FROM INDUSTRY TO CULTURE: RENEWING DISADVANTAGED COMMUNITIES THROUGH LOCAL ART AND CRAFT IN PORTO, PORTUGAL

by

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This thesis is dedicated to people who have worked to provide better environments for degraded areas and disadvantaged communities, believing that design can make a difference.

...And to my parents.

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ABSTRACT

This thesis introduces an adaptive re-use approach to the remains of a former industrial site located along the River Douro in Porto, Portugal to reconnect individuals with communities and the past with the present by encouraging a return to local culture through art, craft, and small scale design intervention. A design approach that engages with the act of making can establish areas for engaging in creative collaborative activities, developing a sense of community, channeling value-creation mechanisms and encouraging local economic development. The site can serve as a catalyst for larger art projects along the waterfront, improving other abandoned sites and reconnecting the site with the Ribeira. Beyond aestheticizing the alienated area of the District of Aleixo in Porto, Portugal, the proposed architectural interventions can be significant in tying people back to their local history and culture in a contemporary way, creating an environment that encourages learning, engagement and facilitates collective place-making.

ACKNOWLEDGEMENTS

CHAPTER 1: INTRODUCTION

>Whether you feel you believe you belong depends in part on the messages you received from your immediate environment. Human beings are intrinsically pro-grammed, for clear evolutionary reasons, to tell whether they fit in and are in an environment that will help them survive or not. (Mulgan 2008, 27)

The condition of the local milieu can have a significant influence on the attitudes, and lifestyle of people and of communities as whole.   The need to have a sense of place and belonging within the local environment in order to survive rests heavily upon the built and natural world around us.   "'To live in an environment which has to be endured or ignored rather than enjoyed is to be diminished as a human being'" (Relph 2006, 123).

According to Geoff Mulgan, author of *Living and Community*, many people living in poor communities are distrustful of one another because of high levels of crime that are often associated with drug use and low levels of employment. Their homes are often social housing complexes and the area around their community is degraded. In order to develop a sense of pride and accomplishment, knowledge and skills to survive, and a sense of collaboration with others, it is not enough to change the physical environment. To ensure a longevity of that place and of the lives of the local people, Mulgan explains that it is important to "cultivate long-lasting and resilient communities....Some of these concern economics; to ensure widespread access to mainstream economy and to develop jobs and the skills required to fill them across most if not all social groupings" (Muglan 2008, 30).

Many of the major cities throughout Europe emerged from the market or town square, a public space that evolved exponentially.   "Open space devoted to public gatherings has formed an integral part of the urban and cultural heritage of many societies throughout history and played a critical role in the genesis of commerce, the emergence of democracy, and the vitality of civic life" (Friedman 2010, 115). Squares have made significant contributions to urban, social and economic vitality, and are one of the most important inventions of European city-making. "'The square provides an unparalleled school for social learning, for exercise of responsibility and for the development of a sense of community and democratic decision-making.' Creating an outdoor living room for citizens to meet face-to-face is instrumental in fostering a web of relationships and communal security. Children congregated there to play and adults for various purposes" (Friedman 2010, 120). While the size and shape differs, squares and public spaces were often formed as large areas of land were leftover, and in many cases these have a pleasant human scale and relationship to the urban surroundings.

When public places and the spaces within them feel safe and inviting, the people

actively living around these areas can likewise feel a sense of ownership and community. The history, materiality and nature of these good places are often enjoyed by locals and tourists alike for their unique and genuine qualities of enclosure, light, ratios of space to built form and for their ability to provide comfort in their surroundings; their "genius loci".

However, "the squares place in urban history began to change in the aftermath of the Industrial Revolution" (Friedman 2010, 121). As factories replaced the earlier centers of local craft and trade along waterfronts in port cities throughout Europe, such as Porto, Portugal, they created new areas within cities for mass production, expanding and altering the notion of the "market square" that was typically located near the heart of economic production. As a result, the purpose and necessity for public spaces and squares as centers for activity, craft, trade and the exchange of knowledge, shifted.

Public Space, Piazza Navona, Rome, Italy . Photograph (Rome Tours 2008).

Public Space, Las Rambles, Barcelona, Spain. Photograph (World Travel Advisor 2012).
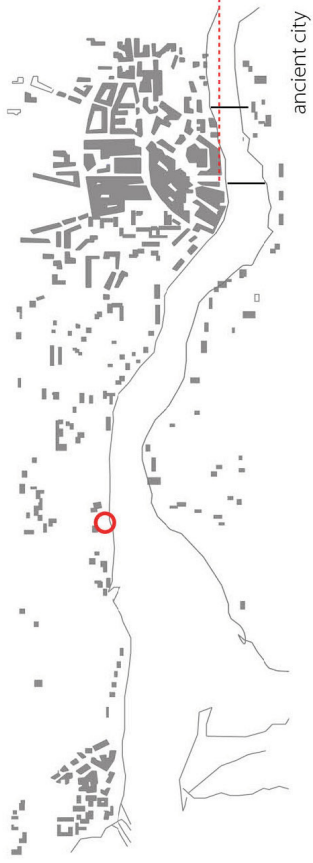
old historical town

new town plaza

casa da musica

ancient city

circa 1890's

modern city
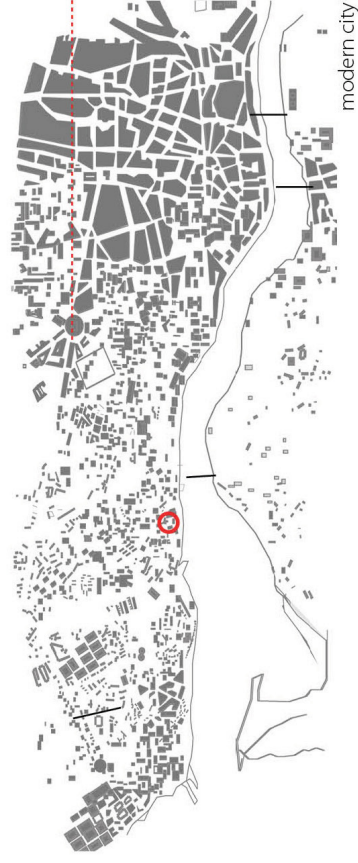
Historical development of public space and the city center (including Ribeira), Porto, Portugal.

In Porto, Portugal, the formation of public spaces and market squares has been critical to its evolution and urban development. The oldest and most recognizable of these public areas is located along the River Douro in the area of Ribeira, recently recognized as a UNESCO World Heritage Site.

While the Ribeira center, among others, mark important and active public centers that have emerged within the city of Porto, there are others that have, by comparison, become areas of decline and alienation. Examples of these include abandoned historic buildings and industrial factories located west of the Ribeira, along the River Douro. These areas lack the 'genius loci' associated with the public buildings and vibrant centers to the west and north. Even though there is a large local population living around these areas, the sense of community and local economic success is lost. A significant example of this condition includes the former industrial site located in Lordelo do Ouro, which is the largest of these aforementioned abandoned industrial properties located along the waterfront. The site along Rua do Ouro (Ouro Street) contains a number of deserted and derelict buildings, and stands between the large social housing community of District of Aleixo and the River Douro. The physical deterioration of the old factory has left a sordid visual appearance and reflects the alienation of the site and the people who live there.

A growth in industrialization in the twentieth century altered the dynamics of traditional port cities and the use of public squares and market spaces. The subsequent exodus of the manufacturing and processing industries from the waterfront in European cities has resulted in the recent growth of service and tourist-based industries, including Porto. As industry is relocated further to industrial parks outside the city, vacant and abandoned factories are left behind, often in urban areas and along the waterfront. In the meantime, city centers are slowly gentrified and revamped to make room for tourism and cash crops in the form of private venues and ventures often housed in heritage buildings.

District (Bairro do) of Aleixo. Photograph (A Baixa do Porto 2007).

Ribeira "Historical" City, Porto, Portugal. Photograph (Oliveira 2008).

In the gentrification of these areas, the people and culture that thrived within the heart of these old social centers for centuries is often lost to private ventures. No longer able to rely on the local trade and culture, or able to afford the skyrocketing rents and costs associated with increased land value in these areas, the original inhabitants of the city center are often forced into other, less desirable areas of the city, often into social housing complexes offering minimal opportunity to generate income. In Porto, the traditional inhabitants of the city center of Ribeira were relocated to the area of the District of Aleixo in Lordelo do Ouro, incidentally close to a degraded industrial site which continues to be neglected. The area is now being positioned for private, clean-slate development.

With private, clean-slate development, the approach often suggests a combination of demolition and new build that might include community development programs aiming to promote areas for engagement and improved living conditions. However, the community ownership and presence in places like these becomes difficult because the buildings are often implemented and the new residents placed here, typically via social housing developments that do not suggest long-term sustainability. In order to improve both the economic conditions of neglected areas and the lives of those less fortunate who live nearby, alternative solutions must be considered. With private, large-scale developments on the rise, seeking alternatives to re-use and renew these derelict areas for future growth and sustainability are critical for the future of the local residents.

As Mulgan notes, there is a real challenge over the next decade or so for architects, planners and developers to "improve current conditions so that these [disadvantaged] communities can sustain themselves into the future" (Mulgan 2008, 30). Areas such as the District of Aleixo provide great potential for revitalization, especially when located along riverfronts and active transportation routes. Bringing the town center back into these areas might provide conditions that allow for engagement and natural growth, creating pockets of thriving communities, while architecture could be conceived as a tool to both facilitate this growth, while improving the local community and economic development through art, craft and trade. Adaptive design could bring future prosperity to these areas and tie the local community back to their culture without vying for clean-slate development.

Thesis Question

How can the adaptive re-use of abandoned industrial sites provide opportunity to improve local economic development, encourage engagement, tie a community back to its local culture, and promote longevity and the values associated with collective placemaking?

Place, Placelessness and Local Culture

> The deep levels of existential insideness are apparent in the making of places which are human in their scale and organization, which fit both their physical and cultural contexts and hence are as varied as those contexts, and which are filled with significances for those who live in them. (Relph 2006, 121)

In *Prospects for Places*, Edward Relph discusses the making of places as an ordering of the world that creates structure and experience. A sense of 'genius loci' paired with a sense of belonging and accomplishment, and the development of skills tied to the local economy contribute to the successful development of places. But understanding what it is that makes a place significant is important in deciphering how good places differ from unsuccessful ones, and what the approach might be to create these good places of value. According to Christian Norberg-Schulz, when we say place, or environment, "we mean a totality made up of concrete things having material substance, shape, texture and colour. Together these things determine an 'environmental character,' which is the essence of place." (Norberg-Schulz 2006, 126). However, place also requires natural connection. In his book, *A Place in Mind: The Search for Authenticity*, Avi Friedman depicts a large open market square in the city of York, England as place "seeming natural". Upon arriving at the place, he describes the 'environment':

> Measuring some 500 by 325 feet (150 by 100 meters), the place was framed by three-and four-story buildings of different styles, with a band of small stores on the bottom......Several cafes packed with late lunch-hour diners were tucked in between stores. There were empty outdoor tables, still wet and no one was using them. An open-air farmer's market with covered stalls lined one side. As I neared, I could see the busy vendors. They were exchanging greetings, handling their produce, and collecting money from patrons who they seemed to know. A band played music for adorning spectators, some of them dancing, on the opposite side of the square....The square has aged gracefully and continues to welcome lo-cal residents and visitors who came to shop, see and be seen, meet and get the local news. I wondered why it all seemed so natural. Was it the place's propor-tions or the rustic buildings that framed it perhaps? Maybe it had to do with the peoples activities, which reflected a sense of community. I began to question why civic squares are rarely included in the planning of contemporary neighborhoods. (Friedman 2010, 114)

York Market Square, York, England, United Kingdom. Photograph (Street Sensation 2012).

It is clear that qualities of good places, those that emit a harmonious sense of enclosure, materiality and light, engage both people and places, creating a balanced and genuine environment. However, a lack of place, or placelessness, can cause alienation and lessen the desire for people to engage with one another. Placelessness, according to Relph, suggests both "an environment without significant places, and the underlying attitude, which does not acknowledge significance in places. It reaches back into the deepest levels of place, cutting roots, eroding symbols, replacing diversity with uniformity and experiential order with conceptual order" (Relph 2006, 121). Relph discusses the nature of placelessness, industrialization and its relationship to the development of the totalitarian world perfected through the use of "technique", which is fueled by science, efficiency and power, as noted by political philosophers and historians such as Tochqueville, Grant and Ellul. Because industrialization aims for efficiency and production, the association of mass production and homogeny with placelessness is strong. "If Tochqueville, Grant and Ellul are correct, and in the landscape of industrial cultures there is massive evidence to support them, then opposition to technique and to central authorities - two of the primary sources of placelessness - seems either futile or impossible....We may protest it, deplore it, propose alternatives to it, but the fundamental basis for our experience of the [industrial] landscapes we live in is increasingly becoming the attitude of placelessness" (Relph 2006, 121).

Industrial Plant in Brentford, UK, exemplifying homogeny (Industrial Plant in Brentford 2005).

Suburbs in Qingdao, Japan, exemplifying homogeny (Qingdaonese 2005).

Rather than tear down or destroy these homogenized places, such as abandoned industrial sites, it is possible to consider future approaches and possibilities for these areas that encourages growth and local engagement.

Relph suggests that a non-mathematical approach that considers and responds to the local culture, experiences and meanings that are existential of place, could allow for connections to be made with the environment. This approach would not necessarily solve

the problem, but a perhaps "provide a way of outlining some of the main directions and possibilities, thus allowing scope for individuals and groups to make their own places, and to give those places authenticity and significance by modifying them and by dwelling in them" (Relph 2006, 123).

While some major urban centers focus on the redevelopment of large industrial areas for improved socioeconomic conditions, sometimes this includes private, clean-slate development that causes gentrification in favor of corporate gains.   In recent years, other approaches to community and local economic development have spurred a return to local culture and developing a sense of place by establishing community driven activities such as markets, art schools and urban parks, typically located along vibrant waterfronts or active neighbourhoods that encourage the development of active environments and good places.

A contemporary example of these types of communities that considers various types of program through adaptive reuse is Granville Island, designed by Hotson Bakker Boniface Haden Architects in Vancouver, B.C. What once was the site of industrial waterfront production has become the center for thriving local communities. Re-developing the shipyards and abandoned warehouses along Granville Island's waterfront has shaped a successful public market and artisan center encouraging local production, a variety of artisan workshops, and public spaces for interaction, gathering and engagement (Berens 2011, 51). While this provides an excellent example of a non-prescriptive approach to combatting placelessness by revitalizing the area and providing opportunities for various cultural activities such as workshops, a market and public spaces, this example does not address the issues associated with social housing and low income residents, and how to ensure these people have opportunities to engage with the site, and to learn new skills.

Granville Island, Vancouver, BC. Photograph (Hotson Bakker Boniface Haden Architects 2008 a).

Granville Island, Vancouver, BC. Program Diagram (Hotson Bakker Boniface Haden Architects 2008 b).

Preserving older places is not necessarily the solution to combatting placelessness, nor is a simple return to traditional ways of living. "Instead, placelessness must be transcended" (Relph 2006, 122). How we can transcend placelessless and at the same time encourage authentic place-making in current times is important. As Relph comments on David Brower, "'The places we have roots in, and the flavour of their light and sounds and feel when things are right in those places, are the wellsprings of our serenity.' It is not possible to design rootedness nor to guarantee that things will be right in places, but it is perhaps possible to provide conditions that will allow roots and care for places to develop'" (Relph 2006, 123). In order to improve living conditions and lifestyle, it is important to look at the value of creativity and culture as a means to encourage community development.

Community Arts, Craft and Empowerment

> Hope begins the process of ending alienation by opening a space for an alternative; creative work is a means to articulate this….The aim, then, of art and design education is to set up spaces of engagement in which people are enabled to imagine possible futures, possible joys. (Miles 2008, 60)

In Chapter Three of *Art, Community and Environment*, Malcolm Miles discusses Ernst Bloch and his work on *The Principle of Hope*, which relates work in the arts as a means to counter the hostility of social alienation associated with political and economic systems, which can have a profound effect on individuals living in poor areas. In terms of community development, creativity and art demonstrate a relationship between children and young people as the source of collaboration. It is also recognized that art and craft can have a more significant and diverse role in personal as well as community development.

The development of community arts, craft and cultural art projects in recent years in Europe has focused on degraded areas of industrialized cities and suggests a new way of helping to improve communities and lives that moves beyond aesthetics. In this sense, art and community become one and the same, where education and creative cultural arts engage, through active participation in art projects. Individuals, groups and communities are provided with the opportunities and resources to enhance self-esteem and strengthen identity within degraded and post-industrialized areas of larger urban cities. "Community arts promotes the principle that everyone can be creative regardless of any perceived talent of skill. It has as its premise that process has a precedence over product" (Austin 2008, 176).

The importance of engagement in art, craft and culture for disadvantaged communities is reflected in some of the projects explored in recent decades by the degraded communities of Port Glasgow and Inverclyde, former shipbuilding areas in Glasgow, Scotland, in the United Kingdom. These areas have a history of unemployment, poor housing and associated social issues, similar characteristics to that of the site along the waterfront in Porto. "The meaningful inclusion of communities in the creative process has enabled a real dialogue to emerge between artists and local people" (Dawes 2008, 66). Projects such as the Mosaic Bollard Project in Port Glasgow and the Future in Hand Sculpture in Inverclyde are two collaborative art and craft projects that have been designed and created by the local community to be exhibited in the area.

Future in Hand Sculpture, Inverclyde, Scotland. Photograph by Darren Wilson (Dawes 2008).

Mosaic Bollard Project, Glasgow, Scotland. Photograph by Brian Lochrin (Dawes 2008).

These projects encourage both personal development and collaboration. Artist Karina Young, who led the Mosaic Bollard Project in 1997, explains that the benefits of art projects stem from organic development within the community and are taken out into the local area, which then benefits the community and brings them recognition. The projects are organized in learning workshops where the participants are able to explore the materials and learn about how to make things. The collaborative projects are made by combining individual work from various participants and through the discussion of the future location of the artwork and the size. The project is then completed and exhibited in the locale.

Many of the participants felt a sense of ownership over the individual projects they made, as well as the larger community project developed, living and interacting around these pieces on a daily basis (Dawes 2008, 71). Learning and engaging in local art and traditional culture can, arguably, change the behaviours of disadvantaged young people, "who stand to become agents of change themselves when they are allowed to participate in meaningful projects in their own locale" (Dawes 2008, 71). In Glasgow, Scotland, five out of the seven participants that were interviewed following completion of the project "believed that being involved in the arts project had helped them get a job or move into training" (Dawes 2008, 75).

When consideration for the culture and longevity of the community is addressed through culture, craft and community arts, "local people are seen by themselves and others as creative and engaged, whereas only a few years before they had never considered the arts as an outlet for their aspirations or a conduit to greater social involvement" (Dawes 2008, 73). As Dawes notes further in *Art, Community and Environment,* "Under this scenario, the community becomes the kind of information 'free university' espoused by Joseph Beuys. The model has a lot in common with gardening or vocational training, the

aim is not just to perform in the short-term, but to learn how to perform, to begin performing and then to create opportunities for others to learn to perform" (Dawes 2008, 74).

The success and development of community art, craft and culture for both communities and individuals may be dependent on what facilities are offered (initially and phased in) to facilitate both private and public development, different users, seasons and programs. In recent years, the development of community arts in industrial port cities of Scotland have occurred alongside a renewed interest in public art and urban design. Most of these projects take advantage of the existing school facilities to develop artwork and educate local children and youth. Projects like Room 13 in Fort William, Scotland, another post-industrialized area near Glasgow, offer an environment to develop these projects, relying on existing school facilities for the community to learn and to work, as well as sourcing materials and equipment. Without any available facilities in the locale of Lordelo do Ouro, there is a possibility of rendering the abandoned industrial site in Porto as a renewed canvas for similar projects. Further, by encouraging the development of these types of community projects within the abandoned site in Porto, they might become part of a larger renewal of other degraded areas along the waterfront, with the potential for even greater community engagement and connection to the Ribeira historic city.

Providing a community with spaces and mechanisms for creative activities and collaborative cultural engagement such as workshops and studios, collaborative galleries, marketplaces and public spaces can enhance disadvantaged youth and people living in poor areas. The recent artistic and community participation in the Clyde Regeneration Project in Glasgow, Scotland by including public spaces and housing within the existing building patina has proven vital the role of art and craft as an empowering source of collaboration and renewal. "From community art projects to bold architecture, creative concepts are central to regeneration initiatives, and artistic events and projects are a pivotal factor in the creation of stimulating, attractive and safe environments" (Coutts and Jokela 2008, 200).

Adaptive Re-Use and Small Scale Intervention

> To inhabit a place also means to become involved with whatever is already there,
> to come to grips with it, accept or contradict it. The new has its place in and next to
> the old, not in place of the old. (Kroll 1987, 3)

The migration of industry out of many major European cities in the last few decades has had a significant effect on the built environment of industrial towns. "Empty and lifeless, large-scale industrial buildings and sites can have a negative visual and social impact on an area and can cost a city a great deal in lost tax revenues" (Thomas 1978, 217). Following the exodus of industry from the waterfront and urban areas, many of these remaining industrial buildings and sites were converted into museums, housing the history of the waterfront and its local culture in higher institutions. However, "as many preservationists and others have discovered all too late, there are only so many "museums" or related uses which can be supported in a given community. Often more unconventional "economic" functions must be found if the buildings are to be saved" (Martin 1978, 1).

A new appreciation for industrial sites as opportunities for development that offers more than economic benefits has grown over the last few decades throughout Europe. As space within cities is changing, the expanse of these sites often located in urban centers and along waterfronts provide ample space for activity and community development. Generally, these brick, stone or concrete facades reflect the previous uses of the building, with large, open spans of heavy structure such as timber or cast iron. Austere in design, they establish large volumes of open, unobstructed space that served to create efficient and safe production of goods, which enabled machines and storage within the long spaces. Most often, the longevity of these buildings and the quality of materials and construction can be difficult to replicate, and they are valuable spaces, "such structures are ideal candidates for reuse, and many successful small-scale refurbishments have been completed in cities around the world" (Bloszies 2012, 29). Some view these conditions as ailments to the communities that surround them, but others see them as opportunities to rediscover the past and re-invent the future, "seeing the beauty in industrial buildings has been critical to their renovation" (Berens 2001, 39). The celebration of existing structures is necessary to retaining old buildings, and to the overall juxtaposition of new and old. Further, by retaining existing structures, an adapted site is inherently more sustainable than if site were to be demolished.

The design of these buildings and spaces provide ample space and opportunity for cultural centers as well as for artists because of the flexibility and sizes of spaces. Art proponents maintain that art venues, projects and events can revive neighbourhoods, sense of community and become central tourist attractions. "Culture, in all its guises – from its creation to sales to enjoyment – is seen as a viable, if not a complete alternative to replacing the factories of earlier times" (Berens 2011, 95). However, community art centers as adaptive re-use projects like the Artspace Projects in Minneapolis, MN, where zoning is established to promote arts and culture along with housing (Berens 2011, 97) avoid the over-commercialization and gentrification that private development typically brings about. Providing live-in artist in residence housing also allows for visiting artists and educators to engage with locale people and work within the site in an active way.

The Don Valley Brick Works Project located on the Don Valley River in Toronto, Ontario by ERA and Diamond Schmitt Architects is an example of a contemporary attempt to gage the industrial austerity and complexity of a former industrial site with a multi-use design. Located in a semi-rural area, the new center provides offices for a non-for-profit agency, Evergreen, as well as spaces for education, art venues, artists-in-residence, a museum, and a market, encouraging diversity of users within the larger complex of buildings. The way the project introduces new buildings onto the former brick factory harmonizes with the existing patina, and provides an excellent example of juxtaposing new with old. However the location of the site in a less urban setting questions the ability to engage with less frequent local users, and activity around the site is limited. It is crucial that the site operate with consideration for daily activity and ease of access for all users if it is going to become an active place.

Evergreen Brickworks: Existing Conditions. Photograph (Diamond Schmitt Architects and ERA Architects 2008 a).

Evergreen Brickworks: Proposed Master Plan. Rendering (Diamond Schmitt Architects and ERA Architects 2008 b).

In adaptive re-use projects, most buildings that are retained or re-used are done so because they have great historical or cultural significance to a city. Often any new design elements are conservative in nature to prevent any strong contrasts to that might jeopardize the heritage significance of the existing building and patina (Bloszies 2012, 63). Common adaptive design options for existing buildings often include retaining or adding to the existing patina, such as landmark structures, but can also suggest contemporary designs that highlight individual building elements that might remain such as facades, walls and other structures. Considering the latter, retaining buildings and elements that are not necessarily of "landmark" quality, but emit a sense of scale, quality of design and construction and an overall historical connection with its users can allow for more risk and opportunity when combining contemporary design with existing structure (Bloszies 2012, 63).

Duplication of a past style lacks artistic integrity. When the differences, both in design and material, are revealed through honestly expressed contrast, a successful adaptive reuse and contemporary design could emerge. As nineteenth century architect John Ruskin argued, "for a design to have integrity, it must be a product of its own time - an honest expression of the cultural forces active when the design was executed. In Ruskin's classical tradition, truth equals beauty" (Bloszies 2012, 44). According to Ruskin and Bloszies, differentiating between new and old is critical, if not the point, of new designs on old buildings, and "a time stamp must be unmistakably identifiable on both parts" (Bloszies 2012, 45). This is particularly true if evoking a sense of place by providing facilities that encourage creativity while renewing an abandoned industrial site in ruins are the goals. Blozies notes that various options for adaptive design, from extreme to restrained or referential. However, it requires the analysis of site and program to truly understand how and where to intervene on the site and to what degree. Is it possible to engage in small scale architecture to provide a successful transition from large scale, open space to more intimate and engaging environments, while also offering an opportunity for collaboration and community development?

Thesis Position

In order for disadvantaged people to have hope for their community, basic conditions are required in order to ensure the community to will survive and flourish. By giving the local users ownership over the project itself, design has the power to consolidate communities and provide opportunities for a place to develop. As Relph suggests, how authentic place-making might be achieved in modern times is important. "It is not possible to design rootedness nor to guarantee that things will be right in places, but it is perhaps possible to provide conditions that will allow roots and care for places to develop" (Relph 2006, 123).

Relph, among others, believe that placemaking requires a "non-prescriptive" technique, while supporters of community arts such as Coutts, encourage collaborative creative work. Adaptive reuse advocates including Bloszies encourage a clear juxtaposition between old and new. By combining the above approaches, with an understanding of local culture and qualities that make good places authentic, and then extracting small, but significant cultural art and craft elements from these places, contemporary design can generate a successful community development project. These elements, next to a site that bears historical weight and that has traditionally been associated with a culture of making and exchange, provides an opportunity for dichotomy, juxtaposition and transformation that encourages regeneration and renewal. This hybrid approach proposes architecture as a structure to support a program of art and craft that, over time, becomes part of the design of the site itself, supporting local development. As architecture and art become tools to facilitate change, the site becomes the palimpsest to explore and redefine community development through the active participation of the local users in the project.

For the people living in the social housing community in the District of Aleixo in Porto, Portugal, the current physical condition of the area and the adjacent abandoned industrial site is alienating. As the waterfront to the west becomes more valorized, the current south-facing land of the District of Aleixo and the adjacent abandoned industrial site to the south, due to its close proximity to the waterfront, is becoming another highly desired area for private redevelopment. The desire for development here threatens the homes of the people who were transplanted to the area following gentrification of the city center in the 1970's. In order to avoid yet another gentrification, alternative solutions that offer opportunities might be investigated. Rather than relocating the problem of the social housing community elsewhere in favour of more private development, a community development approach that allows for natural engagement through mixed used, mixed demographic interaction and place-making through small-scale, adaptive design could improve both the neglected physical environment and the community.

CHAPTER 2: SITE CONTEXT AND SELECTION

Historic Development Along the River Douro, Porto, Portugal

The city of Porto, established around 400 BC, is located in the northern region of Portugal. The city is the second largest in Portugal after Lisbon and was a traditional center for craft-based trade that provided a network of local industry from the medieval period onwards (Livermore 2004, 6). Because trade first settled where it had access to transportation and resources, often along rivers and oceans, traditional centers of activity in port cities like Porto received raw materials and distributed building materials and craft to other areas through these waterways (Berens 2011, 1). As the trade along the river developed, so too did the city, expanding west to the ocean and north inland, creating a new center for commerce. This in turn established small but thriving centers within the larger context of the urban center of Porto.

The area of Lordelo do Ouro, located along the waterfront to the west of the old town of Ribeira, became known for its boat building industry and its involvement in medieval trade systems along the Atlantic coast. The peak of this shipbuilding occurred during the 15th and 16th centuries, when it was the focus of larger vessels for oceanic explorations and as a means to transport shipments of Port wine and other crafts that were produced locally and adjacent the river in Villa de Gaia. By the mid 19th century, the area was known as a place for public bathing.

During this time, the country remained under imperial control, which stifled the industrial development that was occurring in other parts of Europe at the time, and Portugal remained a poor agricultural country with high illiteracy rates (Lambert 2012). Eventually, the industrial revolution occurred in Portugal following the Republican Revolution of 1910. By the mid 1930's, the local building, craft and export industries developed more efficient production systems for traditional processes and this eventually led to mass production. In Porto, like many other port cities, this involved expansion of industry into newly built factories and sites, encompassing larger areas of land outside the city center. As industry expanded and changed, so too did the city, and the area along the waterfront in Lordelo do Ouro. The current abandoned area on the Rua do Ouro became an industrial site for producing concrete cement, a modern building material used throughout the city and along the waterfront.

Waterfront development along the "spine" of the River Douro, Porto, Portugal.

Changes in manufacturing patterns, development, needs and systems of transport have caused many industries in Porto to relocate to industrial parks outside the city limits in recent decades. These advancements in industry and production, and their relocation, paired with a weakened economy, the result of the fallout from the republic under the ruler Salazar in Portugal in the 1970's, forced out many of the industries that had developed out of traditional crafts. Some of these production facilities were replaced by more modern, larger industrial parks out side the city limits, while others were moved to other regions or left abandoned. Further, some of these production-based industries that were transplanted were replaced with service-based industries catering to tourism based in the port center, of Ribeira and along the waterfront. The Ribeira historical center underwent a major transformation in the late 20th century to make room for development of restaurants, shops, private residences and hotels that catered to the upper classes and visitors as cash crops (Burnay 2011, Interview). Many of the mercantile businesses and financial companies moved further northwest to the area of Cedofeita, expanding the city northwards. Despite many efforts at the development of the tourism industry, by the end of the 1970's, the economy and state of Portugal was closer to those of the third world: "the tourist industry had failed and there was extensive unemployment" (Livermore 2004, 35). The increase in unemployment and associated social issues that accompany urban growth and a declining centralized industry and economy, paired with a desire to improve the tourism industry, increased gentrification of the old city and the need for social housing to relocate people displaced by it. Lordelo do Ouro became the location for new social housing developments, specifically the Bairro do Alexio (District of Aleixo), inhabiting many of the people displaced from the gentrification of the Riberia, while the concrete factory was soon after relocated, and the site abandoned (Burnay 2011, Interview).

Although the country joined the European community in 1986, and has since made several attempts to revitalize its economy, tourism and sense of culture in its major cities, Porto, among others, still remains in decline (Livermore 2004, 36). The exodus of industry has made room for development and re-appropriation in some areas of the historic waterfront and in recent decades, many of the landmark historic properties, factories and industrial sites located within close proximity to the Ribeira district along the waterfront have been converted into museums and cultural venues catering to tourists. However, many of the remaining, less coveted sites have been left to ruin. Evidence of this struggle can be seen when traveling West along the River Douro as factories and several smaller historic properties have been abandoned, closed or relocated, including the site located adjacent the District of Aleixo in Lordelo do Ouro.

ribeira "historical" city

district of aleixo "abandoned site"

river "spine" link to historical ribeira center - original home of aleixo community

potential residents, visitors and businesses travel along river "spine"

distance - 3km 35 minutes

15 minutes

local community users

distance - 500m 10 minutes
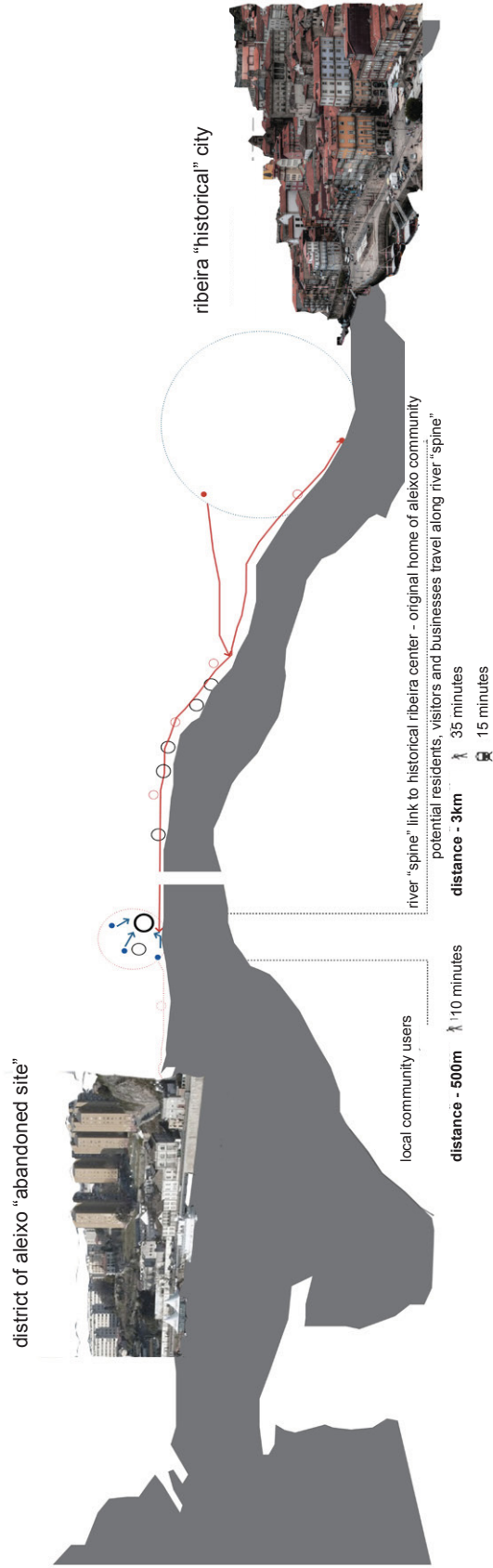
Relationship of Ribeira "historical" city to District of Aleixo along the river "spine", Porto, Portugal.

21

ribeira "historical" city

district of aleixo "abandoned site"

site - rua do ouro
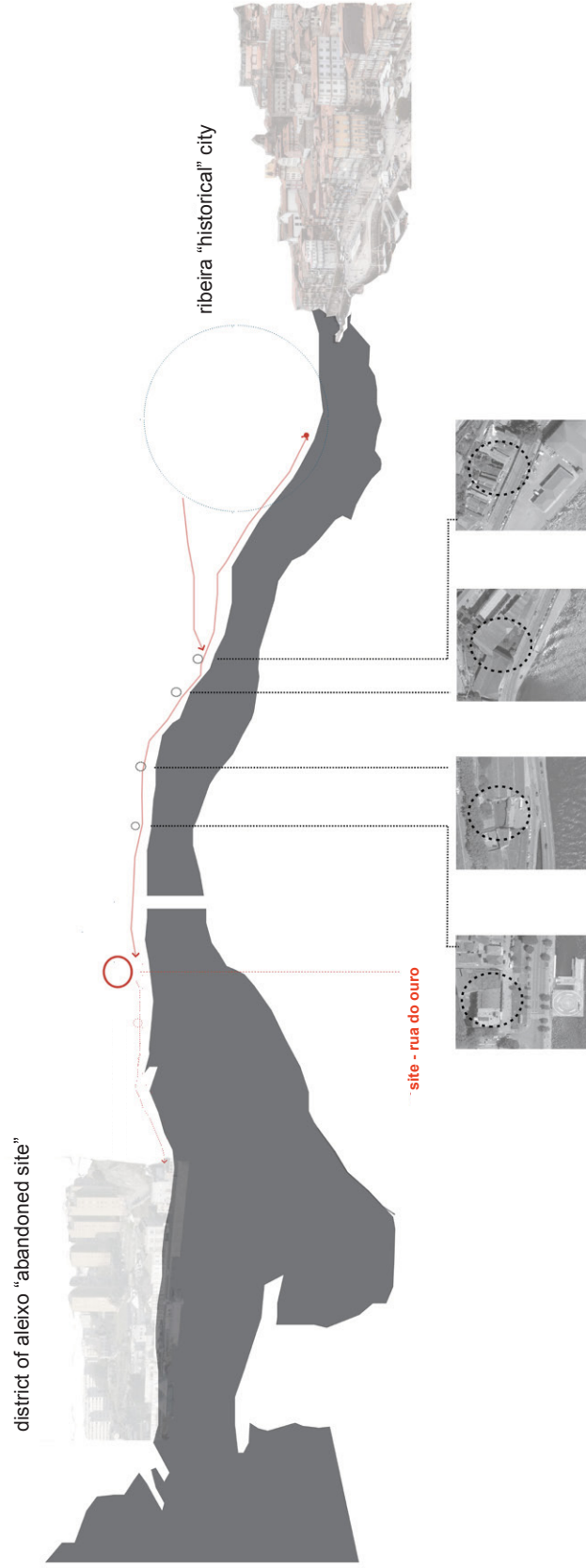
Relationship of other abandoned sites to the river "spine" between the Ribeira and the District of Aleixo, Porto, Portugal.

Site: District of Aleixo, Lordelo do Ouro

The chosen site for the project is an abandoned cement factory that stands along the River Douro, in the District of Aleixo in Lordelo do Ouro, approximately three kilometers West of the Ribeira, where the historic city is located. Rua do Ouro (Ouro Street) runs parallel to the River Douro and connects the historic center with the chosen site. To the south, the site neighbours the social housing complex where former residents of the historic district were relocated in the 1970's gentrification of the Ribeira.

The current situation of the community living in the District of Aleixo is two-fold. Those people living in Aleixo lost their sense of belonging when they were moved out of the Ribeira, and they are further alienated by the current poor conditions of their community. As a result, the displacement of the industrial activity from the site has left a negative impact in the community. The physical separation between the housing complex and the river caused by the abandoned site creates a disconnect between people, the River Douro and the historical center from which most of the community originated. Because of this, there is a lack in a sense of belonging, place and community in this area. When paired with high unemployment rates, little economic support, and social stigma associated with high drug use in the area, the people living in this community have been disengaged from the waterfront, and from the traditions of the Ribeira. The situation is amplified by high land value, as many city developers see the Aleixo housing complex is a promising site for private economic development.
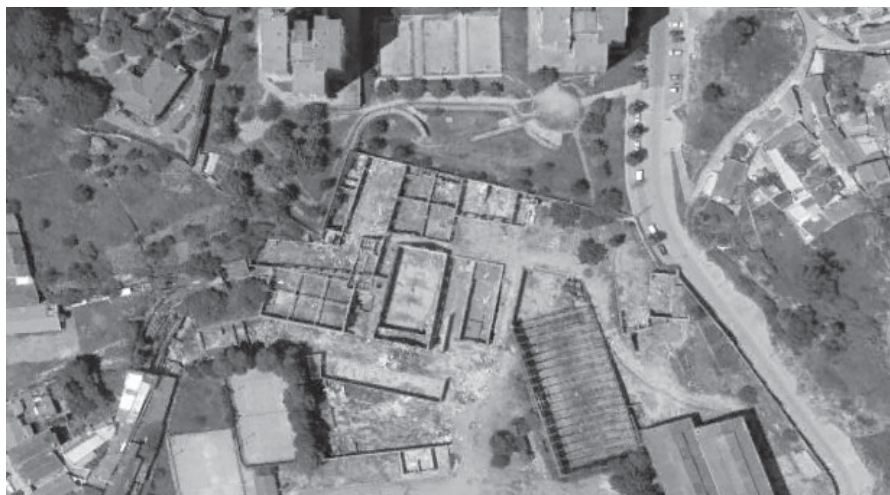
Aerial Photograph, Current Site, District of Aleixo Porto, Portugal. From Google Maps, 2011.

site - remains of factory - 2011

site - industrial factory - circa 1930

site - historical town + rural

historical town
built before the 19th century
built late 19th century
factories built early 20th century
social housing built 1960's

Historical development, Lordelo do Ouro and potential site, Porto, Portugal. Photos and maps (altered) courtesy of Raquel Rodrigues, 2011.
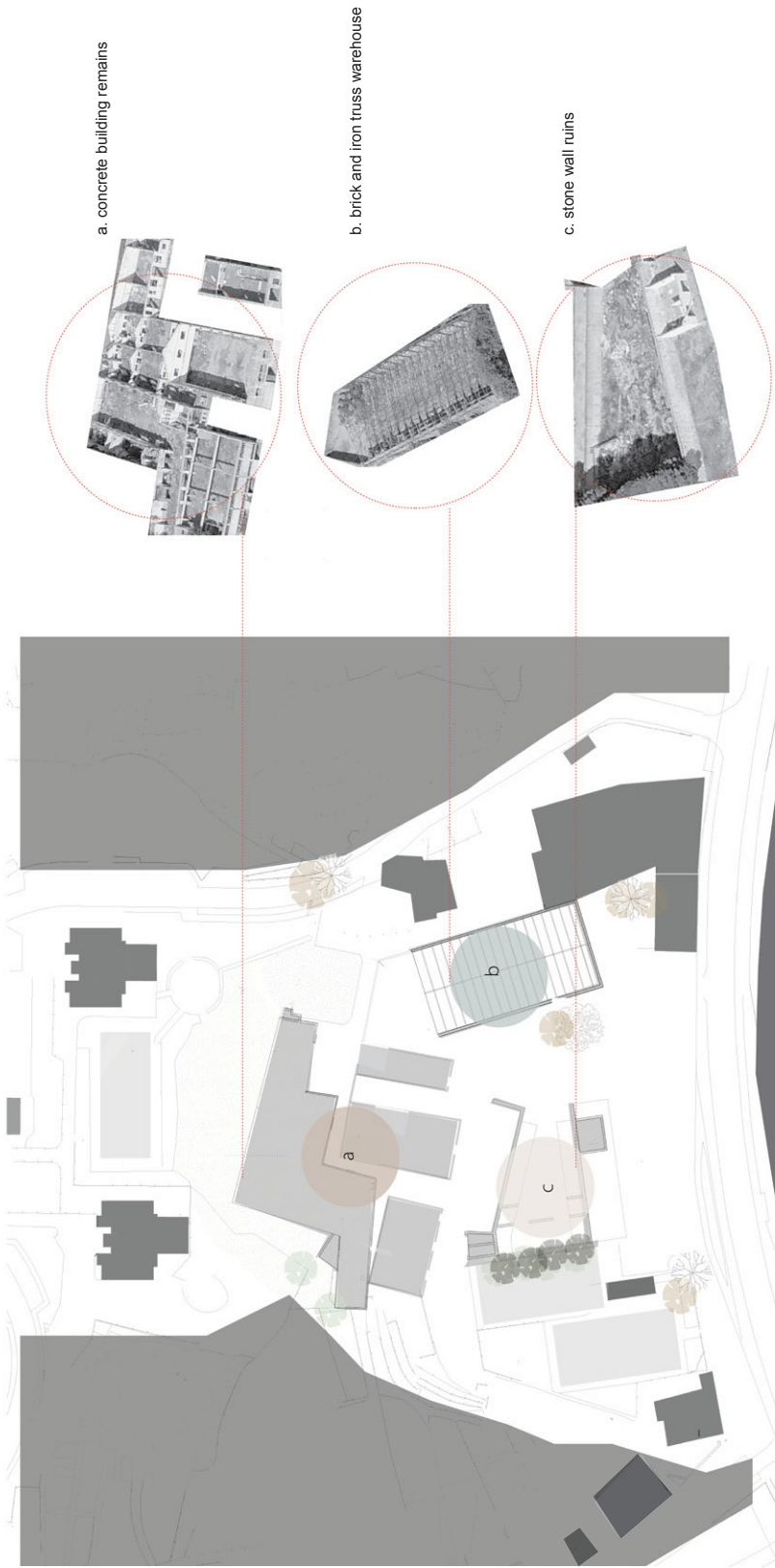
a. concrete building remains
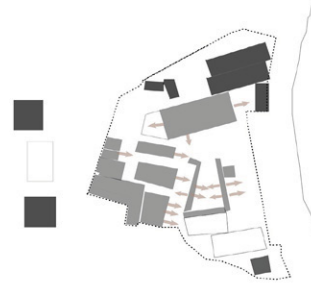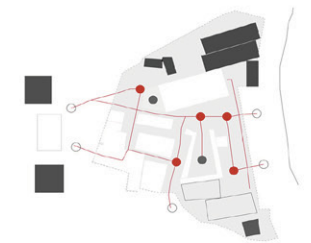
b. brick and iron truss warehouse

c. stone wall ruins
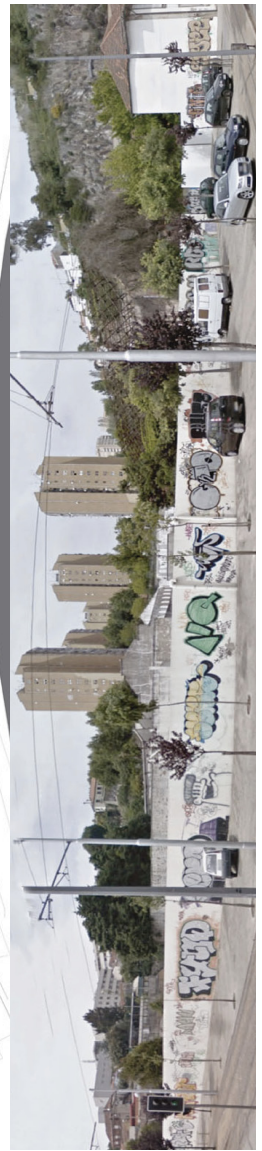
Existing Site and Building Conditions (in plan and elevation), Abandoned Industrial Site, District of Aleixo, Porto, Portugal.
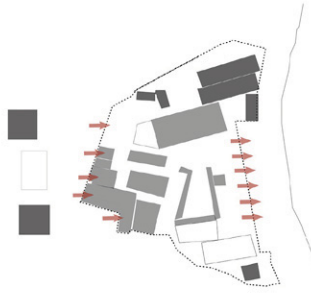
connecting the local community to
the waterfront through the site

spatial relationships between
existing buildings

points of acces, meeting
and gathering
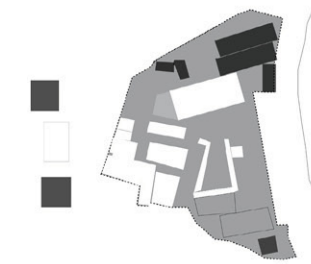
outdoor public spaces
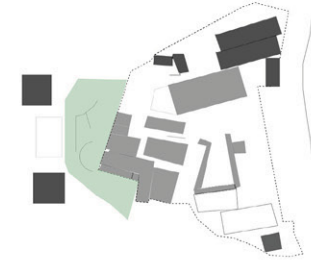
extension of green space
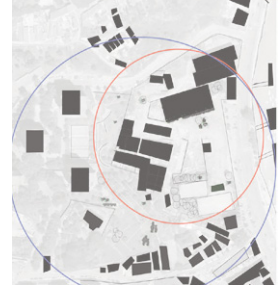
Series of potential urban relationships based on the existing site conditions.

urban analysis

existing ciruculation routes

points of transition into site

potential points of meeting

potential points of gathering

potential extension of local community + site

potential extension of spaces between existing buildings
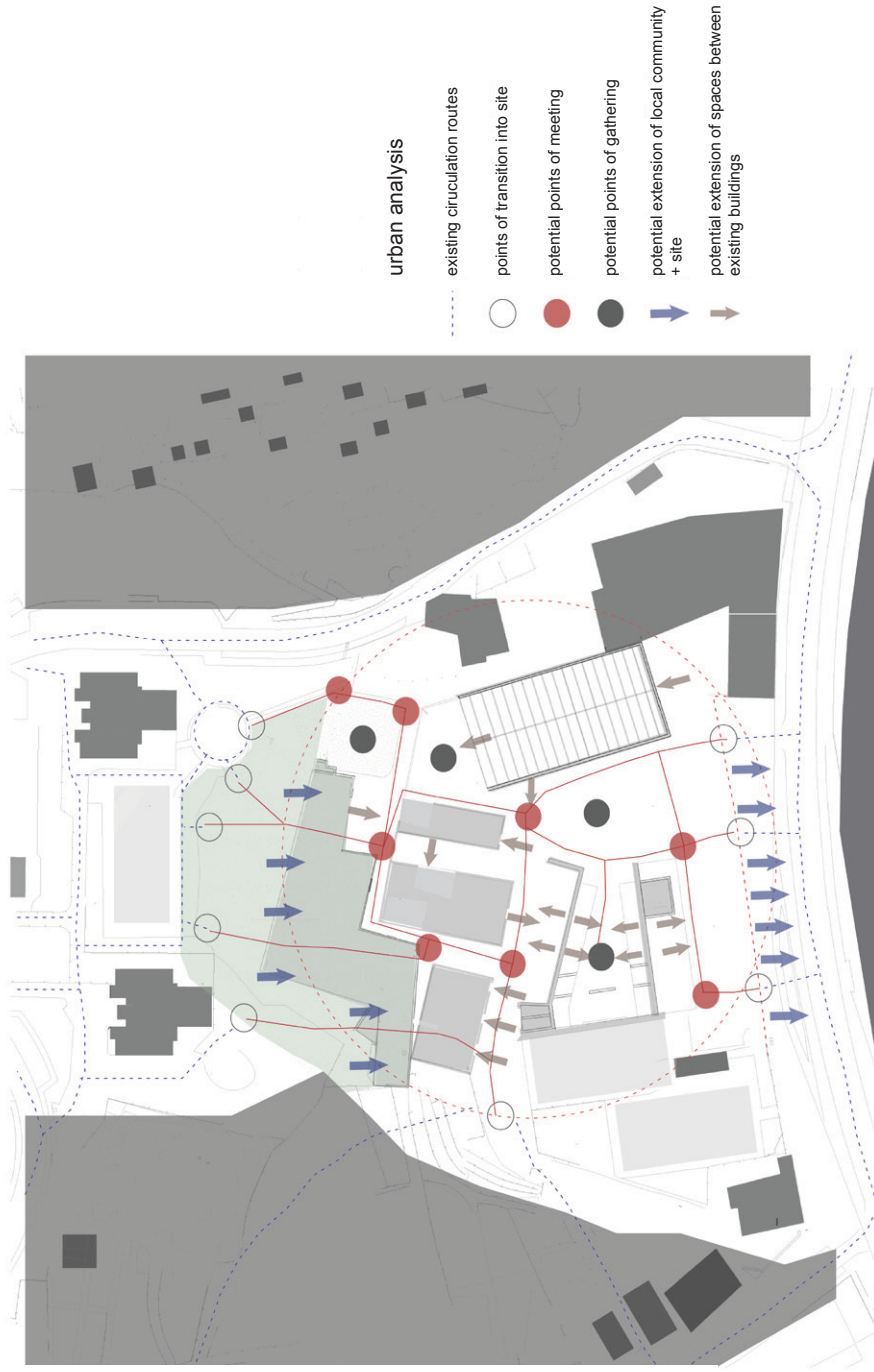
Combined potential urban relationships based on the existing site conditions.

culture (community center) proposed intervention
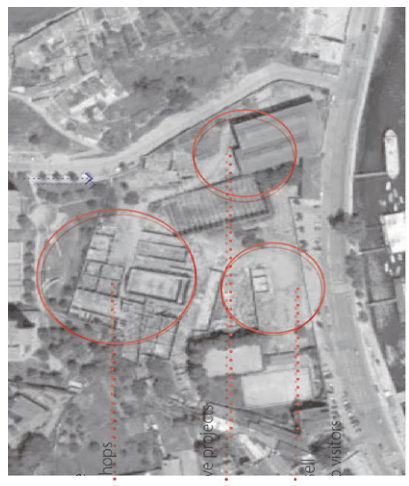
back of site
craft workshops

exhibition
collaborative
projects
gathering

market area
exchange +
sell items

community

learning/making

exhibition

public
market

city
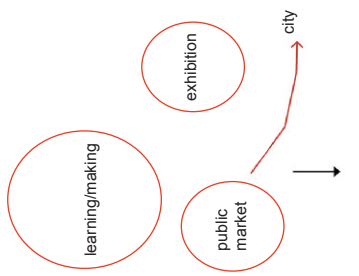
site operations

city
export art + craft to
external sites for projects
+ to visitors

industry (factory) organization, circa 1930

back of site
manufacturing

sorting + compiling
materials for
shipment

storage + shipping
materials

manufacturing

complie
filtering

shipping
storage

city

site operations

city
export materials to
external locations

Diagram comparing the historical industrial site operations and circulation to the existing conditions with the potential new site organization
Image of Cement Factory, circa 1930. Porto Archives, c/o Raquel Rodirigues.Image of District of Aleixo, Porto, Portugal, 2011. From Google Maps.

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CHAPTER 3: PROGRAM DEVELOPMENT

Art, Craft, and Culture, Porto

> The fact that Portuguese art is not widely known is due largely to the fact that its greatest accomplishments were not in painting, but in architecture and in sculpture, woodwork and tiles used in conjunction with architecture. (Smith 1968, i)

In Portugal, art and architecture are closely connected, and often used in combination. So much that the architecture of Porto, a major city, has become recognized as "art" itself, and the craft of this work is something to be admired and appreciated. This is especially evident within the older areas of the city such as Ribeira, where the element of this art and craft takes precedent. This historic "old" city was declared a UNESCO World Heritage Site in 1996 for its unique cultural history and architectural heritage value (Roberts 2001, 31). This culture of craft here is less evident in high art, but rather in the making of the city itself. Traditionally, art and craft has been embedded in the construction of the city and the development of its associated trades. It can be found incorporated into buildings, as wells as plazas and public spaces, and along the waterfront. It appears in the form of art and craft in public squares and buildings, as ceramic and clay tiled squares, ceramic screens, cast iron balconies, skylights, and sculptures. Along the waterfront, this art and craft is evident in the details of wood ships and wine caskets, in the stained glass and woodcarvings of churches, as floor and wall tiles, and as hanging textiles and functional pottery (Smith 1968, 16).

The cultural traditions of art and craft were passed on through generations and family communities living in the historical areas for centuries. Community and family formed the critical foundation of relationships and exchange in Portuguese culture, establishing a network for sharing the knowledge of local traditions. Within this context, the Ribeira and its communities, formed a cultural network of traditions.

Iron balconies and hanging fabric, Porto, Portugal.

Stained glass ceiling and windows, Lello Bookstore, Porto, Portugal.

Wooden river boats, Porto, Portugal.

Outside the city center, local traditions and cultural development in art and craft have continued despite gentrification of the Ribeira. The University of Porto, or Universidad do Oporto, and more significantly, its Fine Arts School (and associated School of Architecture) have been prominent in developing local cultural arts since the 19th century. These facilities provide opportunity for external educational expertise and a continue to share a network of knowledge that encourages the cultural exchange of skills. Festivals and events celebrating the arts culture of the city still occur throughout the year, and include the *Sao Joao Festival*, the *Artisan Festival*, the *Rabelos Regatta* along the Douro, and the film festival *Fantasporto* (Portugal Travel Guide, 2011).

Local Precedents

Currently, there two main examples of cultural or community centers in the locale of Lordelo do Ouro. The first one is the Serralves Museum of Contemporary Art, by Alvaro Siza, focusing on the exhibition of higher contemporary art within a large museum and gated park. The second is the Casa des Artes, S.E.C Cultural Center by Pritzker Prize laureate Eduardo Souta de Moura, where the focus is local culture. However, its location on the east side of the large hill in the area of Masarellos makes it less engaging and less accessible for the local residents of the District of Aleixo, located to the west in the valley along the Douro River. Currently, the Regional Center for Traditional Arts (C.R.A.T.) in Porto, is the closest example of a center that focuses on the education, promotion and exhibition of traditional culture of arts and craft in the city. This gallery and store, located near the Ribeira center in a small, historic building, provides a base for local and regional art and craft. Many of the artists who exhibit and sell their work in the center are working throughout the city, using the center as a hub. Although workshops sometimes occur, art and craft are not made at the center. Their facilities are inadequate for a large learning center and would not accommodate the community of Aleixo, but serve as a good example of encouraging local cultural development in arts.

Casa des Arts, S.E.C. Photograph (Souta de Mouro 1981).

Regional Center for Traditional Arts (C.R.A.T) Porto, Portugal. Photograph (C.R.A.T. 2008).

C.R.A.T. (center for regional art + craft)

soares dos reis museum

casa da musica

roa mota pavillion

museum of port wine

university of porto - school of architecture

tram car museum

site - rua do ouro

casa des artes s.e.c. cultural center

serralves contemporary art musesum + park
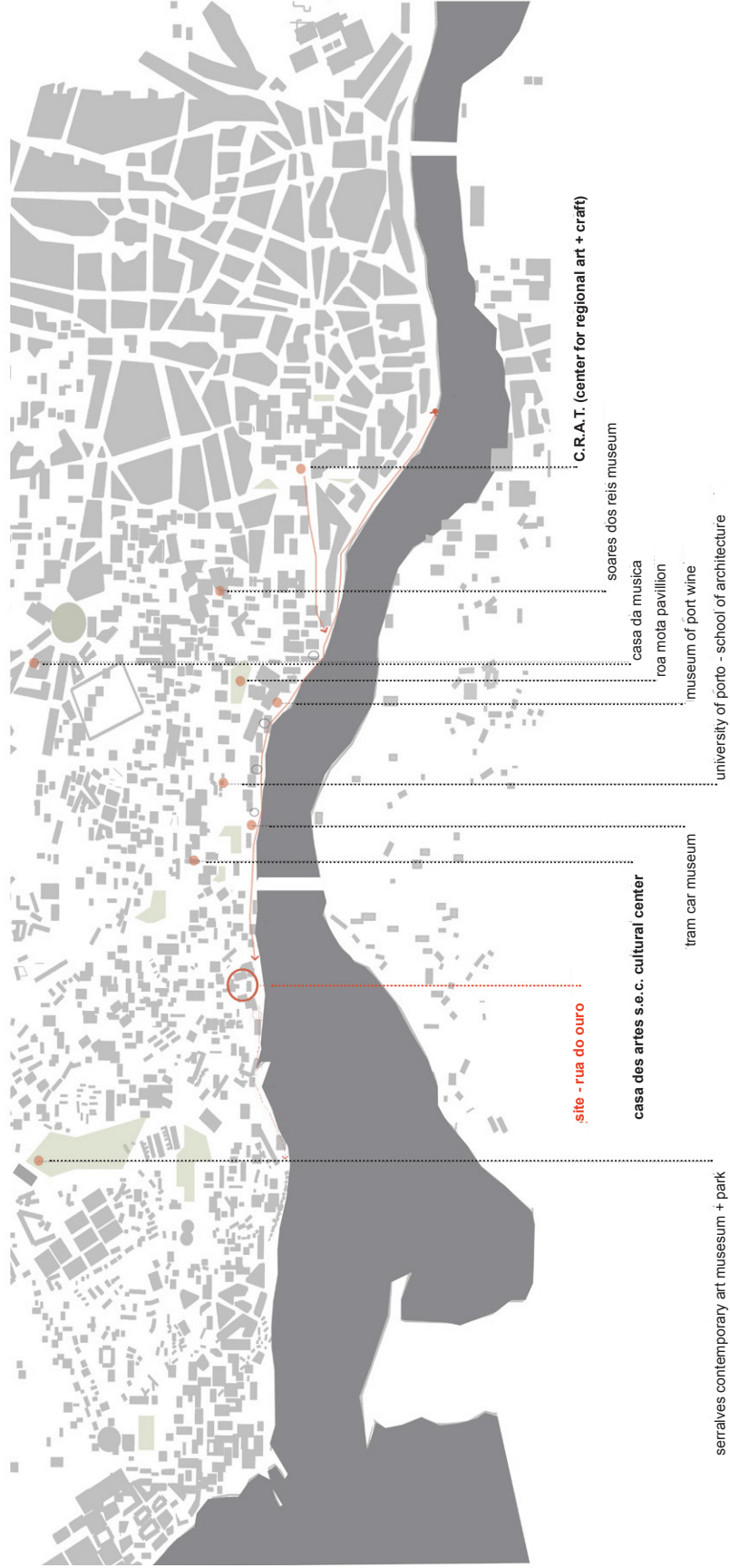
Relationship to cultural centers, museums and green spaces along river spine to District of Aleixo abandoned site, Porto, Portugal.

Program Structure: Community Art and Learning Center

A community art and learning center, where making, exhibiting and trading art and craft are the focus, can provide a means to recover an abandoned industrial site and help the people of the area to return to their local traditions. The importance of developing community through an arts center, where people and their culture are the most important aspect, can empower the alienated disadvantaged people living adjacent the site. A new center that provides facilities to develop individual skills and use these to create collaborative projects and build the center itself is the aim of the project, considering various user groups and demographics. Providing a center where people of all ages can learn, work and engage in various individual and collaborative creative cultural activities provides opportunity for a dynamic place to develop. The new community learning center could provide a home for artists-in-residence and non-profit agencies, and serve as a hub for local users, artists, craftsman and visitors to exchange and interact through facilities for making, exhibiting and trading individual or collaborative art and craft projects. By regenerating the existing industrial remains through contemporary design, this creates a more sustainable community center based on cultural traditions of Porto and "creative processes" in the heart of Aleixo. The center itself would provide a place where there are learning experiences associated with creative and technical skill development, but also with indirect outcomes, such as confidence building and improved social communication through interaction and exchange.

The project is conceived in phases, allowing the site to grow as the center grows and actual materials and people using the center could help to build the facilities, enabling self-financed expansion. However, the success and development of the community and individuals may be dependent on what facilities are offered (initially and phased in), with a variety of spaces, functions and flexibility to accommodate different users and seasons. The intention of the center is not only to improve skills and improve self-esteem, but also to give people living in disadvantaged, poor areas the tools to explore culture and craft through making, which can be incorporated into both larger public art projects and can be brought into their homes.

Further, the community art center can act as a catalyst to encourage future collaborative projects along the waterfront that would transform other derelict and abandoned sites in decay through possible future public art renewal projects, forming a cultural "spine" of art, craft and architecture along the River Douro that connects the history of the abandoned site and the people of the District of Aleixo, to the cultural milieu of the waterfront in Porto.
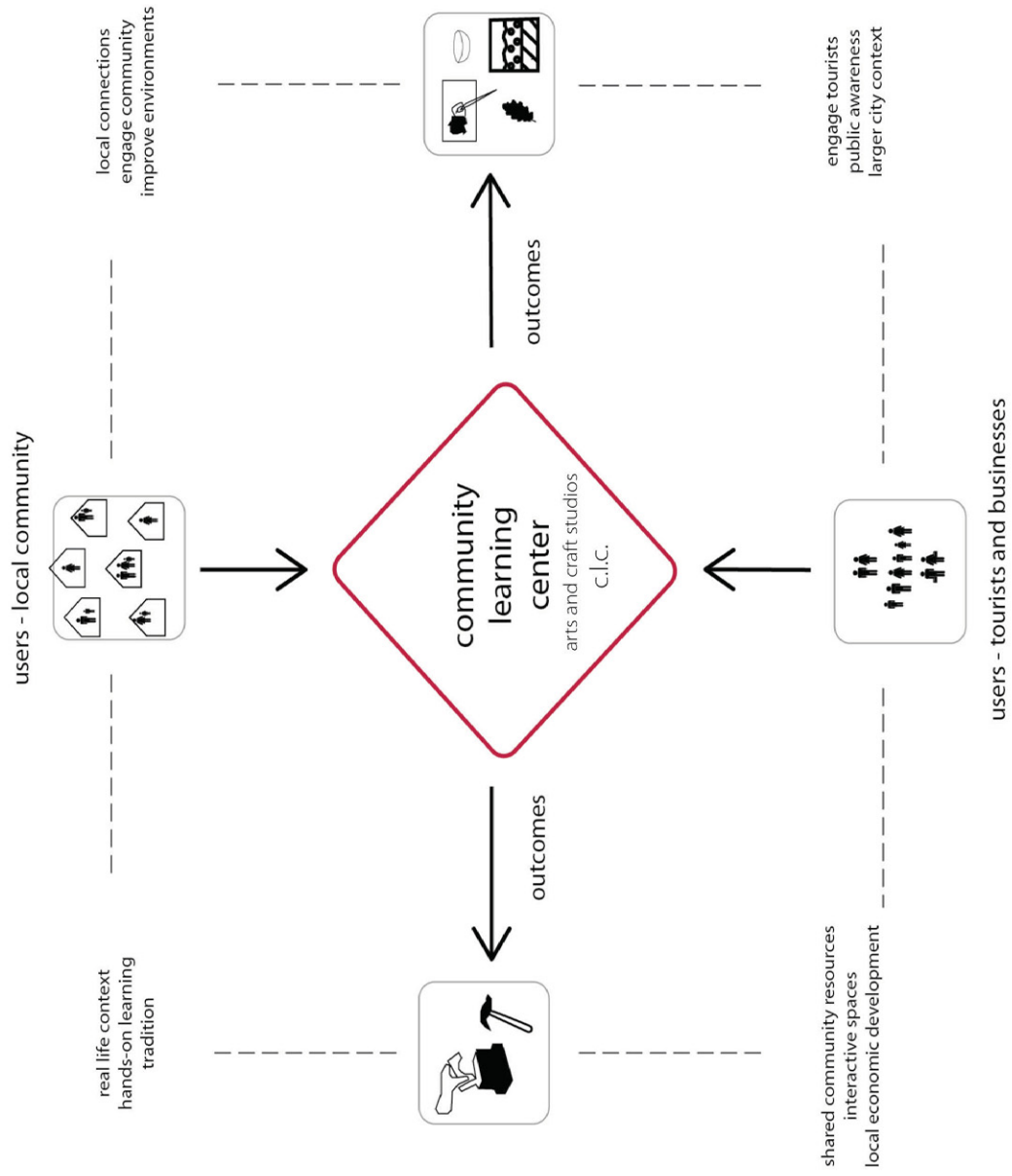
local connections
engage community
improve environments

engage tourists
public awareness
larger city context

users - local community

outcomes

community
learning
center

arts and craft studios

c.l.c.

users - tourists and businesses

real life context
hands-on learning
tradition

outcomes

shared community resources
interactive spaces
local economic development

Diagram of program organization, users and outcomes: Community Art and Learning Center.

district of aleixo "abandoned site"

ribeira "historical" city
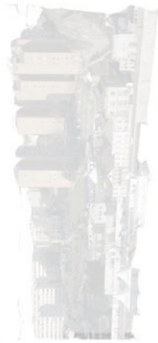
bairro do aleixo "abandoned site"
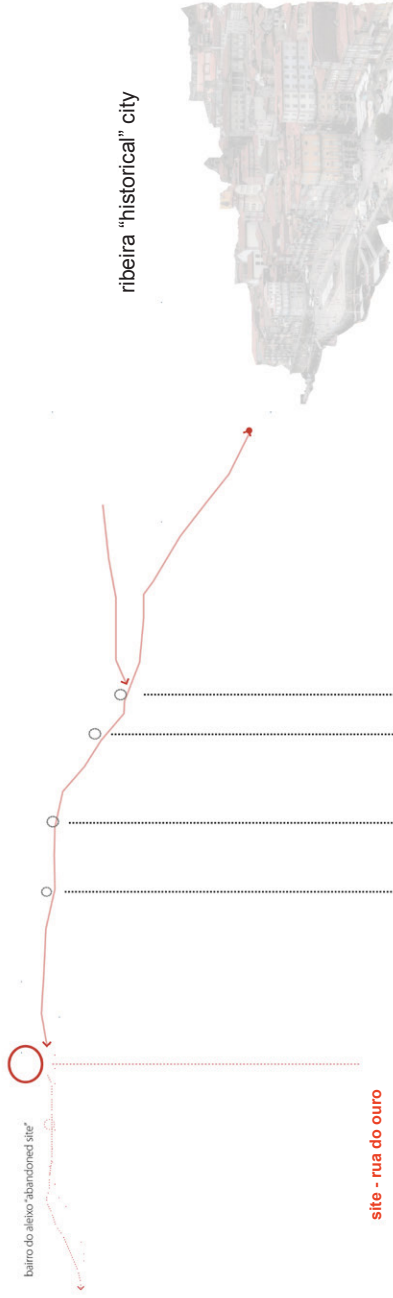
site - rua do ouro

Diagram of river "spine" map relating other derelict sites along the River Douro with examples of community art and craft projects that could improve these sites, Porto, Portugal.

User Groups

The primary users of the potential abandoned site in the District of Aleixo includes the local people living in the social housing complex to the north of the site. These people many of whom were transplanted to the area during the gentrification of the Ribeira, are mostly youth and young adults, and require skills and knowledge that can give them opportunities in the future. Elderly and young children living in the social housing area would also benefit from local creative facilities. The secondary user groups include other people living in Lordelo do Ouro and visitors to the area.

Young adults would benefit from a variety of workshop areas, including those focused on craft such as metalworking, glass working and woodworking, and even textile work. Younger people would benefit from both individual and collaborative spaces for engagement and skill development, and develop skills in craft such as woodworking, ceramics and public art projects. Children and the elderly would enjoy areas for fun and relaxation respectively. Children would benefit from group settings and opportunities for collaborative work and ceramics, pottery and textiles is easier for people of younger ages. The elderly would also benefit from working in ceramics, pottery and textiles, but perhaps require less collaborative settings, and more intimate areas. Many of the projects that could be made by these local users could help to build the sense of community on the site, creating collaborative public art instillations, outdoor furniture, ground tiles and even temporary and permanent seating. Some of the more complex designs in collaboration with architectural elements might be good opportunities to nurture skill development in young adults seeking future employment and other opportunities. Other local users and visitors would benefit from public classes and activities that would allow them to also engage in art and craft, and purchase goods and work made locally.

The people using the site and the art and crafts made at the site encourage a return to making by hand. These activities can vary from pottery, to metalworking, and from individual to collaborative projects, engaging the local community in the process of making, exhibiting and trading.
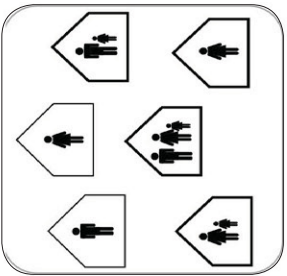
district of aleixo

social housing complex

community user profiles

youth (age 20-40)

disadvantaged, active

prone to anti-social behaviour

learning skills + gaining confidence

areas of craft:

woodworking

sculptures

ceramics
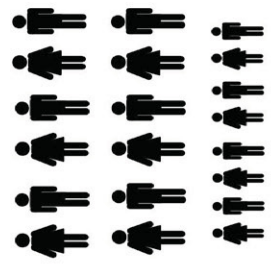
young male adults (age 20-40)

unemployed

learning skills for future

employment opportunities

areas of craft:

metalworking

woodworking

glassworking

children (age 3+)

disengaged, active

learning + confidence building

engage with older age groups

areas of craft:

ceramics

pottery

painting + sculpture

elderly (age 50+)

unemployed or retired

re-discovering history + culture

engage with young people

areas of craft:

textiles

weaving

pottery

$_v$ visitors - tourists + businesses

+

=

Types of potential user groups: District of Aleixo (local community), visitors and businesses.
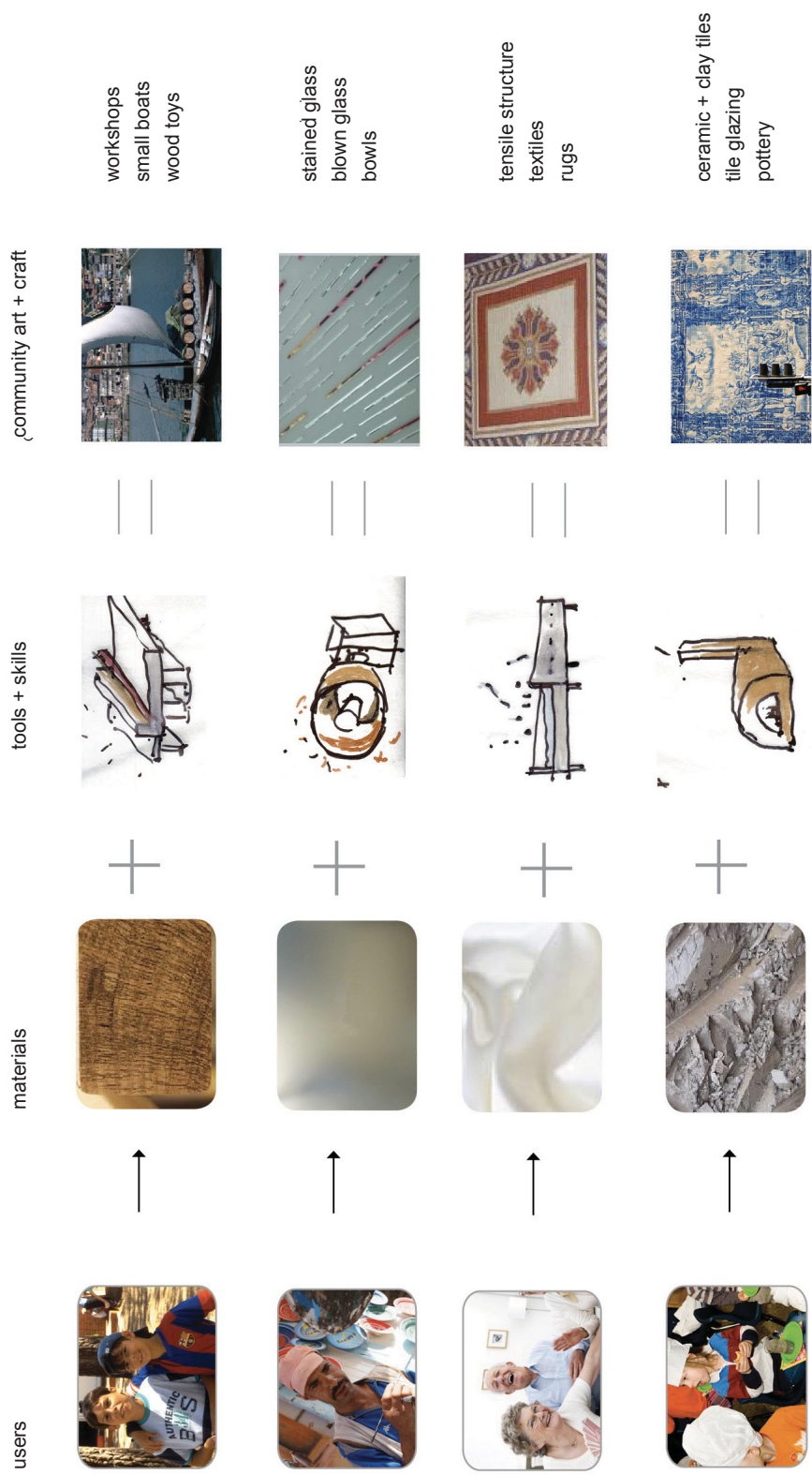
workshops
small boats
wood toys

stained glass
blown glass
bowls

tensile structure
textiles
rugs

ceramic + clay tiles
tile glazing
pottery

community art + craft

tools + skills

materials

users

Possible art and craft activities for local users and visitors.

Program Spaces and Requirements

The areas required for the program include private studio areas and larger public workshops, artist-in-residence studios and housing, food and cafe vendors, a large exhibition space and a market. Outdoor public spaces for meeting, gathering and exchanging are also important. All of these spaces require flexibility and varied users.

The local users from the District of Aleixo require various facilities for creative activities involving both art and craft that offer potential for individual and collaborative work, such as private studio areas and public workshops. Artist-in-residence studios and housing could offer on-site support and resources, while areas to eat and a large indoor and outdoor public spaces for gathering and exhibition would all benefit these users. Further, areas for outdoor activities are important to generate social engagement and for exchanging and selling of local work produced at the center, making the hub a center of activity and culture.

The secondary user groups include other people living in Lordelo do Ouro and visitors to the site. These people would also benefit from integrated cultural outdoor activities; an outdoor market could provide opportunity for the local people to exhibit and sell their work alongside those produced on site, while visitors could engage with and purchase these items from the vendors. Visitors could also benefit from viewing public workshops, studio work and participating in educational classes. The various exhibition spaces could provide areas to display work to visitors of the center. The main areas could be linked through various outdoor streets and places to encourage interaction.

local workshops:

private workshops
400sm

classrooms and resources
100sm

workshop areas:

metalworking + glassworking
100sm

textiles + weaving
100sm

woodworking + carving
100sm

pottery + ceramics
400sm

food carts
135sm + outdoor

exhbitition + gathering + cafe:
1250sm + outdoor

market + outdoor exchange
2700sm approx.

aleixo community entrance

storage
services

exhibition . projects
gathering

future expansion
area

cafe

outdoor cafe

amphitheatre

public visitors

kids zone

classroom
resources

private workshops

food workshops

community
learning center

public spaces

meeting areas

street and public connection
entrances

art and craft workshops

live-work studios

art and craft market

public workshops

outdoor

entrance
services

outdoor water
activities area

future school

aleixo
housing
complex

natural spaces
community studios
outdoor activities

community
+ public
workshops

crossover zone

public gathering
interacting
exchanging

Site organization and program (section and plan n.t.s.)

CHAPTER 4: DESIGN

> An architectural structure is an expression of cultural principles and deliberate design choices based on current technology and understanding - its meaning. This is the essence of all architecture. These ideals are accomplished in the design process through a language of reduction. It is achieved through narrowing abstract notions of ideas and symbols or program to compose a unity of form, space, detail, materials etc. in order to achieve Vitruvius' dicta of firmness, commodity, and delight. (Hildebrandt 2004, 3)

Process and Method

The principal themes guiding the design process are the relationship between the tectonics of the existing industrial building remains and the potential for new, lighter design interventions that can create a dynamic juxtaposition between new and old. Also prevalent is the cultural significance of the old town of Ribeira and its potential in tying the users back to their culture through materials and inspirational elements. The aim is to provide a framework for the site masterplan strategy that relates to programmatic intentions of the various zones and develop strategic points of intervention and design development the create significant moments of engagement and delight.

A series of investigations into the process, or steps of making helps to inform site interventions, concept design and spatial environments. The significance of the site as a place for making translates into the new site and program strategy and design. Through a timeline of images, a initial comparison is made between the process of making in an industrial manner to that of making by hand through human engagement in design, tools and materials. The comparative analysis of industrial processes in assembly lines and associated machine production is compared with that of the craft based process involved in making things by hand to better understand the previous uses of the site and the potential for new intervention. These steps of making can then be applied to the site, treating it as an opportunity to intervene through various steps at critical points of interest.

By comparing the relationship of industry to culture and the concept of making as it relates to site and program, the site intervention strategy combines the steps of making with the existing conditions to create opportunities for new interventions, considering each existing condition or zone as an area to be intervened upon by the appropriate step in the "making" process related to program activities in local community art and craft.

industry

vs.

culture

reconnect.extend

expose.cover

insert.cover

mix.mark.fill

.add

cut
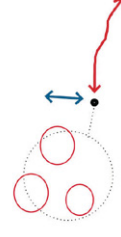
extend.connect

Photocollage investigating industrial processes of making compared with craft-based processes of making.
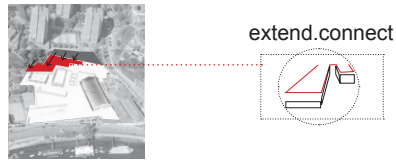
extend.connect
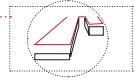
Extending the topography from the Aleixo housing community over the workshop zone can create a more direct connection to the new center and provide outdoor green space that engages the site.
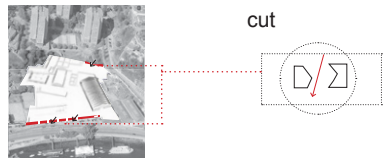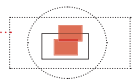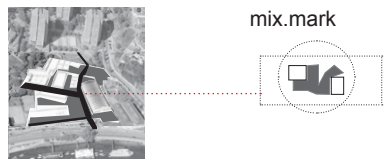
cut

Cutting down existing walls that currently prohibit access help to open up and re-connect the site between the Aleixo community and the Rua do Ouro, as well as the waterfront improving access.

add
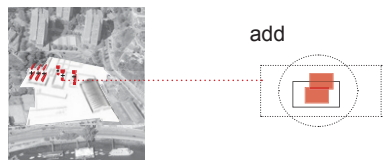
Adding new elements to the public workshop and studio zones create new places for interaction and and various types of making.

mix.mark

Mixing, marking and filling the ground will help to generate connected outdoor public spaces around the wals of the existing factory, establishing places throughout the site for engagement and meeting.
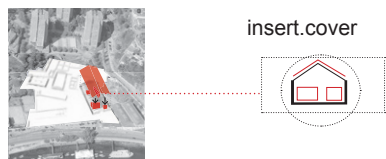
insert.cover

Inserting new volumes and then covering the main "hearth" can provide both protection and emit light into the space, which serves as an exhibition, gallery, and public gathering space.
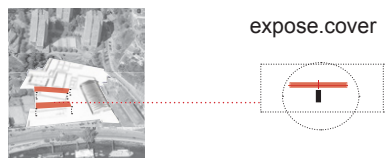
expose.cover
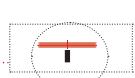
Exposing and covering an outdoor area by connecting to the existing stone wall provides an place for meeting and exchanging at the market, which is an open-air space that is covered.
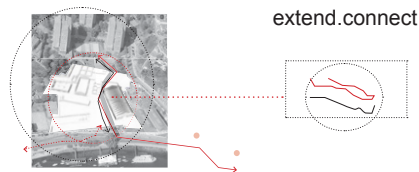
extend.connect

Extending out to the street and connecting back to the waterfront through larger art projects help the site to serve as a catalyst for improving other sites..

Diagram depicting the "steps of making" in the process of intervention on the site as design moves.
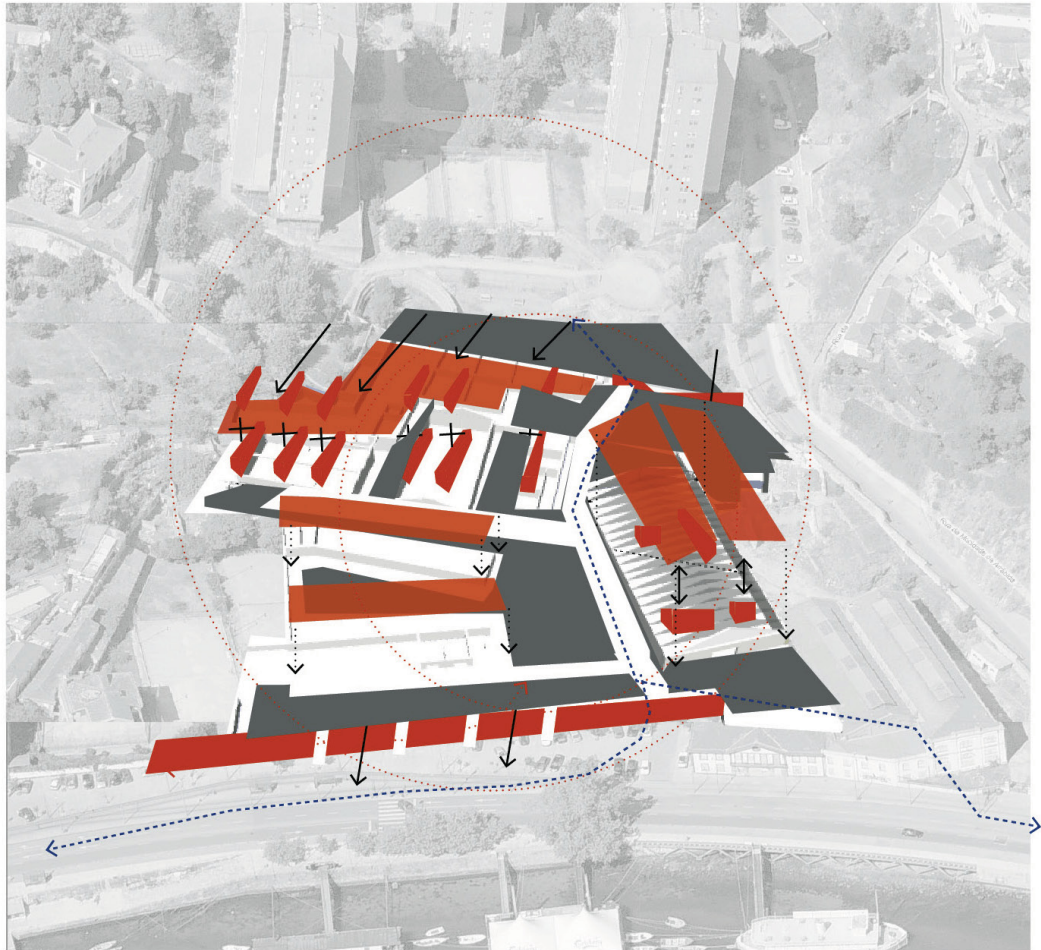
Diagram combining all "steps of making" as design moves onto the existing site conditions. Aerial Image, District of Aleixo, Porto, Portugal. From Bing Maps, 2011.

Site Masterplan Model

       The interventions made on the site through the steps of making and inspirational elements help to abstract form and concept for the masterplan design strategy. These conceptual forms provide opportunities for unique, lighter material interventions that juxtapose with the existing industrial, tectonic condition of the site. These conditions are combined in the overall site masterplan model.
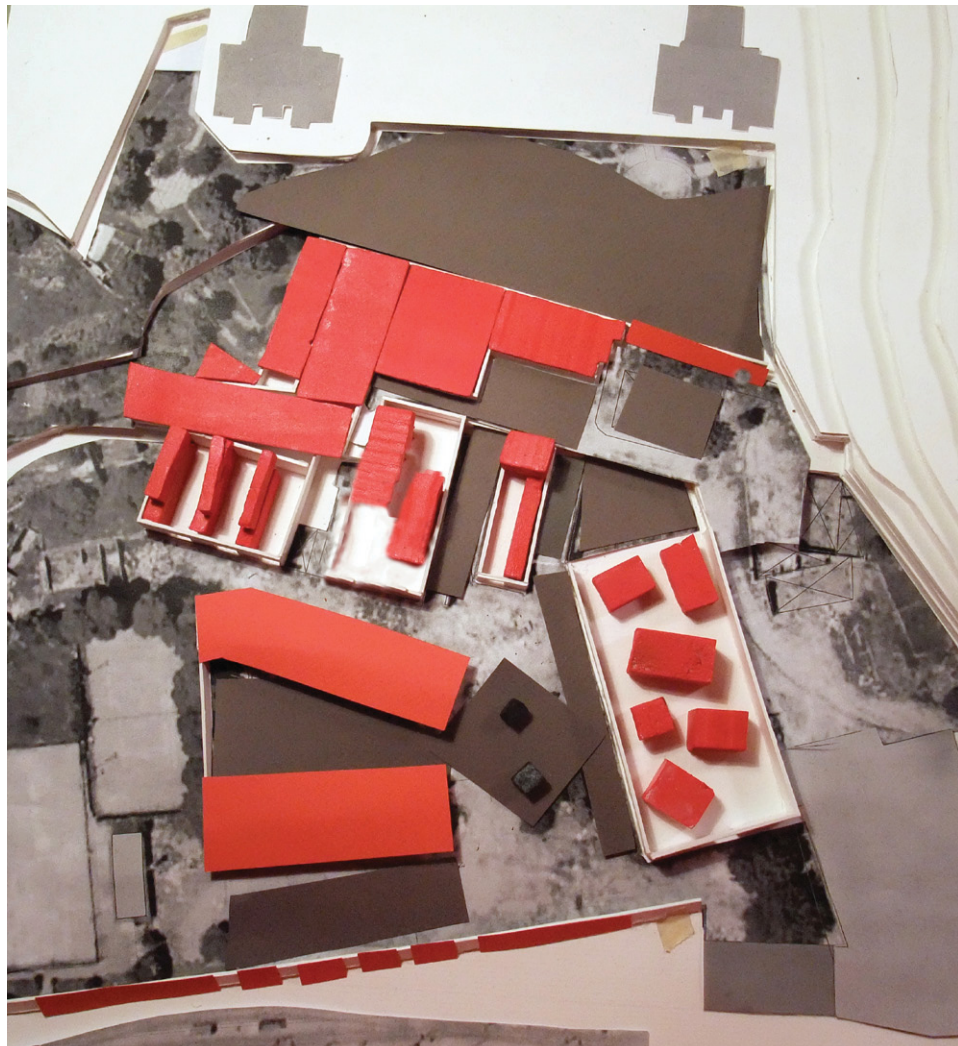
Photo of Sketch Model depicting design form as Site Masterplan Strategy.

Extend

Extending the topography from the Aleixo housing community over the concrete walls and private workshops can create a more direct connection to the new center and provide outdoor green space that engages the site. Considering the potential use for this area as an extension of the green space from the towers to the north, a green roof condition not only creates a connection from the towers to the site, but also provides outdoor green space for activities such as football, art projects and rooftop gardens. This extension also provides a roof condition for the private workshops below. These semi-private workshops, studios and classrooms below serve the local community and offer opportunity to develop skills in various types of art and craft. The green roof extension provides enclosure and creates a connection back to the towers where the local community lives. This is the first step of the project.
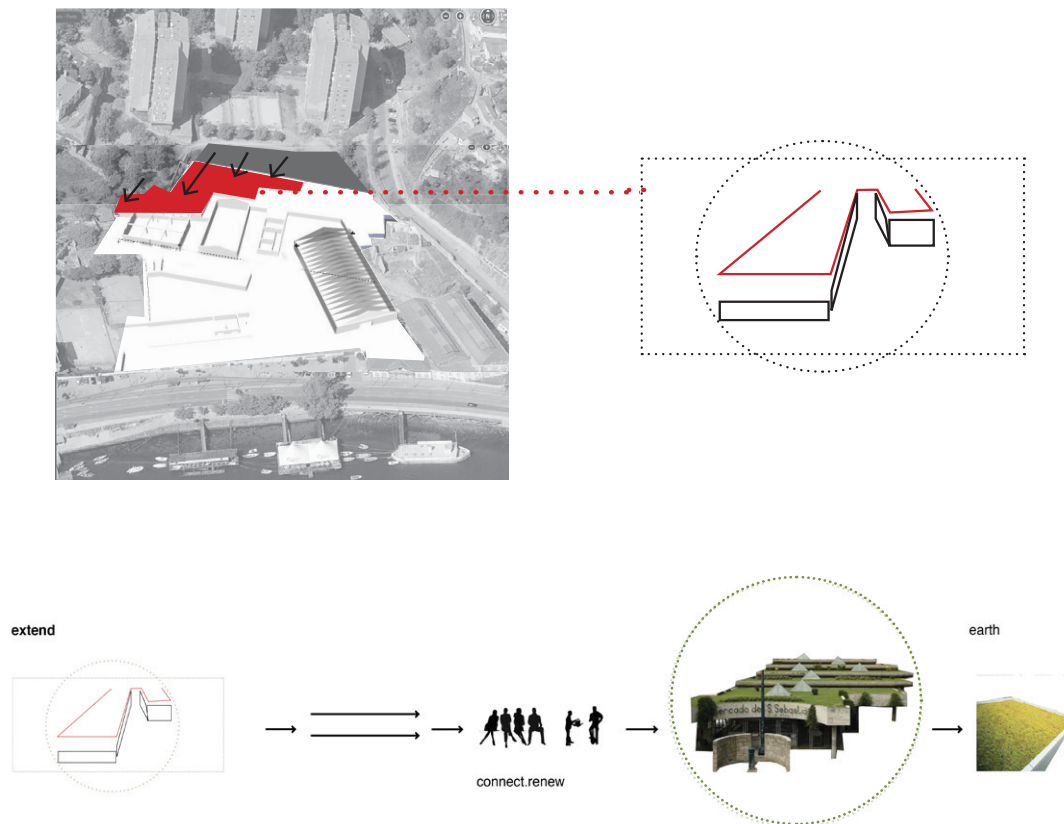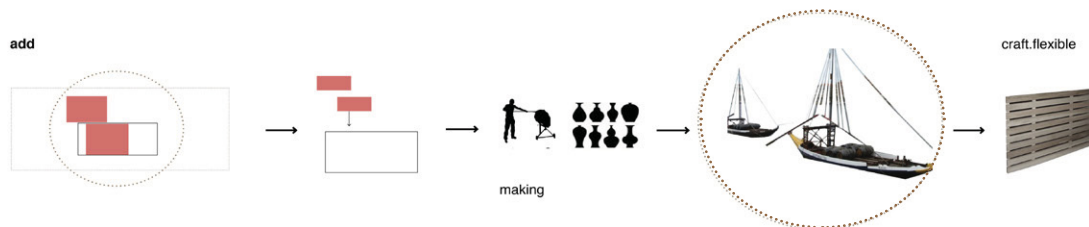

Diagram depicting site strategy and concept development of green roof and urban park extension.

Site plan highlighting the extension of the existing green space to create a new green roof above the private workshops and studios that connects the local community from the towers to the site.

Site plan highlighting the extension of the existing green space to create a new green roof above the private workshops and studios that connects the local community from the towers to the site.
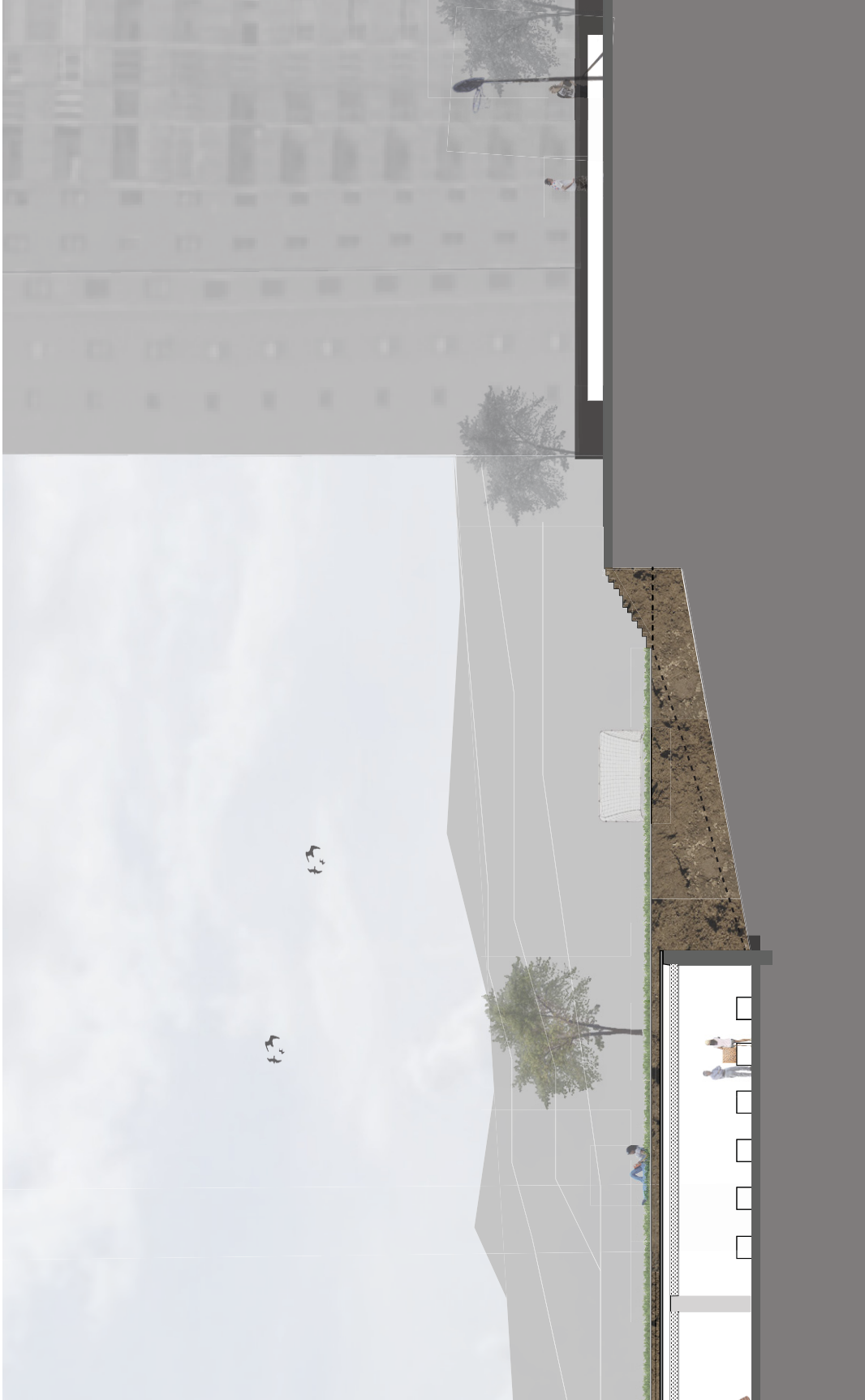
Section through the courtyard of the towers and the green roof extension over the private workshops and studios.
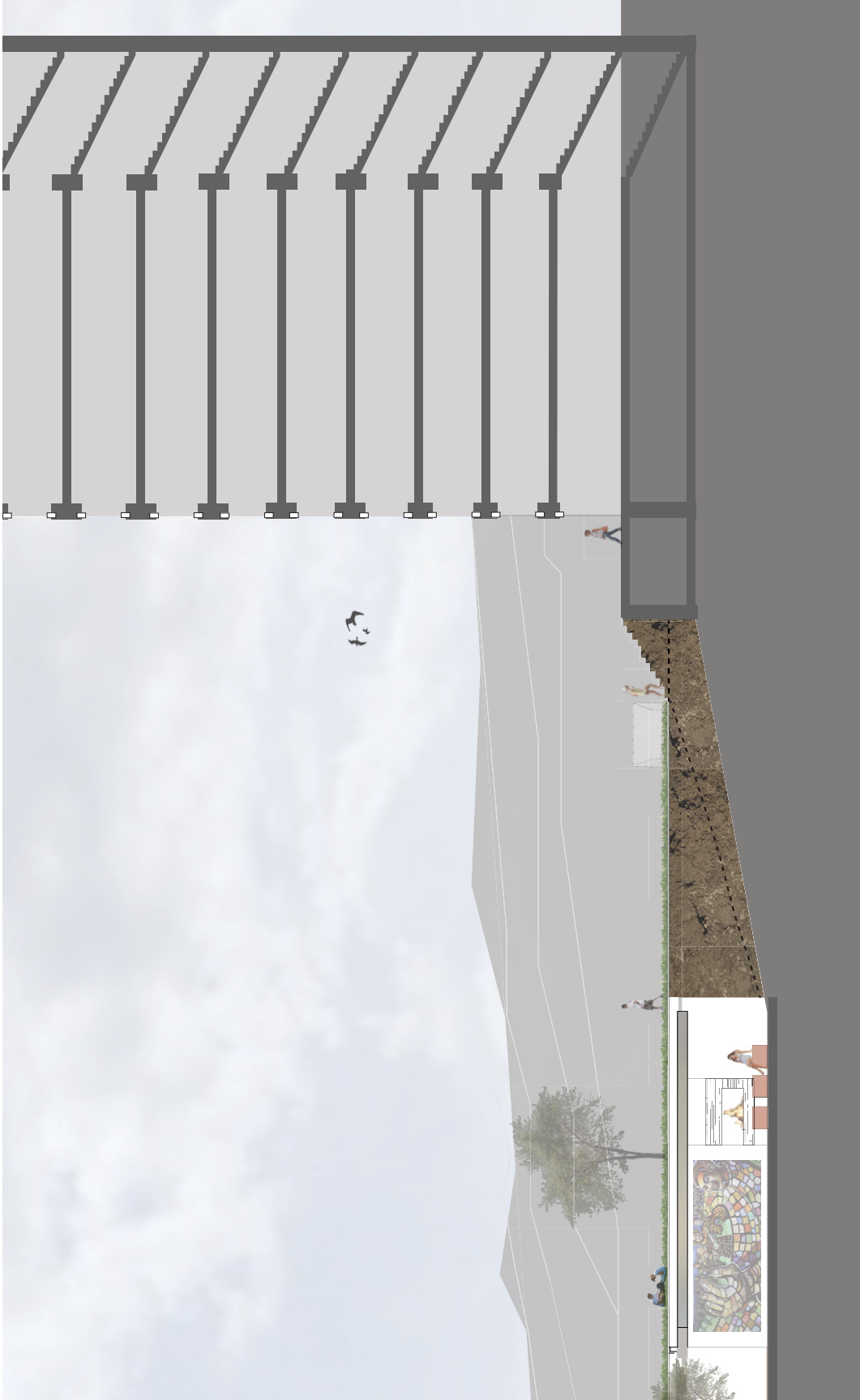
Section through the existing tower and the green roof extension over the children's workshops and fire pit.

Add

Adding new elements to the existing concrete walls is the next critical step in the design strategy. Adding new wooden public workshops to the existing concrete walls, creates spaces for local users and visitors to engage in various types of making. The live-work studios allow artists to live on site and be involved in the teaching workshops. By optimizing the available space within the concrete walls, adding new elements inspired by the local craft of the boat building culture creates a connection with the craft and making areas of the site. These consist of public workshops, where food carts, live-work studios and public workshops for making public art and experimenting with local gastronomy can be explored. The wooden wall panels can be fabricated locally in the private workshops, and can then be installed on site to help build the public workshops. These panels can rotate open to signify when the workshops are open. The wood materials also provide an identity for these making zones, creating a juxtaposition between the existing concrete and the new boat-inspired design through materials and added elements.
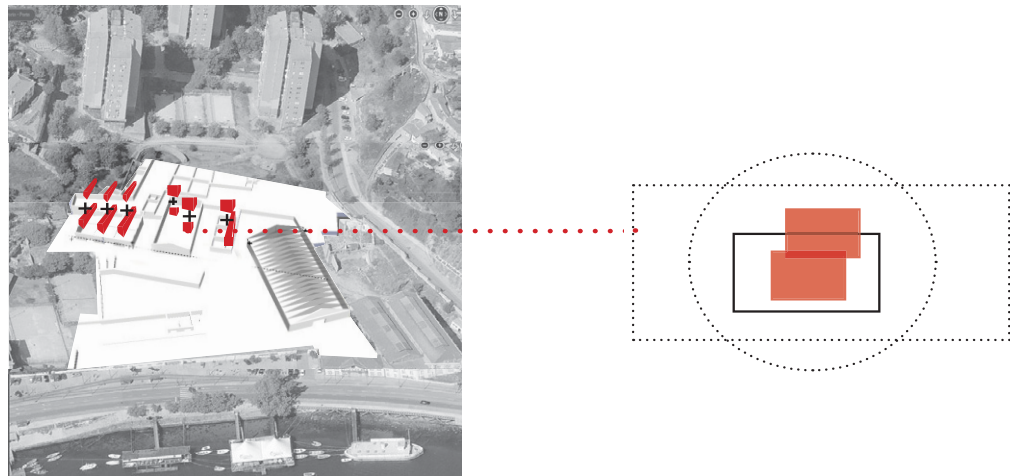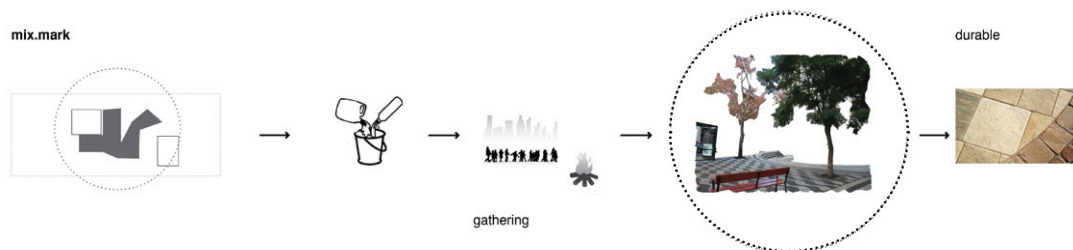

Diagram depicting site strategy and concept development of public wood workshops added to the concrete remains.
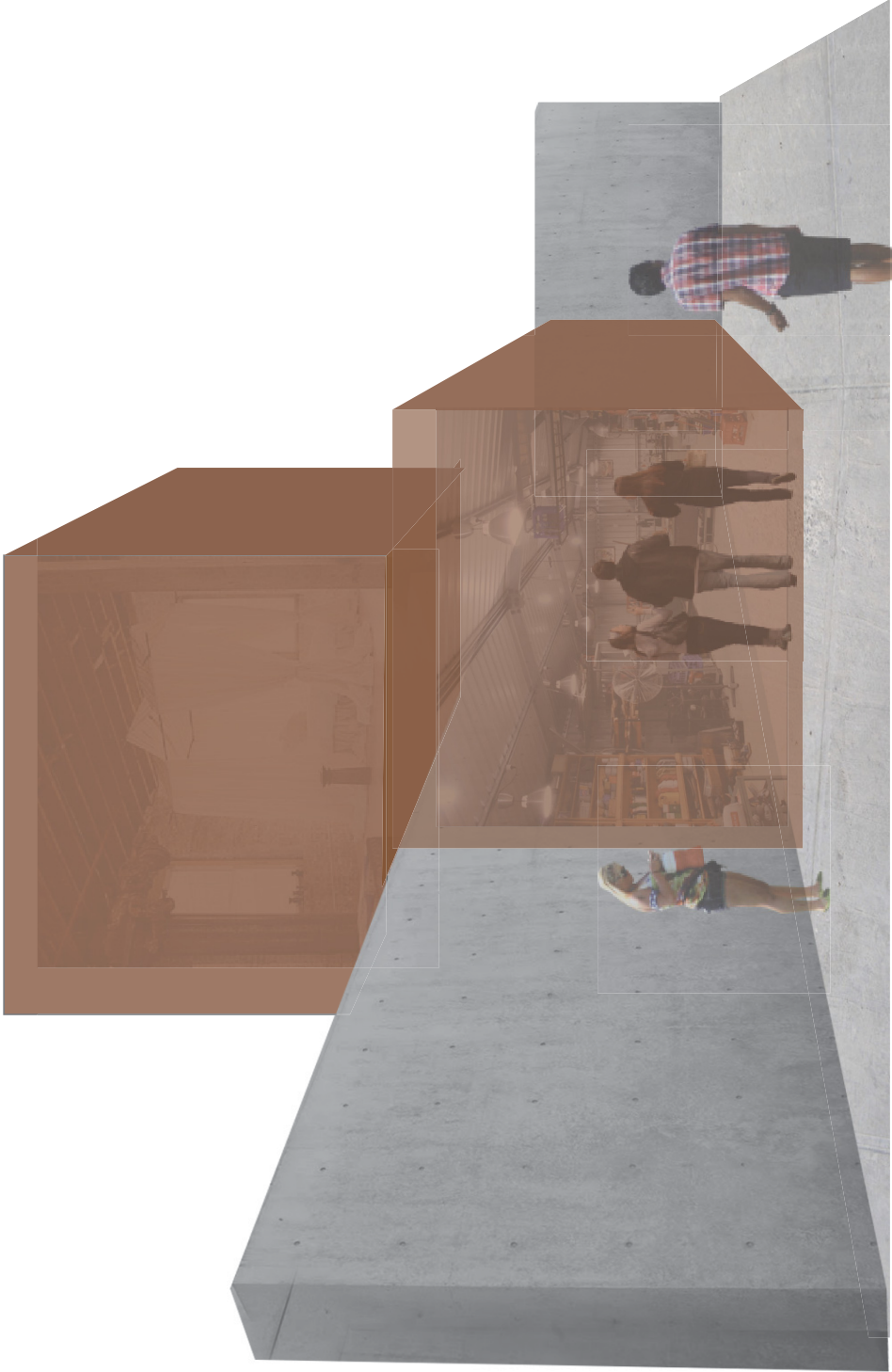
Concept collage depicting qualities of public workshops and studios added to concrete remains
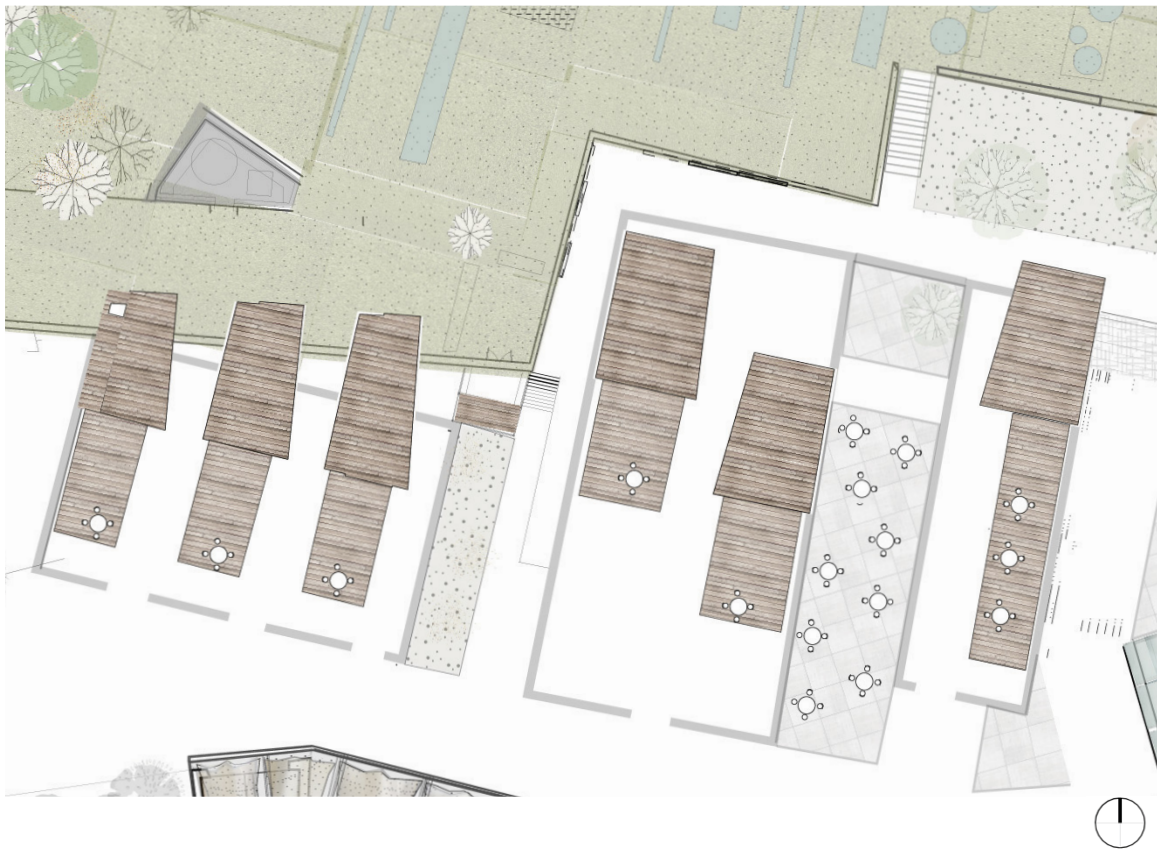
Site roof plan highlighting the addition of public workshops, live-work studios and food carts inspired by the wooden boats found along the Ribeira waterfront.

Second level plan highlighting the semi-outdoor workshop areas (far left), artists residence quarters, and semi-private kitchen. All access the wood rooftop patios.

Ground level plan highlighting the public workshops (left) for art and craft, artists-in-residence studio spaces, and the food cart stalls. These are made of a wood panel system.

Cross Section of live-work studios, outdoor patio area and food cart stalls.

Long Section of live-work artist-in-residence studio (lower level) and residence (upper level).

Long Elevation of food cart stalls, live-work studios and public workshops beyond the amphitheater.

Mix, Mark and Fill

Mixing, marking and filling the ground will help to generate connected outdoor public spaces around the walls of the existing factory, establishing "places" throughout the site for engagement. By mixing and marking the ground with a new, durable material outdoor courtyards and public spaces can be created and differentiated from circulation areas. These public spaces are important areas for meeting, exchanging and interacting throughout the site and establish various places within the larger context of the site. The durability of materials such as ceramic and clay tiles allow for heavy activity and use from foot traffic, tools and outdoor art projects, and can also be fabricated and installed by the local users on site in the workshops.
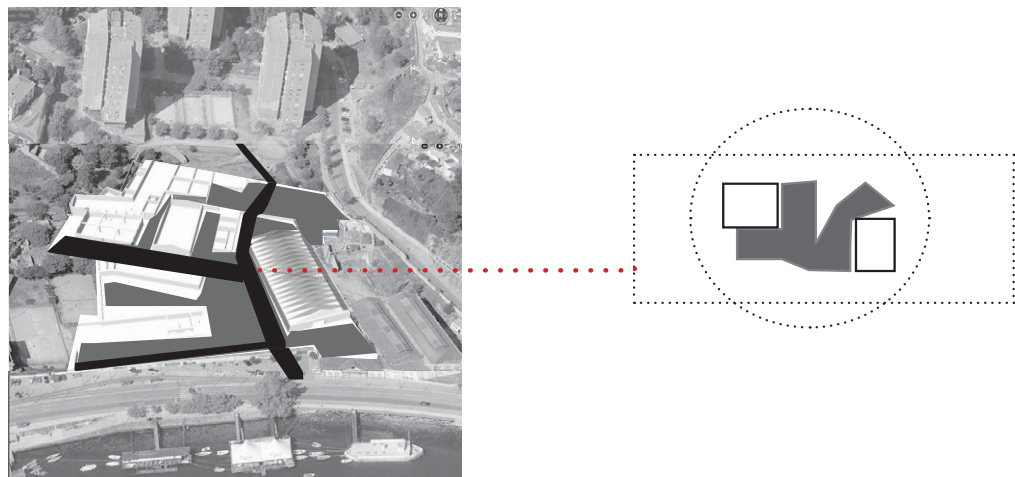
Diagram depicting site strategy and concept development of the public space mixed, marked and filled by clay and ceramic tiles.
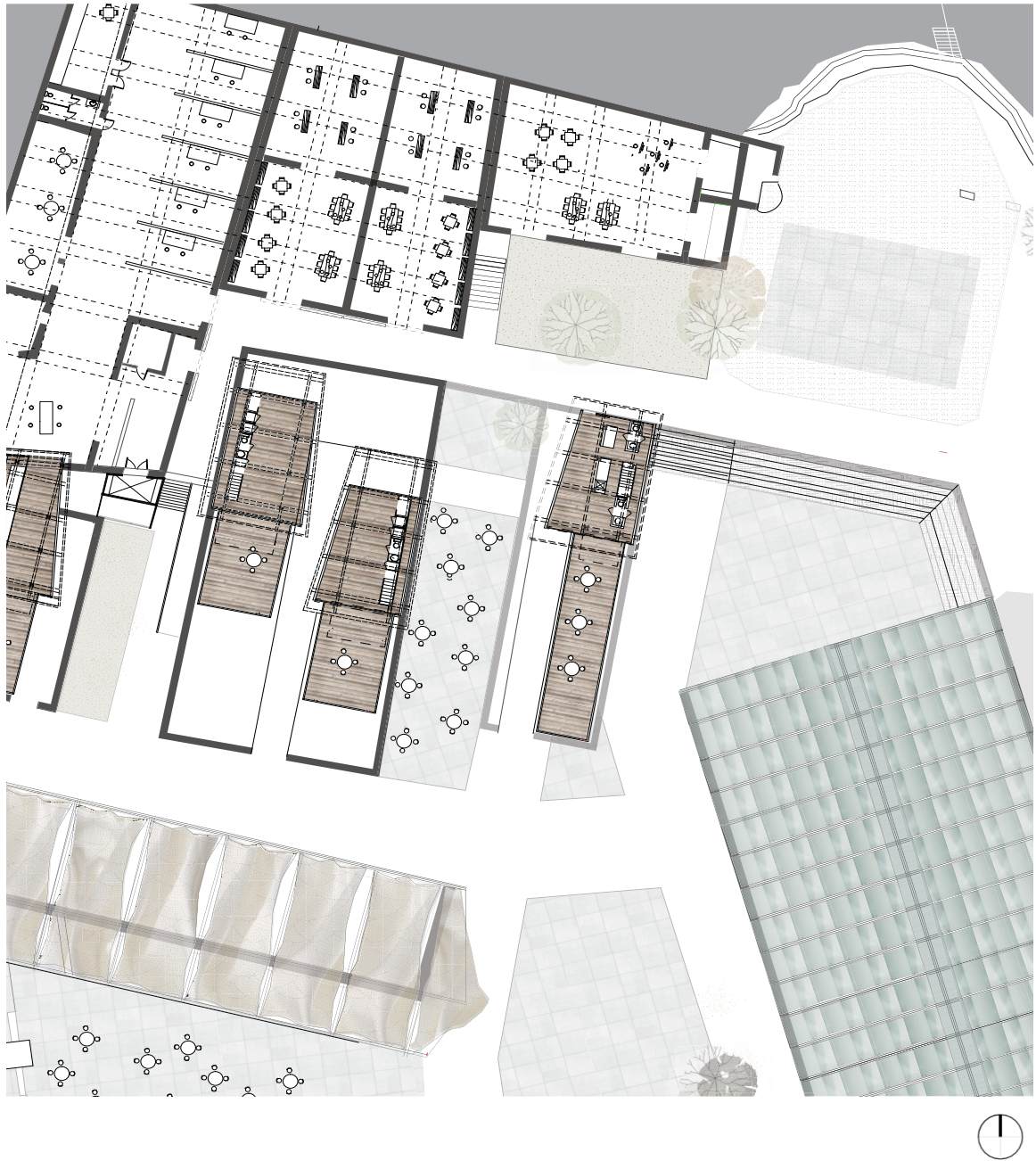
Upper level plan highlighting outdoor public spaces distinguished by grey clay and ceramic tile, as well as sand gardens, laid on the ground between buildings.
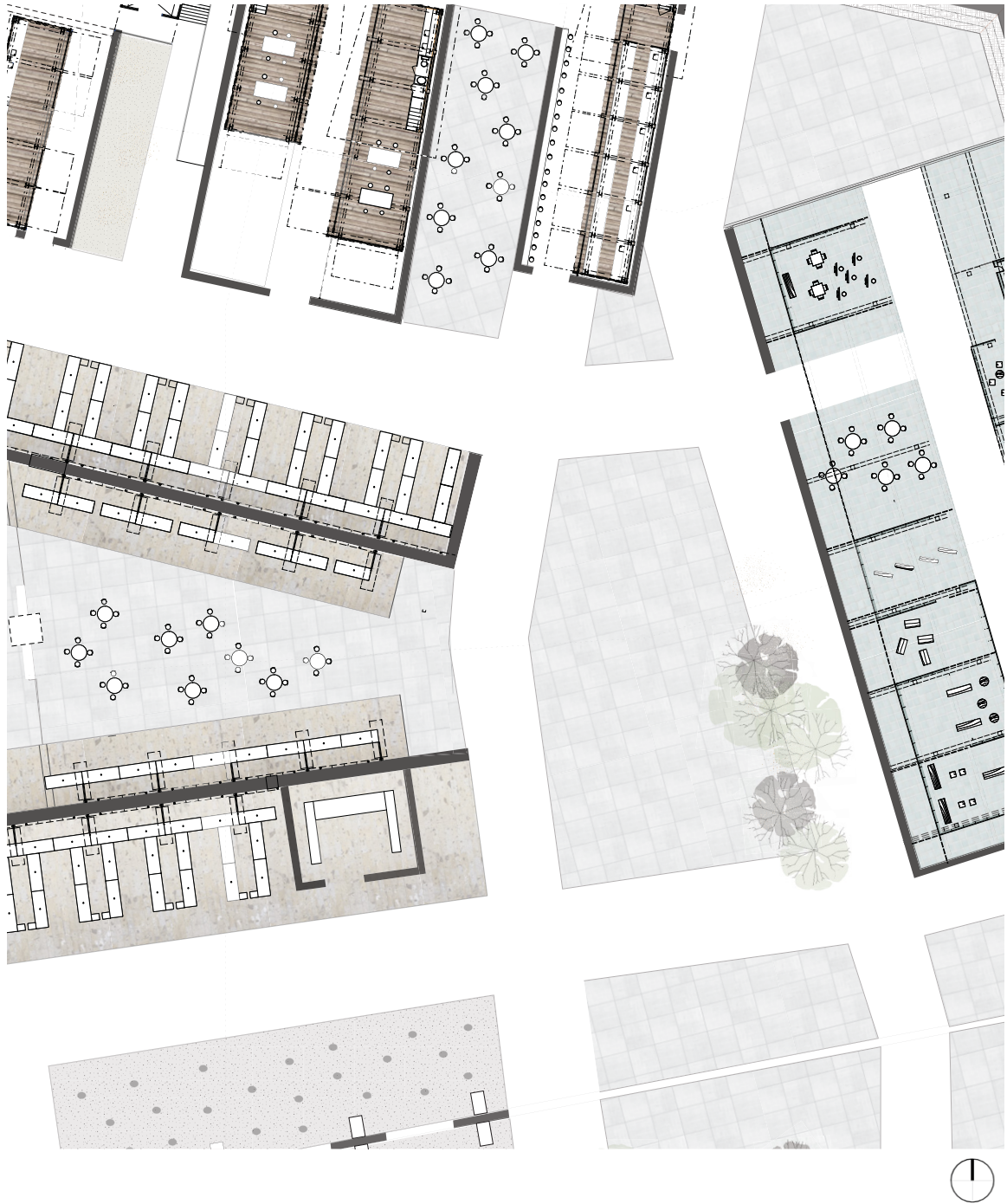
Ground level plan highlighting outdoor public spaces such as amphitheater and exhibition court-yard (top right), outdoor patio (top center) central court (center), market court (left) and entrance courts (bottom).

Cross section through outdoor food court (left) and amphitheater courtyard with public steps/seating (far right).

Cross section through central art courtyard highlighting public space for gathering and public art projects.

Long section through public entrance courtyard with sand and water features.

Long section through upper level courtyard, showing kids sand court and seating/steps of amphitheater down to exhibition courtyard.

Insert and Cover

Inserting new volumes and then covering the main brick and cast-iron truss warehouse, or "hearth", can provide both protection and control the quality of light into the space, by diffused semi-transparent glass panels. The space, which serves as an exhibition, gallery, and public gathering space, requires flexibility for various displays and uses. By inserting light, sliding glass panels hung from the existing cast iron trusses, this system can help to define both new spaces and a delicate light condition entering the space by diffusing it through semi-transparent glass. The panels can be fabricated in the workshops on site, and are inspired by the local stained glass found throughout the churches and stores of the Ribeira area. These flexible spaces require some level of privacy in order to heighten the experience of both the art and craft being viewed, and the existing condition of the brick warehouse and iron truss roof structure above. The roof, which is currently not enclosed, can be covered with a similar semi-transparent glass panel system that is reminiscent of the clarabois (skylights) found throughout the Riberia. This allows for another level of diffused light to enter the building, juxtaposing with the tectonic elements of the existing warehouse.
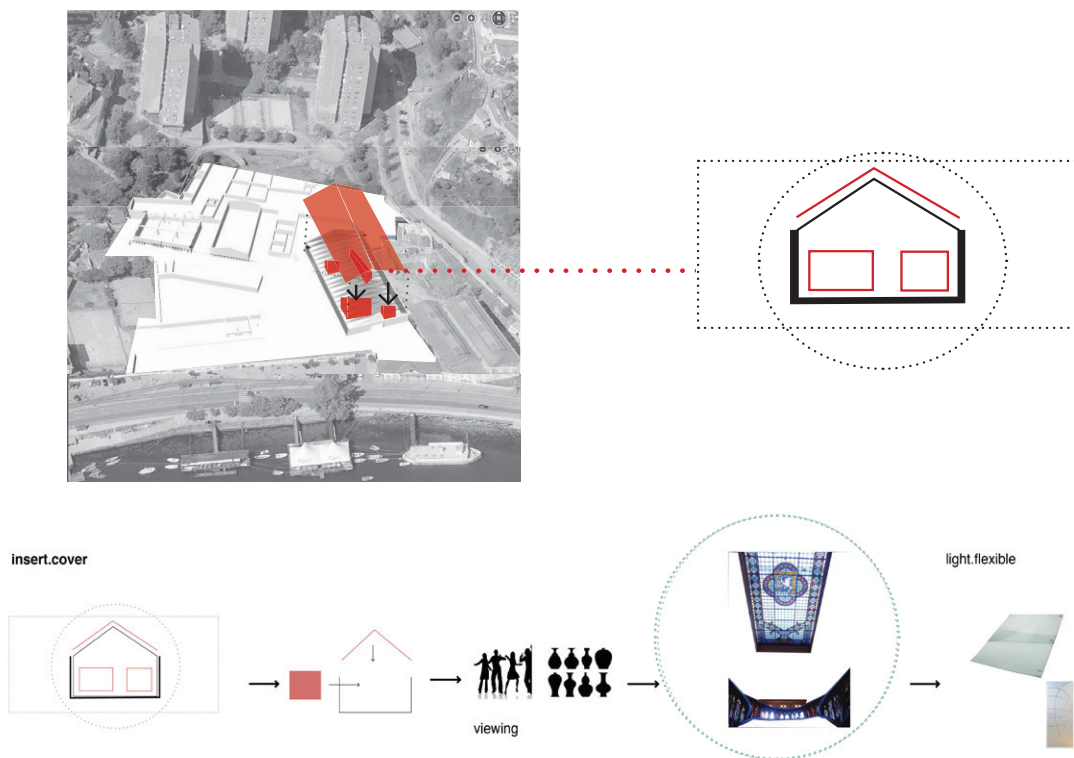

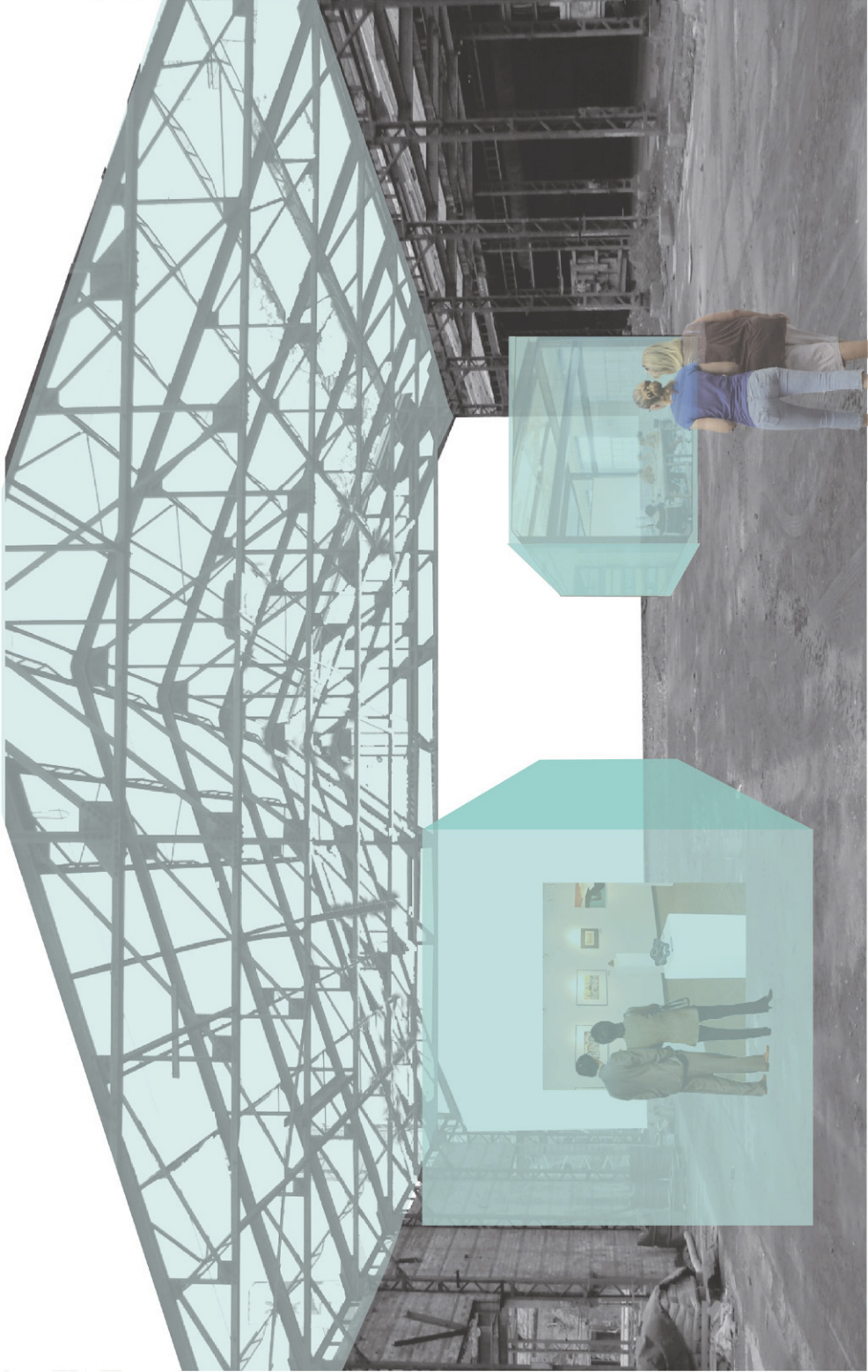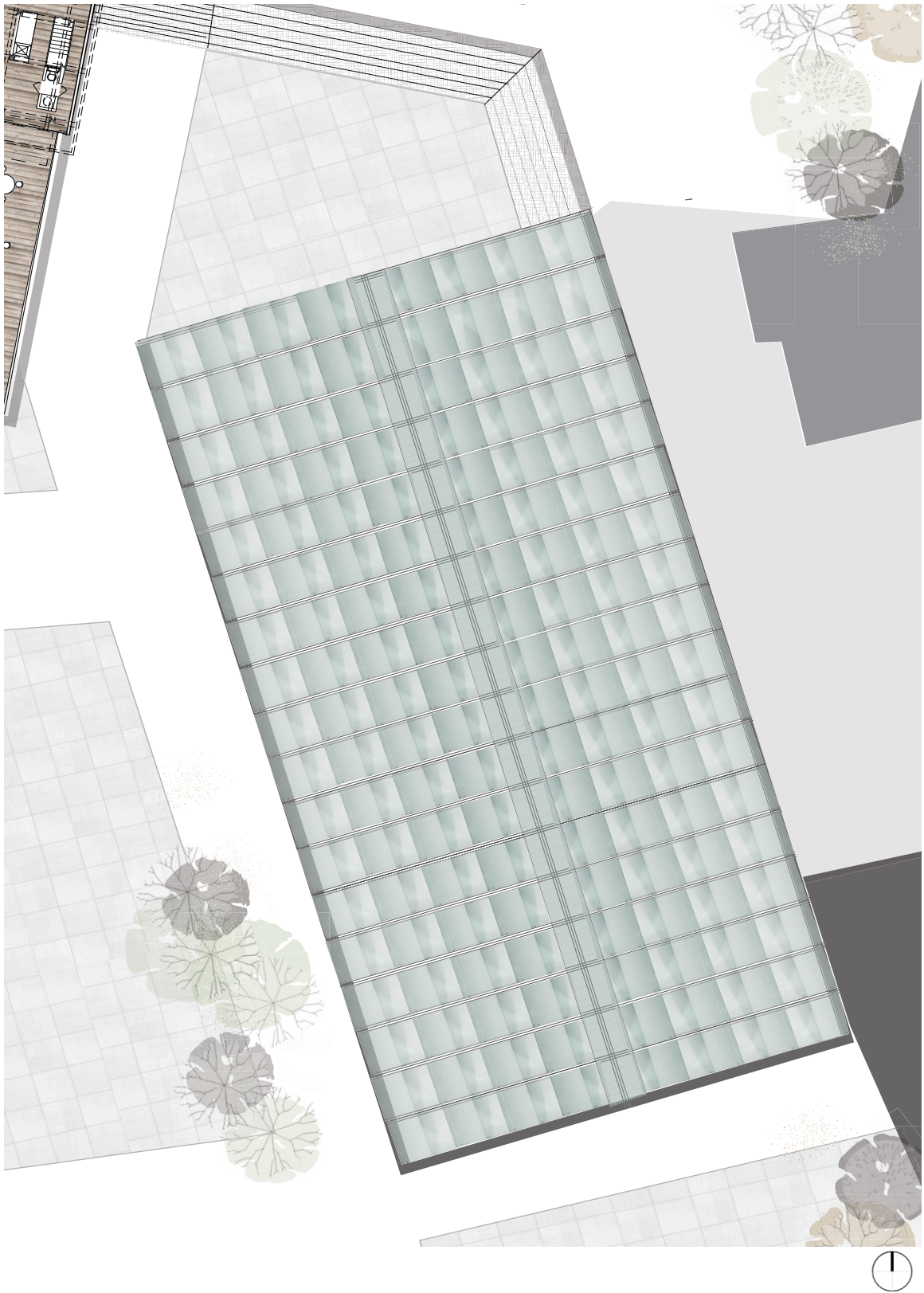insert.cover

viewing

light.flexible

Diagram depicting site strategy and concept development of the exhibition and gathering space where stained glass panels are inserted and then covered by a semi-transparent glass roof.

Concept collage depicting qualities of exhibition and gallery space through insertion of glass wallls and roof condition.

Ground level roof plan of new semi-transparent glass roof system enclosing the exhibition and gathering space within existing brick and cast-iron truss warehouse.
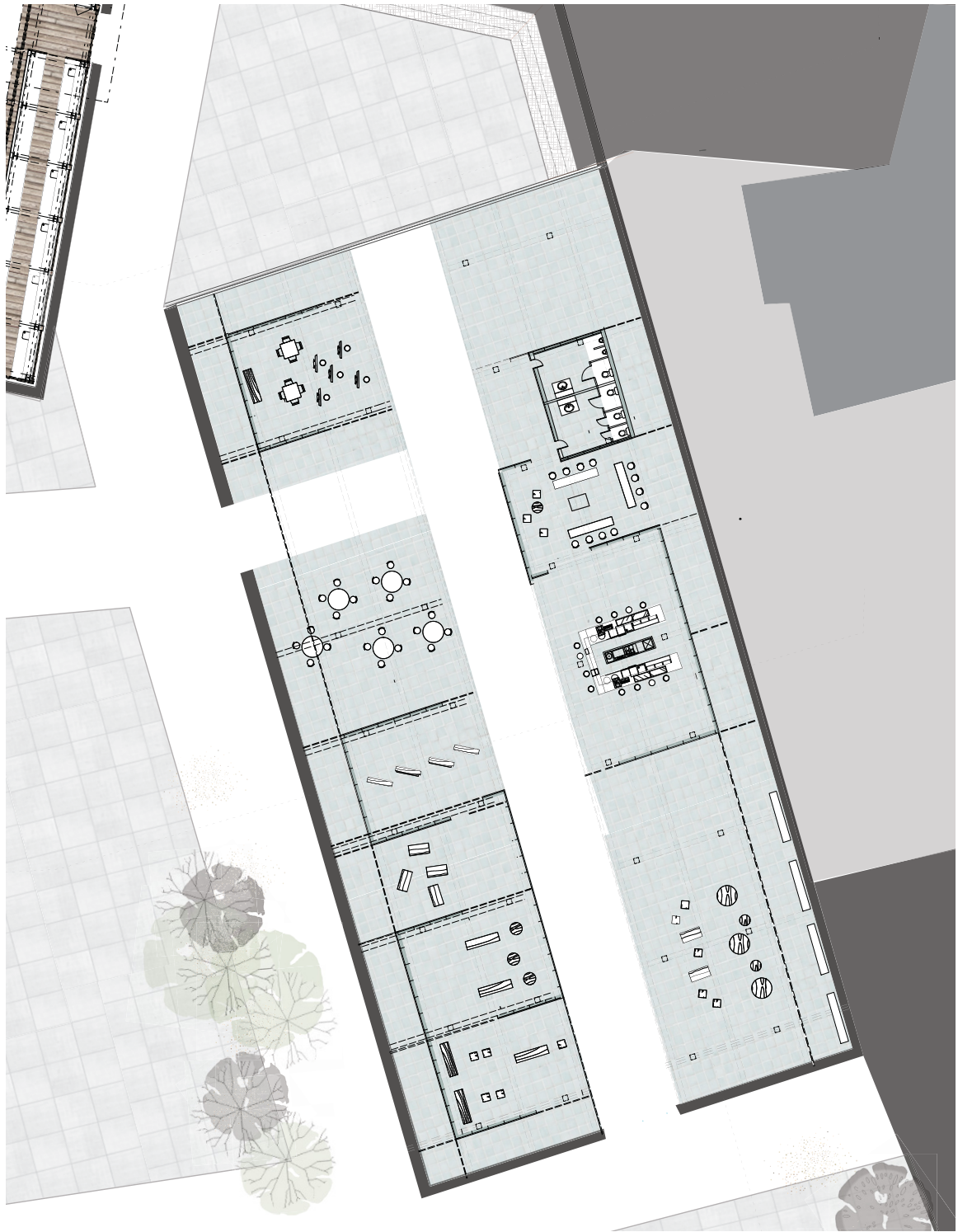
Ground level plan of new semi-transparent/stained glass sliding wall system creating various spaces for exhibition and gathering within existing brick and cast-iron truss warehouse.
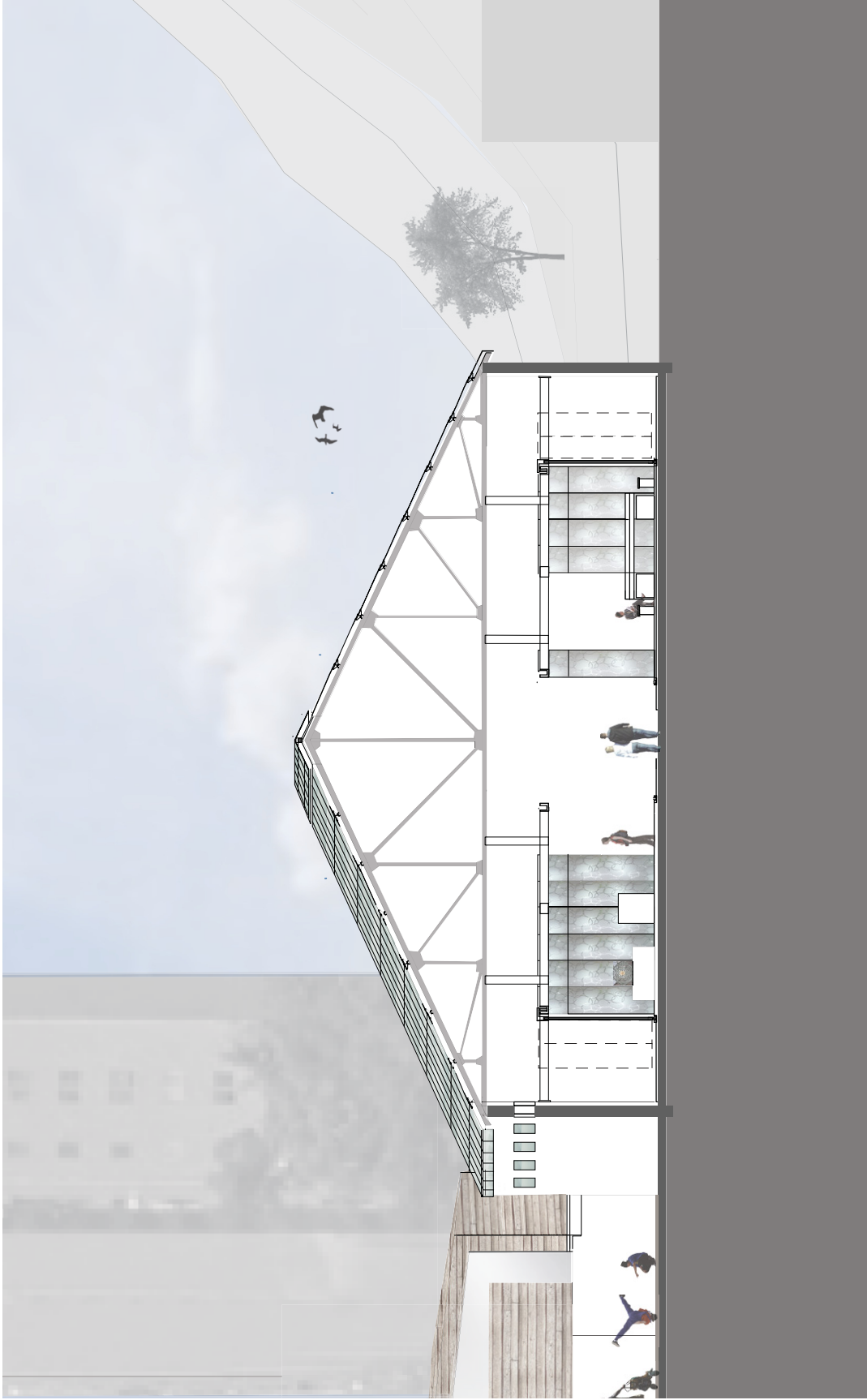
Cross section through exhibition and gathering spaces created by new glass roof and interior stained glass panel systems.

Long Section through exhibition and gathering spaces created by new glass roof and sliding stained-glass wall panel systems.

Expose and Set Out

Exposing an outdoor area by connecting to the two existing stone wall conditions provides an place for meeting and exchanging at the market, which is both inside and out-side, allowing for an open air space that is protected from the elements. By connecting to the existing wall, the beauty of the stone is emphasized, while a steel and tensile structural system can create an elegant juxtaposition between the tectonics of the heavy stone wall and the lighter new system. This design strategy is inspired by the textiles and laundry that hangs on the balconies throughout the Ribeira and provides shade while also pinned out to dry. The tables of the market areas can be removed when not in use and hung on the wall using a cable system similar to that of a clothesline. The tensile fabric and tables can be fabricated on site in the workshops. These lighter elements create a mark at the entrance of the site, welcoming people towards the market area and signifying this as an area for interacting and exchanging.
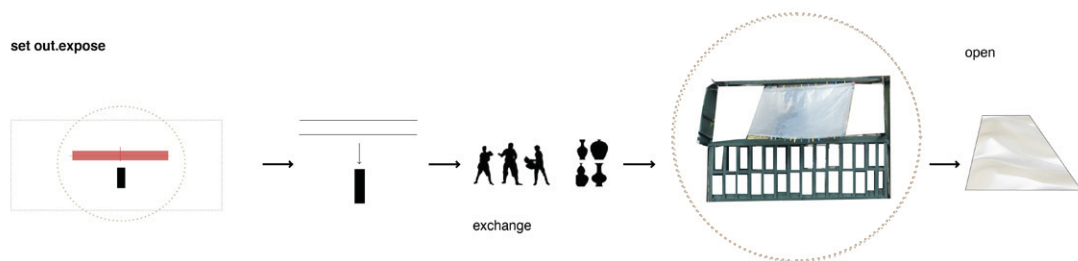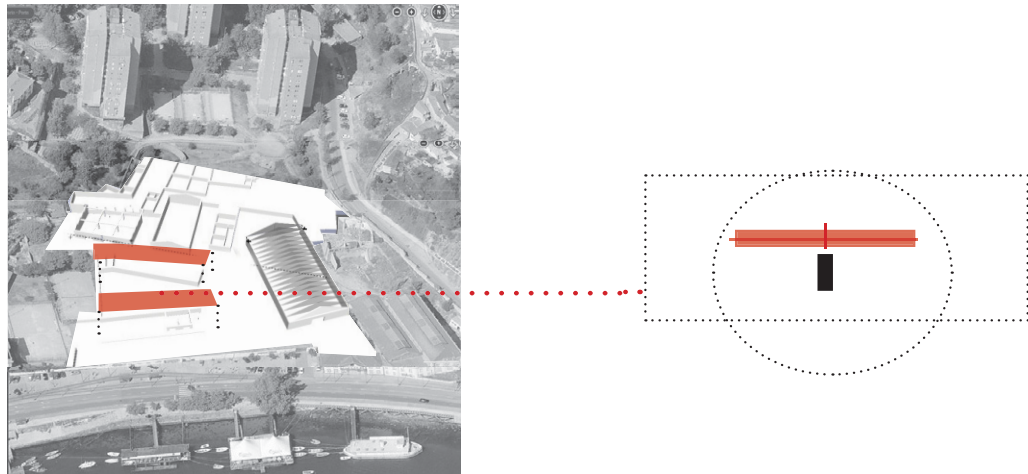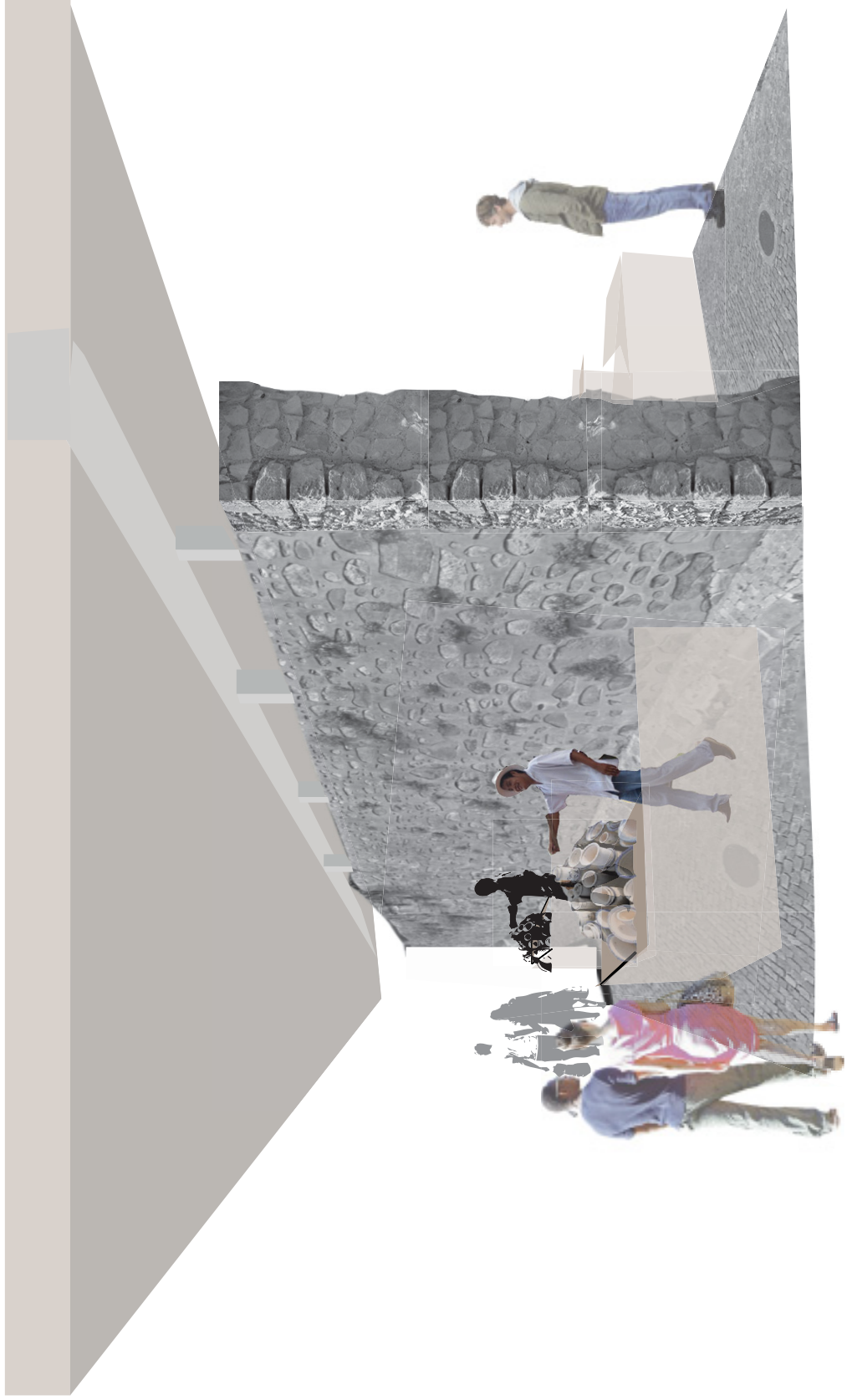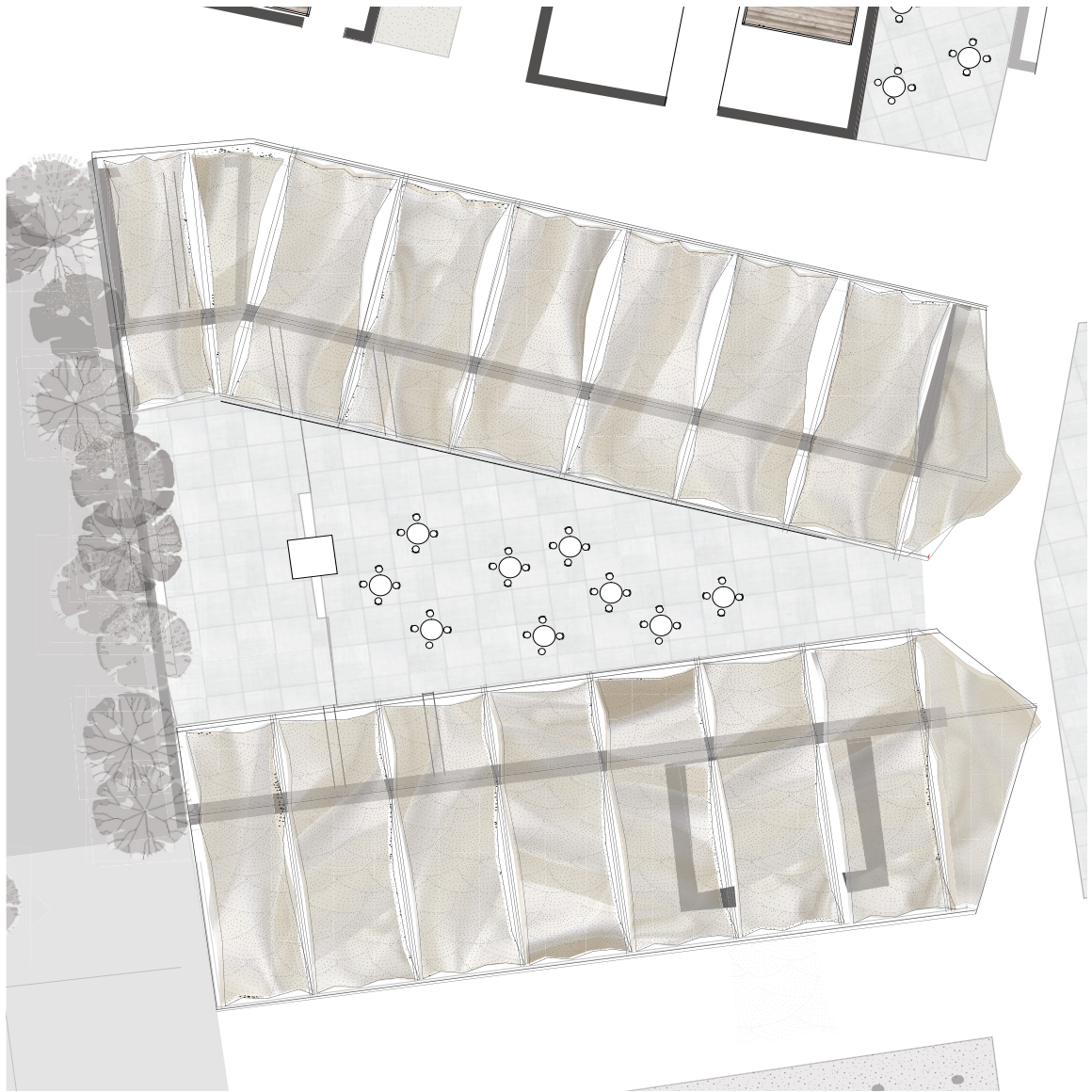

Diagram depicting site strategy and concept development of the market zone where the tensile fabric roof structure exposes this outdoor area where goods are set out and exchanged.

Concept collage depicting qualities of outdoor market and trade center where goods are set out and exchanged.

Ground level roof plan depicting steel and tensile fabric system connected to existing stone wall of market.
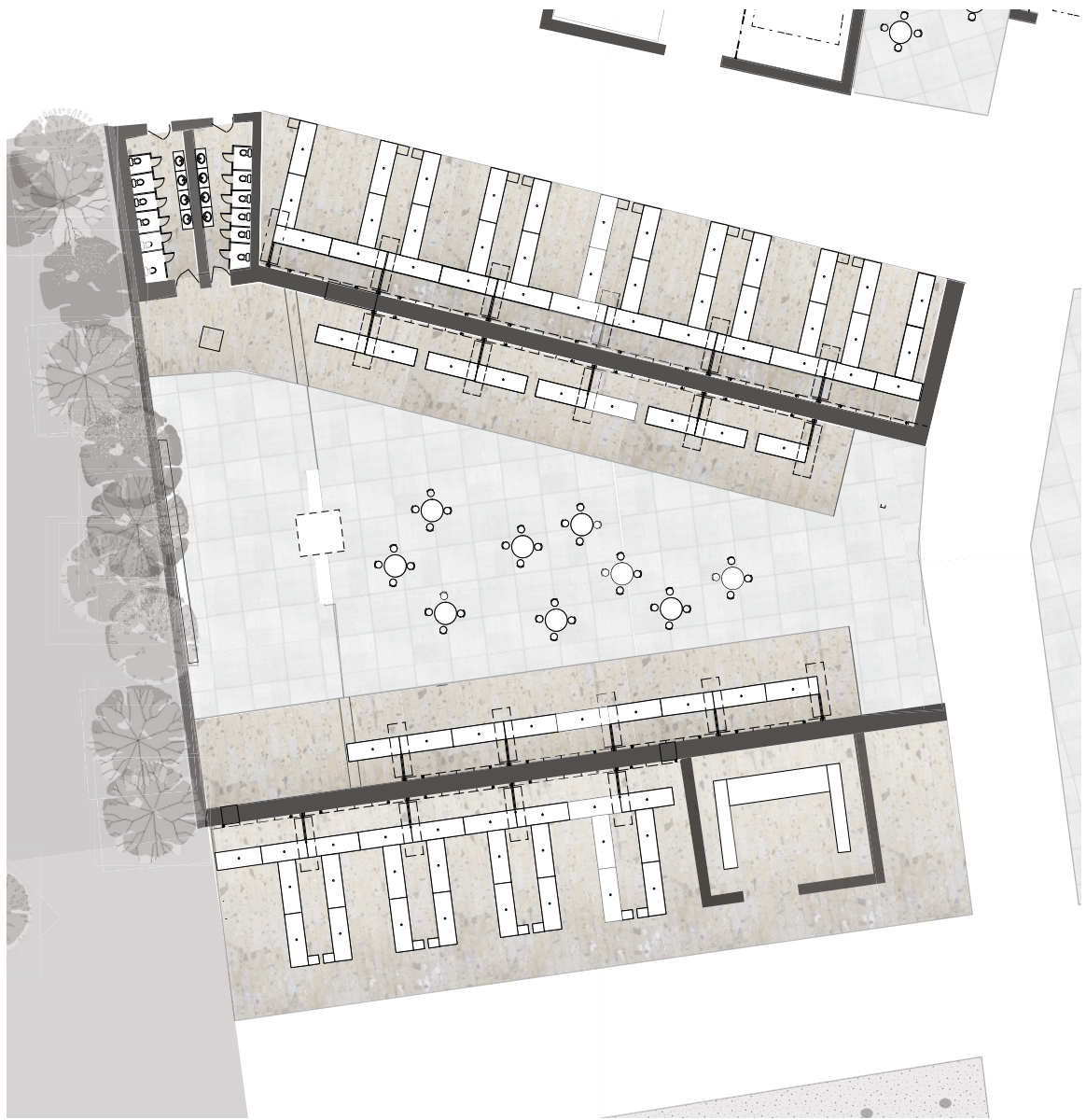
Ground level roof plan depicting steel and tensile fabric structure connected to existing stone wall of market.
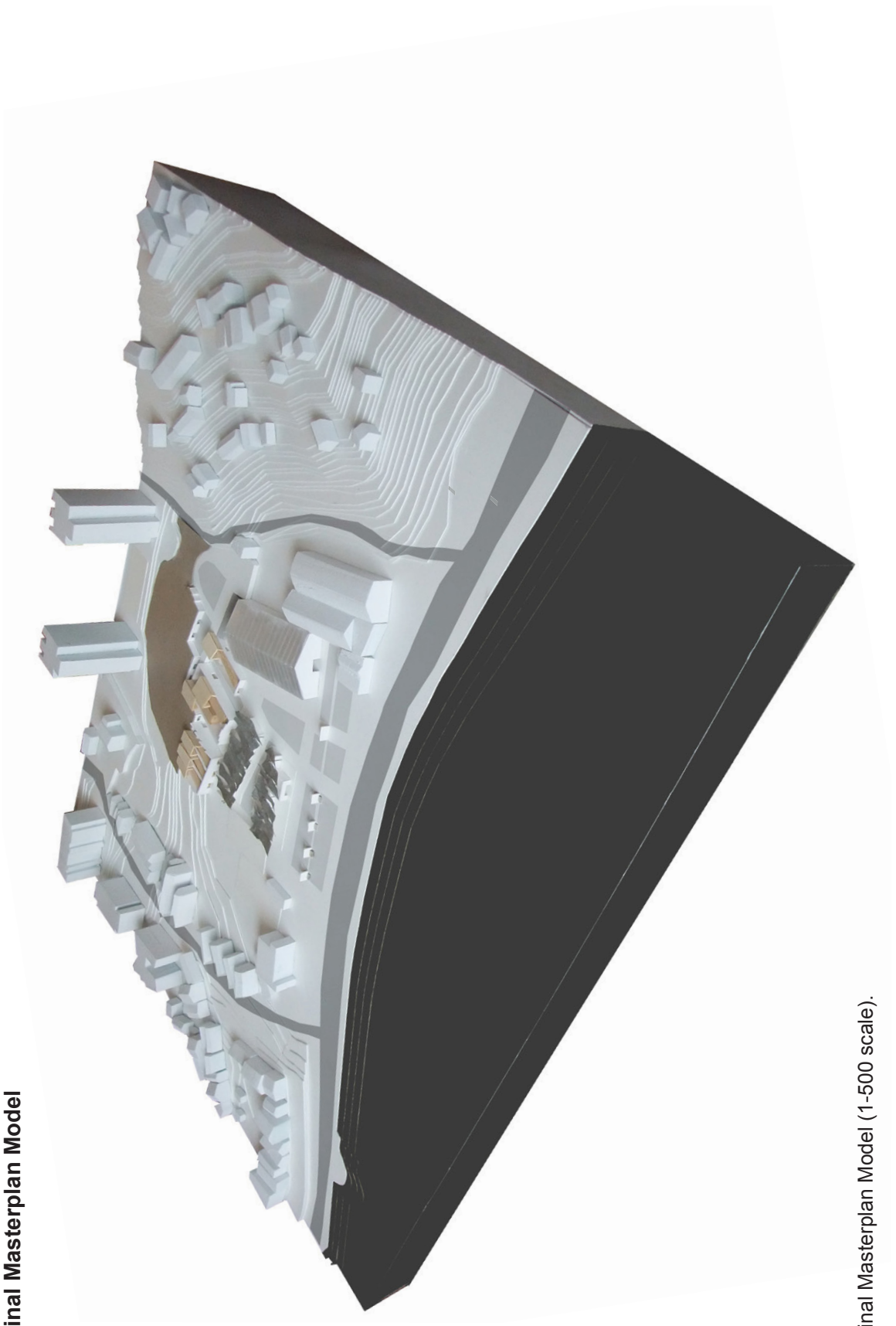
Cross elevation through market courtyard and market stall spaces created by new steel and tensile fabric structure.
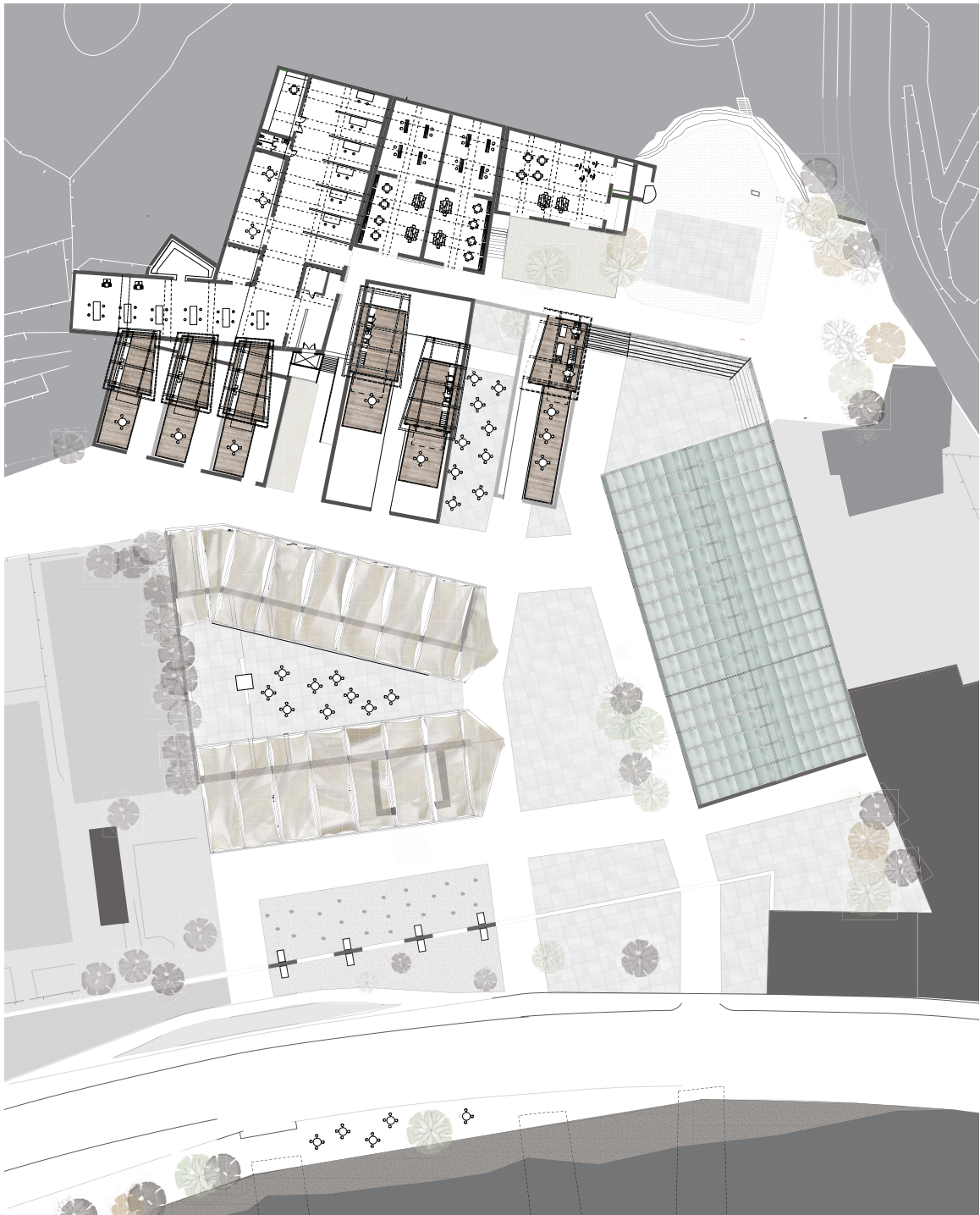
Cross esection of market spaces and central courtyard around the existing stone wall, created by steel and tensile fabric structure.

Final Masterplan Model

Final Masterplan Model (1-500 scale).

Upper level plan showing the site relationship between the private workshops and studios, class-rooms and kids workshops, and the upper level plan of the public workshops, live-work studios and food cart stalls.

Ground level site plan showing the relationship between the public workshops, artists studios and food cart stalls (add) with art courtyards (mix, mark and fill) the exhibition and gathering space (insert and cover) and the outdoor market (expose and set out). The site is connected to the street.

Site Cross section a: showing the relationship between the public workshops, live-work studios and food cart stalls and outdoor amphitheater.

Site Cross section b: showing the relationship between the outdoor market area, central public art courtyard, and exhbition and gathering space.
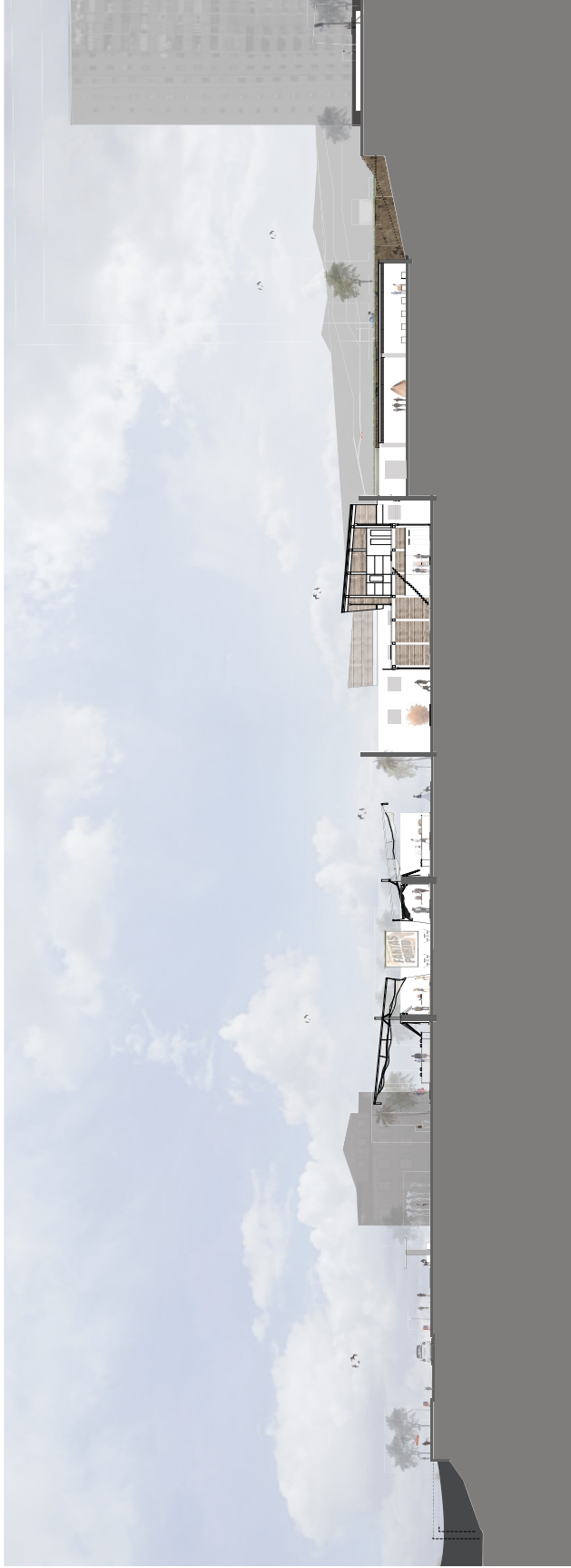
Site Longitudinal section a: showing the relationship between the entrance courtyards, market, live-works studios, private studios, park and towers.
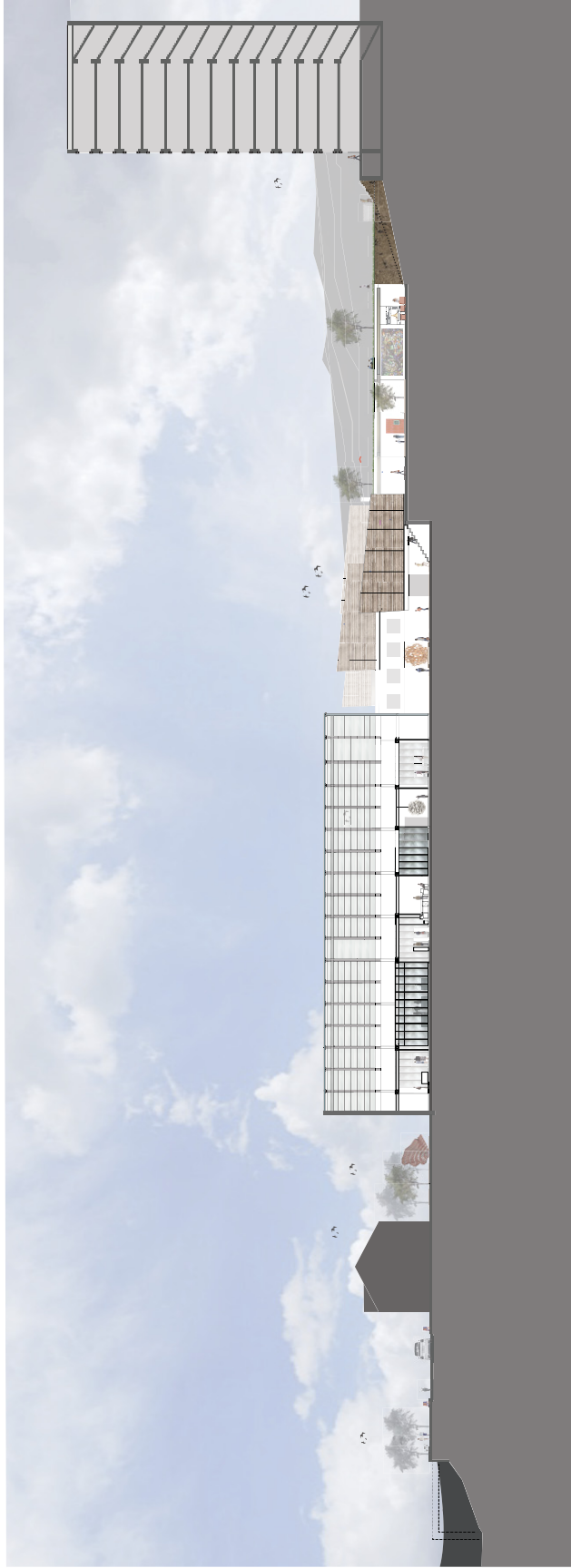
Site Longitudinal section b: showing the relationship between the exhibition and gathering space, outdoor amphitheater, park and towers.

Rendering showing environment and materials of the wood panel system of the live-work artist in residence studios and the outdoor areas.
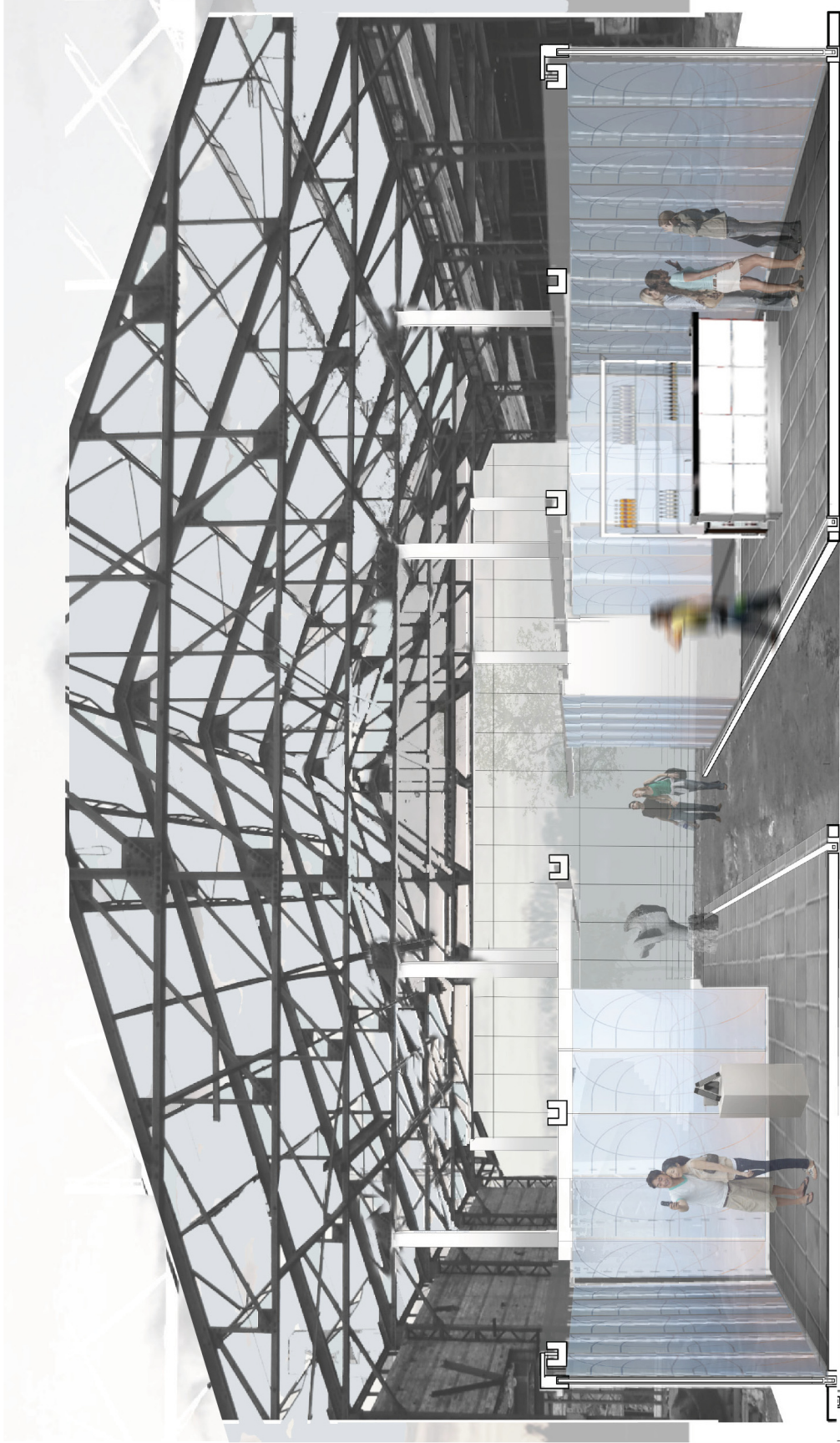
Rendering showing environment and materials of the sliding glass walls in the exhibition space and the amphitheater beyond.
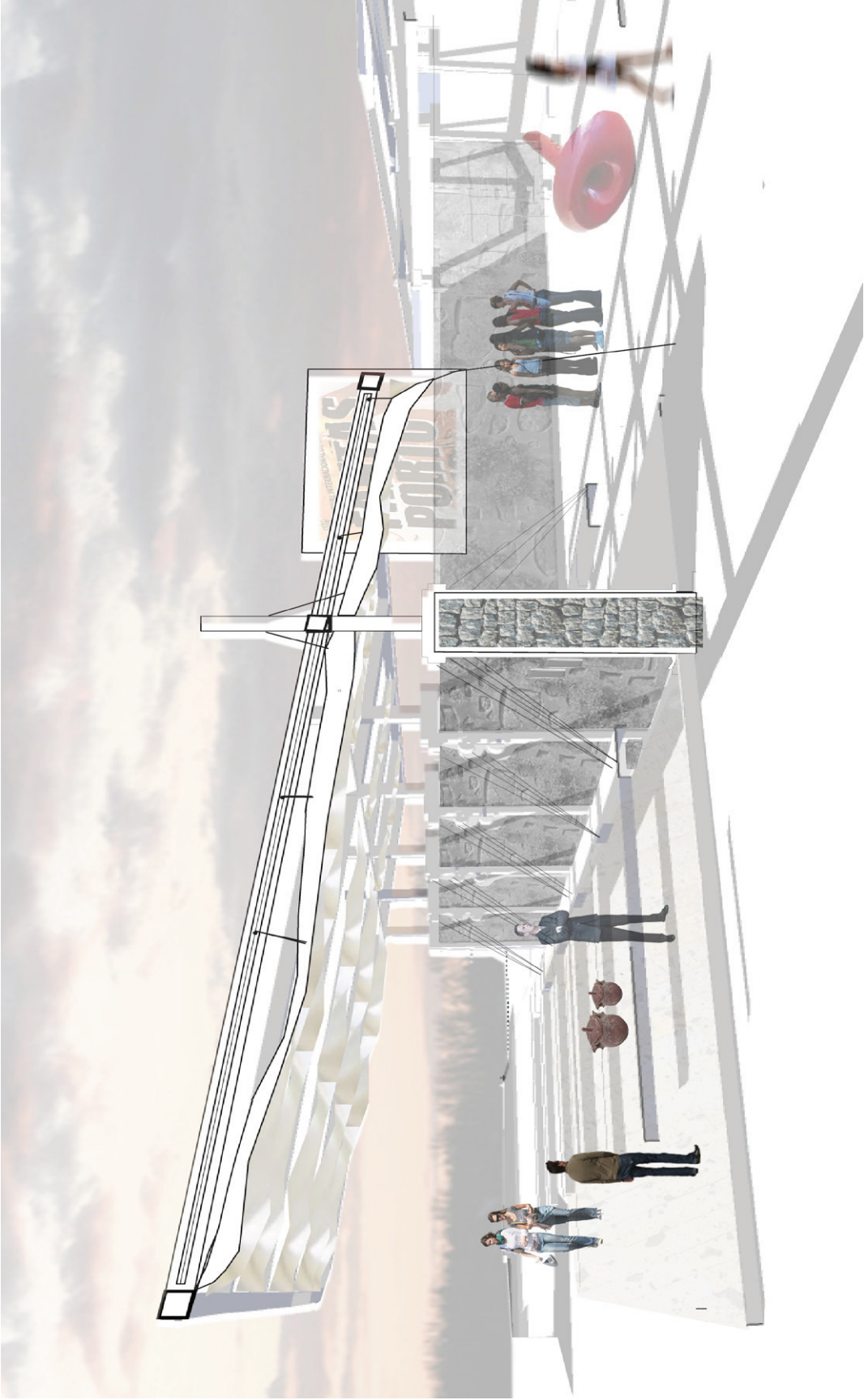
Rendering showing environment and materials of the outdoor market tensile strucutre,stalls and courtyard space with projection screen.

CHAPTER 5: CONCLUSION

From the beginning the aim of this investigation was to develop a method to adaptively renew both site and community in a way that reconnects it with the existing building patina and the waterfront. Understanding the dichotomy and connections between architecture and the local material culture of a place, in this case between architecture and the history of local art in Porto, Portugal, was critical in developing a contemporary design approach to adaptive re-use that reflects local culture and creates a desirable environment.

In earlier explorations during this thesis, particularly with the initial development of the structural connection detail, understanding how materials come together to create new elements became a driving factor in understanding how to truly connect with the existing conditions. With the detail scale in mind, adopting and modifying the existing local techniques for boat building, glass-making and tensile weaving, in combination with contemporary steel structure was important in creating a hybrid architecture for the site. These architectural elements become anchored to the existing site, highlighting its history, the existing fabric and tectonics, as well as the culture of the waterfront in a sensitive way. Taking a cue from the detail development, and examining local building techniques, I then compared industrial processes of making with crafting. After identifying critical steps in the process of making, these steps were then applied to the site, considering it an complex patina of potential development, a project to be "made". These steps helped to orchestrate and manage the complexity of the site by formulating interventions based on a set of rules that relate each intervention on the site back to the local inspiration, the associated material pallette and the programmatic relationship of the activities in the respected areas. Thinking of design as a process of steps helped to break up the urban condition into smaller moments, which could then be further investigated. This approach to the adaptive re-use of large-scale industrial sites proved to be instrumental allowing for an initial strategy of urban-scale interventions and then for further investigation into the building and the material connections of those various interventions, ensuring the renewal of the site and the community by reconnecting it with the waterfront.

Often, places that undergo large master plan redevelopment projects continue to be neglected by the users because the attention to detail has been overlooked. When people using the site are given the respect and attention they deserve through design, from the master plan strategies down to the details, alienation transforms into belonging. As a result, the site becomes a new and vibrant place that is more likely to be respected, actively used and successful. When various new architectural elements create a harmonious and

juxtaposed whole bringing new life to the site, the interventions become a sustainable alternative to clean-slate development. Giving the local people the opportunity to treat the new architectural interventions as public art and craft pieces themselves, helping to design, fabricate and alter them as they desire, is a final nod to architecture as a tool for change. The potential for this approach to be conditioned on other abandoned sites along the waterfront in Porto, Portugal could create a significant link between the existing site and the Ribeira, while encouraging longevity and future growth of the site and the waterfront. It is possible to suggest a way to intervene on an existing industrial site that renews the site, engages people, and encourages collective placemaking through design intervention. The beauty of local art, craft, and architecture together through adaptive re-use can help to plant seeds for roots to grow, giving local people a place that will help them survive and a future filled with hope.

APPENDIX A: STRUCTURAL CONNECTION DETAIL

The importance of material connections to existing fabric found on the abandoned industrial site in the District of Alexio stems from the exploration of creating a roof enclosure for the existing brick and cast iron truss warehouse, the hearth of the community center. This space is used as an exhibition, as well as a gathering space that requires flexibility. Therefore, there is a need to bring light into the space. This new roof detail needs to consider the climate, where sun and rain are prevalent in summer and winter season respectively. Semi-transparent glass roof "shingles" reflect the traditional roof style found throughout Porto, in combination with the "clarabois", or skylight condition found on many of the city's buildings. This system, using semi-transparent glass, allows for light to enter the space and also for those inside the warehouse to look out and see the connection back to the social housing area of Aleixo, where the major of the community center users live. It is inspired also by the stained glass found throughout the churches and in the Lello Bookstore in Porto. This detail was also inspired by the glass roof found on the castle in Schloss Juval in Naturns, Italy.
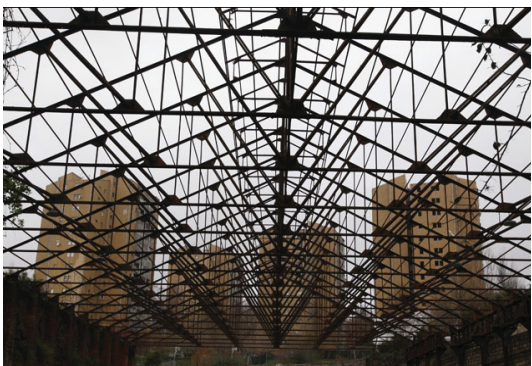
Photograph of existing warehouse, abandoned industrial site, District of Aleixo, Porto, Portugal. The cast iron and brick warehouse currently has no roof enclosure.
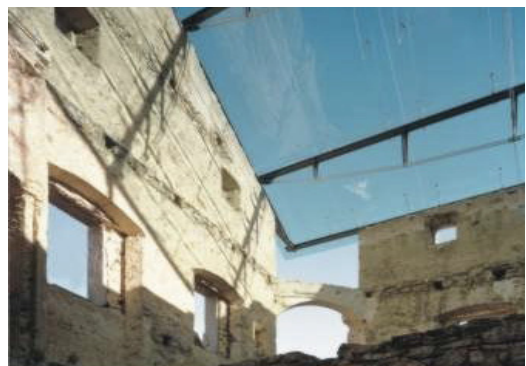
Precedent: Glass Roof addition, Castle in Schloss Juval, Naturns, Italy. Example of similar condition to the existing warehouse in Porto, Portugal, where there is currently no roof enclosure.
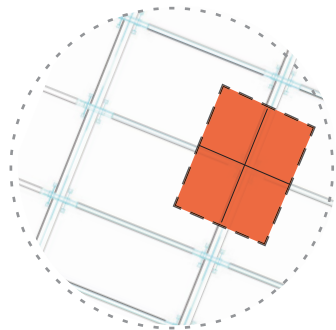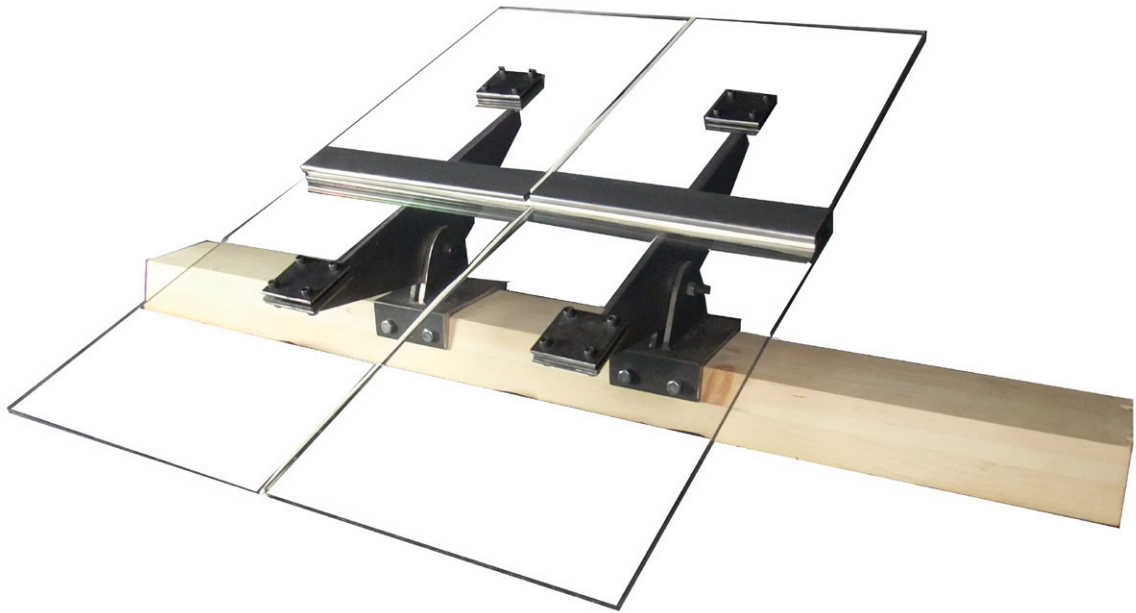
detail panel in relation to system of
panels in roof plan

detail of steel c-channel connection

Image of roof detail: glass panels and steel saddle and c-channel connect to existing roof truss (wood). This detail becomes part of a system of panels that overlap, similar to shingles, but also braces and protects from wind and rain. The panels can rotate open to allow fresh air ventilation.

APPENDIX B: FINAL THESIS PRESENTATION - JULY 11, 2012

urban context
waterfront

existing Site
analysis
and
program

concept
masetrplan

study model

final masterplan

masterplan model

detail model

concept
building
"elements"

final
building "elements"
materials
connections

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