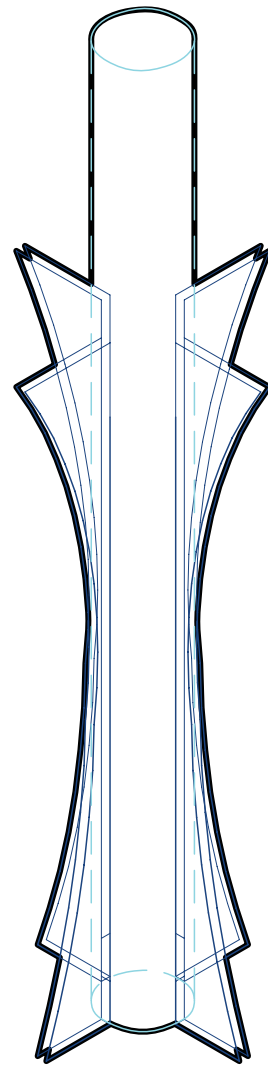
| NET ASSIGNABLE SQUARE FEET | level 1 | level 2 | level 3 | level 4 | level 5 | |
|----------------------------|---------|---------|---------|---------|---------|---------|
| STEM FLOORS | | | | | | 0 |
| TANK FLOORS | 1167.96 | 2251.96 | 3450.96 | | | 6870.88 |
| UNDERGROUND | | | | | | 0 |
| | | | | | | 6870.88 |

| NET NONASSIGNABLE SQUARE FEET | level 1 | level 2 | level 3 | level 4 | level 5 | |
|-------------------------------|---------|---------|---------|---------|---------|--------|
| STEM FLOORS | 63.62 | 63.62 | 63.62 | 63.62 | 63.62 | 318.1 |
| TANK FLOORS | 63.62 | 63.62 | 63.62 | | | 190.86 |
| UNDERGROUND | 63.62 | | | | | 63.62 |
| | | | | | | 572.58 |

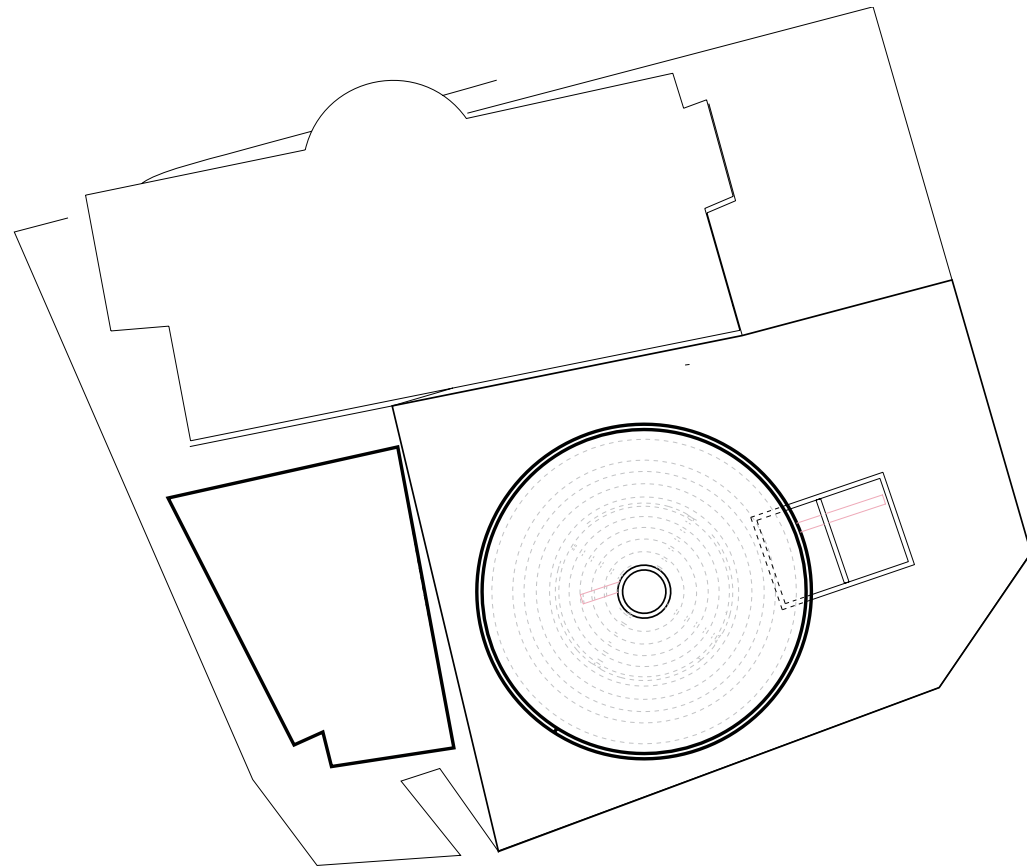
| AREA OF SITE GROUNDS A | REA OF TANK A | REA OF STEM | |
|------------------------|---------------|-------------|--|
| 10135 | 13254 | 3872 | |



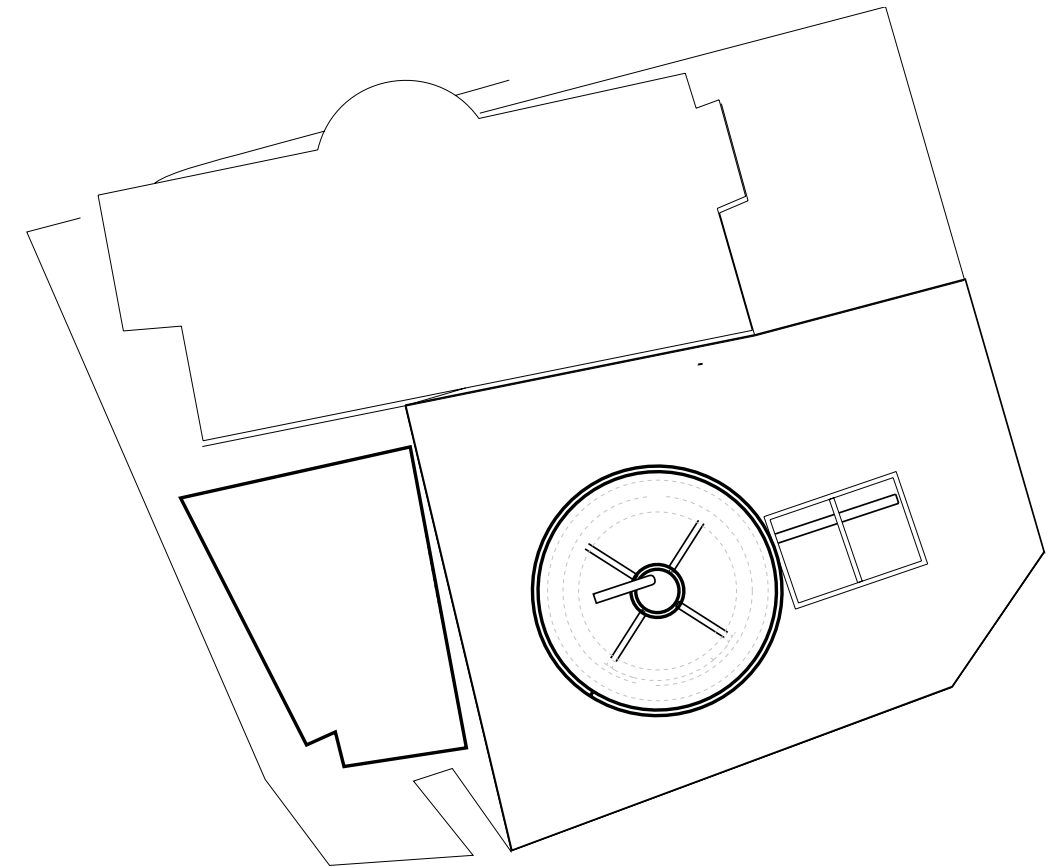
A technical drawing of a hyperboloid of one sheet, a surface of revolution. The drawing shows the surface from a perspective view, highlighting its hyperbolic cross-sections. A central cylindrical void is visible, representing the hole through the center of the surface. The surface is defined by a grid of lines, and the central void is outlined by a dashed line. The drawing is rendered in a light blue color on a white background.



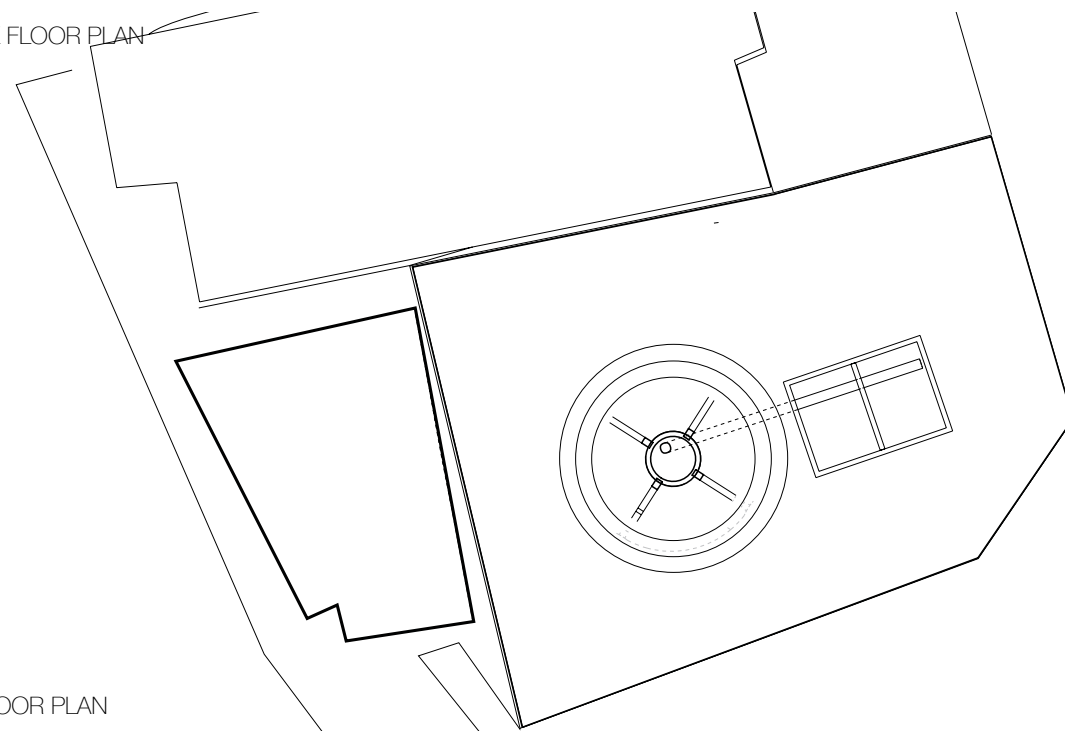
FLOOR PLANS



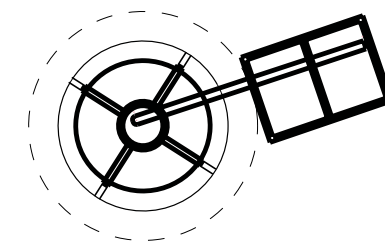
TOP OF TANK FLOOR PLAN



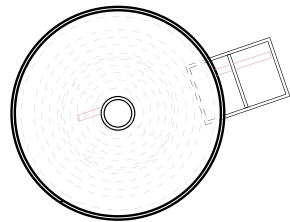
MID TANK FLOOR PLAN



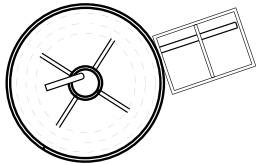
MID STEM FLOOR PLAN



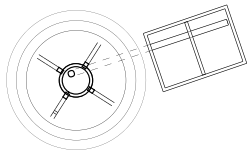
FOOTING FLOOR PLAN



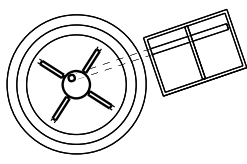
TOP OF TANK FLOOR PLAN



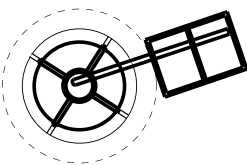
MID TANK FLOOR PLAN



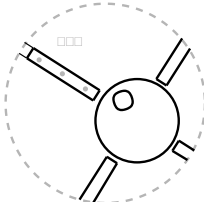
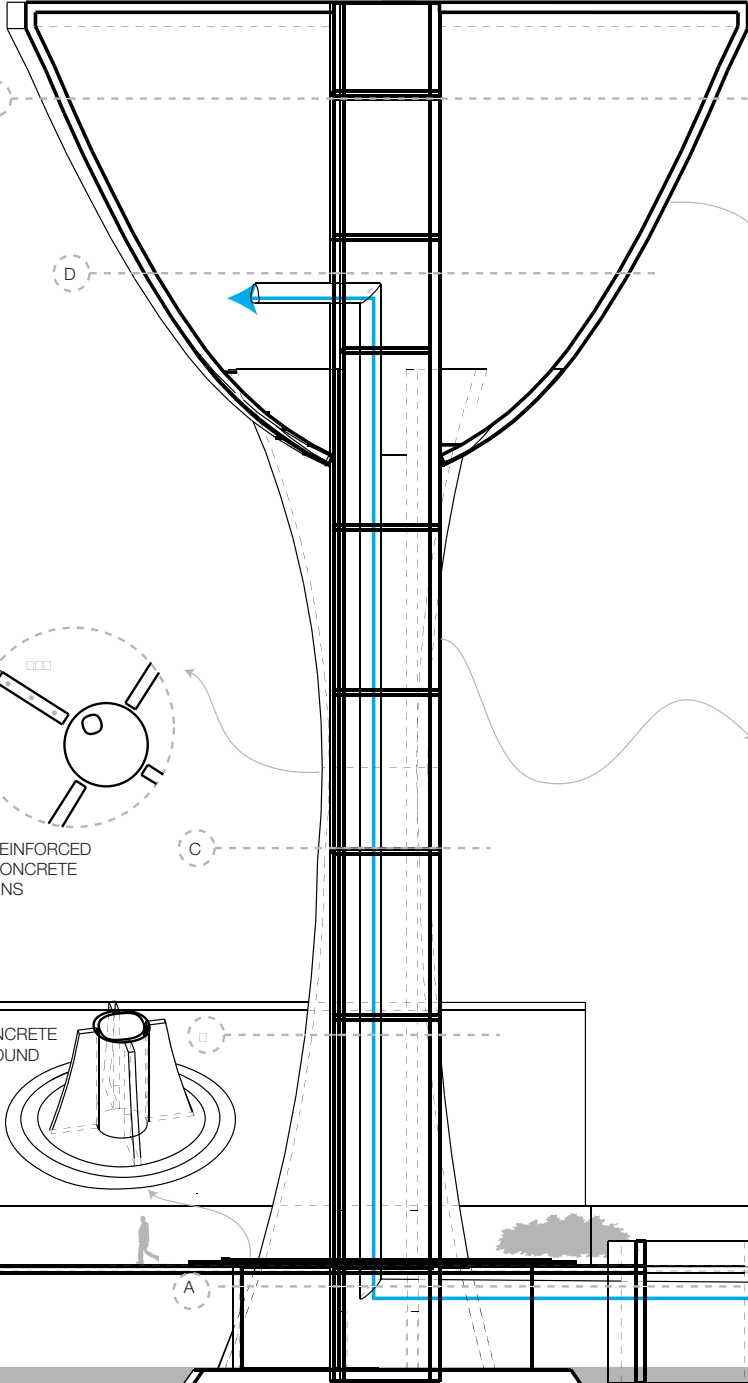
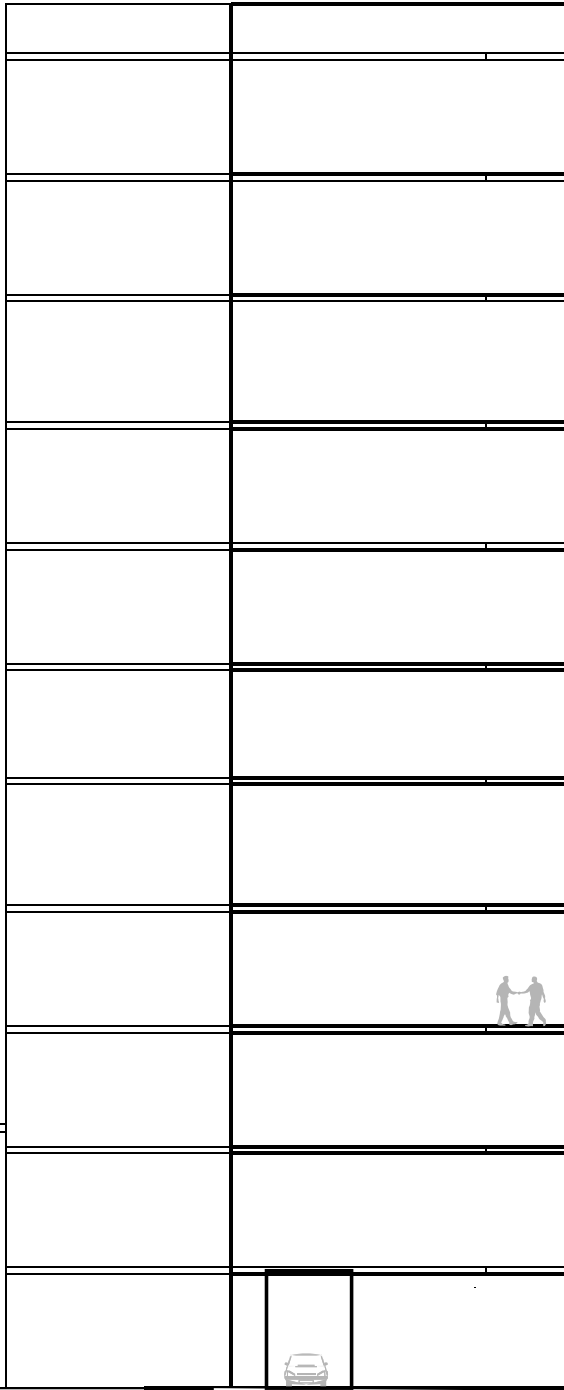
MID OF STEM FLOOR PLAN



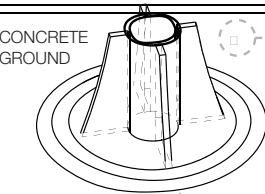
GROUND FLOOR PLAN



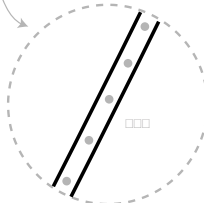
FOOTING PLAN



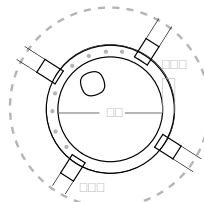
REINFORCED
CONCRETE
FINS



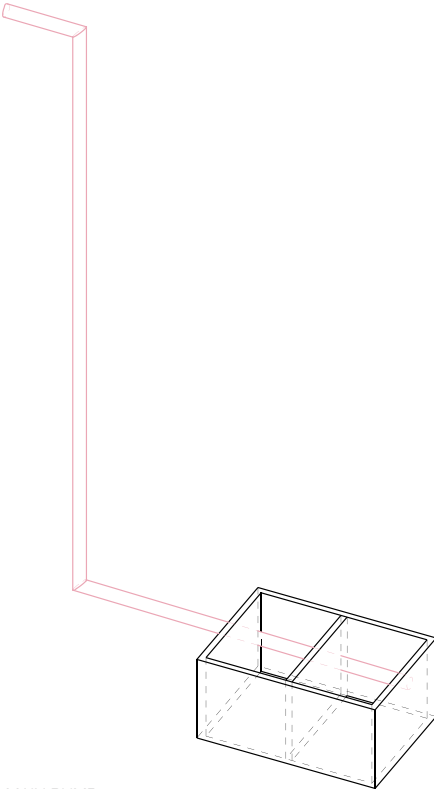
CONCRETE
GROUND



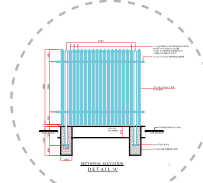
REINFORCED
CONCRETE
S ELL



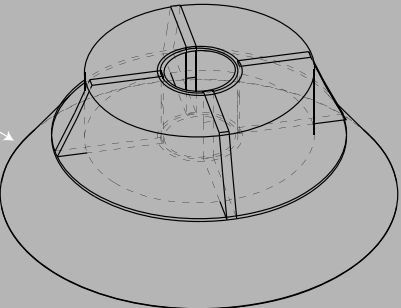
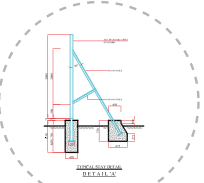
REINFORCED
CONCRETE
S ELL



MAIN PUMP
REINFORCED CONCRETE
WATER ACCESS PIPE



STEEL FENCE
DETAIL



WATER TOWER

PRECEDENT

The most important ingredient for the experience of the space is the use of light. By “rings of light” between old and new walls; led spots in the floors which, like little stars, seem to bring you into another dimension or indirect lightening, each space gets another color nuance and pronounced environment. Exciting in the stair case, intimate in the meditation rooms, serene in the water tank. ¹

ANALYSIS

The intervention on water tower had been well documented, since there is vast difference between the occupational needs of water and people.

However there are many ways of approaching this typology of intervention. In this brick water tower they've inserted a contrasting white clean industrial looking structure to define the space with a central stair and moments of pause to always remind you that you are in a brick water tower.



MEDITATION IN THE
WATERTOWER, DELFT, THE
NETHERLANDS.

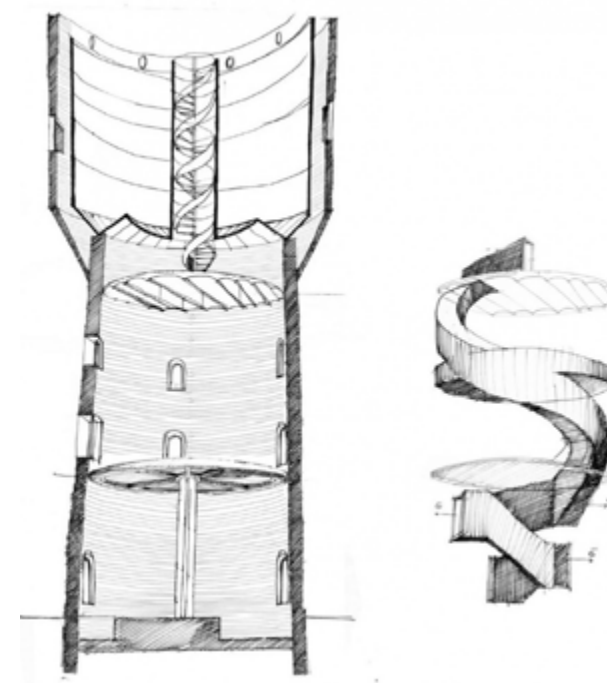
DATE
Built in 1895

ASSOCIATED NAMES
Rocha Tombal Architects

BUILDING TYPE
Public/cultural, meditation

BUILDING USAGE
Meditation/ public sculpture

DIMENSIONS
Gross floor area sqm: Ca 400 sqm



¹ <http://www.archdaily.com/238588/watertower-rocha-tombal-architects/>

**SITE SPECIFIC
DESIGN
SOLUTION:
PUBLIC SPECTACLE**

Full Definition of **SPECTACLE**

1

a : something exhibited to view as unusual, notable, or entertaining; especially : an eye-catching or **dramatic public display**

b : an **object of curiosity** or contempt

*In general, spectacle refers to an event that is memorable for the appearance it creates. Derived in Middle English from c. 1340 as “**specially prepared or arranged display**” it was borrowed from Old French spectacle, itself a reflection of the Latin spectaculum “**a show**” from spectare “**to view, watch**” frequentative form of specere “**to look at.**”[1] The word spectacle has also been a term of art in theater dating from the 17th century in English drama.*



PUBLIC SPECTACLE PRECEDENT

Boullée promoted the idea of making architecture expressive of its purpose, a doctrine that his detractors termed *architecture parlante* ("talking architecture"), which was an essential element in Beaux-Arts architectural training in the later 19th century. His style was most notably exemplified in his proposal for a cenotaph for the English scientist Isaac Newton. Though the structure was never built, its design was engraved and circulated widely in professional circles. The small sarcophagus for Newton is placed at the lower pole of the sphere. The design of the memorial creates the effect of day and night. The night effect occurs when the sarcophagus is illuminated by the sunlight coming through the holes in the vaulting. This gives the illusion of stars in the night sky. The day effect is an armillary sphere hanging in the center that gives off a mysterious glow.¹

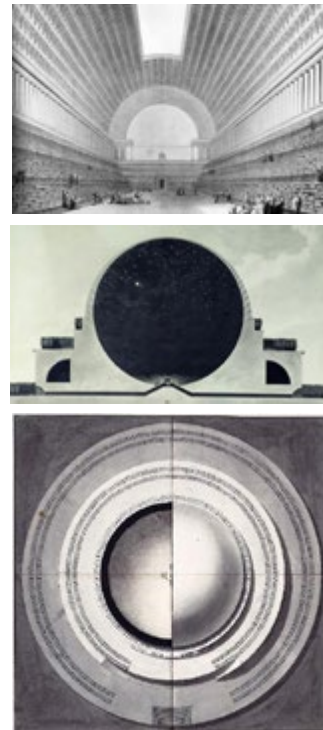
DATE
1784-5

ASSOCIATED NAMES
Etienne-Louis Boullée

BUILDING TYPE
Imaginary cenotaph (empty tomb)

BUILDING USAGE
Public space/ connector

DIMENSIONS
500ft

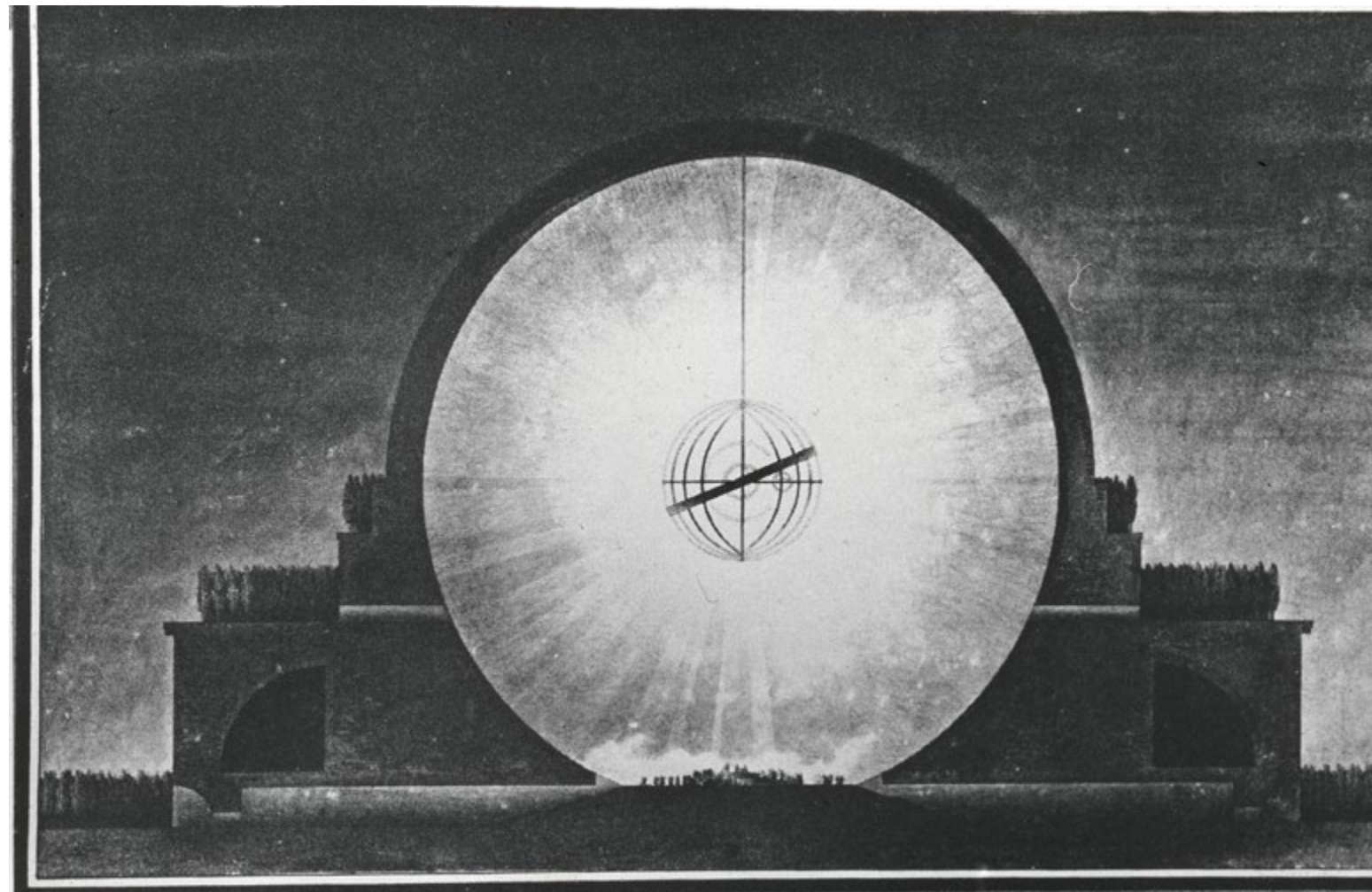
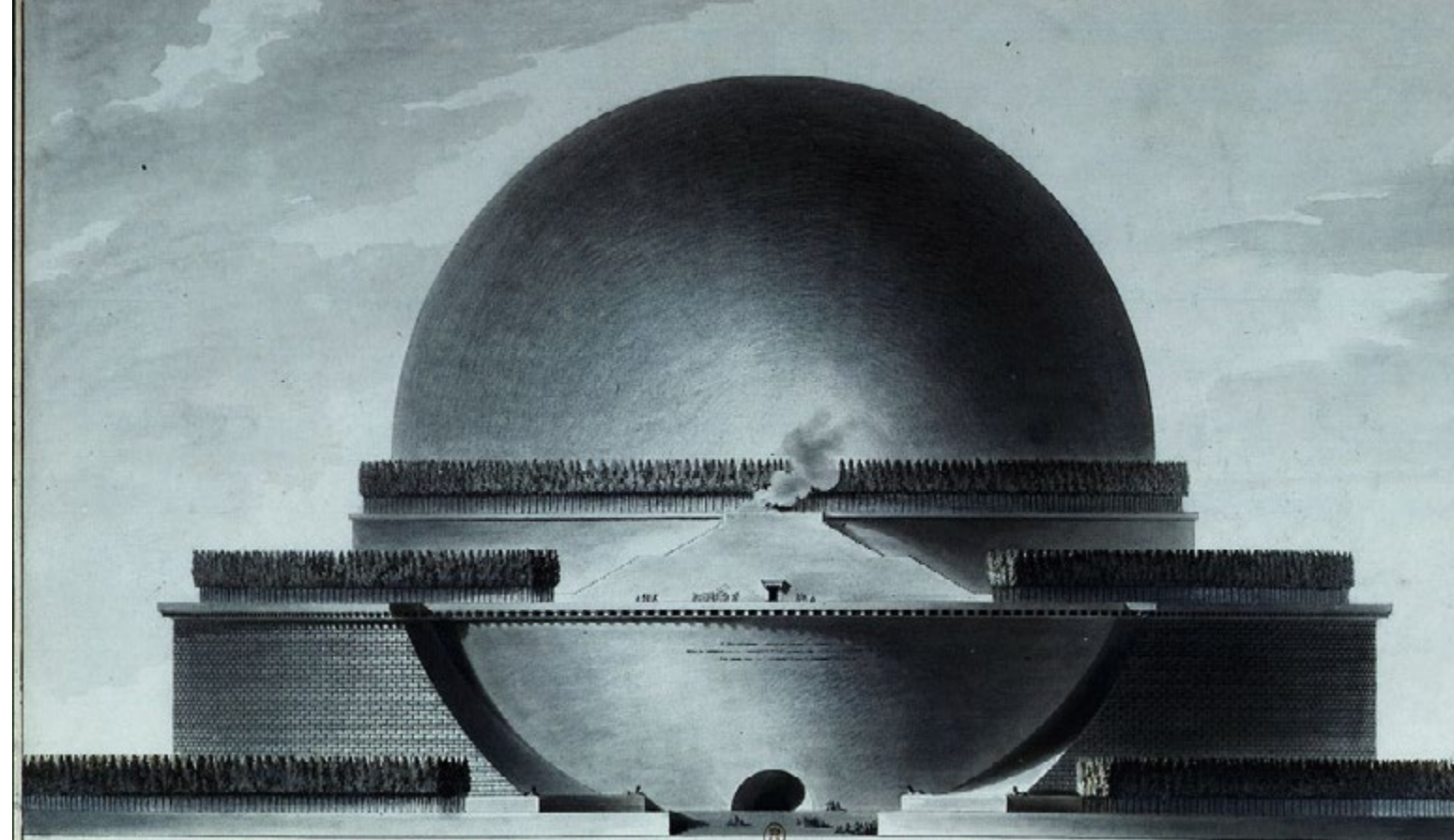


Source gallica.bnf.fr / Bibliothèque nationale de France

ANALYSIS:

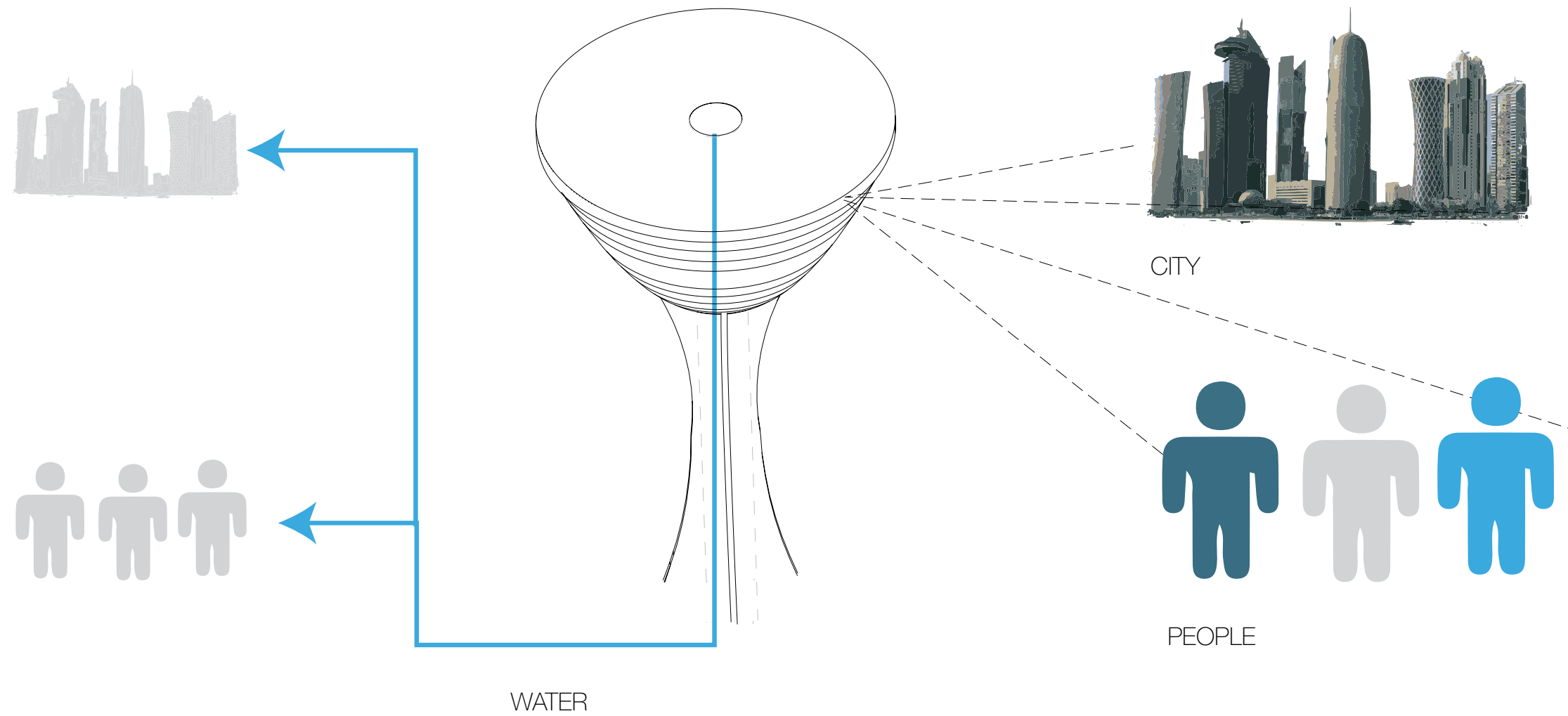
This unrealized design of Newton's empty tomb is a tribute and icon, created simply through grandeur. Working with symbolism and iconography to highlight, express a monument in time, an issue is a very strong and interesting approach.

This always brings up the question of what can architecture really effect, in creating change, when we move from the basic need for shelter (architectural function) to symbolism of power/knowledge etc.



¹ http://monoskop.org/Etienne-Louis_Boullée
<http://gallica.bnf.fr/ark:/12148/btv1b7701015b.r=Boullée%2C+Etienne-Louis.langFR>

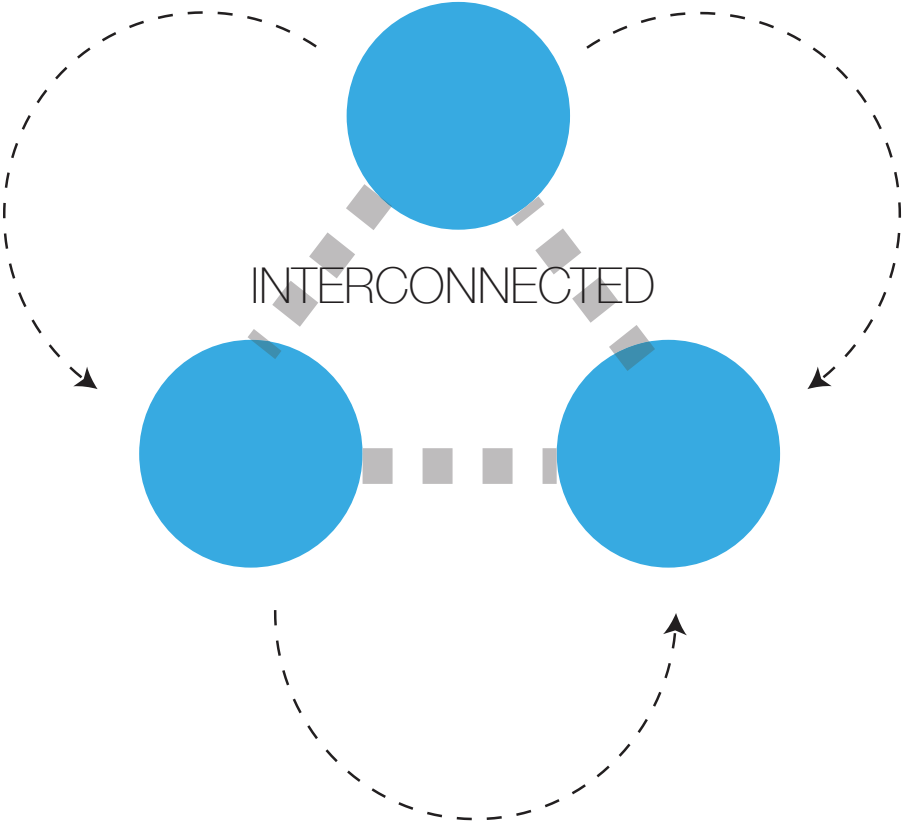
FUNCTION



OB~~SO~~LETE FUNCTION
BRING WATER TO THE PEOPLE AND CITY

REACTIVATING FUNCTION
BRING THE CITY AND PEOPLE TO THE TOWER

CONSTANT MOVEMENT



NON- HIERARCHAL

EXCHANGE

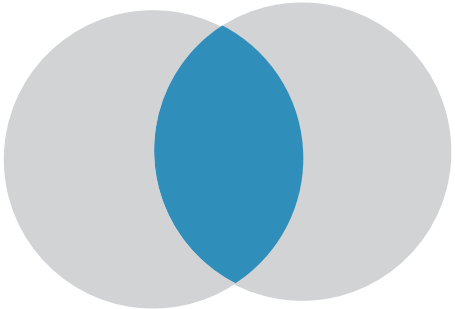
PUBLIC SPACE:



MEETING STRANGERS



ACCESS



COMMON GOOD

MAPPING THE CITY



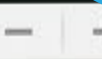
OLD CITY VIEW

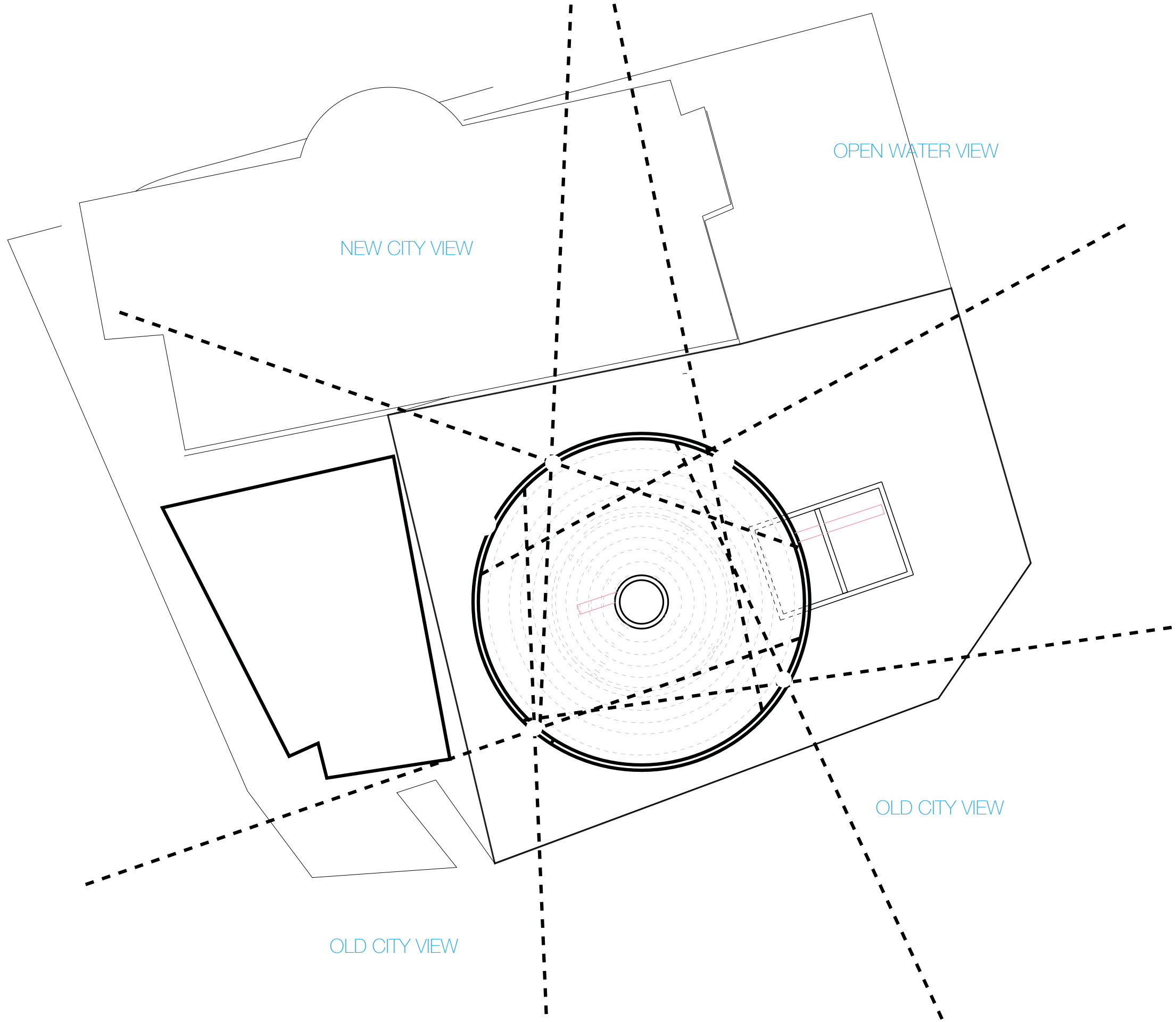
NEW CITY VIEW

OPEN WATER VIEW

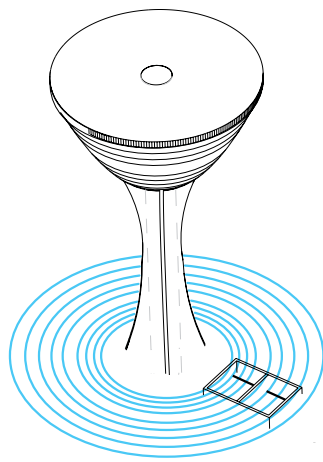
OLD CITY VIEW

miles

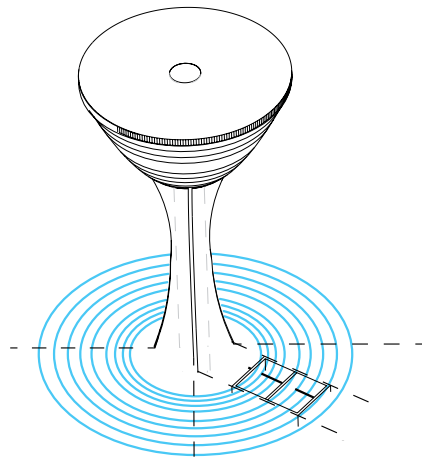




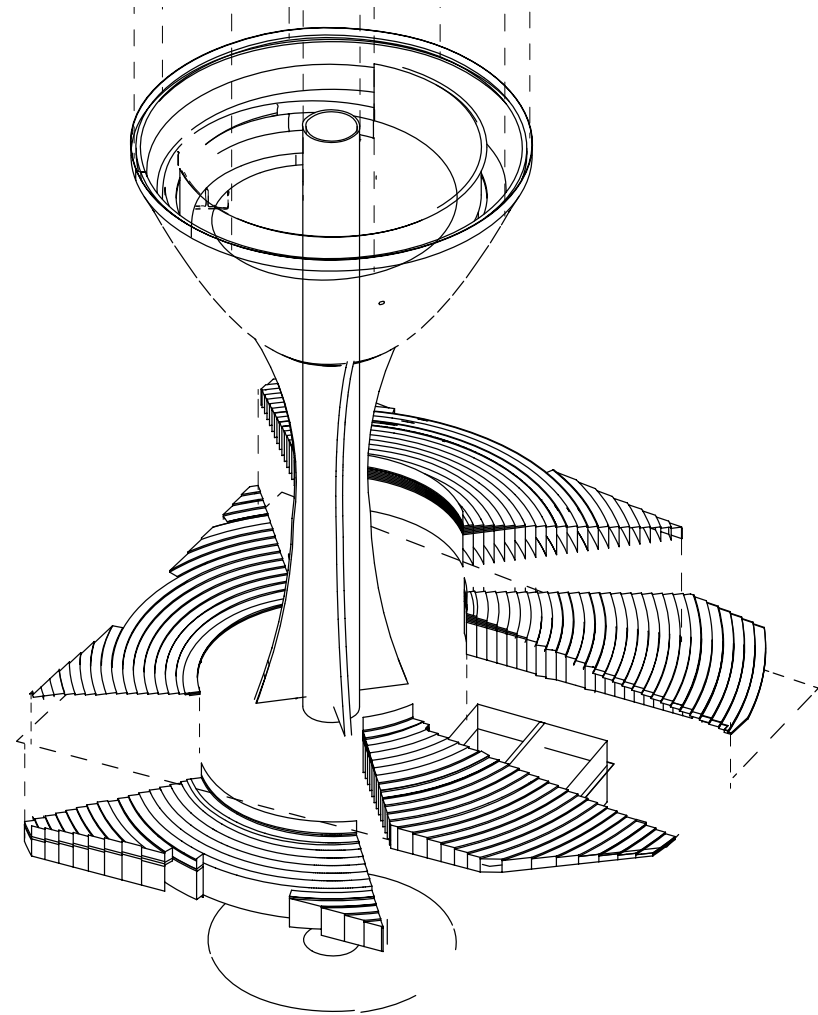
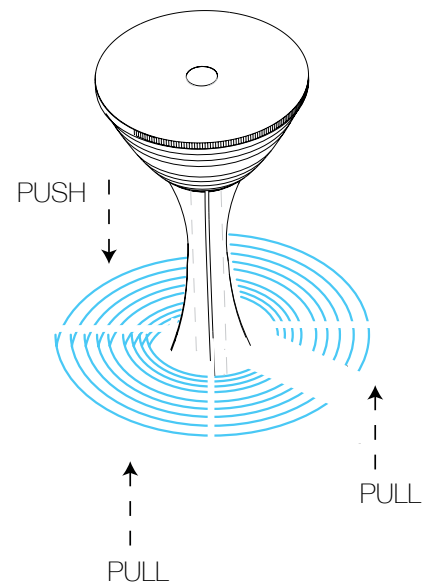
CONCENTRIC
ADDITION:
PUBLIC STREET
LEVEL

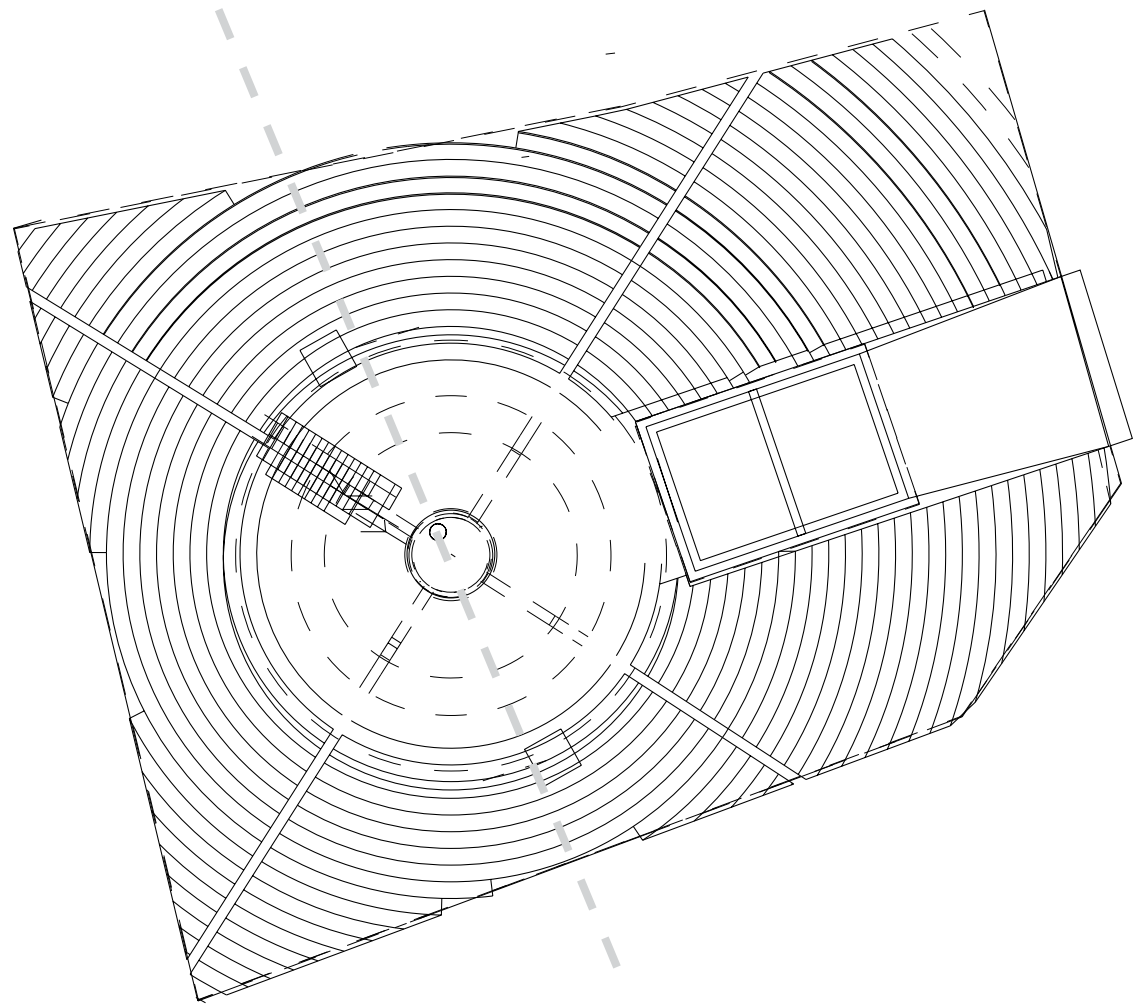


CONCENTRIC

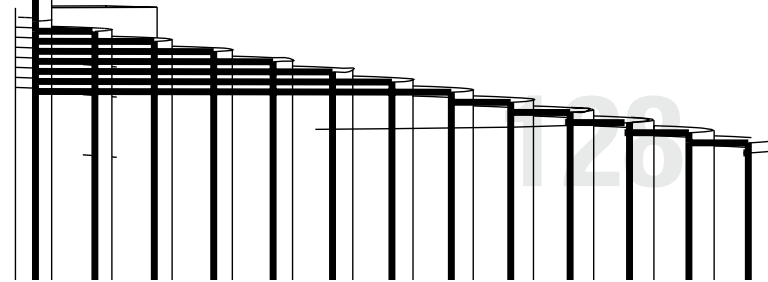
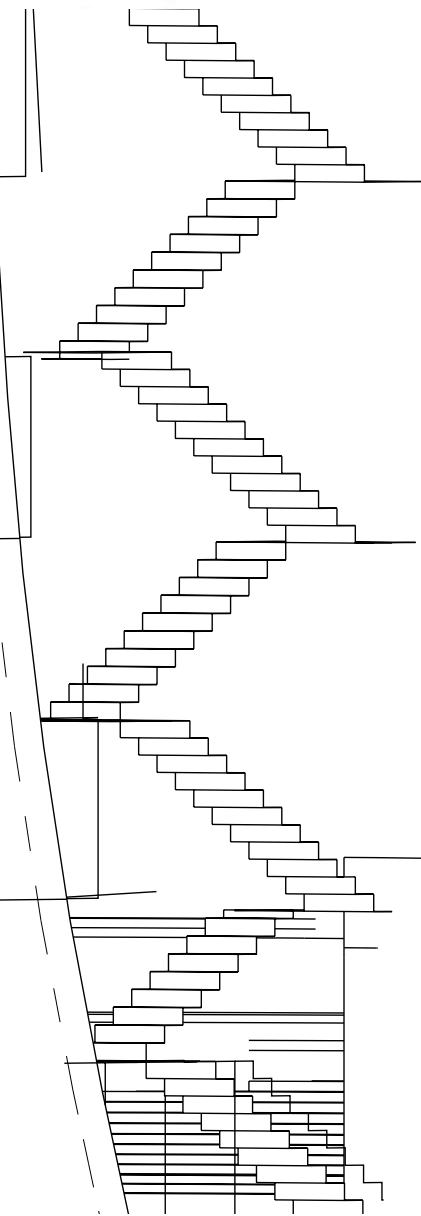
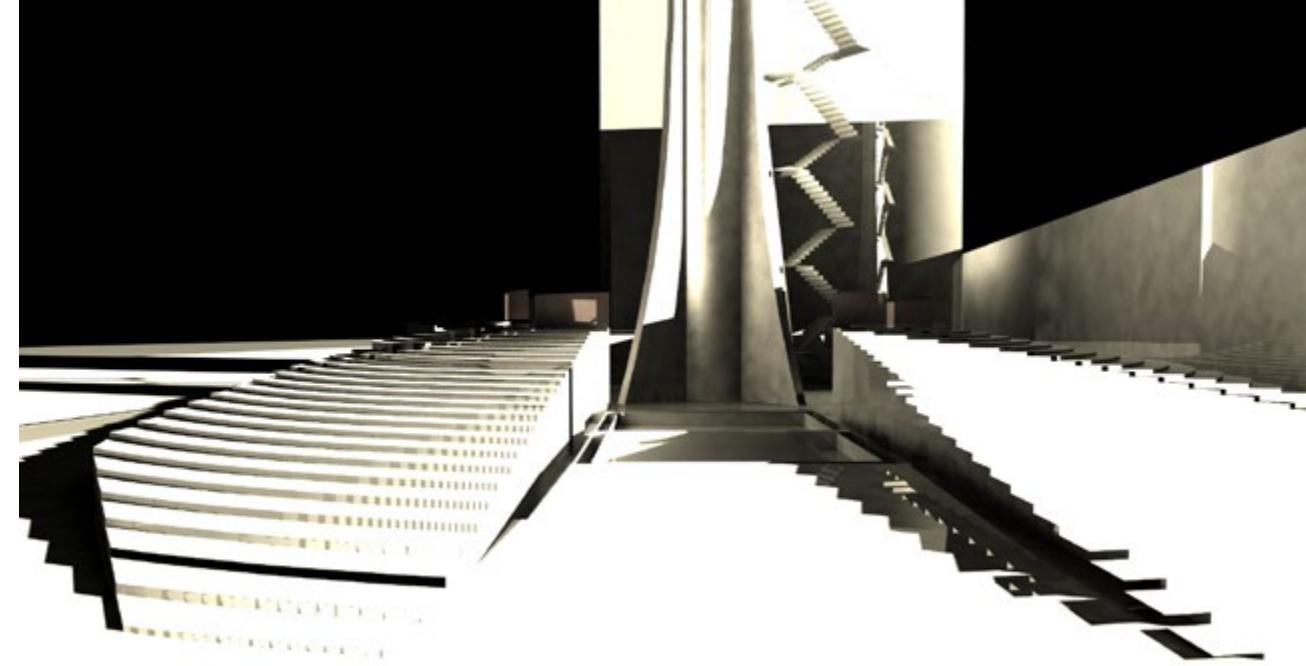
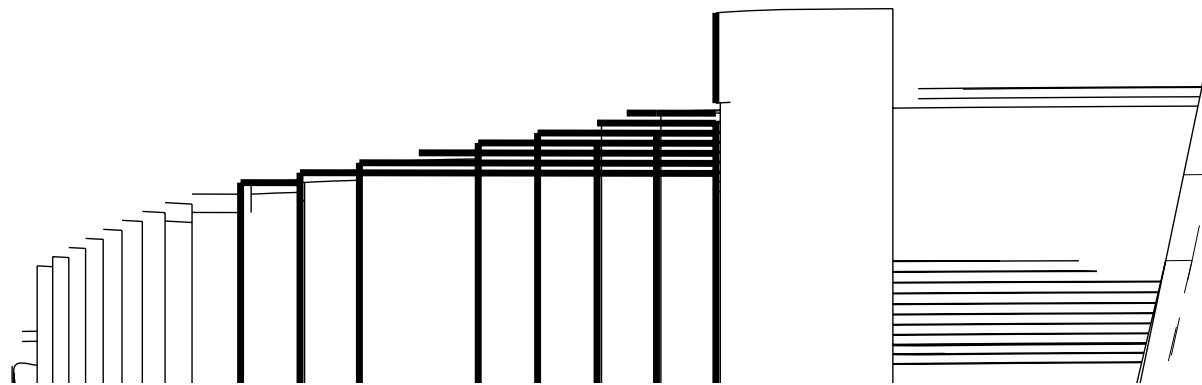


CUT

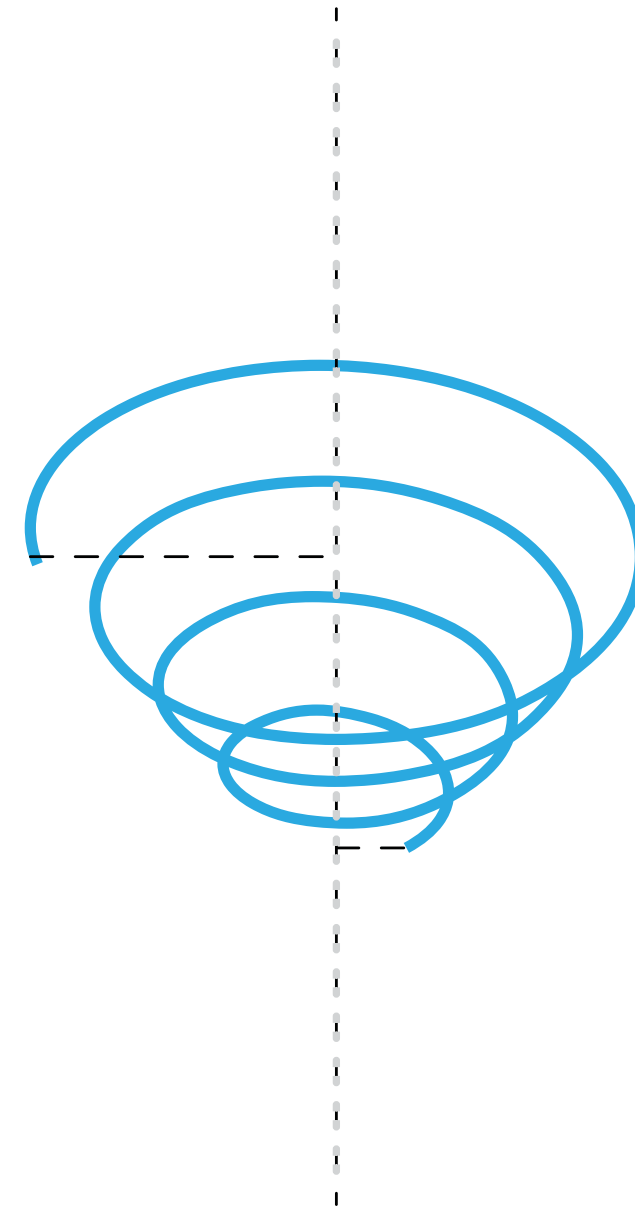
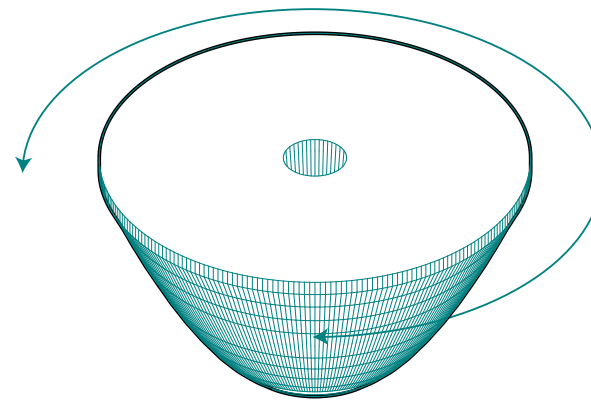
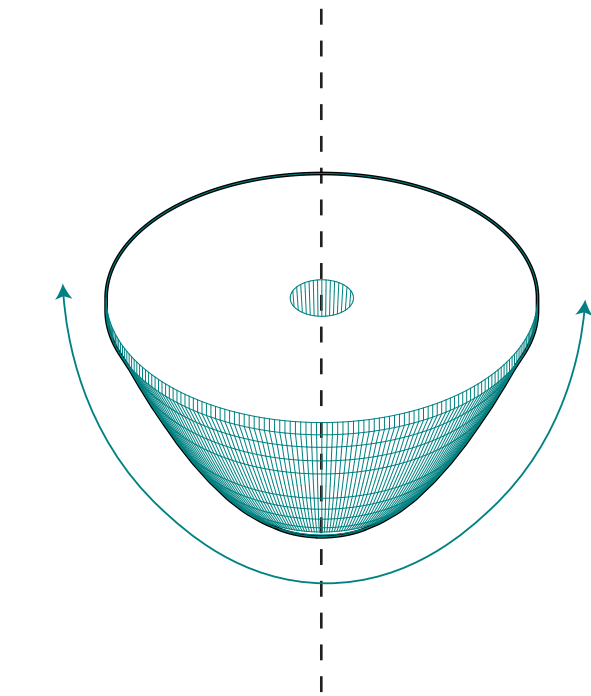




N

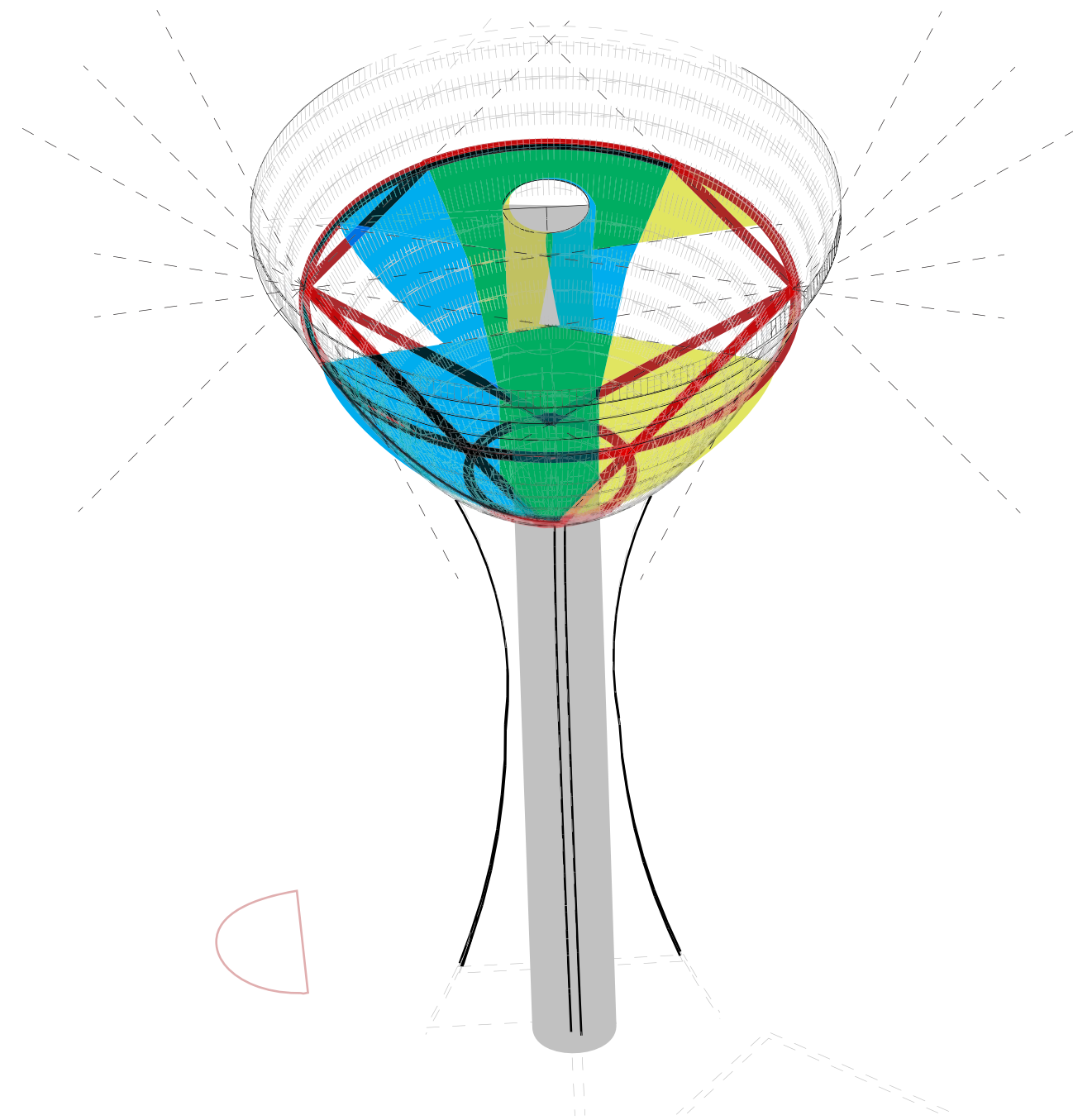
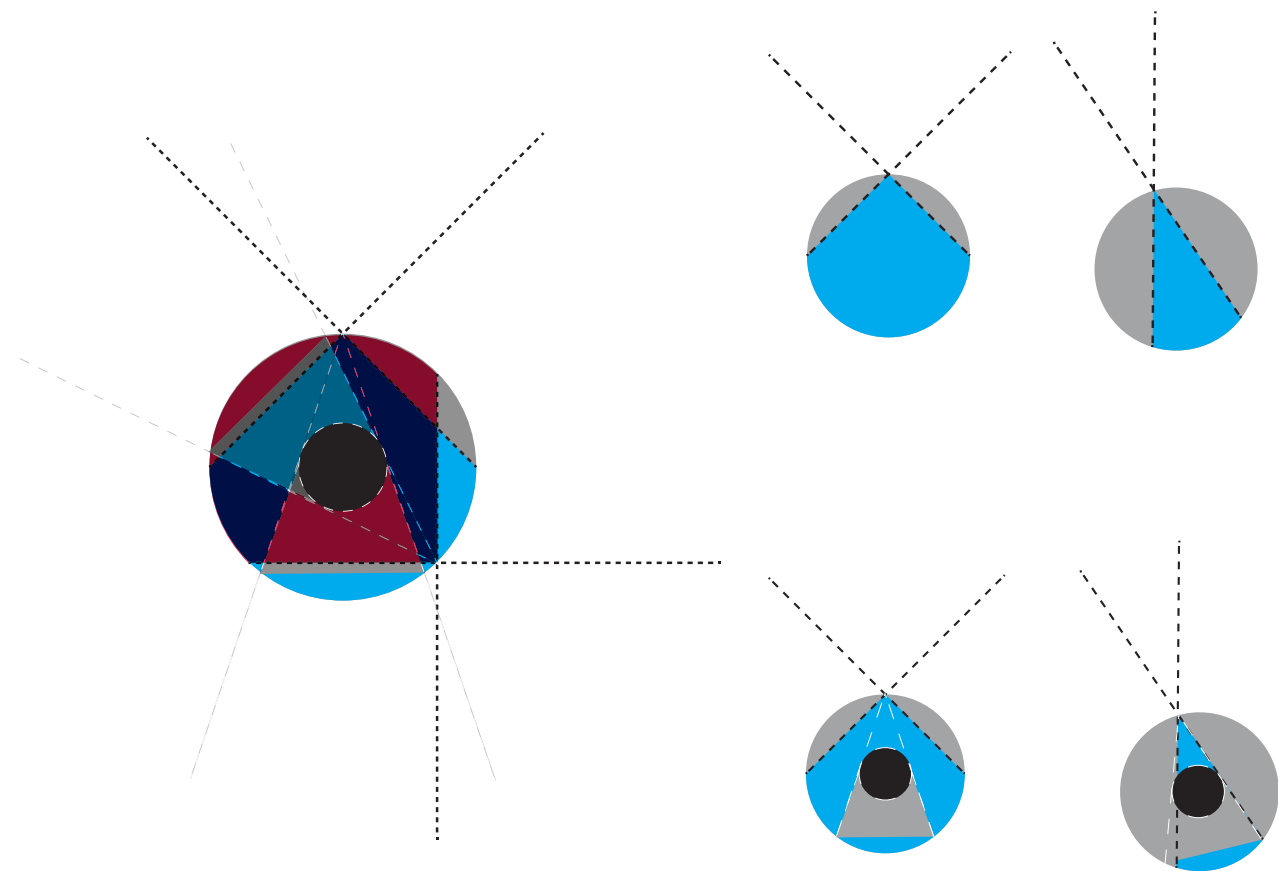


**CONICAL
INSERTION :
VISUAL AND AURAL
SPECTACLE**

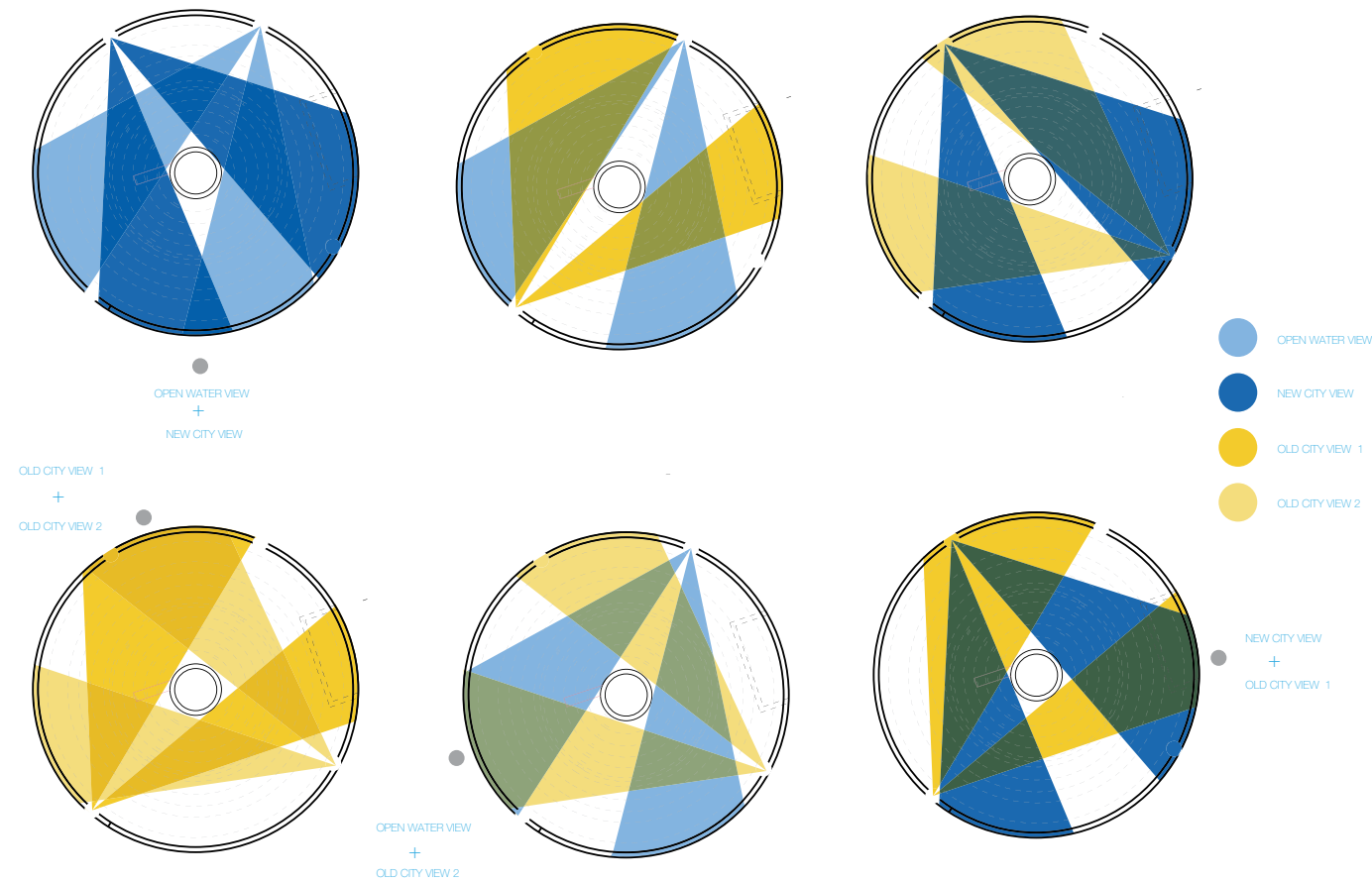
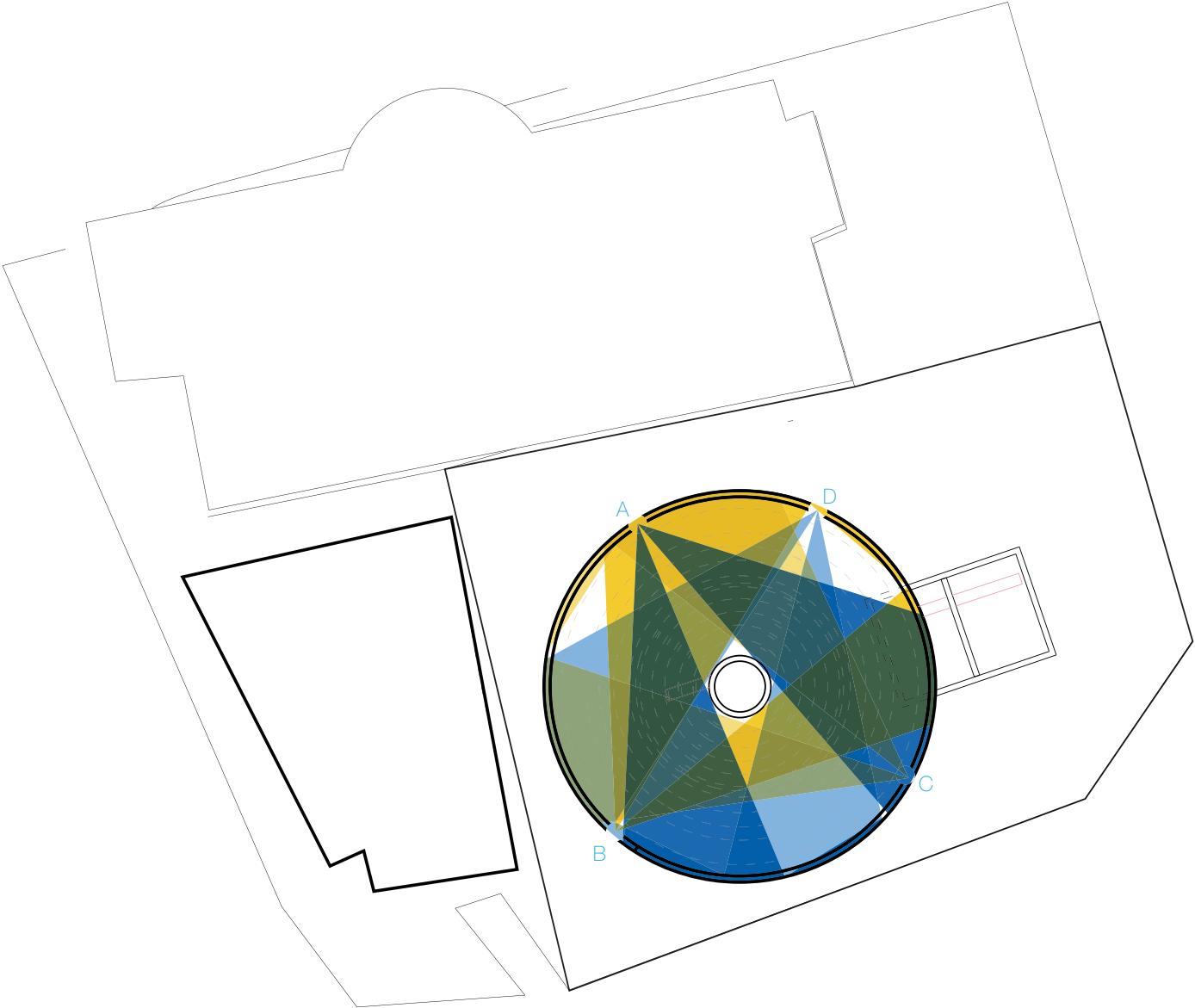


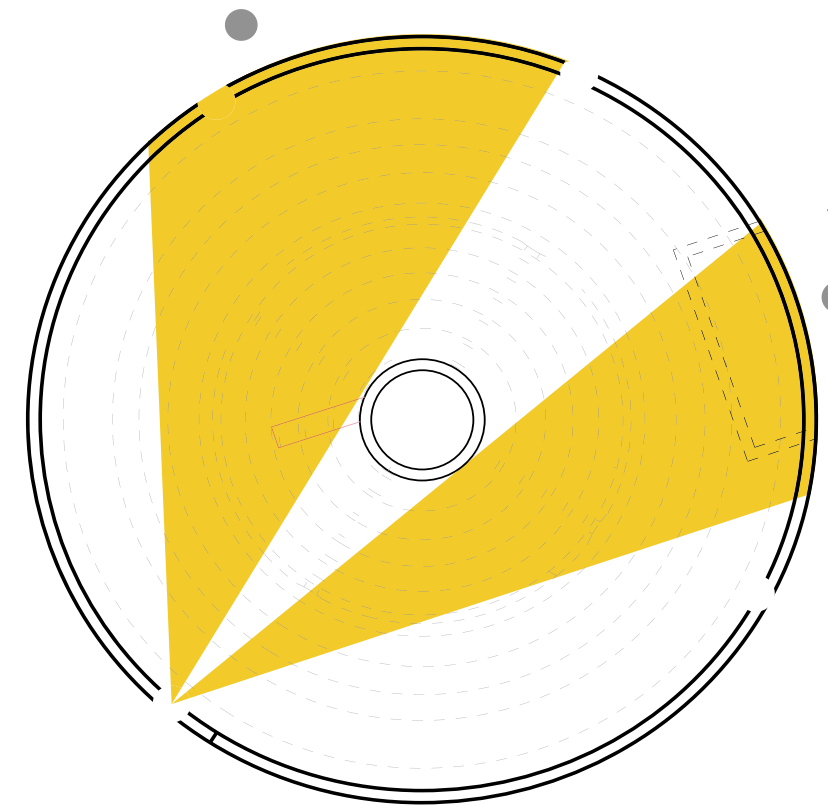
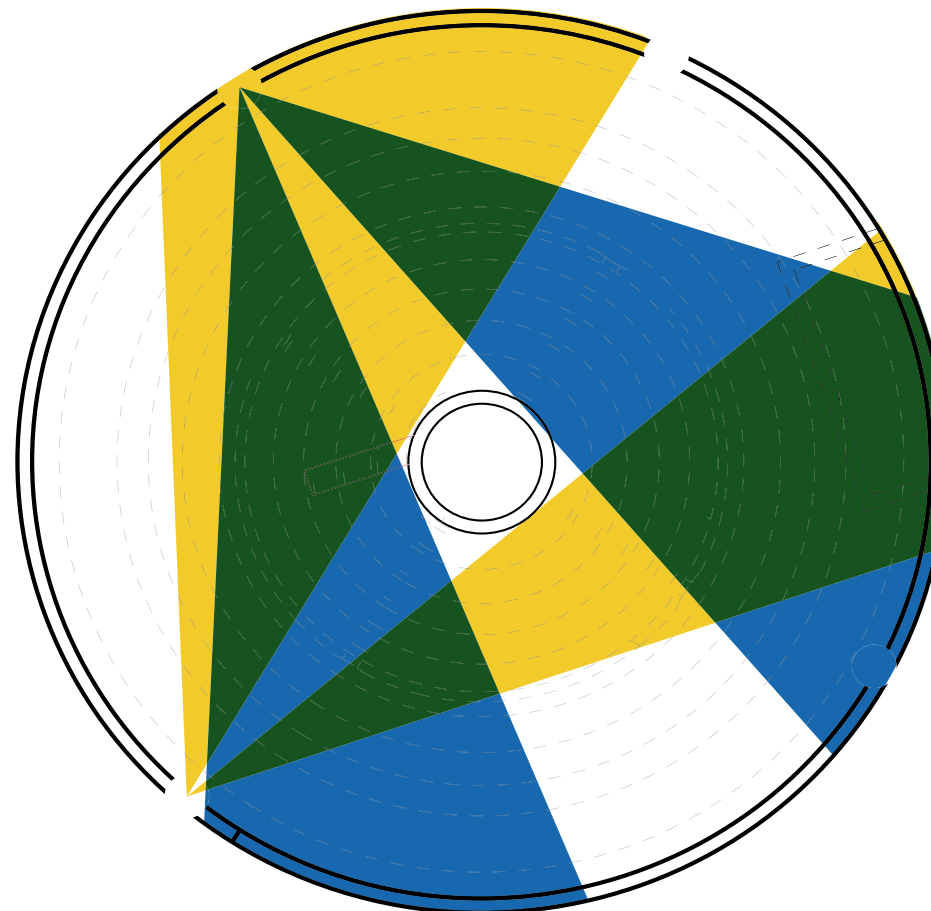
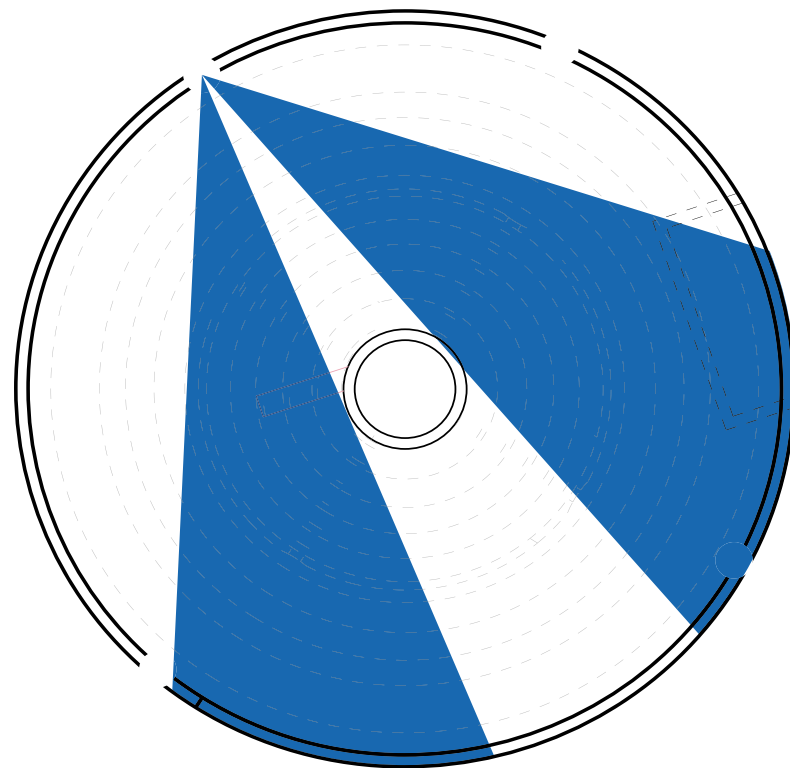
CONICAL SPIRAL ON AXIS

CAMERA OBSCURA

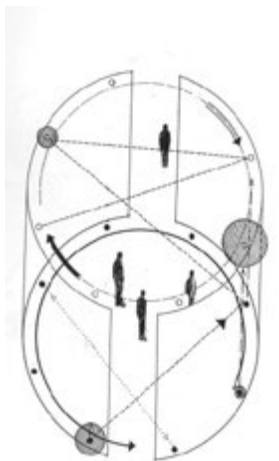
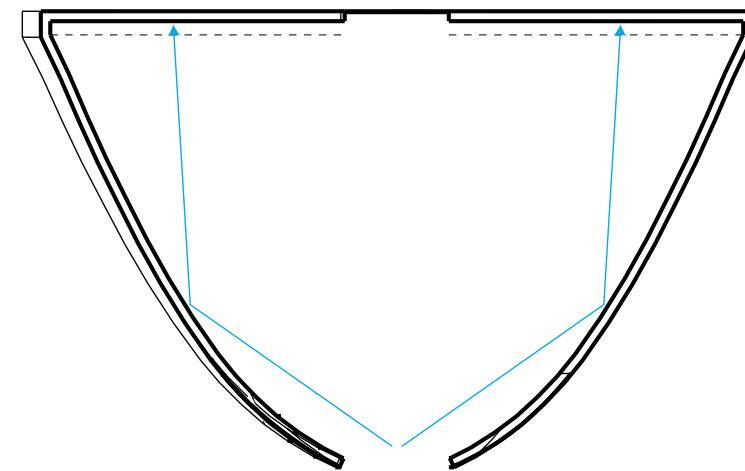
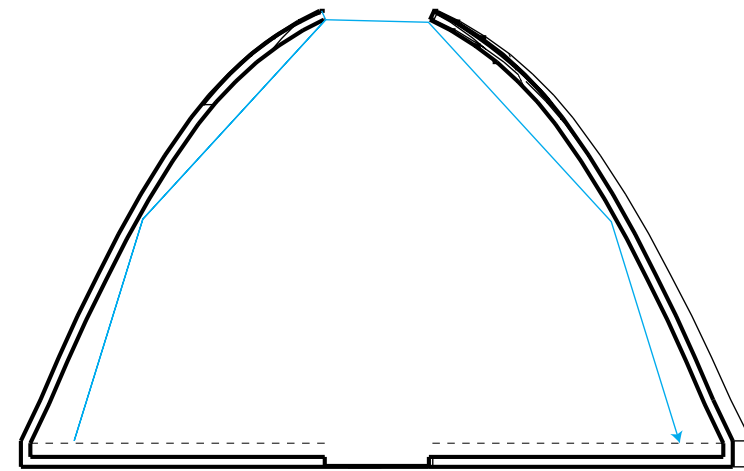
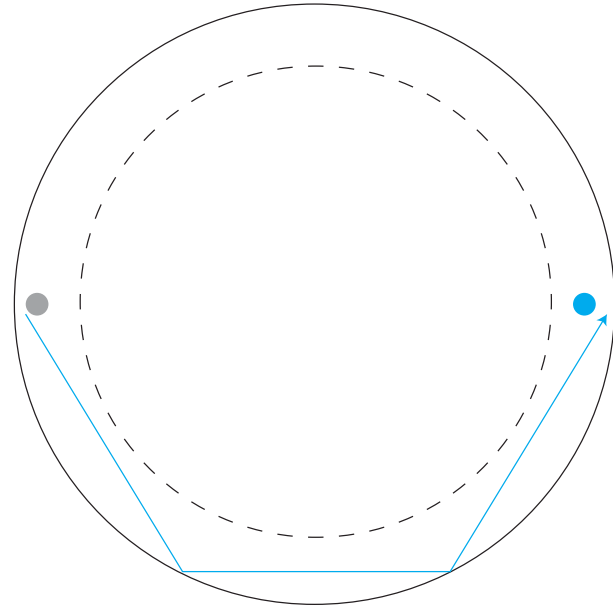
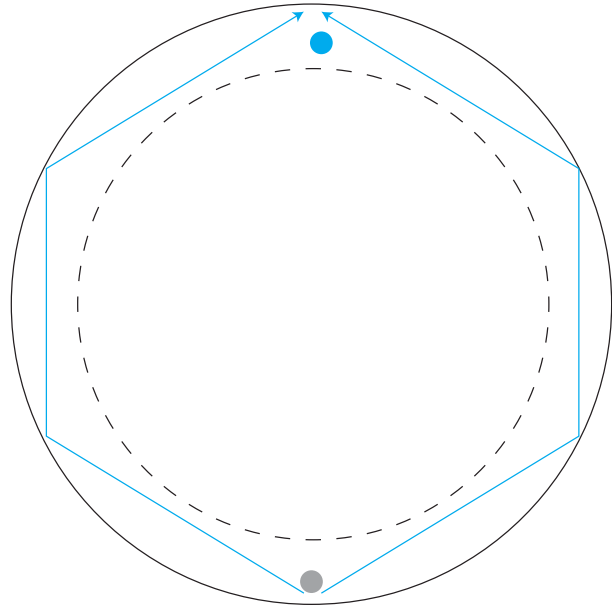


CITY VIEWS

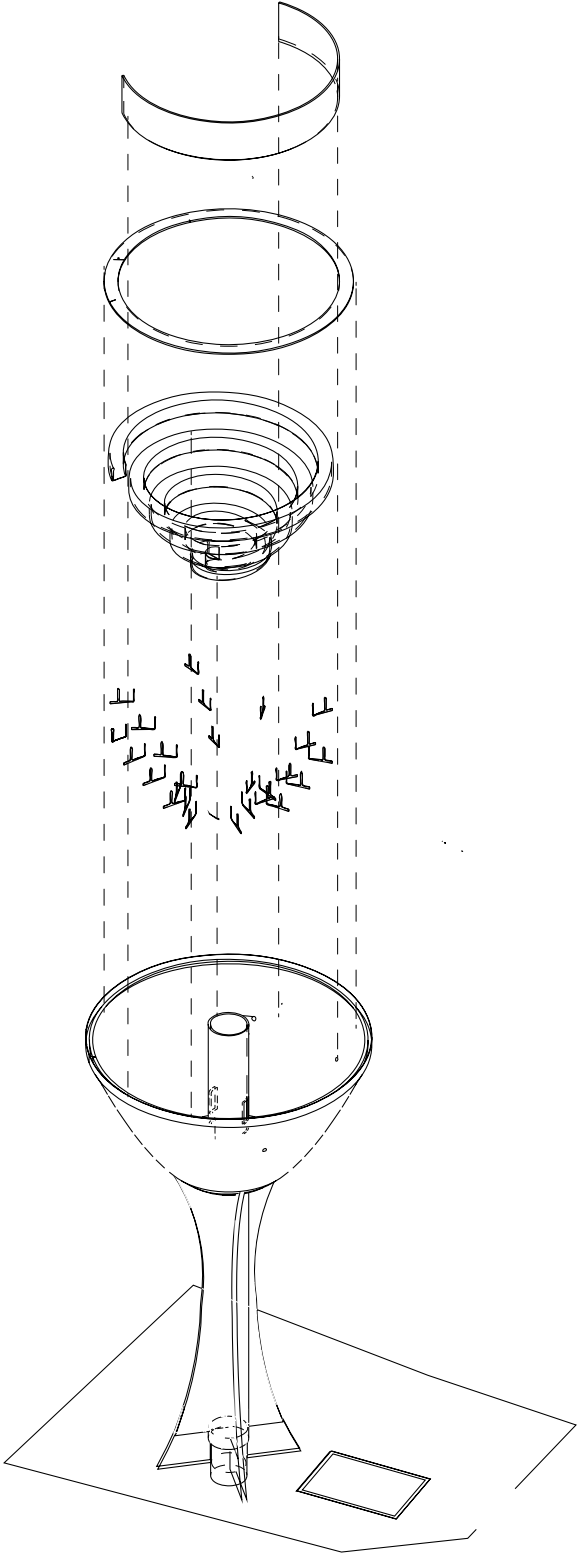
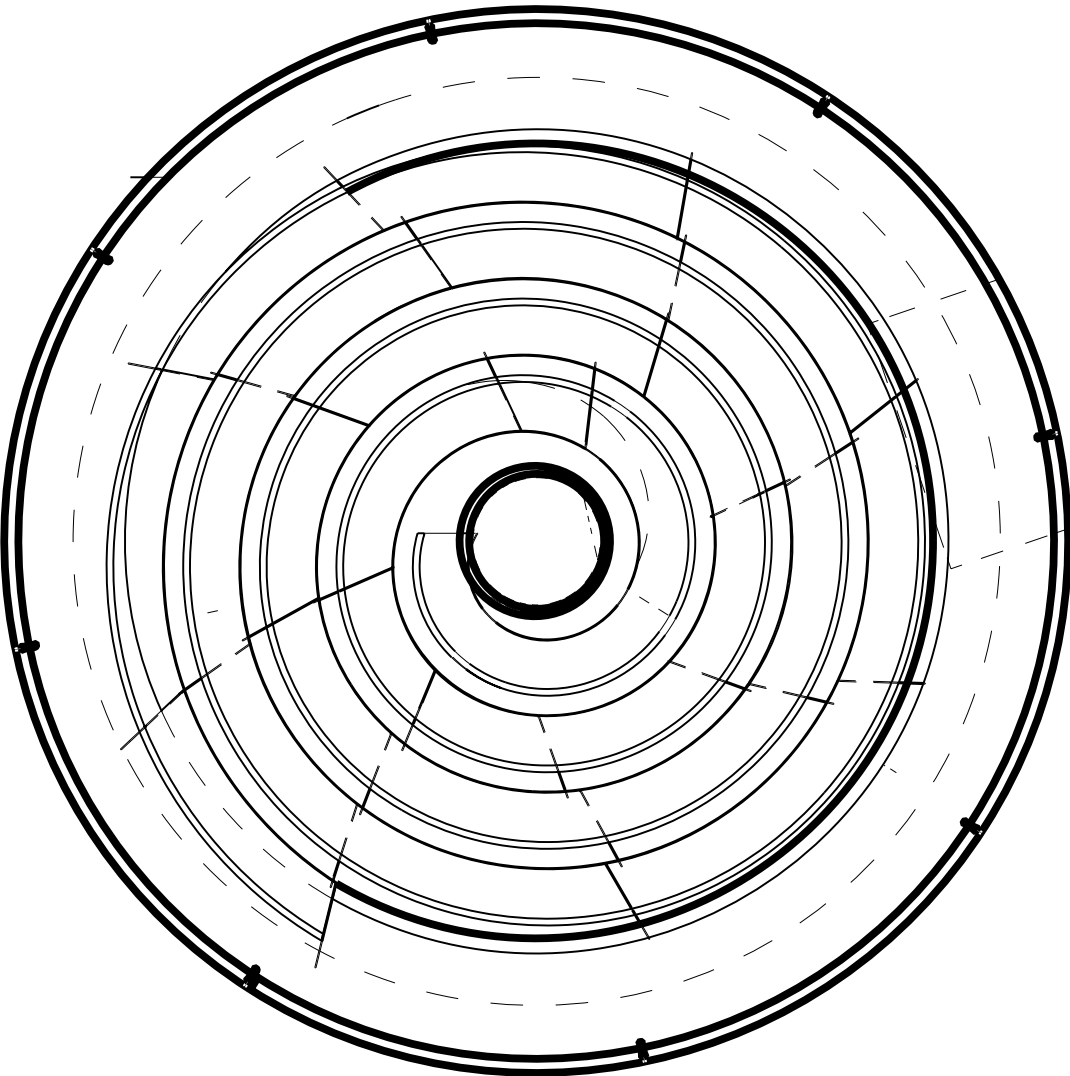


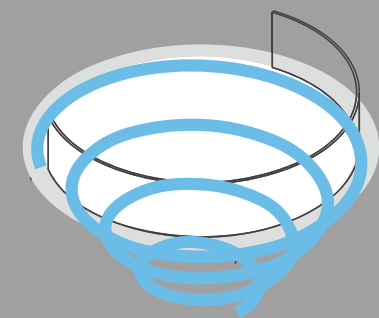
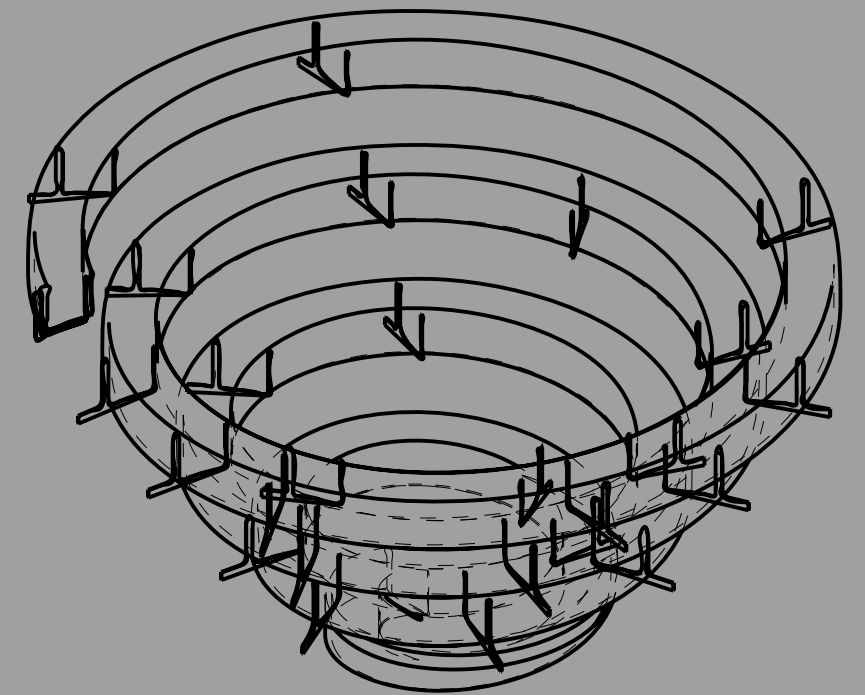
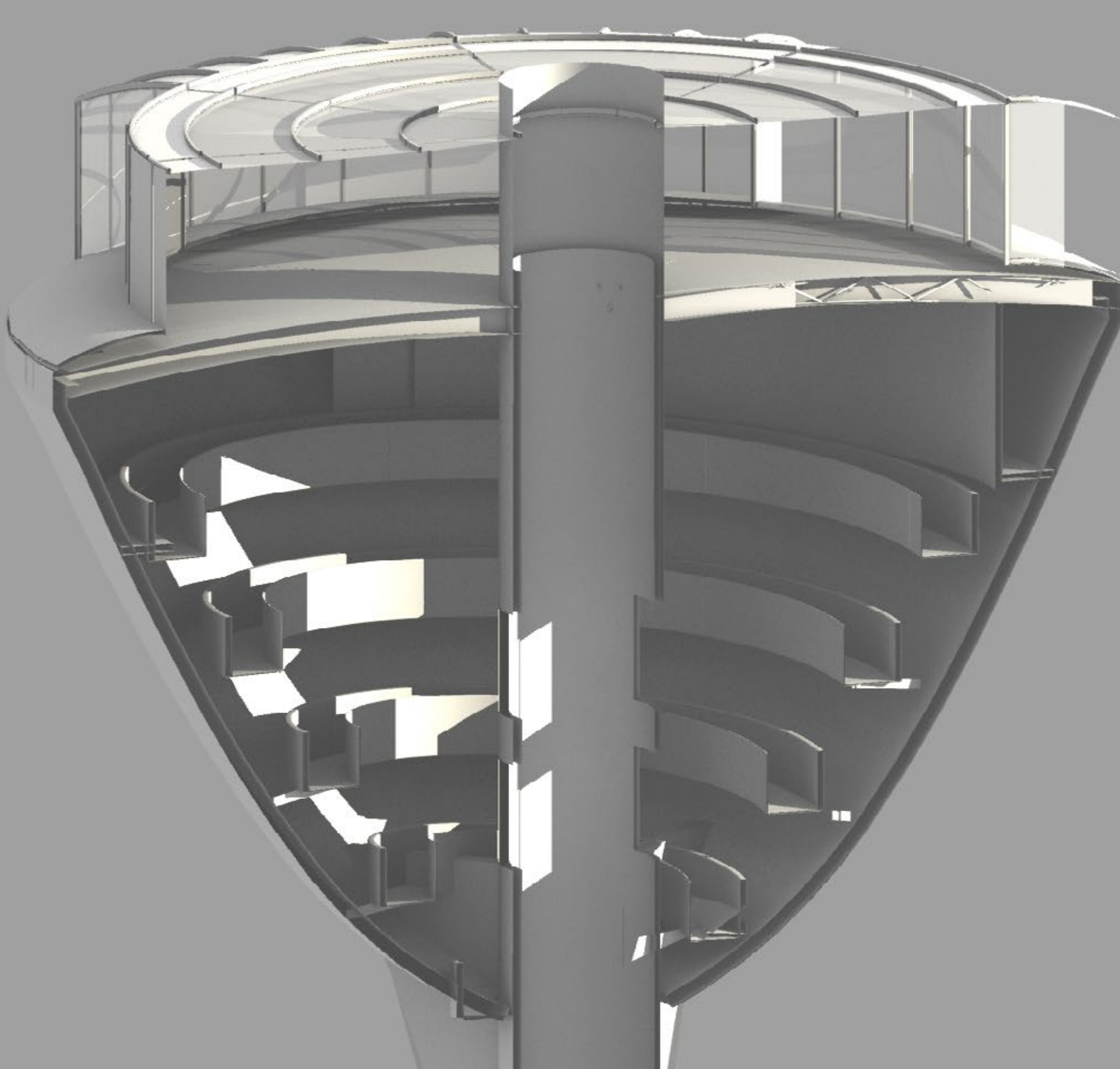


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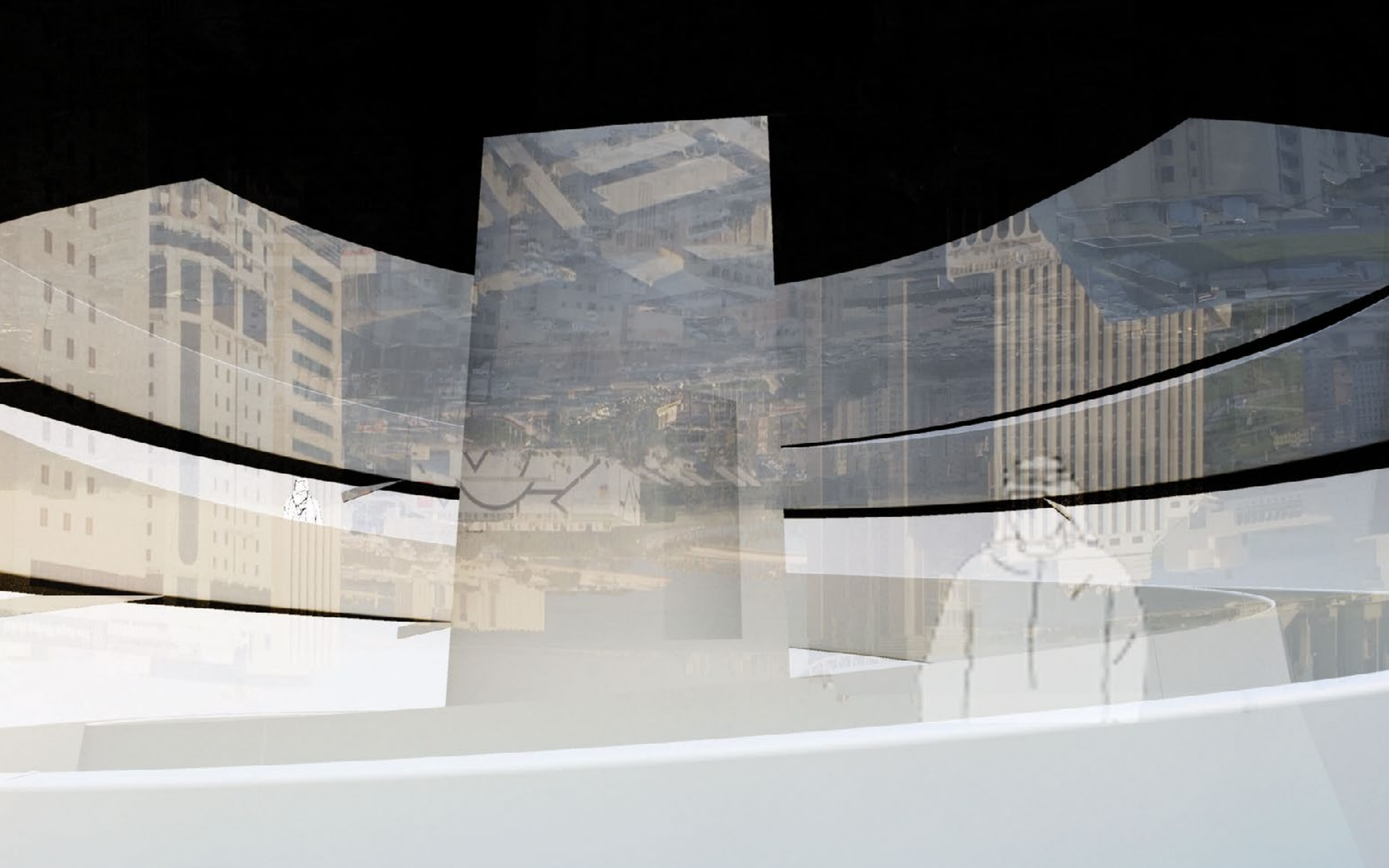


CONICAL RAMP

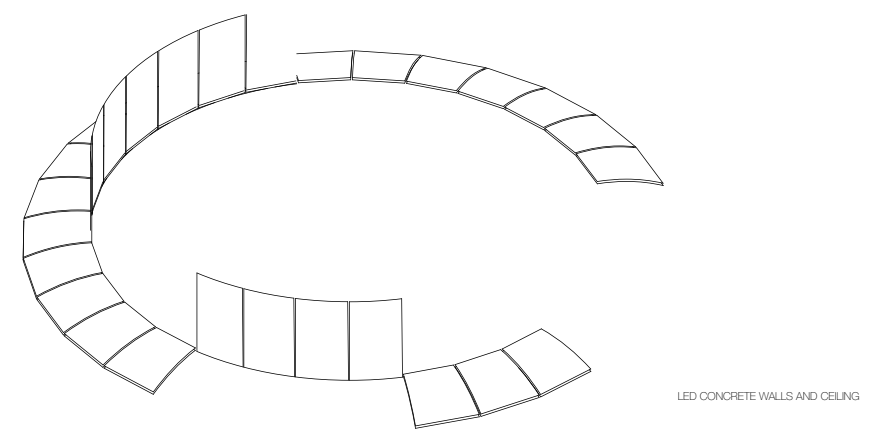
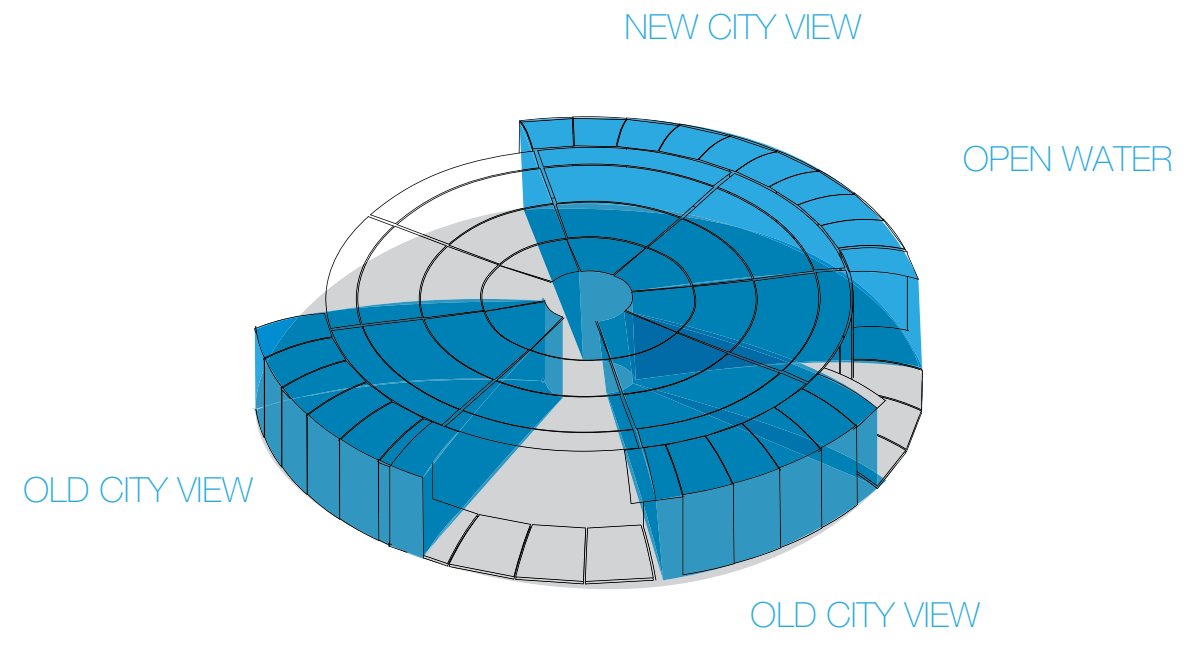
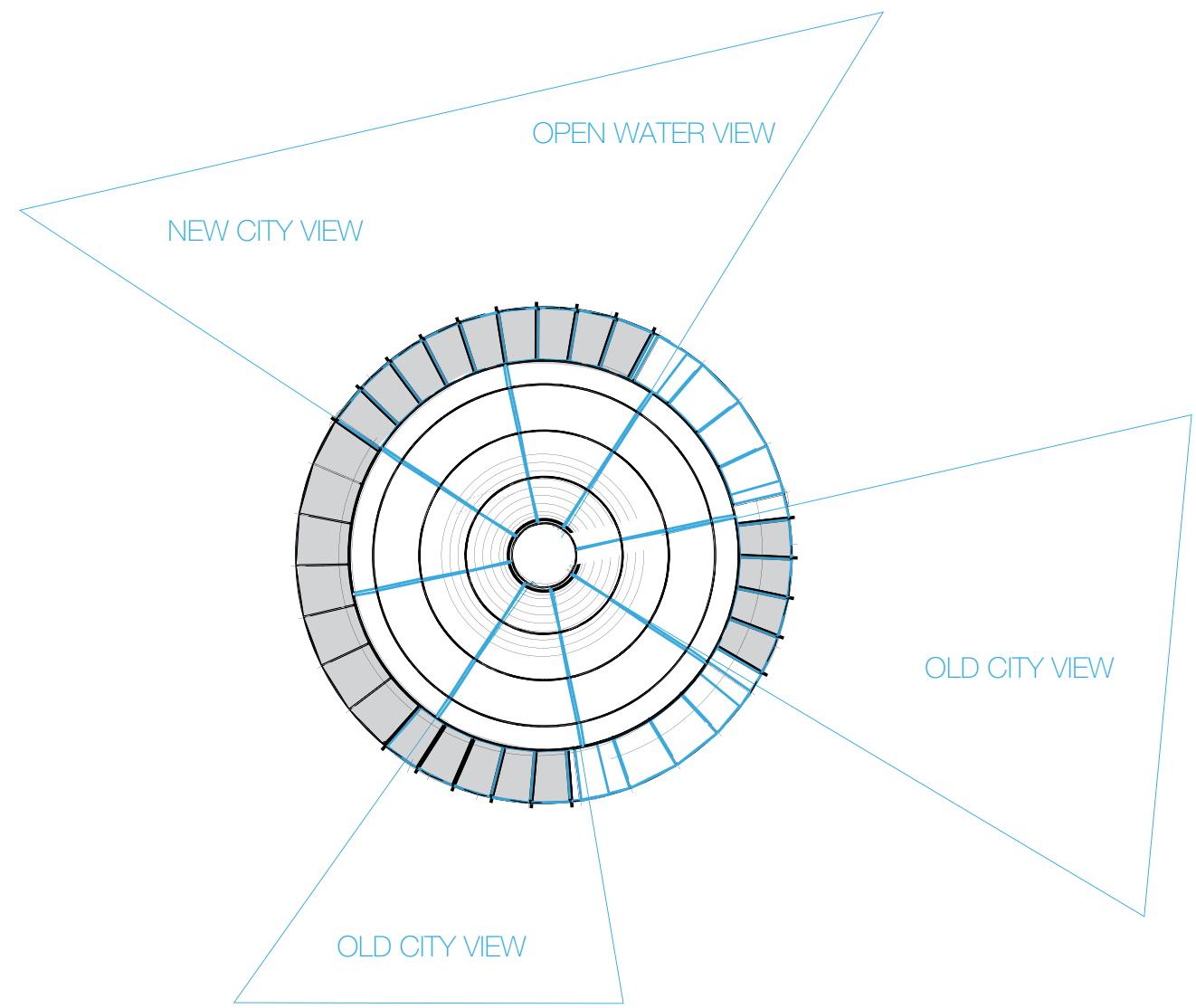


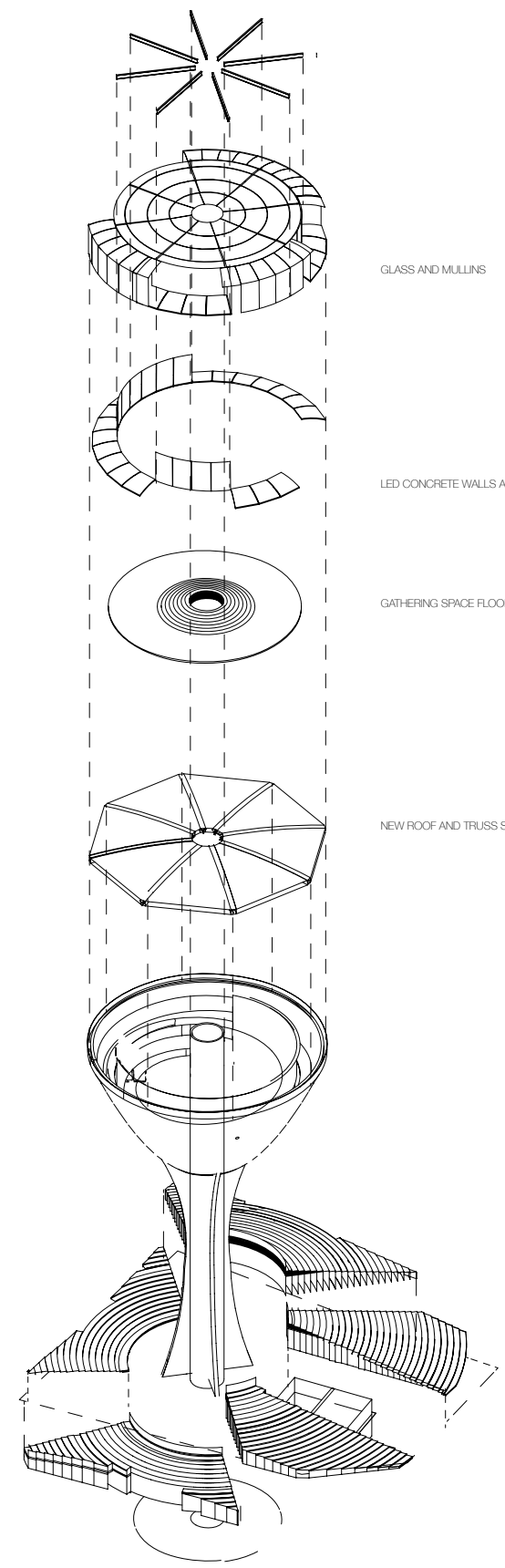
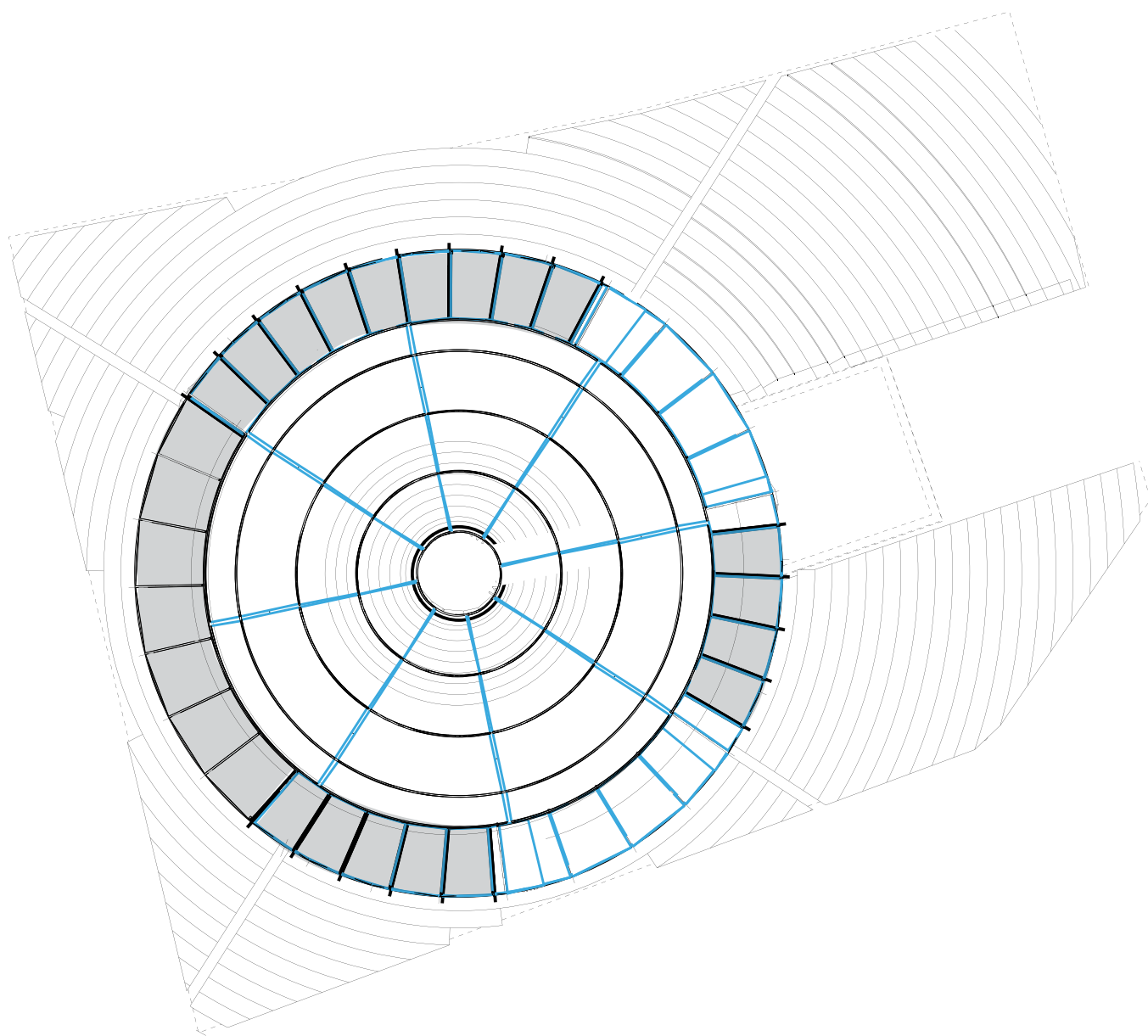






CAP ADDITION: **GATHERING SPACE**





GLASS AND MULLINS

LED CONCRETE WALLS AND CEILING

GATHERING SPACE FLOOR AND SEATING

NEW ROOF AND TRUSS STRUCTURE

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A man in heavy robes animatedly telling a story to an eager crowd. By Gentz, Wilhelm [CC-BY-SA-2.5 (<http://creativecommons.org/licenses/by-sa/2.5>)], via Wikimedia Commons

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"Rami el Samahy is an Assistant Teaching Professor of Architecture at Carnegie Mellon University, where he has been teaching since 2006. He holds a full-time joint appointment between the Carnegie Mellon campuses in Pittsburgh, Pennsylvania and Doha, Qatar, teaching architecture and urban design studios and seminars. Courses include the Urban Laboratory studio, Systems studio, Middle Eastern Cities and a new course entitled "The Future of Cities / Cities of the Future."

Rami is a founding partner of over,under, a multi-disciplinary studio (graphic design, interior design, architecture and urban design) with projects in the Middle East, Central America and the United States. The work of the firm has been featured in Architect, Architectural Record, ArchitectureBoston, and The Boston Globe, as well as many online publications. Currently, the firm is working on a number of projects including the completion of a house in Cairo, graphic identity work for the de Cordova Sculpture Museum in Boston, and architectural design controls for Sowwah Island, Abu Dhabi's new central business district.

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