NURTURING A SHARED FUTURE

Tanguy Coyac
Darko Franulic Galindo

Adaptive Reuse and the Revitalization of Turin's Contemporary Educational Heritage

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Nurturing a shared space

Adaptive Reuse and the Revitalization of Turin's Contemporary Educational Heritage

Relatori:
Prof. Francesca Frassoldati
Dr. Paolo Bianco

Candidati:
Tanguy Coyac
Darko Franulic Galindo

Abstract

While contemporary architectural discourse frequently prioritizes environmental sustainability through quantifiable metrics, the practice of adaptive reuse necessitates a broader framework, one that acknowledges the "embodied legacy" of our built environment. In an era where urban spaces are increasingly privatized and the construction industry remains a primary driver of ecological degradation, the necessity for inclusive, socially conscious architecture has never been more crucial. This thesis advocates for the preservation of ordinary, contemporary heritage not merely as a method of reducing material waste, but as a fundamental catalyst for socio-economic revitalization and community empowerment.

The research centers on a decommissioned 1972 kindergarten in Turin, constructed using the prefabricated P-63 wooden panel system developed by architects Conte and Fiori. Currently serving as the temporary headquarters for Torino Spazio Pubblico, a civic initiative dedicated to the maintenance of urban greenery. The structure perfectly encapsulates the dormant potential of Turin's abandoned educational infrastructure. To comprehensively evaluate the site, this thesis employs a holistic methodology encompassing historical archival research, phenomenological observation, and rigorous metric point-cloud surveying. By systematically "dissecting" and cataloguing the building's components, the approach transcends traditional preservation, reframing the existing structure as a dynamic material bank ready for circular reintegration.

Ultimately, this multidimensional analysis translates into a surgical architectural intervention designed to reclaim this space as a vibrant communal hub. By introducing new programmatic functions, the project transforms the ex-kindergarten into a highly accessible, shared spatial anchor for the neighbourhood's inhabitants. Nurturing this shared space not only secures the operational survival of local civic initiatives but demonstrates how the adaptive reuse of forgotten infrastructure can actively foster social cohesion, intergenerational inclusivity, and an enduring culture of circularity within our contemporary cities.

Abstract

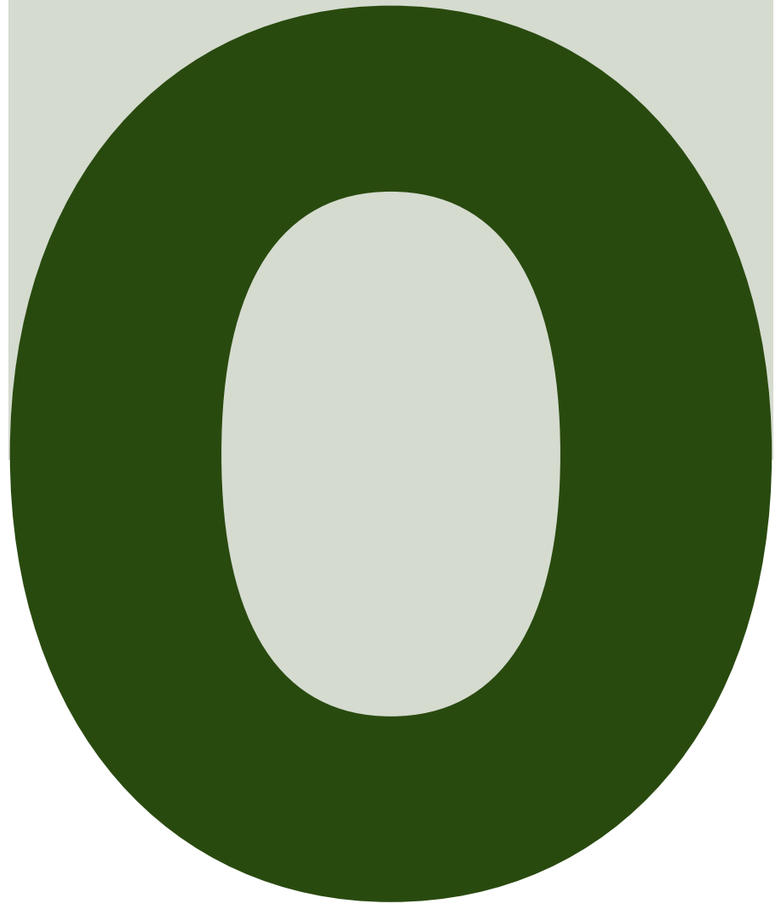
Sebbene il discorso architettonico contemporaneo dia frequentemente priorità alla sostenibilità ambientale attraverso metriche quantificabili, la pratica del riuso adattivo necessita di un quadro teorico più ampio, che riconosca l'"eredità incorporata" (embodied legacy) del nostro ambiente costruito. In un'epoca in cui gli spazi urbani sono sempre più privatizzati e l'industria delle costruzioni rimane uno dei principali responsabili del degrado ecologico, la necessità di un'architettura inclusiva e socialmente consapevole non è mai stata così cruciale. Questa tesi sostiene la conservazione del patrimonio contemporaneo ordinario non solo come metodo per ridurre gli sprechi materiali, ma come catalizzatore fondamentale per la rivitalizzazione socio-economica e l'empowerment della comunità.

La ricerca si concentra su un asilo nido dismesso del 1972 a Torino, costruito utilizzando il sistema prefabbricato a pannelli in legno P-63, sviluppato dagli architetti Conte e Fiori. Attualmente utilizzato come sede temporanea di Torino Spazio Pubblico, un'iniziativa civica dedicata alla manutenzione del verde urbano, l'edificio incarna perfettamente il potenziale dormiente delle infrastrutture scolastiche abbandonate di Torino. Per valutare il sito in modo esauriente, questa tesi impiega una metodologia olistica che comprende la ricerca storico-archivistica, l'osservazione fenomenologica e un rigoroso rilievo metrico tramite nuvola di punti. "Sezionando" e catalogando sistematicamente i componenti dell'edificio, l'approccio trascende la conservazione tradizionale, riconfigurando la struttura esistente come una vera e propria "banca dei materiali" dinamica, pronta per la reintegrazione circolare.

In definitiva, questa analisi multidimensionale si traduce in un intervento architettonico chirurgico, concepito per recuperare questo spazio trasformandolo in un vitale polo comunitario. Introducendo nuove funzioni programmatiche, il progetto trasforma l'ex asilo in un punto di riferimento spaziale condiviso e altamente accessibile per gli abitanti del quartiere. Prendersi cura di questo spazio condiviso non solo garantisce la sopravvivenza operativa delle iniziative civiche locali, ma dimostra come il riuso adattivo di infrastrutture dimenticate possa promuovere attivamente la coesione sociale, l'inclusività intergenerazionale e una duratura cultura della circolarità all'interno delle nostre città contemporanee.

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WANDERING THE EXISTING STRUCTURE



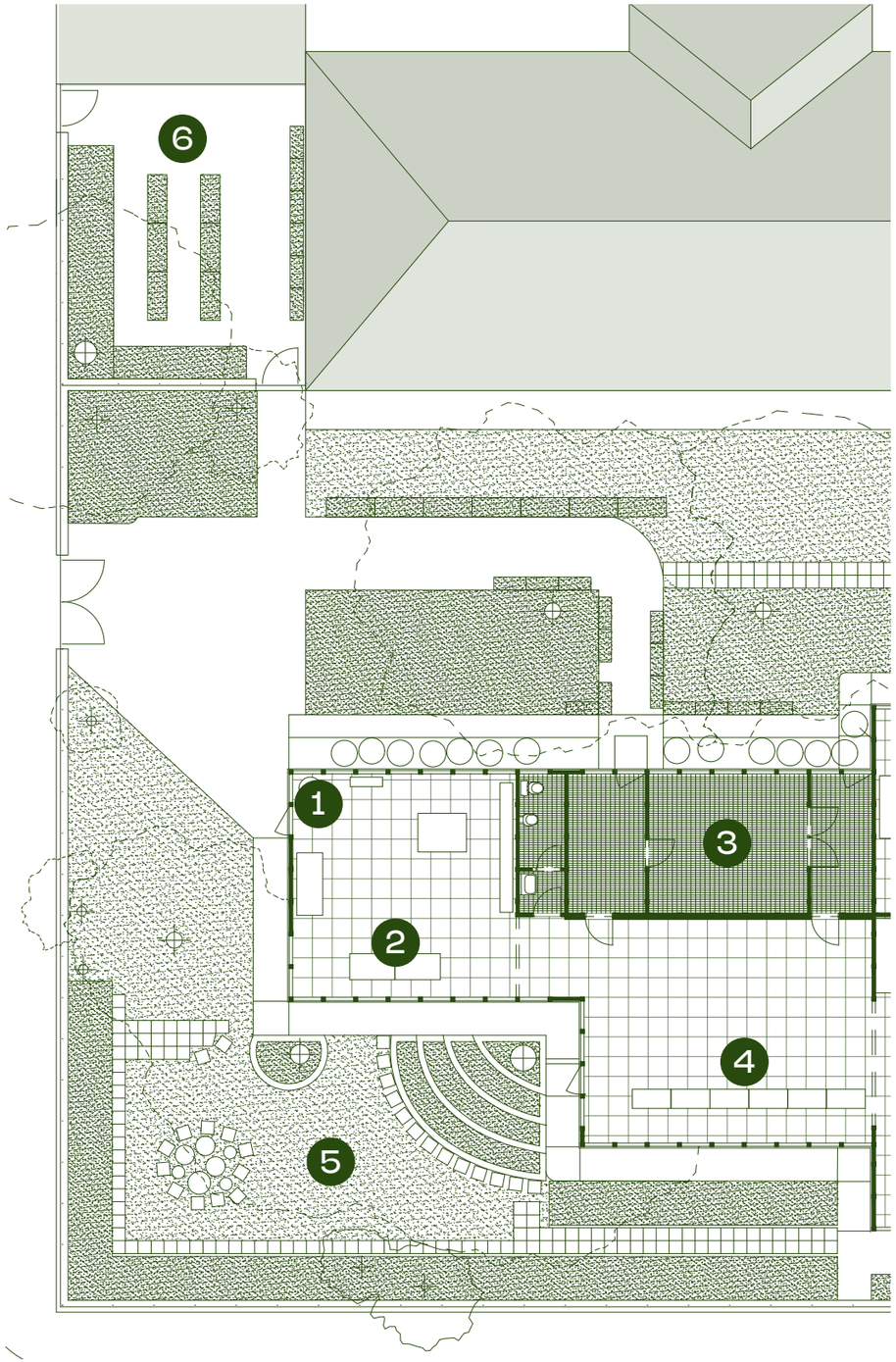
Introduction

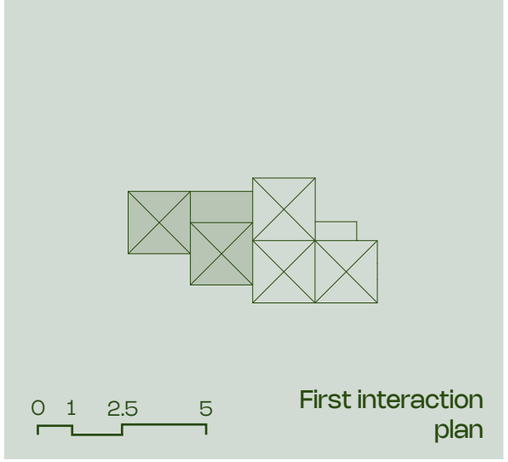
There is a certain magic to discovering hidden corners of the city where it feels as though the architecture has been frozen in time. Usually, when people talk about the legacy of a building or structure, their minds automatically turn to old buildings steeped in history that have stood for centuries, something very common in cities like Turin. However, there are spaces that already have a history and a legacy that may not span a century, but which highlight the daily life of a community. Among the 1900s era buildings that characterize the city, on a humble and unremarkable corner near Porta Susa, there is a small building nestled among plants and trees, where echoes of past lives invite you to wonder what lies within.

At first glance, the building resembles a school, or an addition to a larger one; as you approach, you can see that there is activity, yet also decay. You approach the main door and decide to try to enter and discover what time has left within those walls, but you find no way in and decide to wait for a day when someone can guide you through the interior.

After a few attempts, you discover that on Wednesday mornings, this small space opens its doors to volunteers of all ages and nationalities to help improve the city's green spaces. It is here that you meet Giuliano, who invites you to tour the entire facility.

With this understanding of the space as it currently stands, we can proceed to an analysis that will ultimately lead to a restoration and revitalization plan for the space. Through a meticulous analysis of the building and its components—what already exists and what can be improved—we aim to enhance quality of life and honor the architectural legacy, respecting the structure as much as possible and intervening in a surgical manner to ensure this wonderful building can stand for another 50 years.





First interaction plan

1 Entry is now concentrated exclusively through the former emergency door due to its direct proximity to the vehicle entrance. This consolidation streamlines logistics for staff, tools, and deliveries, while the original main entrance remains secured with reinforced locks to prevent unauthorized access.

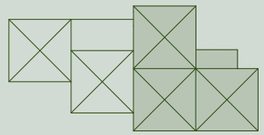
2 Upon entering, this converted classroom functions as the initial orientation point, informal meeting space, and working office for the volunteer group.

3 Proceed into the only section of the building constructed entirely in heavy masonry with tiled flooring. Originally built to handle school meal preparation, this durable room now serves as the primary secure storage space.

4 Move into the opened up classroom zone, now repurposed as an indoor workshop space dedicated to handling, potting, and maintaining indoor flora, protected from cold drafts.

5 Continue to the propagation area where cuttings and air-layering experiments root along with furniture, benches, and river-stone retaining walls fabricated entirely from salvaged materials.

6 On the back corner of the plot we have to the active plant nursery with an irrigation grid. Here, donated plants, rescued balcony flora, and species intended for municipal parks are grown—with sun-demanding varieties placed directly along the perimeter wall.



0 1 2.5 5

First interaction plan

7 Pass the pruned hydrangea beds, which undergo seasonal cutbacks before sprouting each spring.This zone features custom-built steps for roof maintenance,

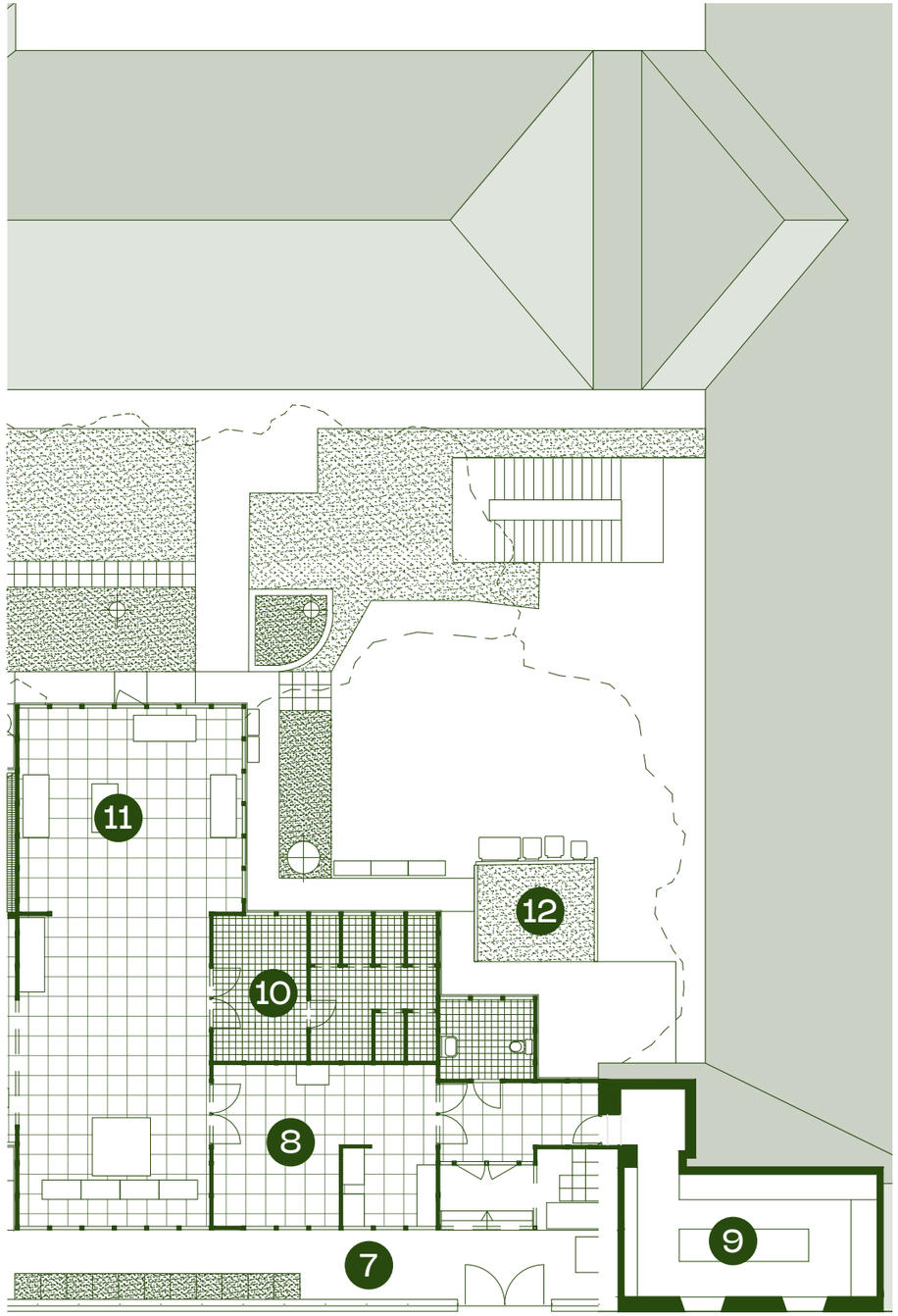
8 Enter the former main office and entrance area, which has been converted into staff facilities, an accessible restroom, and a dedicated bicycle storage area for regular volunteers.

9 Step into the dedicated workshop section outfitted with hand tools and machinery for woodworking, structural repairs, and building maintenance using salvaged materials.

10 Pass through the former children's restrooms, where all small fixtures have been removed to transform the footprint into a dedicated storage room for heavy field equipment.

11 Reach the main opened-up multipurpose hall used for community coffee, administrative meetings, and environmental presentations on topics like pollinators and urban green spaces. This space serves as the core operational center during the annual *Festival del Verde*.

12 Finish at the outdoor composting section, where site-generated green waste and clippings decompose on a 4-to-5-year cycle, generating organic soil for the entire grounds.



EXPLORING THE EMBODIED LEGACY

1

While embodied energy is key in our interpretation regarding the sustainable value of a project, reuse pushes a new concept to the center of the stage: that we defined as the "embodied legacy". Embodied legacy could be defined as the story that a building, material or equipment tells us. From the context of its construction or manufacturing, to the techniques used by the people that made it and then used it. The embodied legacy fosters this peculiar heritage. This extends the notion of heritage beyond the canonical and the listed, bringing it into everyday architectural practice. By demolishing without reusing we are erasing this work, these people and their stories. However, we are not erasing the energy and material consumption needed for the original construction. By promoting the concept of embodied legacy, our aim is to advocate for a more socially conscious approach towards sustainable architecture. While praising the generally unsung voices of the people which made the construction of this building possible.

This chapter aims to capture both the tangible and intangible heritage of the former kindergarten. To achieve this, a comprehensive survey of the various socio-cultural and historical factors driving the building's development was conducted. This holistic methodology allowed for a complete understanding of the site's rich history, thereby reinforcing the critical necessity of maximizing the preservation of the existing architectural fabric. By unraveling the forgotten narratives embedded within the nursery's walls, this section demonstrates that the value of adaptive reuse extends far beyond quantifiable environmental sustainability to encompass profound social and cultural impacts. The subsequent analysis synthesizes primary fieldwork and qualitative interviews with rigorous historical and archival research to present a multidimensional portrait of the site.

1.1 The urban narrative

Industrial boom : Demographic and urban expansion of Torino during the 1960s

Torino's economic miracle

In a post World War II context, FIAT (*Fabbrica Italiana Automobili Torino*) stood out as a key leader of the city-scale efforts for reconstruction. The company's critical role was reinforced by important governmental support, receiving a part of the European Recovery Program. This injection led the company to the forefront of an economic boom in Turin, commonly referred to as the *miracolo economico*[1] (economic miracle). FIAT's economic growth in Turin during this period was mainly focused on the launch and mass production of small vehicles, such as the 600 (1955) and the 500 models (1957). To support this, FIAT fully implemented Fordist assembly line methods, relying on low-skill workforce and specialized machinery (Musso, 2019).

This spontaneous expansion spurred the city's development into one of the country's main destinations. Inevitably leading to important waves of immigration, especially from the south of Italy, where people were still suffering from the backlash of war and fascism. Between 1959 and 1963, the municipality of Turin witnessed the arrival of more than 330,000 new residents (*Annuari statistici della città di Torino,* n.d., m. 324/1). This sudden and unprepared for shift in the city's demographics led to tensions between local population and the new immigrant workforce. However, the FIAT was producing a higher number of cars every year, up to half a million in 1960 and employing 100,000 workers (Musso, 1997, p. 365). While the factories were showcased to be places where differences could be overcome, the same could not be said of the urban fabric. In fact, the city's buildable areas rapidly became saturated resulting in indecent housing, the worst conditions usually reserved for the newcomers. The proliferation of residential areas without services, created ghetto-like structures, further isolating already marginalized immigrants. These conditions led to growing worker unrest in the late 1960s, pushing for the construction of decent infrastructures, provoking violent labor strikes.[2]

On the other hand, FIAT's economic growth was not declining, on the contrary the company . By 1970, Turin's plants

1. The miracolo economico (c. 1958–1963) refers to Italy's rapid post-WWII boom, transforming it from a predominantly agrarian nation into a global industrial power.

2. This period of intense industrial conflict culminated in the Autunno Caldo (Hot Autumn) of 1969, marked by widespread wildcat strikes centered at Turin's FIAT Mirafiori plants.

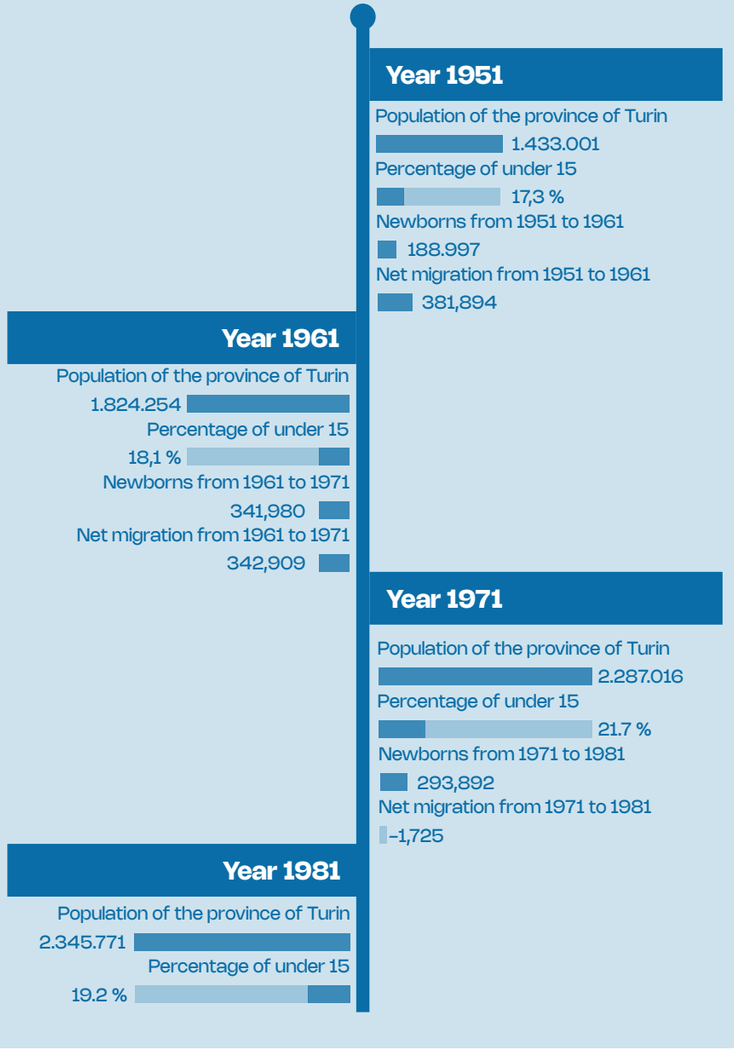


Figure 1 . Timeline showing the demographic evolution of the province of Turin from 1951 to 1981. (ISTAT, 1990)

produced 1.5 million cars, and the company was controlling over 95% of the national car production, effectively acting as the driving force of the country's economy (Musso, 2019).

Adapting infrastructures

In 1951, due to a growing population, the need to draft a new General Regulatory Plan for Turin emerged. Approved by the Ministry of Public Works in 1959, this plan promoted the construction of residential areas on the outskirts of the city center, creating new urban sectors for the middle and working classes. However, the municipality's plan lacked active tools to regulate an urban expansion of this scale and limit real estate speculation. This urgency for new housing and public infrastructure was not limited to Turin, but had become a nation-wide crisis.

The Italian Parliament addressed this issue by passing Law No.167 in 1962. The primary objective of this new legislation was to grant municipalities the power to acquire land via expropriation at below-market rates, in order to equip those plots with the necessary public services and subsidized housing. Providing both a tool to activate the transformation at the scale of the city, while limiting any type of speculation. In Turin, the implementation of this law led to the creation of a P.E.E.P. (*Piano Edilizia Economica Popolare*) (Social Housing Plan). The P.E.E.P. 's first phase was to identify 24 sectors, roughly 6 million square meters of land, where to build those residential and public facilities. Due to a lack of space within the boundaries of Turin, these zones were mostly located at the periphery of the city, in towns such as Rivoli, Moncalieri or Veneria. Effectively forming a residential ring and forcing Turin to rely on the existing belt municipalities surrounding it.

The drafting of the P.E.E.P. was the cause of intense ideological debates between the ruling administration and the opposition. Facing a projected 700,000 new residents over a ten-year period, the city's politicians clashed over the scale of intervention. On one hand the elected officials (Christian Democrats) wanted a smaller, financially viable intervention so as not to bankrupt the city while allowing private development. While the *Partito Comunista Italiano* (PCI) (Italian Communist Party) wanted to expropriate enough land for all 700,000 people to effectively kill the private land market.

In hindsight, this General Regulatory Plan, mainly drafted by the Christian Democrats, is vastly considered a failure. The different zones were poorly connected, lacked infrastructure and ironically increased the land speculation outside the zones' borders. Furthermore, the intervention created social segregation, excluding the poorest inhabitants, generally immigrants from the South, to marginalized areas.[3]

3. Refers mainly to the neighborhoods of Falchera, Le Vallette, Mirafiori Sud, and Barriera di Milano.



Figure 2. Construction Site of Public Housing in Mirafiori Sud (1960s).
Source: From Cantiere dei nuovi insediamenti di case popolari in zona Mirafiori Sud negli anni ,60 [Photograph], by MuseoTorino.

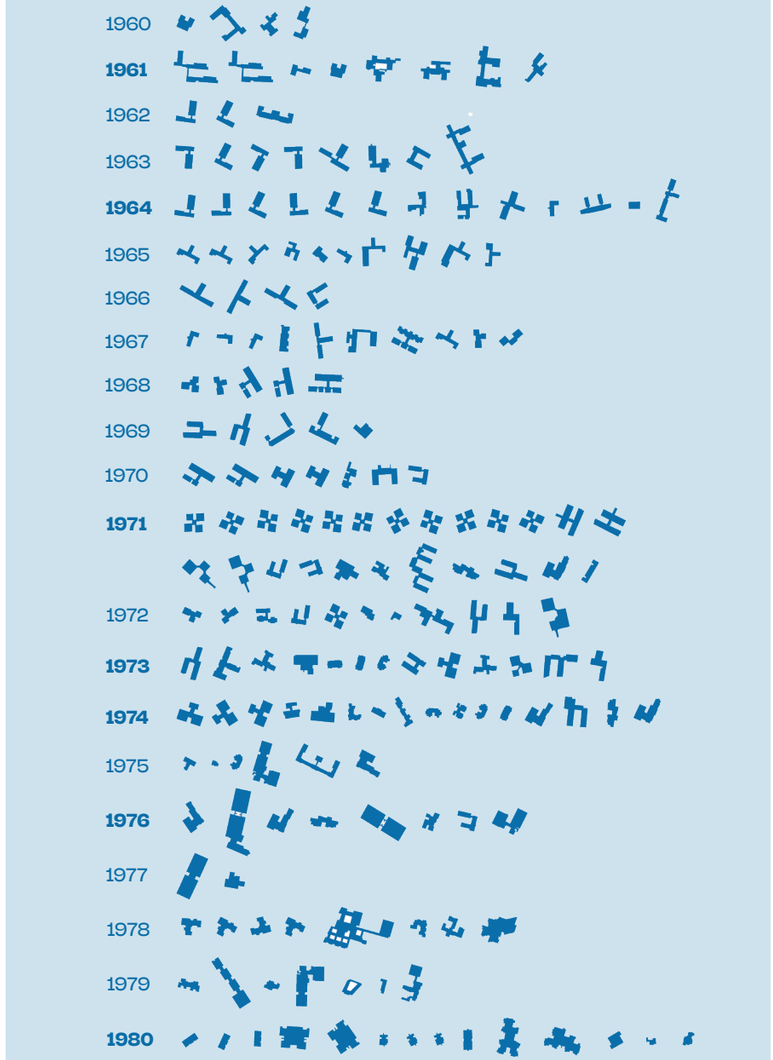


Figure 3. Diagram identifying the new educational infrastructure from 1960 to 1980. (Barioglio & Campobenedetto, 2022)

A paradigm shift

The post-war era was considered to be a situation of emergency, during which the need for new educational infrastructure was unprecedentedly high, and deadlines short. At a time when the relationship between space and pedagogy is at the center of a lot of debates. This situation is seen as a unique opportunity to experiment new ways in which to conceive the spaces that will shape the minds of the future generations. Following this logic some schools were carefully designed by groups of architects as "experimental" buildings.[4] An approach questioned by some, due to the cost of said projects, in direct contradiction with the urgency of the general situation. However, these cases remained a slight portion of the interventions. In most cases, due to limited budgets and political pressure, the schools built were based on prototypes designed to be repeated around the city.

These prototypes constitute the overwhelming majority of schools built during the 1960s and 1970s, especially within the city's emerging peripheral districts. During that period, Torino witnessed the emergence of 167 of these schools based on only 37 different prototypes, some of them being repeated up to 10 times. While these later did showcase the ongoing experiments, shifting from buildings organized around a central hallway distributing classrooms, towards shared central spaces and "functional units". They undeniably raise questions about the absence of consideration for the surrounding environment and the way they integrate to their context. As of today, these "prototypes" represent 45% of the educational building stock utilized in the city Turin (Barioglio & Campobenedetto, 2022). While a significant share of them are being decommissioned by the municipality or in critical need for refurbishment, questions concerning both the heritage value of this infrastructural stock and the appropriate means of intervention remain largely unresolved.

Schools as means for emancipation

Women's emancipation movements

Architectural experimentation was not limited to mandatory education; it also embraced a radically new approach to childhood and infancy. This paradigm shift was intrinsically linked to the growing women's emancipation movements in Italy and their relentless fight to reform the educational system. While the economic miracle brought prosperity, women were systematically marginalized within the manufacturing sector nationwide. In 1951, women represented 1.1 million workers out of

4. Specifically, the Scuola Elementare Salvo D'Acquisto in Turin's E8 expansion zone, conceived in 1968 by an interdisciplinary team.

the 3.4 million industrial workers (ISTAT, 1951), twenty years and the economic miracle later, they represented 1.4 million workers out of a total of 5.3 million workers nation-wide (ISTAT, 1971). These numbers underscore a systemic issue that largely confined women's societal roles to those of wives and mothers. With the notable exception of the region of Emilia-Romagna[5], which saw the female workforce double, and became a central hub for women's emancipation movements.

The marginalization of women extended beyond employment numbers, they faced deeply institutionalized inequalities in the industrial sector. To limit wages and deny women advantageous statuses, employers frequently offered women apprenticeship contracts. Furthermore, as factories modernized, introducing new machinery that increased productivity and allowed for workforce reductions, women were disproportionately targeted for dismissal due to a lack of contractual employment guarantees. Most importantly, an estimated 1.5 million women were "industrial homeworkers" (Commissione parlamentare d'inchiesta sulle condizioni dei lavoratori in Italia, 1959), working from home in industries such as textile and clothing. This was considered the most precarious form of employment, these women lacked continuous pay, maternity leave or sickness benefits.

This constant oppression and marginalisation imposed on women led to widespread unrest within the women workforce and growing political engagement by feminist organizations such as the *Unione Donne Italiane* (UDI). At the 1968 National Conference on the Problems of Women's Employment, the UDI led a protest against women's unemployment and underemployment. Their main objective was to set medium-term targets, to bring Italy back to numbers closer to that of its European neighbours, as mentioned in the National Archive of the Union of Italian Women (NAUDI). The following year, in the tense context of the *autunno caldo* (hot autumn)[6], the PCI directly blamed the government for the state of women's employment. The party called for the creation of 750,000 jobs for women, reform of the vocational training system, an increase in compulsory education and the establishment of national childcare service, public nurseries and full-time primary education. A vision shared by the women's movement of Christian Democracy, which encouraged the project.

Law No.1044

It was within this tense political climate, and following years of unified mobilization driven by women's organisations led by the UDI, that the government decided to finally address the systemic marginalization of female workers. On December 6,

5. Governed consistently by the PCI, the region fostered robust networks of women's associations (notably the UDI).

6. Refers to a massive wave of labor strikes and social unrest across Italy in the fall of 1969, which resulted in significant wage increases and the passage of the 1970 Workers' Statute (Statuto dei Lavoratori).



Figure 4. *Le donne hanno vinto: gli asili nido sono.* (The women have won: the nurseries are.) legge, December 2th, 1971.

1971, Law No. 1044 was passed, stipulating that state assistance provided to children up to 3 years of age is considered as a social service of public interest. By doing so, the government underlined the importance of Work-Life balance and challenged the well established nineteenth-century ideal of the inseparable mother-child bond.[7] The legislation theoretically entitled all women to utilize public childcare services, thereby facilitating their pursuit of professional careers, while aiming to transform the concept of the nursery from a mere "custodial" place into an active educational environment.

Operationally, the law established a five year plan (1971 to 1976) to construct at least 3,800 municipal nursery schools (*asili nido*) nation-wide. However, rather than centralizing the initiative, the state allocated budgets to individual regional governments, which were then responsible for distributing funds to municipalities to build and manage the facilities. This delegated programming issued by the law had the predictable effect of causing unequal development of said nurseries depending on the region. Furthermore, Law No. 1044 subsequently suffered from recurrent political neglect minimizing its potential impact nation-wide. Even today, feminist organizations highlight the systematic neglect or resistance within national politics to fully recognize the importance of investing in childhood education in order to face social-economic challenges.

Nevertheless, despite these regional disparities and political shortcomings, the funding unlocked through Law No. 1044 spurred the construction of nursery schools and kindergartens across the country.

Urban and architectural outcomes

The five year plan instituted by Law No. 1044 set extremely ambitious objectives, aiming for the construction of 3,800 nurseries nationwide while challenging deeply embedded conceptions of women's societal role. Although primarily promoting a fundamental right to employment for women, the law was sought to address the severe shortage of childhood services in the country. However, because the law initially framed nurseries merely as assistance for working mothers rather than recognized educational environments, it faced strong ideological resistance from traditionalist politicians who fought to preserve the conventional, maternal-led domestic structure.

A 1983 investigation into the law's tangible impact revealed significant limits and a relative failure in its national execution. Out of the 3,800 nurseries planned, only 1,388 were reported built. The decentralized distribution of funds predictably resulted in strong regional disparities in childcare coverage. Northern Italy

7. Bourgeois and Catholic archetype of the ***angelo del focolare*** (angel of the hearth), which confined women's societal value exclusively to domestic motherhood.

managed substantial progress, led by Emilia-Romagna, which accounted for a significant portion of the success with 197 new nurseries achieving a 31,5% coverage rate for children aged 0-3. On the other hand, Southern regions recorded fewer interventions due to a traditionalist political environment. The 1983 national report highlighted this division, noting that Sicily had registered only 5 newly built nurseries, only managing a 4,9% coverage rate (Dipartimento per le politiche della famiglia, 2012, p.58).

Recognizing the insufficient national funding the Piedmont local government intervened by passing Regional Law No. 3 on January 15, 1973. This law injected an additional 11 billion Lire[8] into the 1972-1976 period, while providing specific regulation regarding the location, total area and services provided by the future nurseries in the region. The necessity of such aggressive regional intervention underscores the inherent limits of Law No. 1044 , as well the aggressive blockade operated by local and regional governments especially in the more traditional political environment of southern Italy.

Contemporary relevance of educational buildings in Turin

The legacy of contemporary architecture

Italy is home to an extensive number of monuments designated as protected heritage sites. A status giving them a precise and rigorous legal framework, protecting them from any harmful interventions. However, buildings as our site of interest, considered as "contemporary heritage" do not fall under any type of legal framework, making them defenseless against destructive actions. According to the *Codice dei beni culturali e del paesaggio* (Code of Cultural Heritage and Landscape)[9], a building requires to be of age 70 or older in order to potentially be considered as cultural heritage. Inherently excluding contemporary architecture of any kind of legal protection against demolition. Nevertheless, such buildings act as testaments of a city's or a community's history, deserving consideration and respectful intervention. The concept of ordinary or forgotten heritage encompasses all those spaces that act as communal landmarks, integral to a neighborhood's more recent history and landscape, despite not being part of these official lists.

Generally marginalized by public authorities and despised by the general public, this form of heritage does spur the interest of certain researchers and architects. In his essay "Terrain Vague", Ignasi de Solà-Morales[10] describes the ambiguous nature of those

8. 1 billion Lire for 1972 and 1973, and nearly 3 billion Lire annually for 1974, 1975, and 1976. Representing a total of roughly 110 to 112 million Euros.

9. Italy's fundamental legal framework (Legislative Decree 42/2004) for the protection and conservation of cultural and landscape assets.

10. Ignasi de Solà-Morales (1942–2001) was a leading Catalan architect, historian, and philosopher known for his critical theories on contemporary urbanism and architectural conservation.

of those underused or even abandoned urban spaces. He uses the french expression "*terrain vague*" to do so. While "*terrain*" roughly corresponds to a plot of land, the translation of "vague" is more complex. From the Latin, "*vacuus*" which later became vacant in English, "*vague*" refers to a space that is empty, and therefore free and available. These spaces are generally seen as abandoned and unutilized, while Solà-Morales recognise these urban voids as being "the space of the possible". Being extremely common in large scale cities, a simple shift in our perspective unveils unlimited potentials.

"What is it to be done with these enormous voids, with their imprecise limits and vague definition?"

With these words, Solà-Morales highlights our inherent suspicion towards the unknown and the strange. These spaces that are marginalized within our cities because not productive or inhabited underline our constant drive to transform or destroy the unknown. He concludes by inviting architects or urban planners to approach intervention in those areas "through attention to continuity", not the continuity of the legislation or previous General Regulatory Plans but the continuity of time and stories lived within these spaces.

Can adaptive reuse act as a means to urban regeneration?

As previously stated, these underused or abandoned urban spaces represent a significant and often dormant potential for cities. The adaptive reuse of these "urban voids" can serve as a highly efficient tool to promote socio-economic revitalization. While preserving the existent urban fabric, adaptive re-use can stimulate a neighborhood's dynamic by introducing new functions that generate employment or community oriented actions. Furthermore, it can actively reconnect historically isolated or neglected areas to the wider urban context. In other words, adaptive reuse promotes a sensitive, more controlled regeneration rather than an intensive *tabula rasa*[11] intervention. It achieves this by restoring vitality to decaying, marginalized spaces while limiting urban expansion. Rather than requiring new infrastructure, adaptive reuse reclaims the existing building stock; structures that often already serve as identifiable local landmarks. Consequently, these initiatives are highly effective at mobilizing local communities. By doing so, these actions create strong social anchors that enhance local identity and social cohesion.

The concept of adaptive reuse is particularly relevant in

11. Latin expression used to refer at a project starting from a blank slate.



Figure 5. DSC_0113
Photograph of the Rebaudengo area, Turin.



Figure 6. DSC_0128
Photograph of the
Rebaudengo area, Turin.

a post-industrial context, where these urban voids represent a substantial portion of the building stock. However, moving beyond a simple preservation of the existing building requires a broader framework. Thus, the emergence of industrial heritage reconstruction and re-use, where the historical infrastructure is the object and adaptive intervention the means. This approach specifically aims to infuse continuity into the spirit of the project. In these specific post-industrial contexts, a critical element to prioritise is the local community. As Anna Mastalerz (2019) notes,

"local community wellbeing is one of the key factors in these renewal schemes."

A reality that necessitates public participation in the decision-making process. Mastalerz highlights that the community embodies a dual role in these interventions: they are both the subjects shaping the regeneration and the objects inherently linked to the degraded places themselves. Therefore, keeping a structure alive rather than demolishing it to build a new one is more than a simple connection between the past and the future, it empowers the community. Conclusively, this approach of reconstruction and re-use reconciles the need to limit the project's embodied energy while acting as an economically viable means towards the revitalization of a neighborhood.

Reclaiming the Urban Commons as social infrastructure

The majority of Turin's 20th century was defined by economic prosperity, the century's final decades marked the downfall of this industry-oriented system. Driven by the 1970s oil crisis as well as the global modernization of the automobile industry, FIAT underwent a massive reorganisation.This ultimately led to the suppression of approximately 100,000 jobs and the closing of major production facilities such as the iconic Lingotto factory in 1982 (Myers, 2023). The severe repercussions of the actions taken by FIAT's decision board triggered major strikes led by the working class. Moreover, this industrial decline resulted in a significant demographic outmigration, leaving the city with vast amounts of underused or abandoned infrastructure, ranging from manufacturing plants to residential blocks.

In reaction to this urban crisis, the municipality drafted a new General Regulatory Plan in 1995. The project, led by architects Vittorio Gregotti and Augusto Cagnardi introduced the *spina centrale* (central spine)aiming to reclaim the industrial brownfields and other marginalized areas in order to "stitch" back the city

together and create a "polycentric city". The municipality of Turin pushed forward various symbolic projects including the conversion of the Lingotto factory or the Dora Park. These interventions highlighted the paradigm shift occurring, Turin was shifting from place of production to a place of consumption (Colombino & Vanolo, 2017). As articulated by former mayor Valentino Castellani, this transformation was part of a broader municipal initiative to "turn the page" on the city's industrial past.

By the 2010s, Turin's approach towards its industrial heritage underwent another evolution. Whereas previous reuse interventions sought to hide the industrial past by embedding spaces of consumption, contemporary strategies have proven to be inherently more "people-oriented." These modern interventions tend to combine physical, economic, and social transformation and emphasize sustainable development. The *Rete delle Case del Quartiere di Torino* (Network of Community Centers), underscores this approach focusing on local communities rather than on global corporations. Various neighborhood houses around the city such as *Cascina Roccafranca* or *Casa del Quartiere di San Salvario* are vibrant examples of adaptive reuse projects promoting social inclusivity in Turin. This paradigm shift of the perception and management of industrial heritage is further accentuated by two key pieces of legislation. In 2016, the city of Turin adopted the "*Regulamento dei Beni Comuni*" (Regulation of urban commons): By doing so the municipality recognized that abandoned public infrastructure could be used by associations led by residents or associations. In 2022, allowing the use of a private building that is abandoned or awaiting transformation, even that of a different use previously planned. Highlighting that ultimately, Turin's position evolved from massive structural engineering to a circular economy model that prioritizes "conscious intervention" in the built environment over expansion.

The sleeping potential of the educational infrastructures

As previously established, the 1960s and 1970s witnessed an unprecedented expansion of educational infrastructure in Turin. Over this two-decade period, 167 schools were constructed to accommodate the ongoing demographic boom in the region of Turin. However, with the reorganisation of industrial processes happening in the 1980s, the population decreased significantly within the city itself, falling from around 1.117.000 in 1981 (ISTAT, 1981) to 865.000 in 2001 (ISTAT, 2001), and has mostly stagnated since. This severe demographic decline resulted in a foreseeable obsolescence of the educational infrastructure built during the economic miracle period, becoming evident in the 2000s.

In November 2019, Fondazione Agnelli published the "*Rapporto Edilizia Scolastica*" (School Building Report) to bring attention to this crisis and guide future investments on the matter. The report highlights that the vast majority of schools in Italy were built around the 1960s and 1970s. In Turin, the average educational building was built 70 years ago, and is presenting major structural deficiencies as well as poor energetic performances.[12] Furthermore, the student demographic has been steadily shrinking, a trend predicted to persist into the foreseeable future. Consequently,Turin as well as most of Italy is in urgent need for educational infrastructures. However, lessons from the past have been applied and the existing building stock is being considered as the starting point of these interventions. Initiatives such as *Torino fa Scuola* (Turin sets the standard) supported by Fondazione Agnelli, Compania di San Paolo and the Città di Torino are promoting the restoration of existing schools as a national solution to the problem at hand. Through the restoration of two schools, Enrico Fermi in Lingotto (BDR Bureau) and Giovanni Pascoli in Citadella (Archisbang), this initiative aims to reconsider pedagogical spaces to our contemporary needs without building new infrastructure from scratch. Furthermore, it reassesses the role and position of a school within a neighborhood as a communal hub, with the integration of a civic center for example. These pilot projects are intended to serve as replicable models, promoting a context-sensitive approach to urban renewal.

This municipal strategy operates under a fundamentally different paradigm from the national framework known as *Futura: La scuola per l'Italia di domani* (The school for the Italy of tomorrow), promoted by the Ministry of Education and Merit (MIM). The official framework of the Italian government relies on the demolition of outdated buildings in order to create the space needed for a reconstruction respecting modern requirements. It is essential to highlight this key difference between both those initiatives, while they do aim for better educational infrastructures, their means are diametrically opposed. By prioritizing the retention of the existing building stock, *Torino Fa Scuola* allows for more sensible and comprehensive interventions, ultimately promoting more sustainable outcomes.

While the primary objective of the *Rapporto Edilizia Scolastica* and of the initiatives promoted by Fondazione Agnelli is the restoration of the educational infrastructures, this aging building stock represents an important urban potential. Beyond simply requiring refurbishment, a substantial percentage of these structures are either underused or abandoned. In 2025 alone, five schools had to close[13], leading to the reuse by organisations of four of them. These specific instances represent the perfect opportunity for adaptive reuse projects, promoting social initiatives.

12. An issue being enhanced due to climate change and heatwaves occurring from May to October.

13. Municipal nursery schools were closed: in via Brissogne, via Invernizio, via Venaria, via Guidobono, and via delle Primule (Vallette district)

1.2 The P-63 system

Having established the broader urban and socio-political narrative of Turin that necessitated the construction of this specific kindergarten, our focus must now shifts from the macro-scale of the city to the micro-scale of the architectural components. The following section delves into the historical and technical genesis of the P-63 prefabricated panel system used for our kindergarten.

Comprehending the full complexity of this industrial system is a critical prerequisite to any future physical intervention. Our strategy for adaptive reuse demands an uncompromising assessment of the physical fabric standing before us. Every individual element mandates the same rigorous scrutiny as the broader spatial vision and its active programmatic functions, in order for a respectful and relevant intervention.

Historical overview of the design

The Colonie Olivetti

During the 1950s, a period of profound prosperity for Italian industry, the manufacturing company Olivetti[14] promoted the construction of mountain "colonies" for the families of the employees. This initiative was part of a broader, progressive expansion of social services for children, in direct contrast to the youth colonies of the fascist era. Designed as environments for children to cultivate a sense of freedom and responsibility, these camps reflected the progressive pedagogical framework driven by the French *Centre d'Entrainement aux Methodes d'Education Active* (CEMEA) (Training Centre for Active Education Methods). Within this context, Olivetti commissioned additional summer and winter mountain camps, including the one in Brusson, in the Aosta Valley. Adriano Olivetti decided to hold an architectural competition for this specific project, opening said competition to all architects of Northern Italy. An unusually wide panel for a competition of sorts, arousing the interest and therefore participation of a number of influential architectural figures of this era, including architect Carlo Scarpa or Marcello D'Olivo.

At the time, mountainous environments, particularly the Alpine region, were increasingly viewed as a field of experimentation for Italian architects. The establishment of the Institute of Mountain Architecture in Turin, or the Bardonechia

14. Based in Turin, Olivetti S.p.A. was one the biggest typewriter and then computer manufacturer in Europe, during this period.



Figure 7. Detail of the exterior cladding of the meeting room at the Olivetti summer camp in Brusson. Photograph by Ugo Mulas. Reprinted from La colonia Olivetti a Brusson: Ambiente, pedagogia e costruzione nell'architettura italiana (1954–1962) (p. 130), by G. Neri, 2021



Figure 8. Interior of the ateliers at the Olivetti summer camp in Brusson. Photograph by Ugo Mulas. Reprinted from La colonia Olivetti a Brusson: Ambiente, pedagogia e costruzione nell'architettura italiana (1954–1962) (p. 141), by G. Neri, 2021

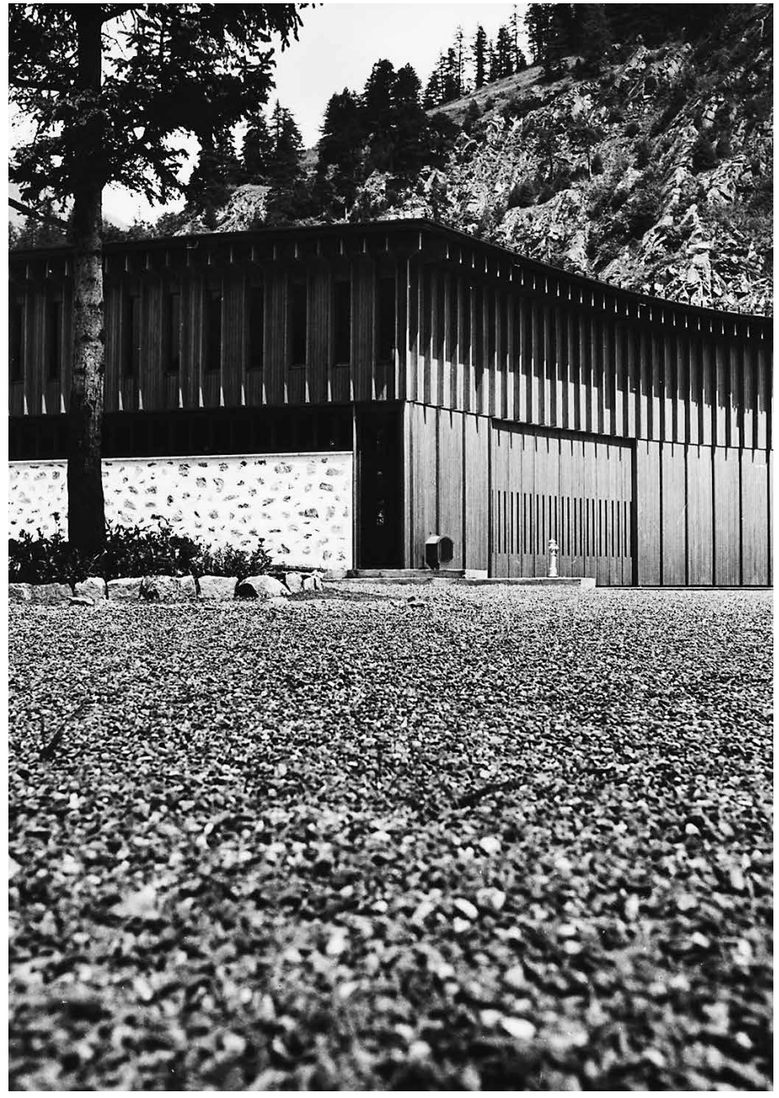


Figure 9. Exterior view of the meeting room at the Olivetti summer camp in Brusson. Photograph by Ugo Mulas. Reprinted from La colonia Olivetti a Brusson: Ambiente, pedagogia e costruzione nell'architettura italiana (1954–1962) (p. 128), by G.

conferences on Alpine Architecture, underscored this growing disciplinary interest. Concurrently, educational infrastructures and their spatial organization were at the center of crucial debates since the end of the fascist era. Consequently, the Brusson competition was widely perceived as a unique ground for architectural experimentation. The brief mandated a summer camp for about 120 to 150 children (age six to twelve) that can also work as a winter boarding school for about 50 children of the same age. Moreover, the brief explicitly required the architecture to serve an active pedagogical role, dictating that the complex "a meeting place open to the most varied occasions: the most suitable for developing individual personality and the sense of relationships that arise from the habits of communal life" (Conte & Leonardo, 1962, p. 1).

Architectural response – Genesis of the system

Following a two stage selection process, the jury unanimously awarded the first prize to Claudio Conte and Leonardo Fiori, a decision that initially caused some perplexity for Adriano Olivetti himself. The two young Milanese architects answered the competition with a project that alluded to the memory of traditional architecture of the region by structuring the project in a shape reminiscent of a small mountain village. To achieve this, however, the architects employed prefabricated panels made of wood, creating an architecture that evoked the traditional craftsmanship of woodworking, while operating through industrial modularity. Engineer Roberto Guiducci, praised this elegant solution by saying that

"The industry is implied, not felt,"[15]

highlighting the success of their bold design strategy. Furthermore, the industrial system was thought to cope with the harshness of the mountainous context. Conte and Fiori deliberately selected prefabricated panels because of the altitude, the difficult topography and the reliance on an unskilled local workforce required a rapid and simple construction method. In order to produce these prefabricated panels, Conte and Fiori worked hand in hand with a specialized Brescia based company, Legnami Pasotti.

Additionally, the project aimed to address a main theoretical debate within the architectural circles of the time: the relationship between architecture and its geographical and historical landscape. The concept, popularized by architect Ernesto N. Rogers (1955) of "environmental pre-existences", was a cornerstone of Italian architectural debates on how to modernize

15. Translated from the original quote: "si suppone l'industria, non la si sente"

without erasing history. This notion was highlighted by Conte and Fiori themselves in the project they delivered, through the integration of photos of rascards, traditional wooden barns of the region. Ultimately underscoring their intended dialogue with traditional Aosta Valley architecture present on site. In other words, a major part of their work focused on creating a dialogue with the pre-existing architecture, without resorting to mimicry. The conceptual core of the project was thus, the implementation of prefabricated industrial panels, respectful and engaging with the rich historical context.

Industrialization – A growing Influence in Italian Architecture

At the time, the use of industrial prefabrication in Italian construction was still in its infancy, which explains the apprehension and controversy surrounding Conte and Fiori's proposal. The use of of prefabricated components in a central role was highly unorthodox for the time. Architectural critic G.E. Kidder Smith, explains this phenomenon as a reluctance felt by Italians regarding industrial construction methods, as they gave more importance and acknowledgment to traditional means of building. In his work *Italia Builds* published in 1955, Smith summarizes this resistance:

"Since prefabrication is contrary to the nature of Italians, it is rarely used. In Italy almost all doors and windows are made to measure. Italians have little sympathy for the assembly line, whether as producers, consumers, or workers, and moreover they possess few of the materials—wood and metals—most suitable for prefabrication"

However, this resistance rapidly weakened with the appearance of new figures and projects that inevitably catalyzed a paradigm shift towards architectural industrialization. The post-World War II reconstruction effort, amplified interest for prefabricated construction components, especially due to their advantageous cost and rapid on-site installation. Leading figures such as architect Pier Luigi Nervi showcased this trend with emblematic projects such as the 1959 *Palazzo delle Esposizioni* in

16. Specialized Italian architectural and engineering journal founded in 1957.

Turin, built with precast concrete elements. This momentum was further intellectualized by the founding of architectural journals like *Prefabbricare*[16], dedicated to studies of prefabricated components in architecture. Such initiatives allowed for the democratization of prefabrication while fighting against the prevailing skepticism among Italians architects or designers. A group of designers and architects based in Milan started focusing on the subject of industrial led designs and ultimately interrogating the role of an artist or architect in the implementation of prefabricated components in their works. Milan briskly emerged as Italy's focal point for industrial design, especially with the emergence of figures such as Alberto Roselli or Marco Zanuso. These debates, coupled with the proliferation of projects promoting these means of construction undoubtedly influenced Claudio Conte and Leonardo Fiori's approach.

Investigating the system's embodied legacy

A prefabricated system

As established, Conte and Fiori's response to the Brusson competition was heavily informed by the expanding influence of industrial design. In their pursuit to reconcile modern innovations and an empathy towards the cultural context, without mimicking it, the two young architects opted for a system of industrially manufactured wooden panels. By treating wood with specific architectural sensitivity, they used visible joints and calculated shadow play to evoke traditional carpentry, while the inherent modularity betrayed the system's industrial origins. This nuanced material articulation directly embodied Ernesto N. Rogers's theories regarding the thoughtful integration of pre-existing environmental contexts.

As for the technical solution brought forward, Claudio Conte and Leonardo Fiori focused heavily on the structure of the vertical elements. The walls consisted of a limited typology of standardized industrial panels, allowing for fast and dry-assembly in reaction to the restraining context of the high altitude Alps and under-qualified local labour. The exterior of the panels were made of Swedish pine with a thickness of 25mm, structured as a double insulating wall with an internal air chamber. The complex was organized around a strict modular grid, allowing for the repetition of these standardized elements while maintaining the flexibility and freedom of movement required by the competitions brief. The

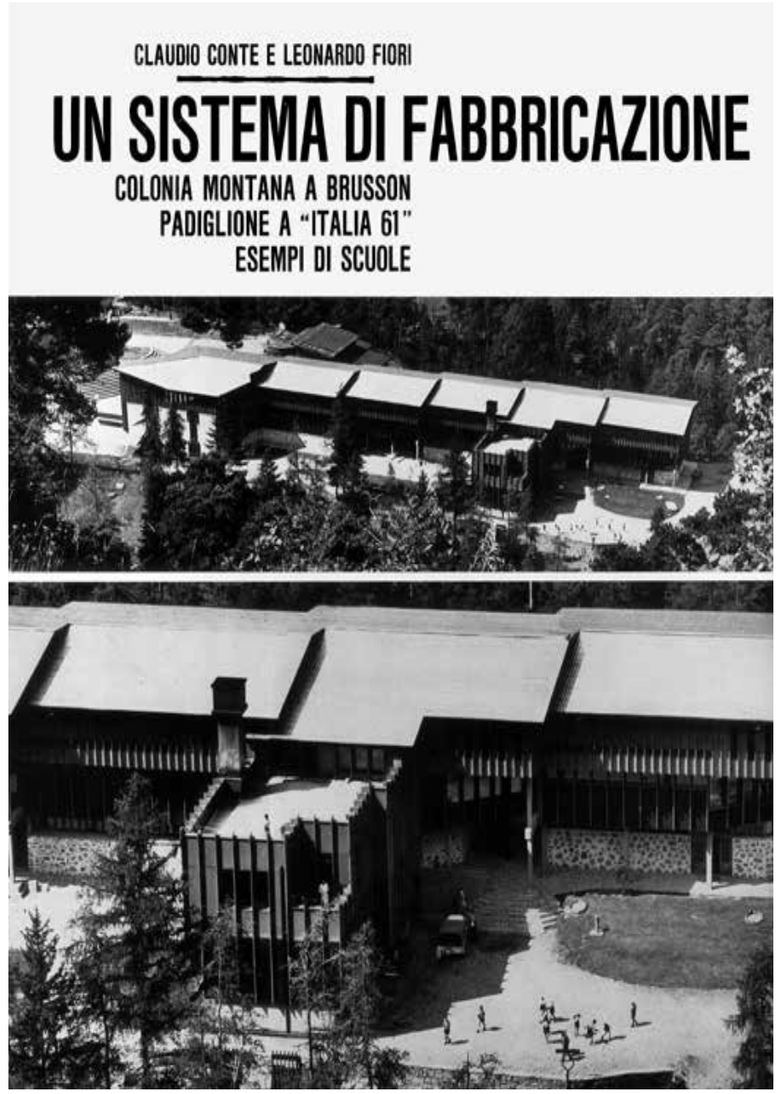


Figure 10. Reproduction of a page from the Italian architectural magazine Casabella (Issue 285, published March 1964). Reprinted from La colonia Olivetti a Brusson: Ambiente, pedagogia e costruzione nell'architettura italiana (1954–1962) (p. 168), by G. Neri, 2021.

plan of the complex is arranged based on the size of the modular panels, creating squares of 1.50meters a side. Furthermore, the panels were carefully placed using the rhythm of the panels in order to create more intimate spaces when required or vice-versa.

The panels were the result of the collaboration of the Milanese architects and the historic company of Legnami Pasotti, based in Brescia. The company was considered a giant of the timber industry of the time, counting around 600 employees and having a near-monopolistic hold on the sector. Specializing in any type of manufacturing using wood, from plains to demountable homes, making them the ideal partner for the Brusson project, and the eventual propagation of the system all over the country.

The evolution of the P63 System

The Olivetti colony in Brusson was the starting point of While the modular panels were designed for a specific context, their standardized nature allowed for them to be improved and incorporated time and again adapting to various models. For example in 1961, a similar system was used at the Splügne Brau Pavilion for the Italia '61 exhibition in the Valentino Park in Turin. In this case the prefabricated panels associated with wood were used in order to have a completely demountable pavilion. Starting from the early 1960s, this new system experimented in Brusson proved to be ideal to answer the now significant demands of the educational system. Indeed, between the important demographic increase and the previously mentioned shift of paradigm around the conceptualization of schools, the system offered a seemingly perfect solution. The opportunity to test out this model on a larger scale came in 1963 when the two architects and Legnami Passoti teamed up once again to build a series of experimental schools. Thus, the opportunity for them to develop the "P-63 system", based on standard units allowing for a free design based on an unlimited potential of combinations. Moreover, these panels were designed to be easily dismantled allowing to replace glazed or solid panels whenever it was necessary.

The year 1963, witnessed the construction of the first concrete example of this system, with the realization of 8 schools in various cities locations over Italy. In 1964, Conte and Fiori received the IN/ARCH Regional Prize of Lombardy and of Piedmont[17], signifying the importance of their work. These recently constructed schools received general praise due to the architectural qualities of the spaces created and the sensitivity in the use of materials while being extremely easy to assemble on site and even disassembled if needed. The system continued to spread repeatedly in the country to meet the needs for new

17. A prestigious architectural award promoted by the Italian National Institute of Architecture (IN/ARCH) that honors outstanding regional projects and their development teams.

educational infrastructures. At such a rhythm in fact, that the Legnami Passoti company, in several cases, developed the projects independently. Highlighting the standardization of these schools, conclusively questioning the quality of some of them as well as the motivation behind such an intense rhythm of construction. As a final testament of the P63 System's notoriety, it was awarded the 1970 Compasso d'Oro award, rewarding important industrial designs of their time. In the following years, the system continued to spread throughout the country and was ultimately used during the construction of the kindergarten Via Antonio Giuseppe Bertola in Turin, in 1972.

A testimony of the industrialization of architecture

Having traced the development and widespread 1960s dissemination of the P63 system, a critical question emerges: What were the lasting impacts of this industrial propagation on architecture, society, and the construction industry?

First and foremost, the spread of the system offered a vital alternative to the dominant paradigm of "heavy" prefabrication, almost exclusively made of reinforced concrete. While concrete remained the default material of the era's building stock, Conte and Fiori proved that light wooden prefabrication was also viable at a wider scale. The implementation of high-quality wood for both the structural core and the exterior cladding offered a certain warmth to the building, contrasting with austerity broadly associated with the image of prefabrication. Furthermore, the dry-assembly mechanics central to the P63 system inherently supported architectural adaptability and dismantling, a concept of programmatic flexibility that remains highly relevant in contemporary circular economy discourses.

Culturally, the system stands as a physical manifestation of the post-fascist drive to "humanize" the educational environment. It achieved this not only by introducing material warmth but, more fundamentally, by radically restructuring pedagogical spaces. The extreme flexibility of the modular grid facilitated the creation of expansive, open-plan learning environments flooded with natural light. Ultimately, the P63 system can be considered as a built symbol of post-World War II architectural discourse and the advancement of progressive pedagogical reforms.

1.3 Anatomy of the building

With the historical and structural logic of the P-63 system established, we now turn to its specific manifestation on our site. Approaching the ex-nursery with this deep contextual awareness is fundamental; it ensures that the dissection of the building's anatomy is not merely a technical exercise, but an informed reading grounded in a profound consideration for its embodied legacy. It is through this educated lens that we can begin to unpack the precise spatial, material, and archival reality of our site.

Archival work - Comune di Torino

Contextual background of the construction

Located at the intersection of Via Perrone and Via Bertola in the center of Turin, the construction of the kindergarten for children ages 3 to 6, was supervised by architect Dr. Giuseppe Flecchia. Approved by the Technical Office of Public Works, Division II-School Building, the project was then awarded through a private process to the contractor Legnami Pasotti S.p.A.. The contract included the delivery and assembly of the company's infamous P.63 prefabricated panels. The total cost of this operation amounted to a total of L. 50,650,000, representing around 26.000 €.

Approved on January 17, 1972 by the City Council and built by November 8 of the same year, the construction of the building did not face any issues. The speed of construction as well as the affordable price justified the city's choice to implement Legnami Pasotti S.p.A.'s prefabricated system.

Work with Servizio Edilizia Scolastica

The primary archival methodology involved direct coordination with the Servizio Edilizia Scolastica of the Municipality of Turin to retrieve historical documentation pertaining to the site. Facilitated by the generous cooperation of Architect Susanna Aimone Mariota and her team, we were granted access to the department's archives. There, we successfully located the original plans, architectural details, and the *computo metrico* (bill of quantities) issued by the architects. This primary documentation proved crucial to our understanding of the project's structural framework, as well as its historical construction methods and cost parameters.

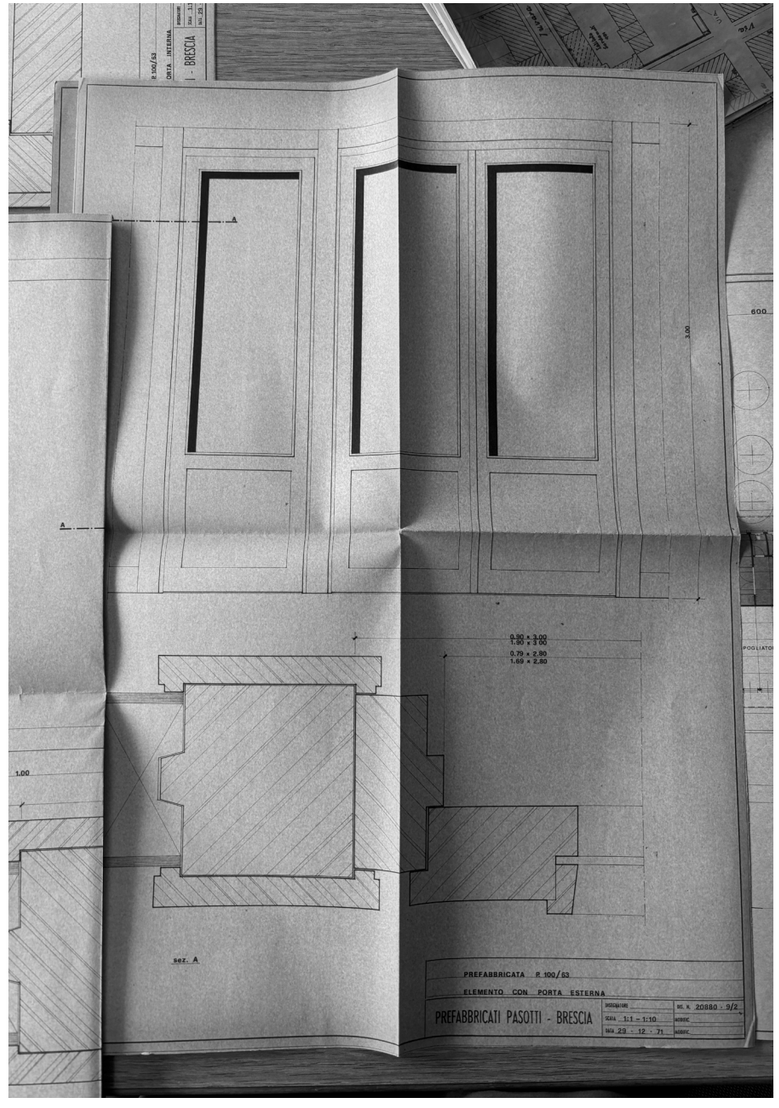


Figure 11. IMG_2976
Industrial detail of the P-63 system by Legnami Pasotti

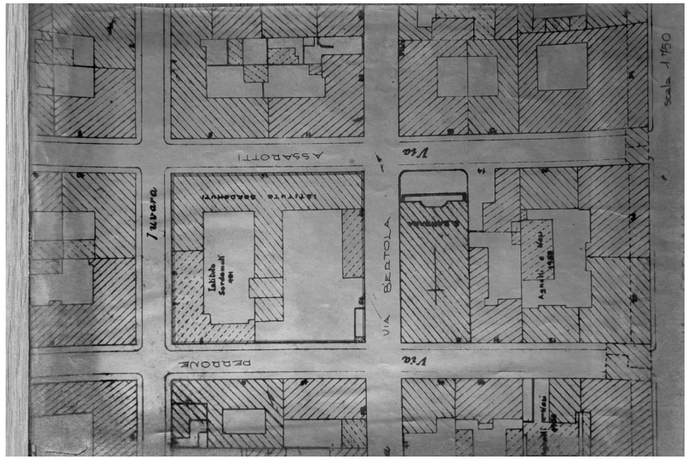


Figure 12. IMG_2977
Planimetry of the state of the art, before the intervention.

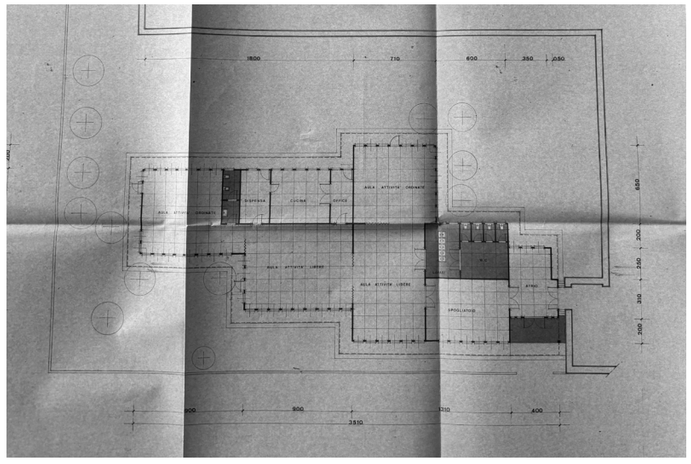


Figure 13. IMG_2973
Ground floor plan with main functions.

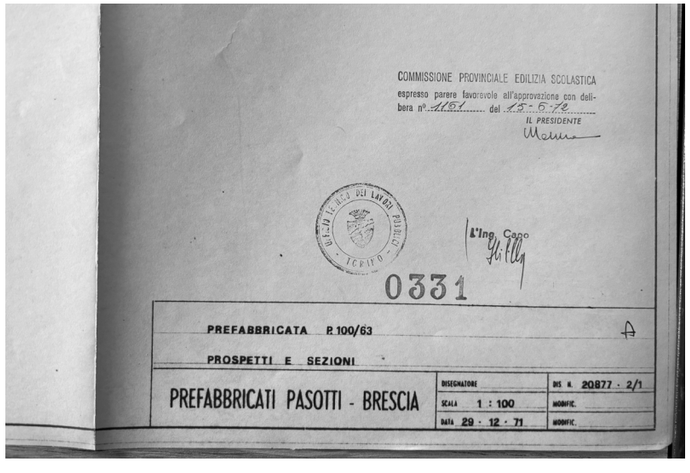


Figure 14. IMG_2968
Municipal approval for the project's construction.

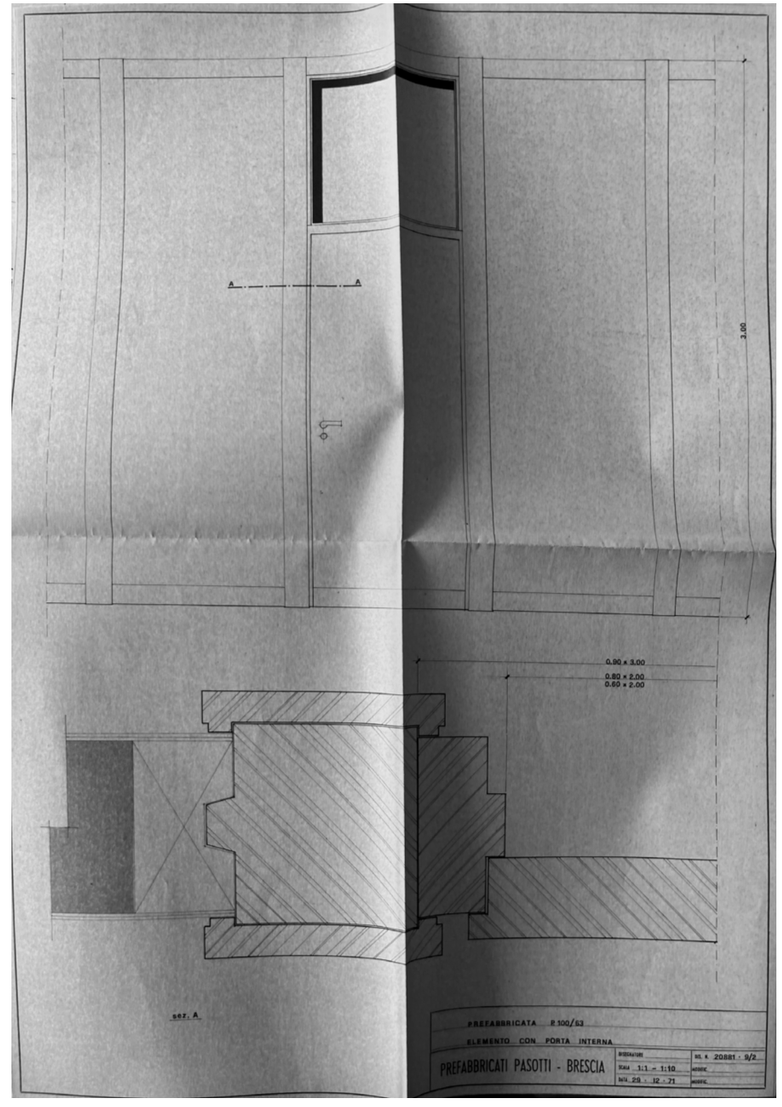


Figure 15. IMG_2970
Industrial detail of the P-63 system by Legnami Pasotti

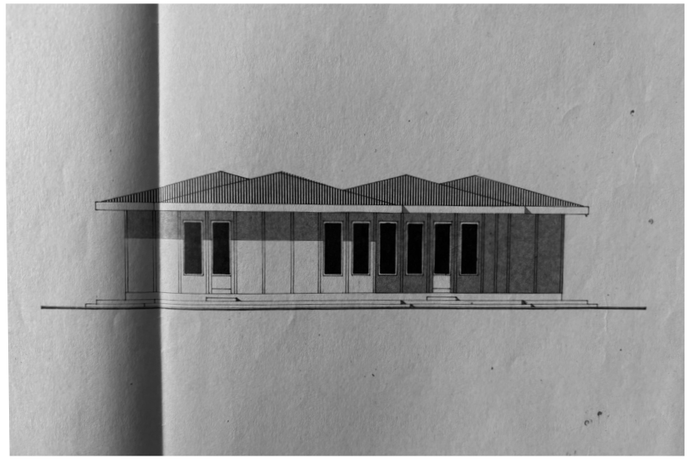


Figure 16. IMG_2979
Elevation of the Via Perrone facade.

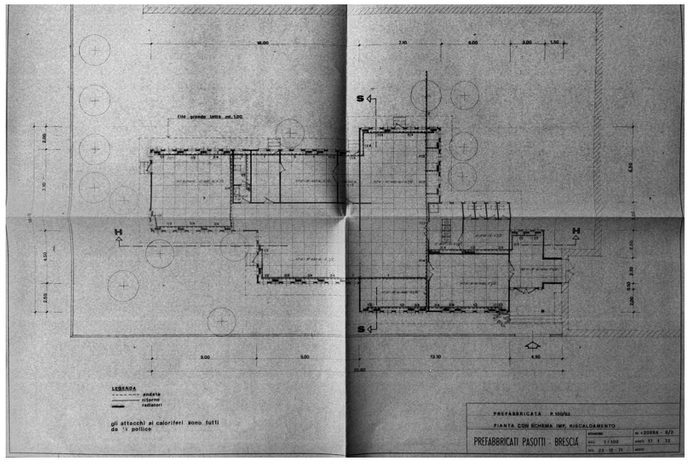


Figure 17. IMG_3847
Ground floor plan, with placement of radiators.

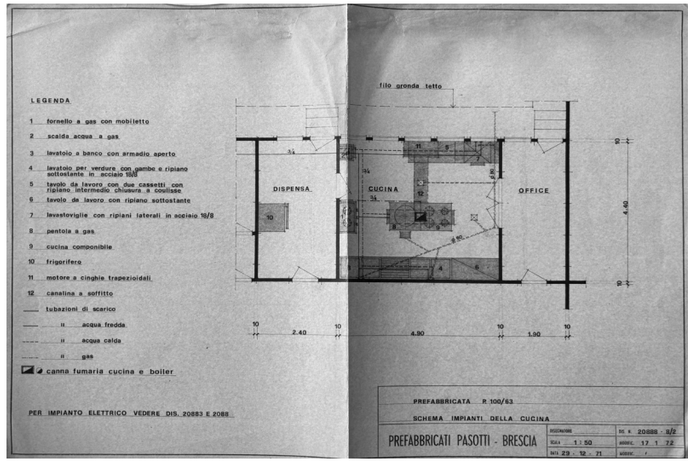


Figure 18. IMG_2961
Detailed plan of the kitchen installations.

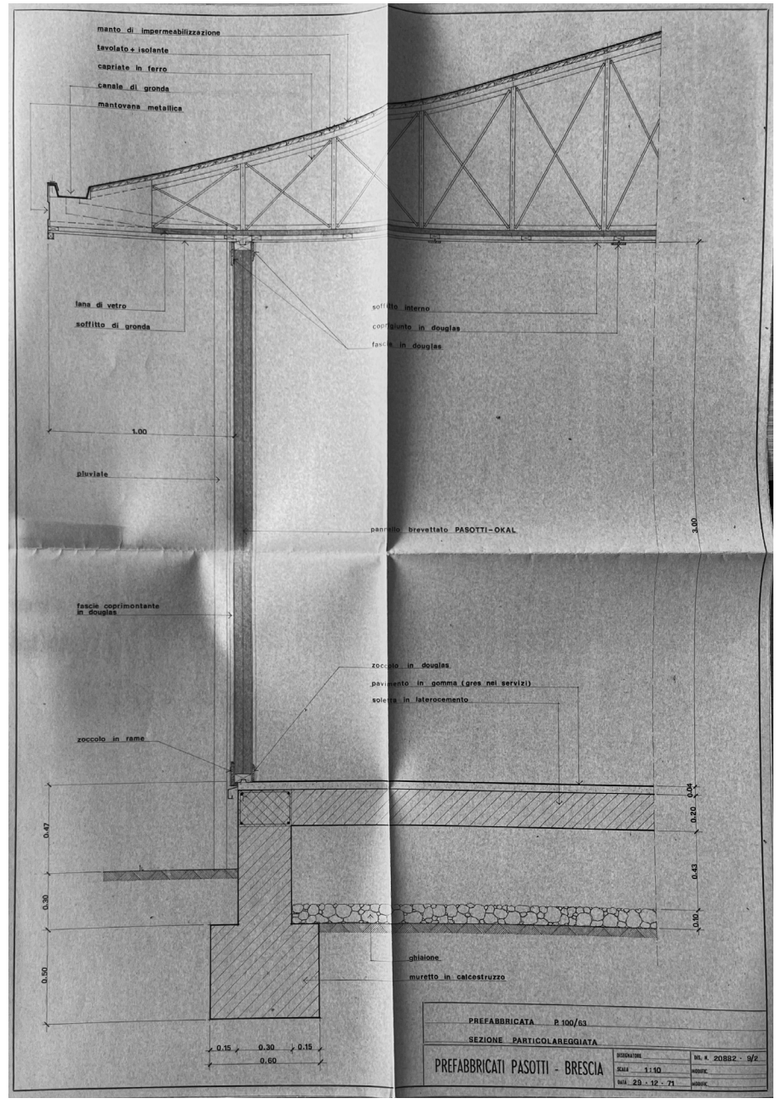


Figure 19. IMG_3862
Detailed section of the facade and of the foundation.

1.4 The state of the art

Torino Spazio Pubblico

The municipal framework

For slightly more than a decade, the former kindergarten Via Antonio Giuseppe Bertola has served as the operational headquarters of a volunteer organization. Endorsed by the municipality since 2013, Torino Spazio Pubblico is a civic initiative dedicated to the maintenance and preservation of green spaces across the city. While the project operates under the supervision of municipal official Giuliano Taurisano, its workforce is entirely volunteer-driven, promoting a strong model of community solidarity. The urban interventions led by the association, ranging from the minor maintenance of street furniture to landscape projects, are selected by the volunteers themselves who target neglected spaces across Turin's neighborhoods. The intention is to improve the standard of essential services provided by local authorities by developing and enhancing the quality of these public spaces, while ensuring their accessibility. Through these localized actions, the association aims to make Turin's urban landscape a more welcoming and livable place while nurturing human interaction.

Following a growing success since their creation, Torino Spazio Pubblico has mobilized over 3,000 participants through the years, with around 1,000 of them annually. Furthermore, in a recent interview Giuliano Taurisano underscored the social inclusivity promoted by the organization, describing the volunteer group as "extremely diverse, with strong intergenerational value and a remarkable social mix" (Interreg Europe, 2026) Giuliano followed by saying that the social impact is equal to, if not greater than the environmental interventions themselves.

The participation is free and entirely open to the public. Volunteers generally gather up every Wednesday morning at the ex-school Via Bertola, which has logically evolved in their headquarters. The vacant infrastructure is used for storing the material required for their intervention, as well as acting as a green nursery for the plants recovered, either during maintenance activities or acquired via donations. While the activities are sustained year-round, the peak generally occurs during the month of May, with conferences organized in the context of the *Festival Del Verde*.[18]

18. An annual metropolitan festival in Torino that promotes urban greenery, landscape architecture, and environmental sustainability through exhibitions and conferences



Figure 20. DSC_0164 Exterior photo of the existing kindergarten.



Figure 21. DSC_0057
Exterior photo of the kindergarten's garden.

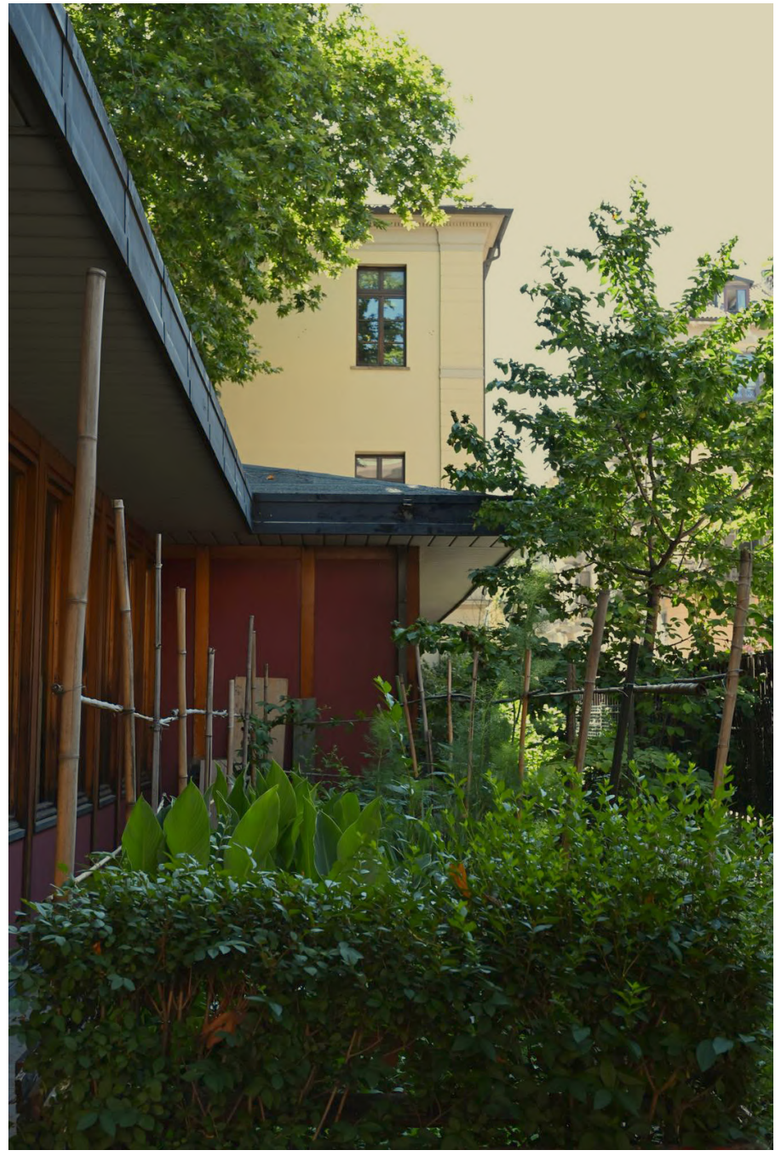


Figure 22. DSC_0055
Exterior photo of the existing kindergarten.

Legal and historical attribution

After several interventions leading to an acknowledgement from the part of the municipality for their beneficial impact on public areas, the association sought for an operational headquarter. Having been abandoned a couple of years prior due to the aforementioned student demographic decrease, the vacant kindergarten emerged as an ideal candidate. Ideally located in the center of Turin, the site is easily accessible for the volunteers that are spread all across the city. Furthermore, the building's adjacent green spaces are perfectly suited for Torino Spazio Pubblico's botanical activities. Recognizing the alignment between their needs and the availability, the organisation engaged the municipality to acquire the space.

The building had originally been decommissioned after the relocation of the children to an alternative facility, due to critically low enrollment numbers, rendering the building's maintenance economically unjustifiable. However, the municipality of Turin retained full ownership of the plot as well as the building itself. Given the building's vacancy and the association's special requirements, the city council granted Torino Spazio Pubblico use of the premises in 2014. Unfortunately, the association's tenure remains strictly provisional. In other words, Torino Spazio Pubblico occupies the building as temporary tenants, lacking any formalized guarantee regarding their long-term on site presence. Should the city council decide to sell the plot or initiate a refurbishment of the building, the organisation will find themselves forced to leave. This precarious legal standing underlines a systemic vulnerability, while the social-urban value of Torino Spazio Pubblico is undeniable, their operational survival depends solely upon the discretionary goodwill of the municipality. Although there is currently no indication on the city council's intent to privatize the plot, it is inherently problematic that an organisation promoting social inclusivity as well as an improved urban quality of life operates under such a fragile tenure. This situation underscores the necessity of providing institutional visibility to such civic initiatives, highlighting the relevance of interventions such as the focus of our thesis.

New European Bauhaus (NEB) Initiative

The social-urban framework promoted by the municipality of Turin, through Torino Spazio Pubblico is part of a wider initiative at the European scale embodied by the New European Bauhaus movement. Created in 2020 and promoted by the European Commission, the initiative has established partnerships with major cities over the continent, including Turin, and has been involved in more than 700 projects since its inception. The New European Bauhaus movement aims to improve the livability of European cities through environmental sustainability, social inclusion and aesthetically pleasing designs. To do so, the initiative promotes an interdisciplinary approach involving architects and urban planners as well as scientists, artists and, most importantly, the citizens themselves. The objective is to act as a bridge between overly institutionalized policies and the people. In other words, it brings forward a more humane approach to the European Green Deal. As the citizens become proactive actors in the movement and participate in decision making processes, the resulting interventions become inherently more humane and localized.

Specifically, the New European Bauhaus underscores the importance of the aforementioned adaptive reuse projects, both for their evident environmental value and for their social impact. Additionally promoting circular economy and projects that foster resource conscious lifecycle as well as social cohesion, through the revitalization of public spaces or the design of community gardens. These pillars directly echo the work carried out by Torino Spazio Pubblico where the transformation of neglected public spaces cultivates community resilience as well as environmental benefits. Consequently, this thesis uses the Via Bertola ex-school as a lens to examine how these principles endorsed by the NEB at a European scale, can be applied locally.

Presenting the current uses

Methodology

To comprehensively document the current programmatic uses of the kindergarten, ethnographic fieldwork was conducted on-site. Specifically, we visited the facility on multiple occasions during Torino Spazio Pubblico's weekly operational window on Wednesday mornings. This on-site engagement was critical for analyzing the building's current spatial functionality, assessing the specific operational needs of the association, and identifying zones of underutilization or complete abandonment. This investigative phase relied on a mixed-methods approach, combining direct spatial observation with qualitative interviews conducted with various volunteers—most notably, municipal supervisor Giuliano Taurisano.

Interview with Giuliano Taurisano, by Darko Franulic on 04/03/2026

DF: So, what is this place ? What do you do here ?

GT: We used this place to create a workshop where people can learn botanical skills: how to take cuttings, how to propagate plants, how to grow and care for them, and so on. Many volunteers come here to learn.

DF: How do you manage the place ?

GT: Maintenance here is minimal. It's not the same as in a regular office buildings, partly because the use is very particular. The structure has several vulnerabilities. I don't know how many more years it can last with such light maintenance; it would need many interventions.

DF: Are there difficulties due to the aging structure ?

GT: The heating system stopped working this winter. Gradually, signs of aging are appearing, partly because the system was connected to the adjacent school buildings, which were also closed due to maintenance problems, drainage systems didn't work well, and so on – so the schools moved elsewhere.

DF: Can you elaborate on the heating problems you are facing ?

GT: Now, one wing of that building is being renovated for municipal offices (District 1), but the interconnected systems are gradually being dismantled. The pipe that provided heating to this building—kept at a minimum level, since we don't need much heat because of the plants and because we work indoors and outdoors year round—has rotted. It's located in the crawl space and is very complicated to replace. They told us it will be replaced with a heat pump system. For now, about a month ago, they brought us a few portable heaters, and we're managing with those.

DF: Despite the problems you encounter the place seems to be at your convenience.

GT: The structure has its issues, but it's wonderful for the way we use it, especially because of these large halls that used to be classrooms—three classes, each with its own activity space.

SURVEYING THE PHYSICAL ESSENCE

2

Having established the theoretical framework and the rich historical narratives embedded within the ex-kindergarten at the intersection of Via Perrone and Via Antonio Giuseppe Bertola, this chapter shifts our focus from the conceptual to the tangible. To formulate an informed and respectful architectural response, we must now confront the physical essence of the building directly.

Acknowledging that successful adaptive reuse relies on a profound comprehension of the existing fabric, we initiated a series of diverse surveys designed to grasp the site's full spatial and material complexity. These investigations span a broad methodological spectrum, each serving a distinct yet complementary purpose. Ranging from an intimate, phenomenological reading of the site's current atmospheres to the rigorous, technical precision of a point-cloud geometric restitution. This multifaceted approach captures both the qualitative and quantitative realities of the structure. Ultimately, this exhaustive documentation moves beyond standard technical assessment; it constructs the foundational baseline required to intervene surgically, consciously, and respectfully within the space.

2.1 Survey – Atmospheres

Photographic Investigation

Methodology

This first survey documents our first spatial impressions and the sensorial impact of the site during our first visit. To capture this, we employed a photographic investigation, a means of representation that we frequently utilize during the analytical phases of our architectural projects. Employing photography to frame our interpretation of the site allows for a more intimate, experiential transcription of the building than traditional orthographic projections allows.

Our physical and sensory investigation of the former kindergarten began with an exploration of its immediate urban context, including the adjacent buildings and the surrounding streets. We then entered the fenced perimeter of the site to examine the building's exterior envelope, conducting a pedestrian survey to capture the architectural essence as it was initially perceived. Following a comprehensive visual analysis of the exterior shell and the adjoining community garden cultivated by the association's volunteers, the survey continued to the building's interior. Mirroring our exterior methodology, we sought to document the active daily life within the association's headquarters, specifically analyzing how the current occupants have appropriated a spatial layout originally conceived for an early childhood educational facility. Ultimately, we directed our focus toward a rigorous documentation of the architectural details drafted by Claudio Conte and Leonardo Fiori, aiming to capture the inherent material quality of their design.

The final part of our photographic investigation was to identify the various traces of decay throughout the building as well as on its structure. This was done in order to understand the potential impact these flaws could have on the building's structural integrity, as well as to determine the required future interventions.



Figure 23. DSC_0094
Photograph of the current main entrance.

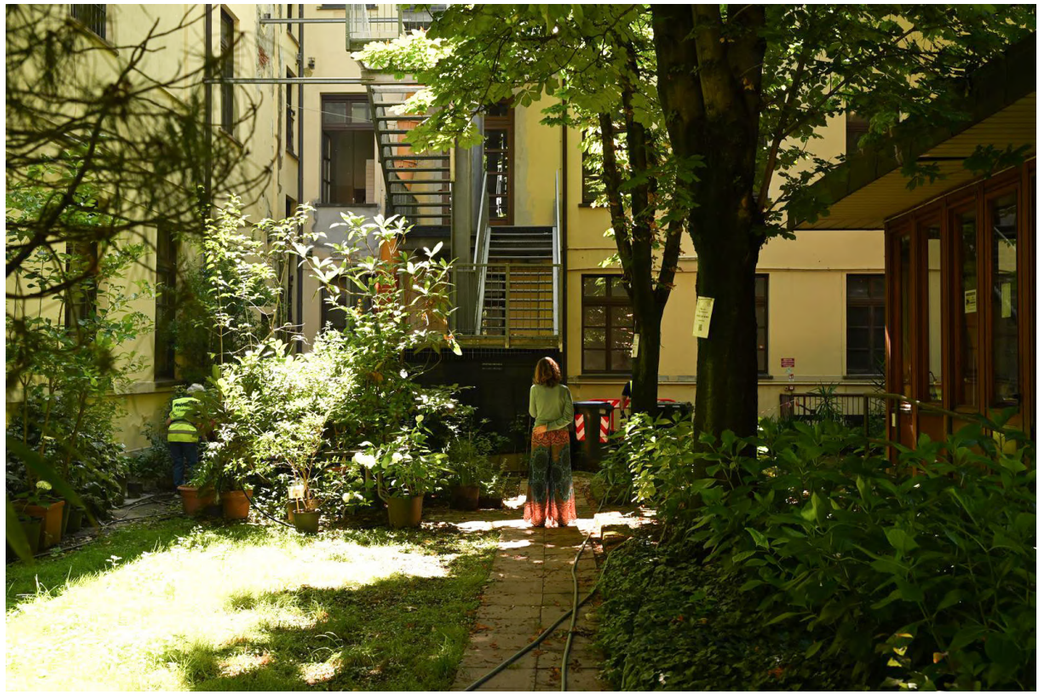


Figure 24. DSC_0109
Photograph of the garden behind the ex-kindergarten.



Figure 25. DSC_0146
Photograph of the exterior facade of the break room.



Figure 26. DSC_0154
Photograph of the relationship between the facade and the roofing system.



Figure 27. DSC_0112
Photograph of a volunteer working in the gardens.



Figure 28. DSC_0156
Photograph of the exterior facade of the break room.

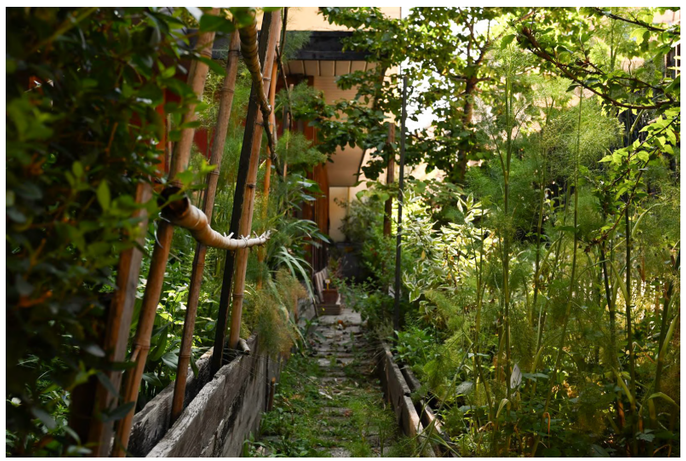


Figure 29. DSC_0063
Photograph of the front garden.



Figure 30. DSC_0079
Photograph of the relationship between the roofing system and the existing vegetation.



Figure 31. DSC_0329
Photograph of the front garden made by the volunteers.

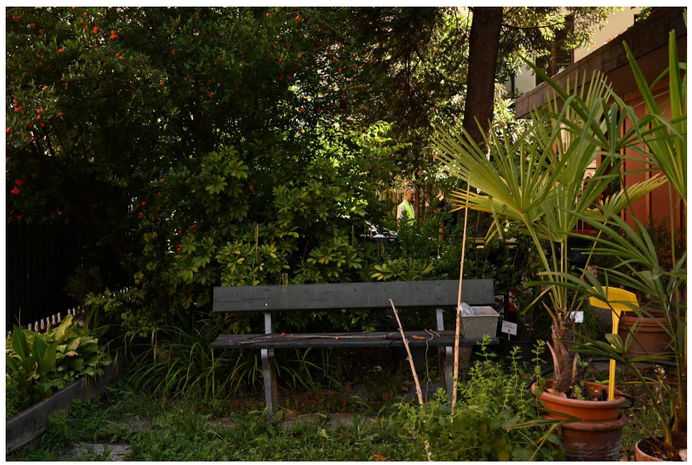


Figure 32. DSC_0073
Photograph of a salvaged bench introduced in the garden.



Figure 33. DSC_0123
Photograph of the flower pots salvaged by Torino Spazio Pubblico.



Figure 34. DSC_0207
Photograph of the current main room.



DSC_0205

Figure 35. DSC_0205
Photograph of the current main entrance.



Figure 36. DSC_0227
Photograph of the break room.



Figure 37. DSC_0252
Photograph of the main interior working place.



Figure 38. DSC_0275
Photograph of the current interior/exterior relationship.



Figure 39. DSC_0268
Photograph of the plants recovered and care for by Torino Spazio Pubblico.



Figure 40. DSC_0229
Photograph of the previous children's bathrooms.



Figure 41. DSC_0247
Photograph of the previous children's bathrooms.



Figure 42. DSC_0251
Photograph of previous children's bathrooms.



Figure 43. DSC_0245
Photograph of the previous children's bathrooms.

Details and decay abacus

Identification of architectural details and construction of a brief decay abacus through the photographic investigation.

Figure 44. DSC_0339 – Exterior ceiling detail at the interaction between two roofing structures.

Figure 45. DSC_0311 – Roofing detail highlighting the relationship of the building with surrounding nature.

Figure 46. DSC_0179 – Example of deterioration of the exterior ceiling present at various punctual occasions.

Figure 47. DSC_0280 – Apparent electrical connections within the building.

Figure 48. DSC_0257 – Existing ceiling fans, as well as original lighting system recently replaced.

Figure 49. DSC_0263 – Deterioration of soundproofing panels placed on the ceiling by Torino Spazio Pubblico in the break room.

Figure 50. DSC_0089 –Wood deterioration on the panels and columns, due to biological agents, humidity fluctuations and UV exposures.

Figure 51. DSC_0177 – Original radiators present on site, currently not functioning due lack of maintenance.

Figure 52. DSC_0211 – Detail of the handles of the window P-63 panels.

Figure 53. DSC_0314 – Deterioration of exterior pavement due to lack of maintenance or vandalism.

Figure 54. DSC_0181 – Relationship between the exterior stone pavement and the natural soil.

Figure 55. DSC_0213 – Deterioration of soft flooring due to potential water leaks or high humidity and poor ventilation.



Figure 44



Figure 45



Figure 46



Figure 47



Figure 48



Figure 49



Figure 50



Figure 51



Figure 52



Figure 53



Figure 54



Figure 55

2.2 Survey – Metric

Methodology

Following the phenomenological observations of the atmospheric survey, the second phase of our fieldwork required a rigorous metric survey to generate physically accurate documentation of the site. This phase was necessary to fully comprehend both the precise spatial layout and the underlying structural logic of the project.

The point cloud model

The metric documentation began with an indirect digital survey, generating a detailed point cloud model directly on-site. This advanced surveying methodology allowed us to efficiently capture a highly precise, three-dimensional spatial matrix of the infrastructure. By using a point cloud, we gained an immediate, comprehensive understanding of the project's overall dimensions while minimizing the need for repetitive, time-consuming manual measurements across the of the site.

Geometric Restitution and Detailing

The digital point cloud, synthesized with the previously recovered archival documentation, served as the foundational baseline for our geometric restitution. Utilizing these combined data sources, we drafted accurate as-built orthographic projections, including the primary floor plans, elevations, and structural sections. Beyond general spatial documentation, this phase involved the production of precise architectural details, which were critical for fully decoding the functional and assembly mechanisms of the existing structure. Ultimately, this exhaustive metric documentation was an essential prerequisite, establishing the rigorous geometric framework required to design our subsequent adaptive reuse interventions.

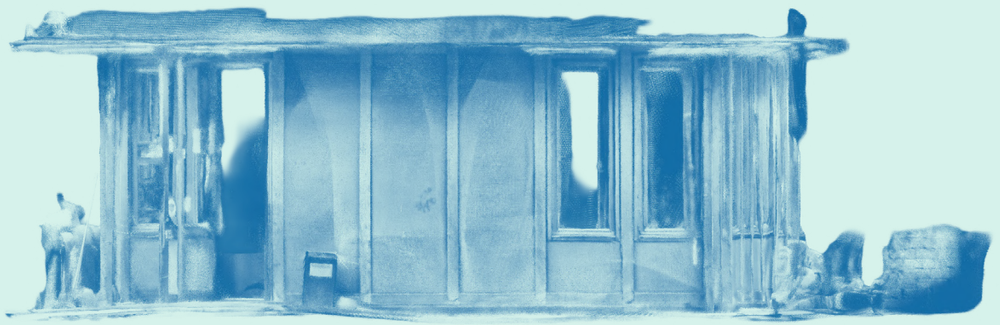
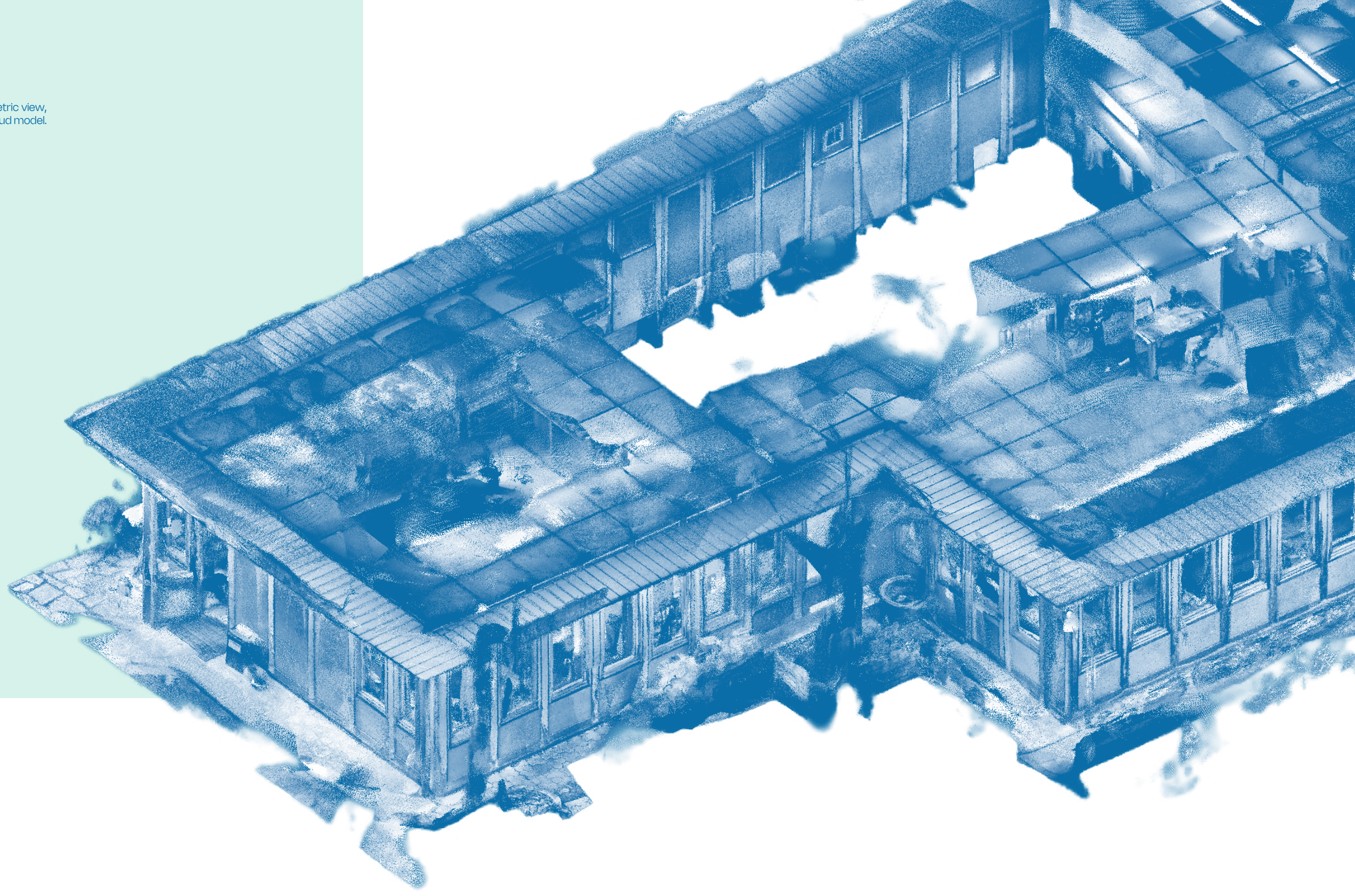


Figure 56. Elevation of the main entrance, point cloud model.

Figure 57. Isometric view,
point cloud model.



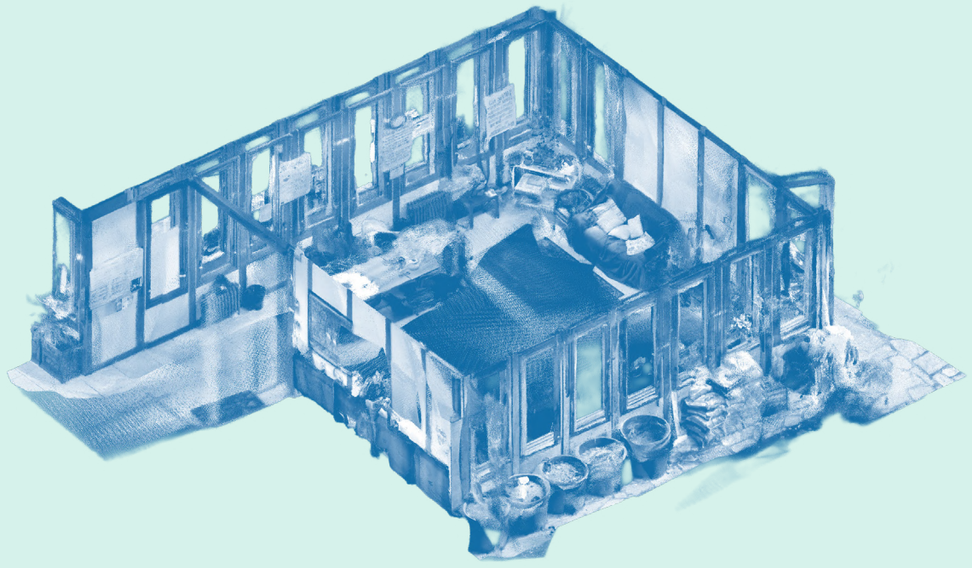


Figure 58. Isometric view
of the main entrance,
point cloud model.

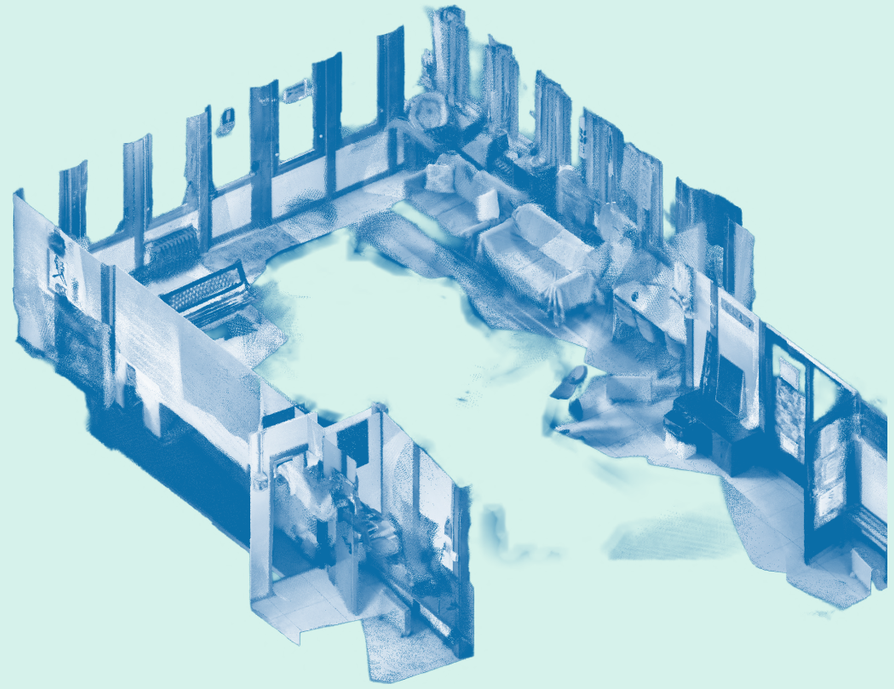
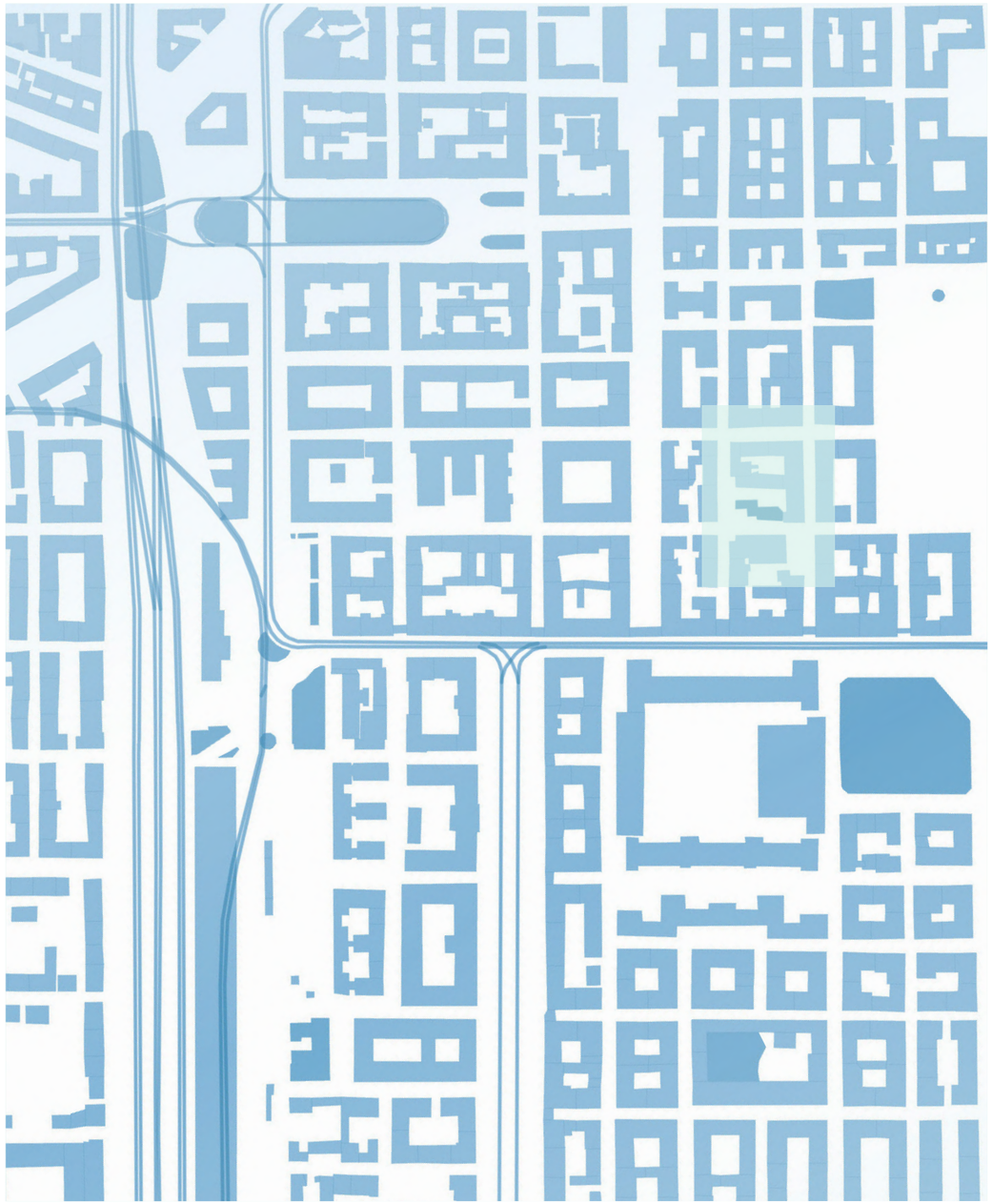
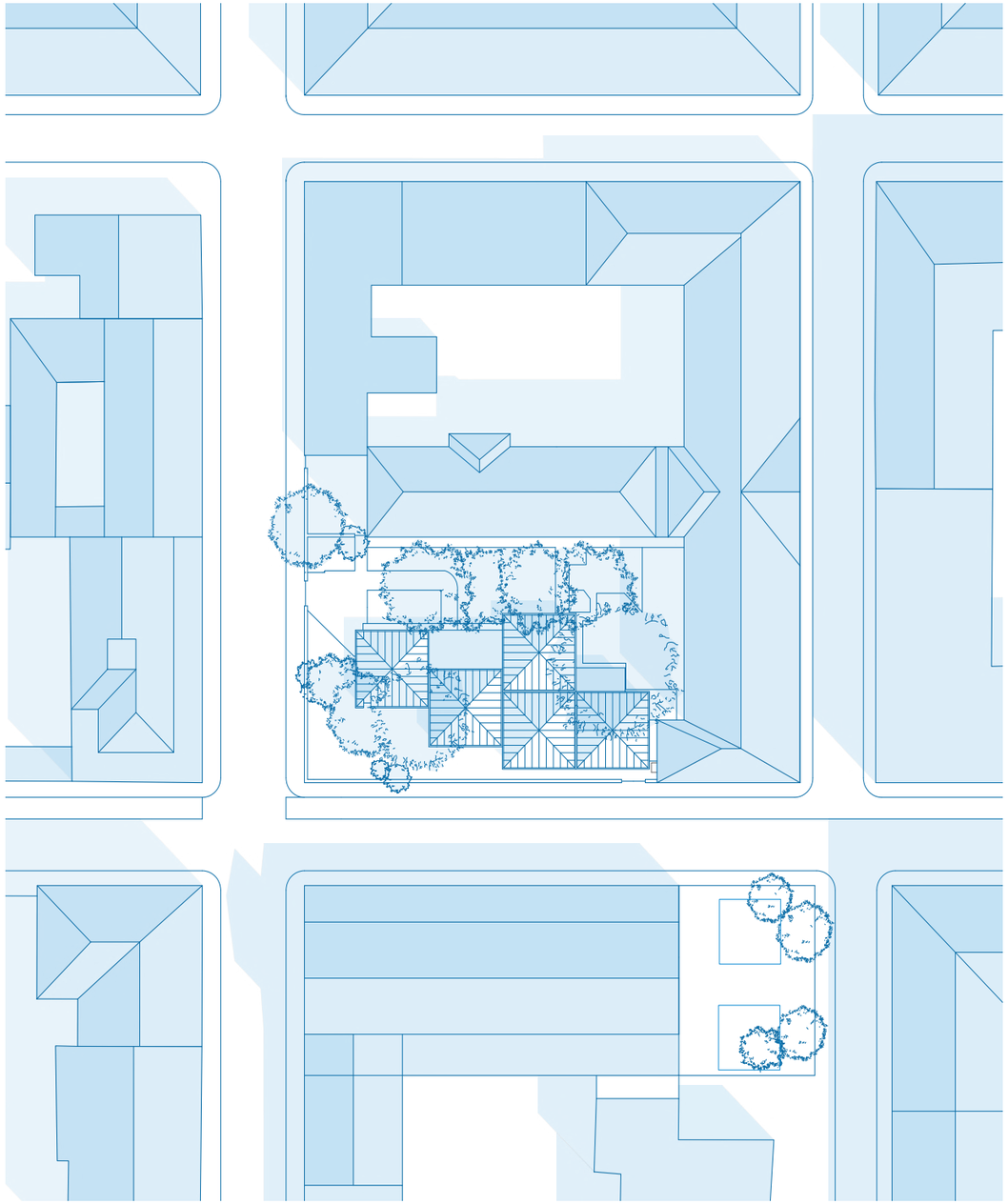


Figure 59. Isometric view
of the break room,
point cloud model.



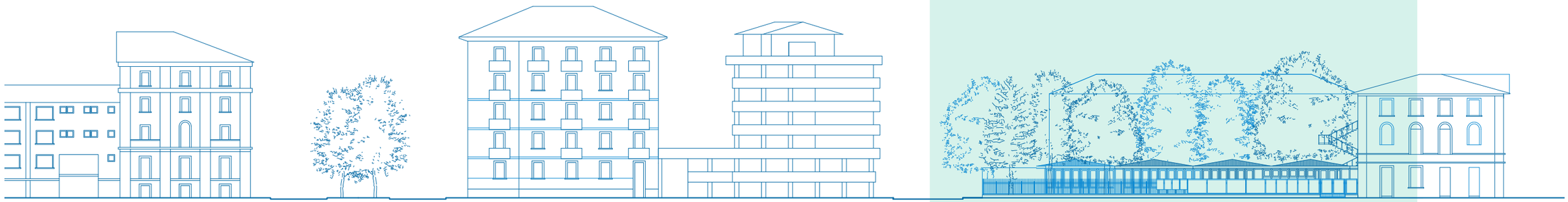
0 40 100 200

Planimetry

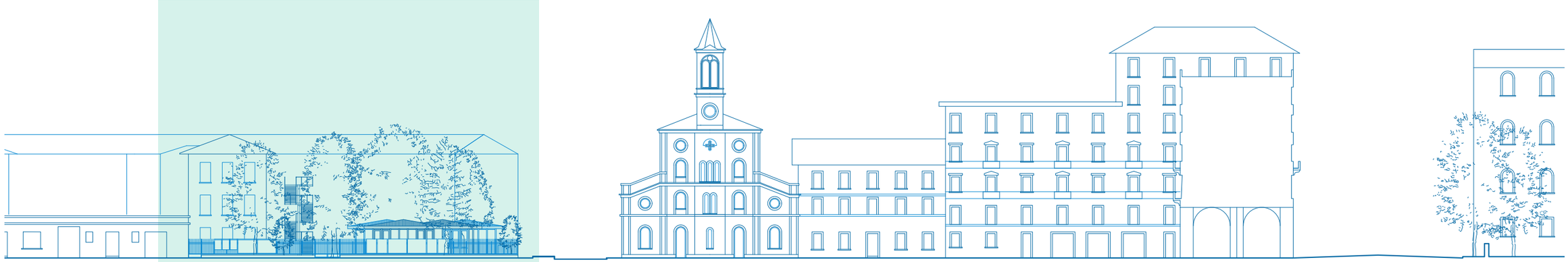


0 4 10 20

Roofing plan



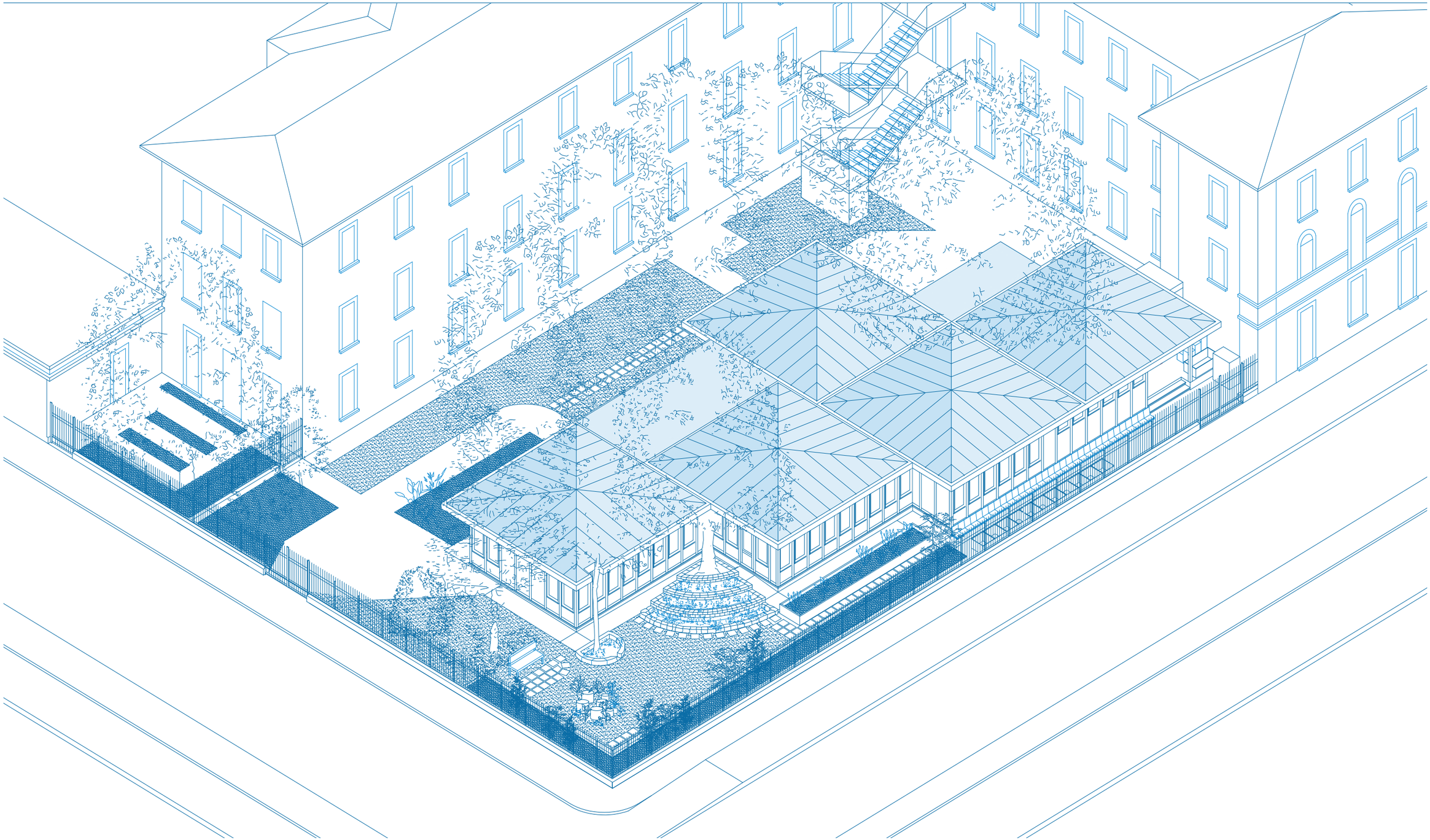
Via Antonio Bertola



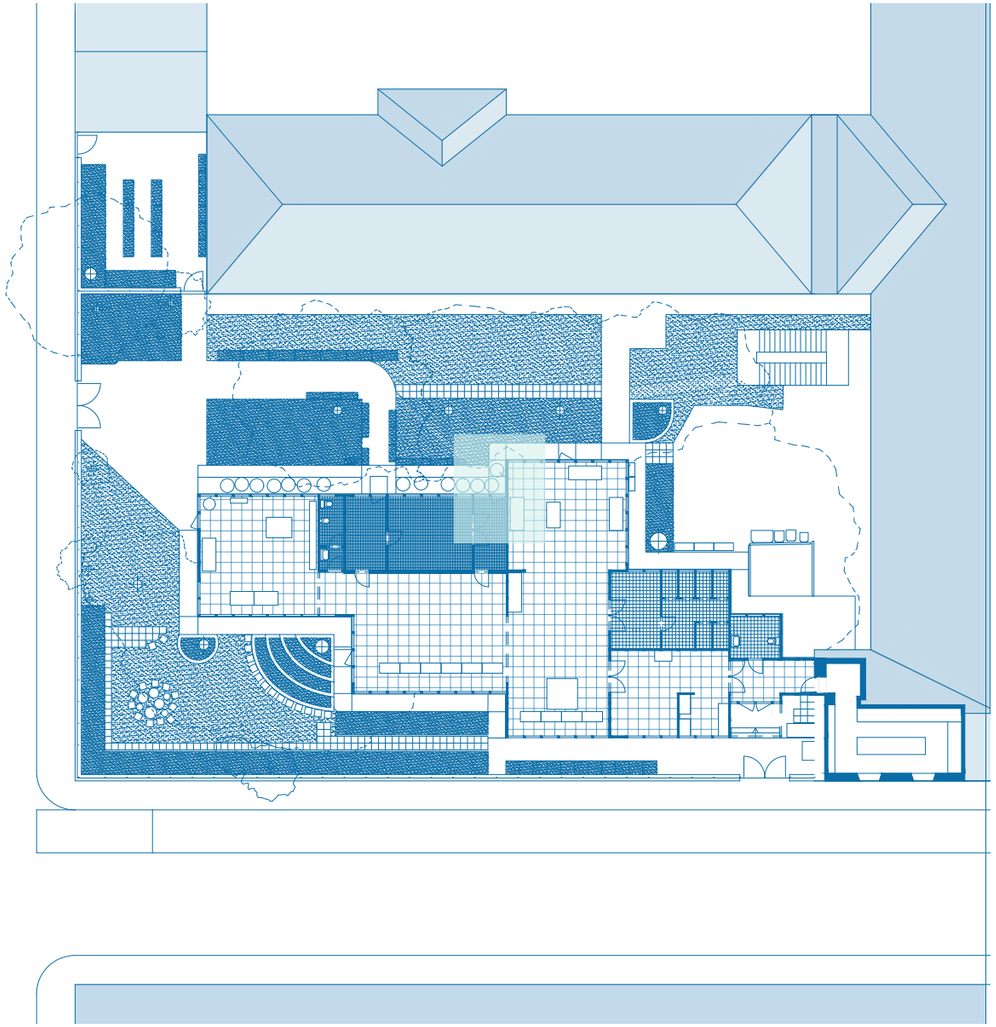
Via Ettore Perrone

0 2 5 10

Elevations

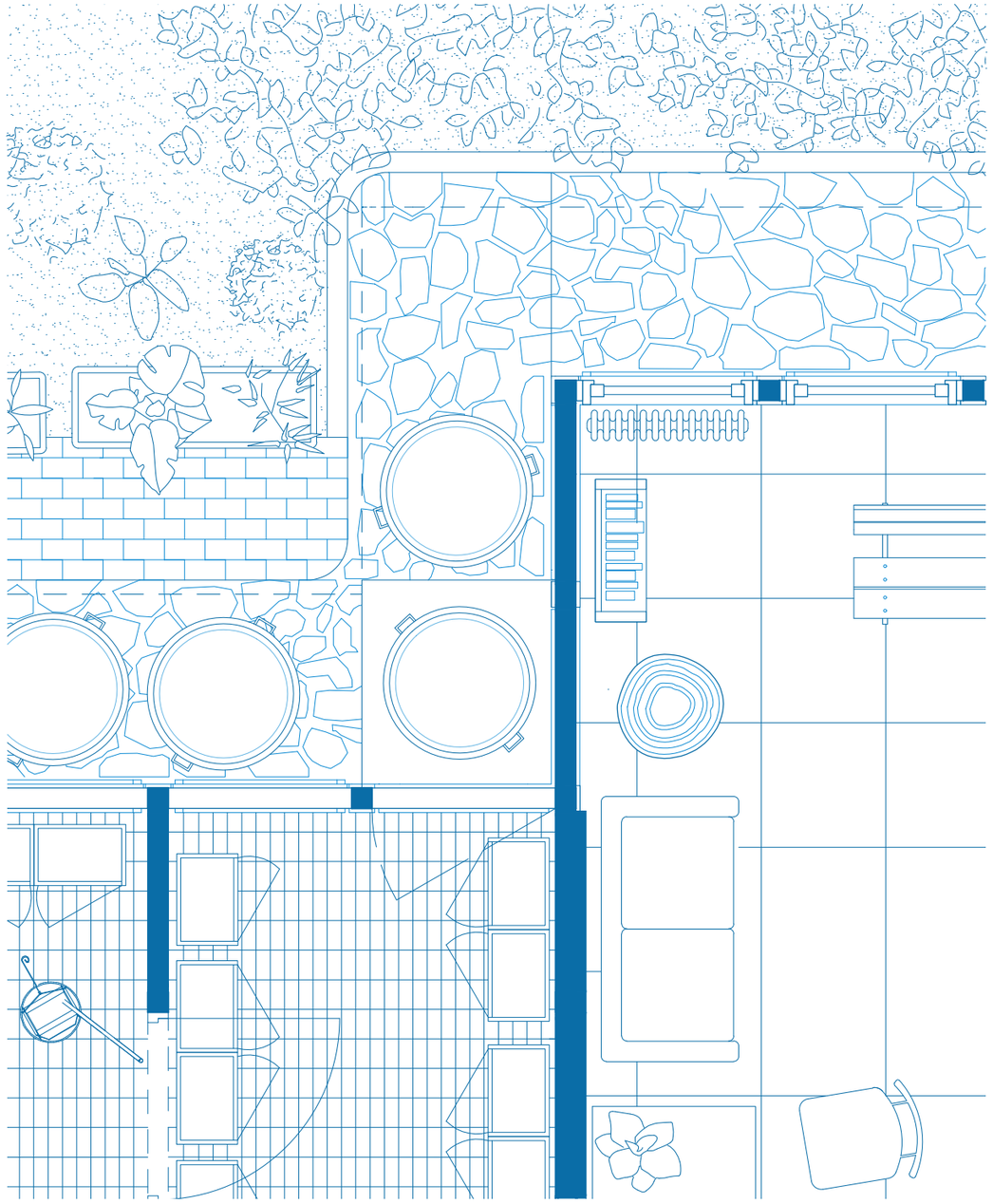


Isometric view



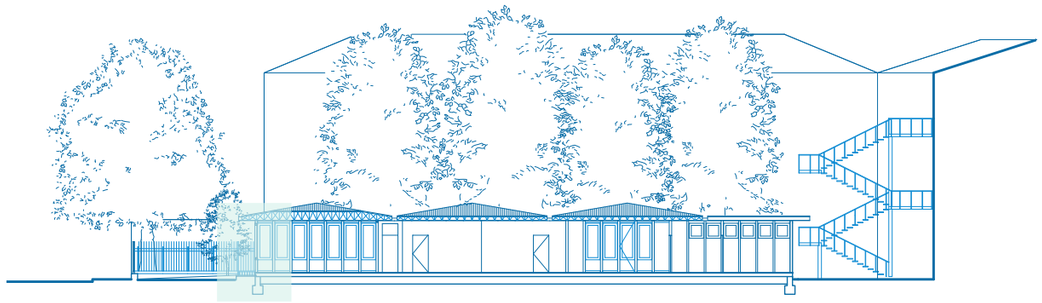
0 2 5 10

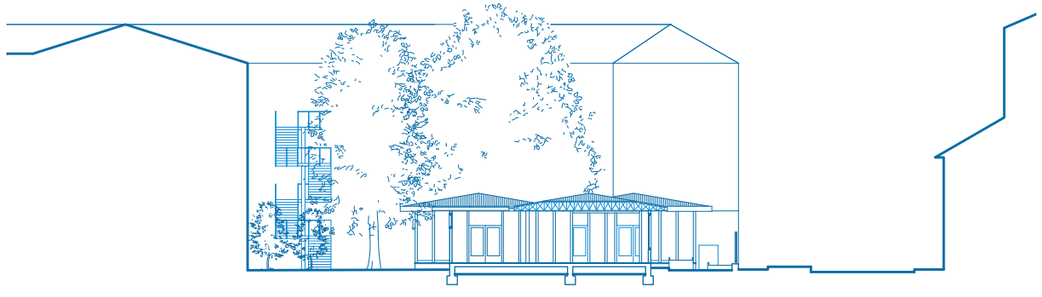
Ground floor



0 0.2 0.5 1

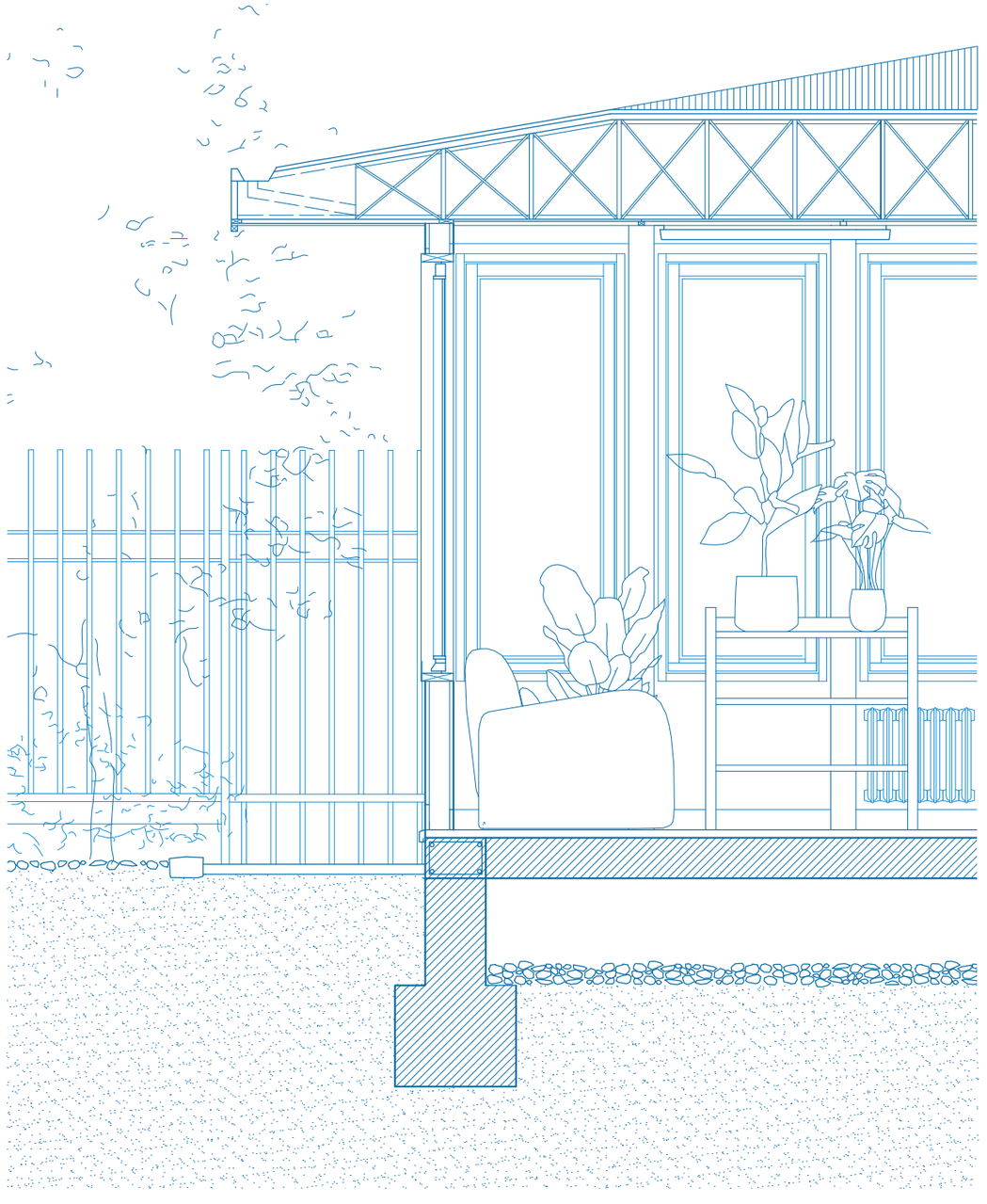
Detailed extract of ground floor





0 2 5 10

Sections



0 0.2 0.5 1

Detailed extract of section

2.3 Catalogue of elements

Dissection and cataloguing

Methodology

To rigorously evaluate the circular potential of the structure and determine which elements should be preserved in situ versus salvaged for repurposing, the third phase of our fieldwork involved the "dissection" of the building. This methodological approach is heavily indebted to the work of architect Kozo Kadowaki at the Japan Pavilion for the 17th Venice Architecture Biennale in 2021, which demonstrated the meticulous dismantling and cataloging of a wooden structure to facilitate its subsequent architectural reincarnation.

Applying this logic to the prefabricated, dry-assembled P-63 modular system of the kindergarten, we developed a comprehensive material classification. The resulting catalogue provides a detailed profile for each building component. Beyond a basic architectural description, it records critical quantitative and qualitative data, including material composition, exact metric dimensions, conditions of wear, and the frequency of the element's repetition across the structural grid. By synthesizing these metrics, we are able to objectively calculate the exact reuse potential of each standardized part.

Ultimately, this dissection conceptually transforms the existing building from a static structure into a dynamic "material bank." By establishing a clear, data-driven inventory of reusable components, this cataloguing process serves as the fundamental prerequisite for our adaptive reuse strategy, ensuring that material salvaging operates as a rigorous practice within the circular economy framework rather than a mere theoretical ideal.

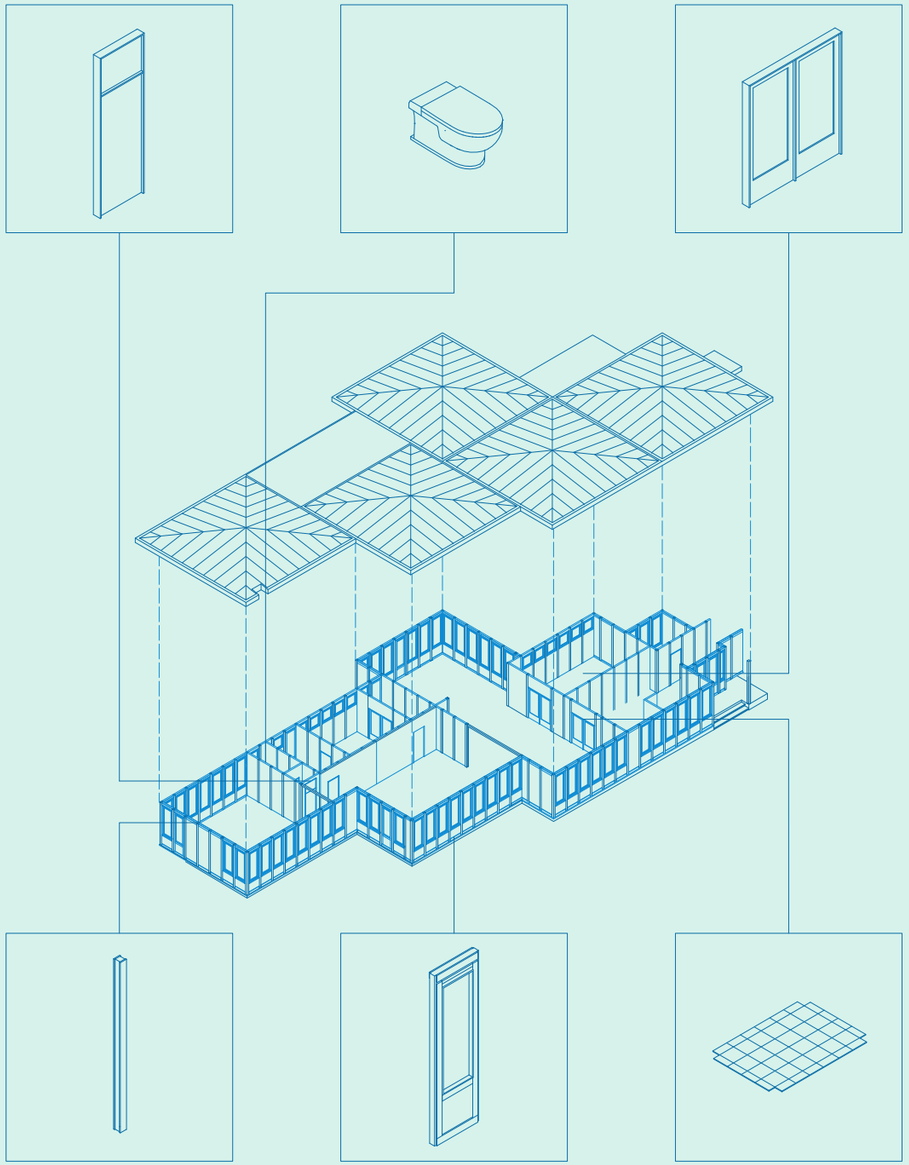


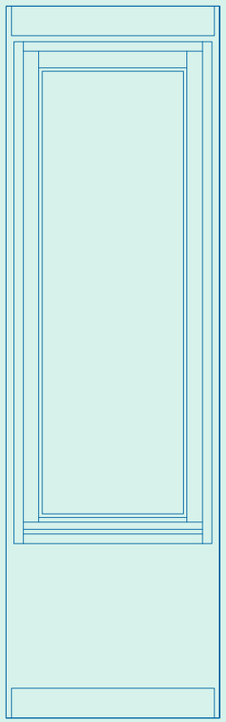
Figure 60. Exploded isometry highlighting several of our building's components.

P/63 PANEL – WINDOW

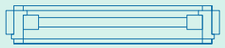
Description:

Prefabricated panel made of Douglas wood frames and single glazed glass.

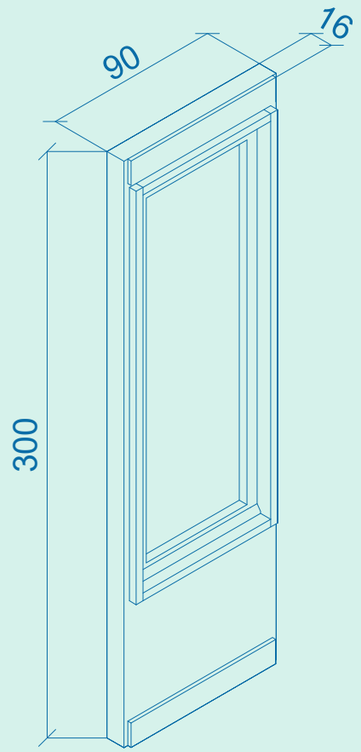
WA-E-01



Elevation



Plan



Isometric view

Characteristics

Material: Douglas wood – Glass

Dimension:

Height: 300cm – Width: 90cm – Thickness: 16cm

Quantity of elements: 51

Restoration intervention:

Surface refinishing (sanding, priming, painting, varnishing), glazing replacement, and frame thermal bridge remediation.

Reuse potential:

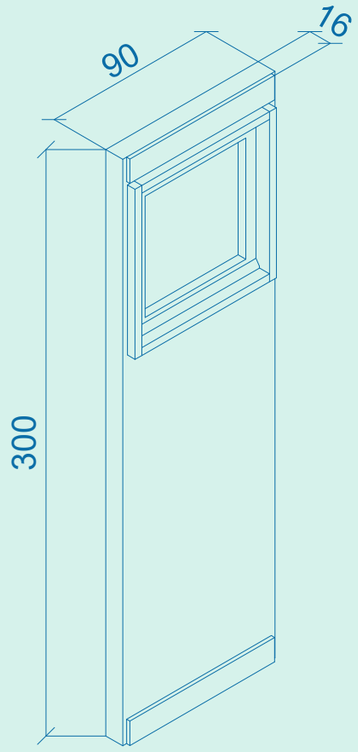
Upcycling salvaged timber for custom furniture design.

P/63 PANEL – HIGH WINDOW

Description:

Prefabricated panel made of Douglas wood frames and single glazed glass.

WA-E-02



Isometric view

Characteristics

Material: Douglas wood – Glass

Dimension:

Height: 300cm – Width: 90cm – Thickness: 16cm

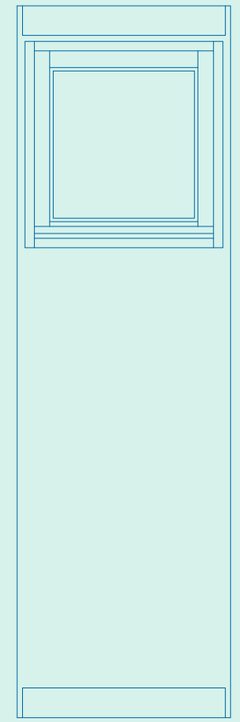
Quantity of elements: 20

Restoration intervention:

Surface refinishing (sanding, priming, painting, varnishing), glazing replacement, and frame thermal bridge remediation.

Reuse potential:

Upcycling salvaged timber for custom furniture design.



Elevation



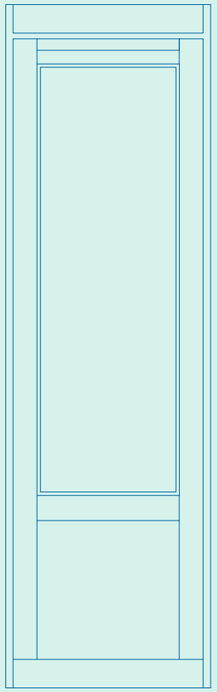
Plan

P/63 PANEL – DOOR

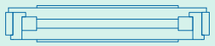
Description:

Prefabricated panel made of Douglas wood frames and single glazed glass.

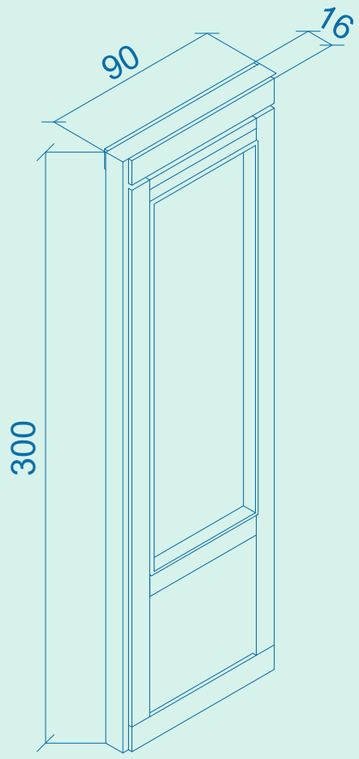
WA-E-03



Elevation



Plan



Isometric view

Characteristics

Material: Douglas wood – Glass

Dimension:

Height: 300cm – Width: 90cm – Thickness: 16cm

Quantity of elements: 8

Restoration intervention:

Surface refinishing (sanding, priming, painting, varnishing), glazing replacement, and frame thermal bridge remediation.

Reuse potential:

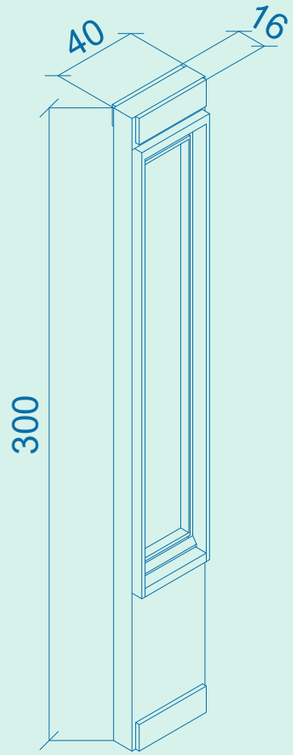
Upcycling salvaged timber for custom furniture design.

P/63 PANEL – THIN WINDOW

Description:

Prefabricated panel made of Douglas wood frames and single glazed glass.

WA-E-04



Isometric view

Characteristics

Material: Douglas wood – Glass

Dimension:

Height: 300cm – Width: 40cm – Thickness: 16cm

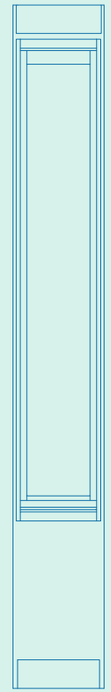
Quantity of elements: 2

Restoration intervention:

Surface refinishing (sanding, priming, painting, varnishing), glazing replacement, and frame thermal bridge remediation.

Reuse potential:

Upcycling salvaged timber for custom furniture design.



Elevation



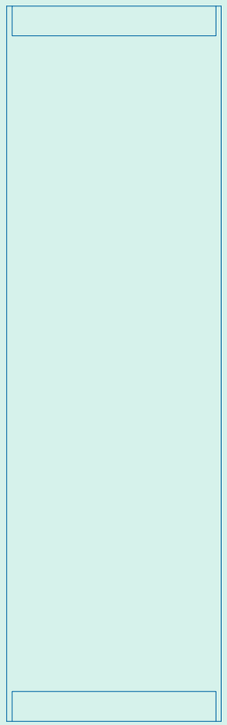
Plan

P/63 PANEL – FULL

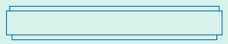
Description:

Prefabricated panel made of Douglas wood frames and boards.

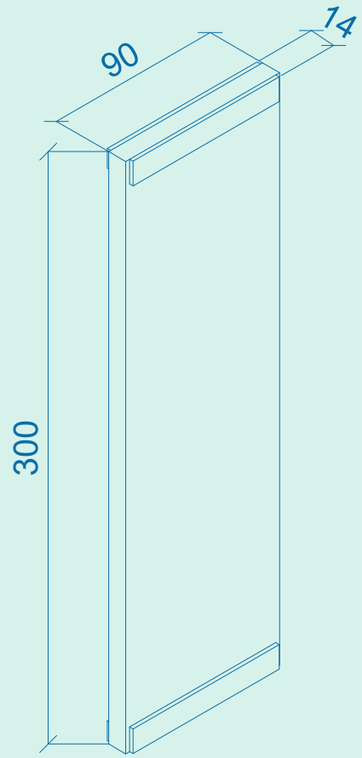
WA-E-05



Elevation



Plan



Isometric view

Characteristics

Material: Douglas wood

Dimension:

Height: 300cm – Width: 90cm – Thickness: 14cm

Quantity of elements: 15

Restoration intervention:

Surface refinishing (sanding, priming, painting, varnishing).

Reuse potential:

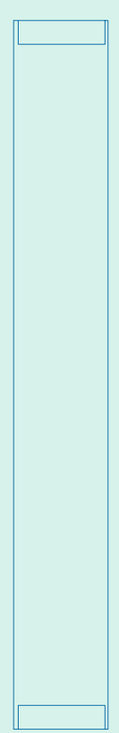
Upcycling salvaged timber for custom furniture design.

P/63 PANEL – THIN FULL

Description:

Prefabricated panel made of Douglas wood frames and boards.

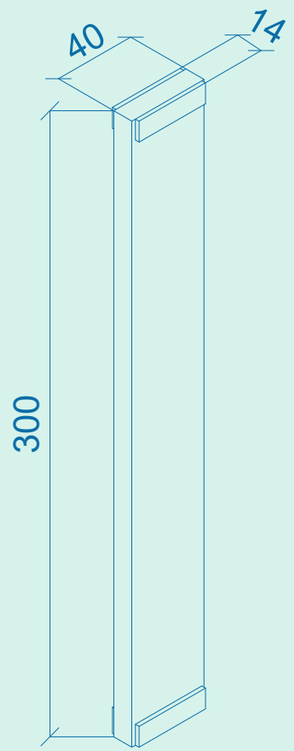
WA-E-06



Elevation



Plan



Isometric view

Characteristics

Material: Douglas wood

Dimension:

Height: 300cm – Width: 40cm – Thickness: 14cm

Quantity of elements: 7

Restoration intervention:

Surface refinishing (sanding, priming, painting, varnishing).

Reuse potential:

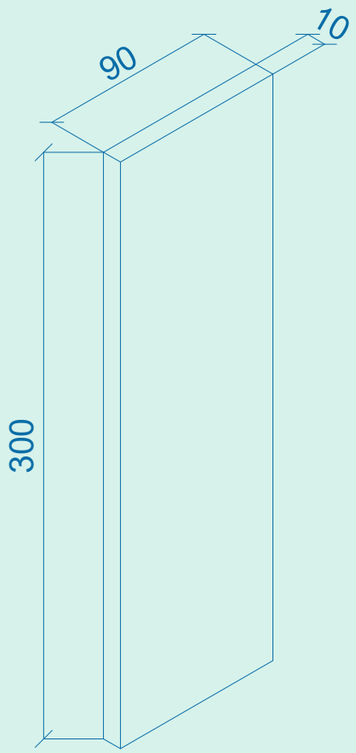
Upcycling salvaged timber for custom furniture design.

P/63 PANEL – INSIDE FULL

WA-E-07

Description:

Prefabricated panel made of Douglas wood boards.



Isometric view

Characteristics

Material: Douglas wood

Dimension:

Height: 300cm – Width: 90cm – Thickness: 10cm

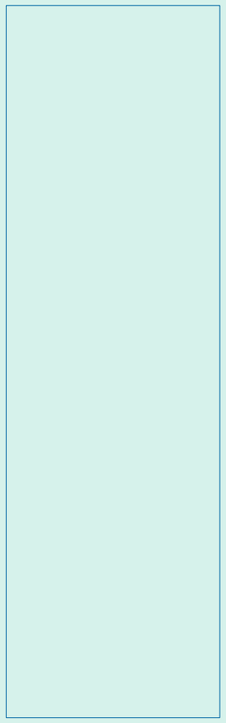
Quantity of elements: 65

Restoration intervention:

Structural assessment and targeted reinforcement, as well as surface refinishing (sanding, priming, painting, varnishing).

Reuse potential:

Upcycling salvaged timber for custom furniture design.



Elevation



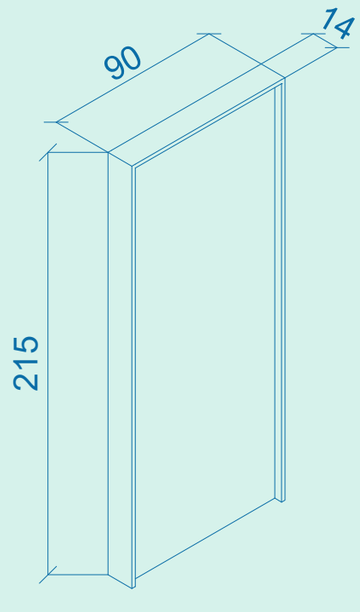
Plan

SINGLE DOOR

DO-I-01

Description:

Interior door made of Douglas wood boards.



Isometric view

Characteristics

Material: Douglas wood

Dimension:

Height: 215cm – Width: 90cm – Thickness: 14cm

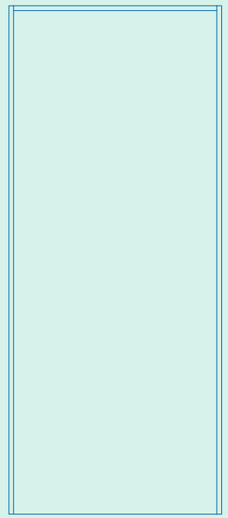
Quantity of elements: 5

Restoration intervention:

Surface refinishing (sanding, priming, painting, varnishing).

Reuse potential:

Upcycling salvaged timber for custom furniture design or repurposing panels for new openings.



Elevation



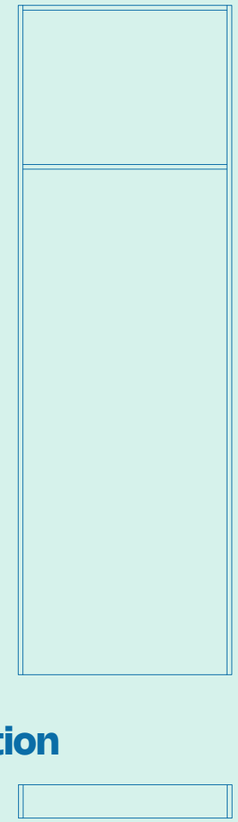
Plan

SINGLE DOOR – UPPER WINDOW

Description:

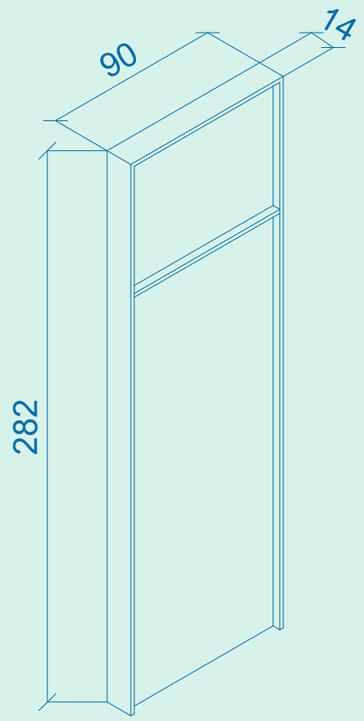
Interior door made of Douglas wood boards, with single glazed upper window.

DO-I-02



Elevation

Plan



Isometric view

Characteristics

Material: Douglas wood – Glass

Dimension:

Height: 282cm – Width: 90cm – Thickness: 14cm

Quantity of elements: 2

Restoration intervention:

Surface refinishing (sanding, priming, painting, varnishing), and glazing replacement.

Reuse potential:

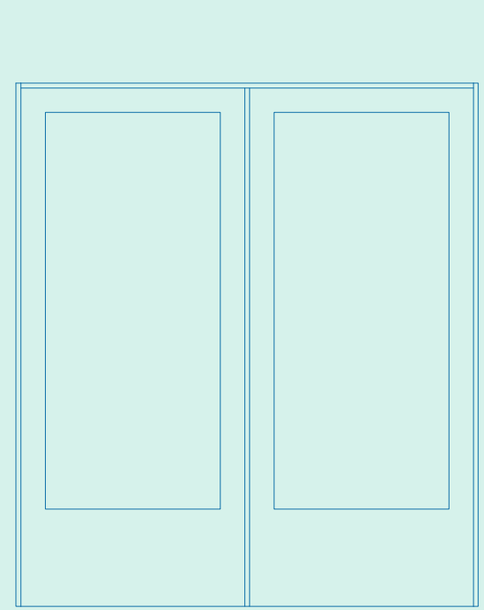
Upcycling salvaged timber for custom furniture design or or repurposing panels for new openings.

DOUBLE GLAZED DOOR

Description:

Interior double door made of Douglas wood frames, and single glazed window.

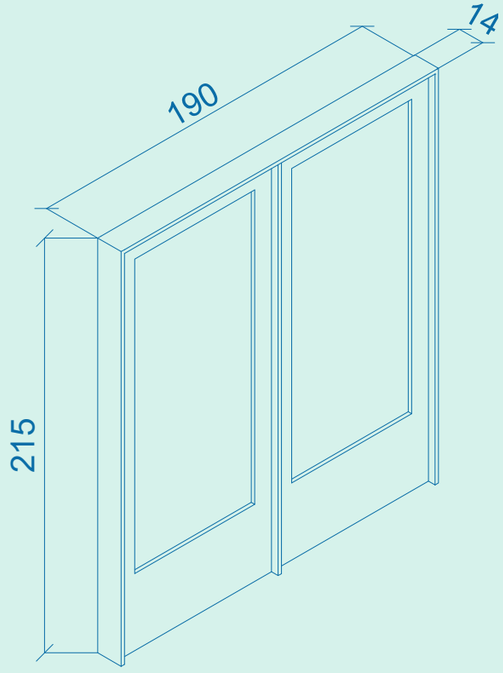
DO-I-03



Elevation



Plan



Isometric view

Characteristics

Material: Douglas wood – Glass

Dimension:

Height: 215cm – Width: 190cm – Thickness: 14cm

Quantity of elements: 3

Restoration intervention:

Surface refinishing (sanding, priming, painting, varnishing), and glazing replacement

Reuse potential:

Repurposing panels for new openings.

COLUMN – BARE

Description:

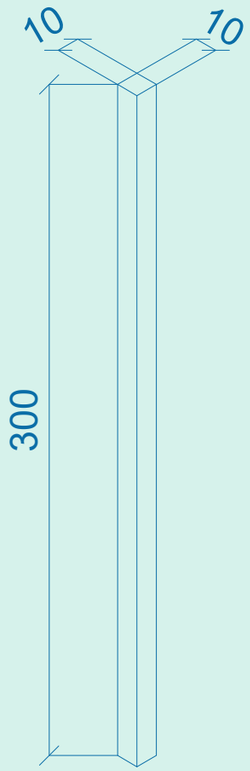
Structural Douglas wood column, without borders.

ST-I-01



Elevation

Plan



Isometric view

Characteristics

Material: Douglas wood

Dimension:

Height: 300cm – Width: 10cm – Thickness: 10cm

Quantity of elements: 32

Restoration intervention:

Structural assessment and targeted reinforcement, as well as surface refinishing (sanding, priming, painting, varnishing).

Reuse potential:

Upcycling salvaged timber for custom furniture design or external gardening structures.

COLUMN – SINGLE BORDER

Description:

Structural Douglas wood column, with a single sided Douglas wood border.

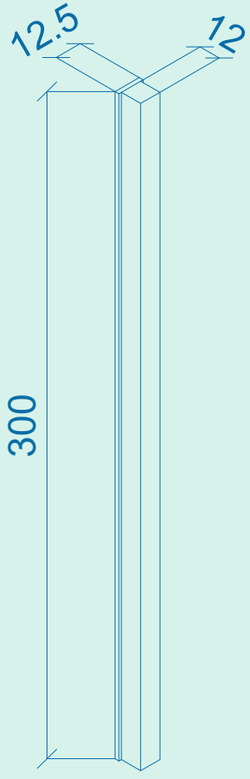
ST-I-02



Elevation



Plan



Isometric view

Characteristics

Material: Douglas wood

Dimension:

Height: 300cm – Width: 12.5cm – Thickness: 12cm

Quantity of elements: 18

Restoration intervention:

Structural assessment and targeted reinforcement, as well as surface refinishing (sanding, priming, painting, varnishing).

Reuse potential:

Upcycling salvaged timber for custom furniture design or external gardening structures.

COLUMN – DOUBLE BORDER

Description:

Structural Douglas wood column, with a double sided Douglas wood border.

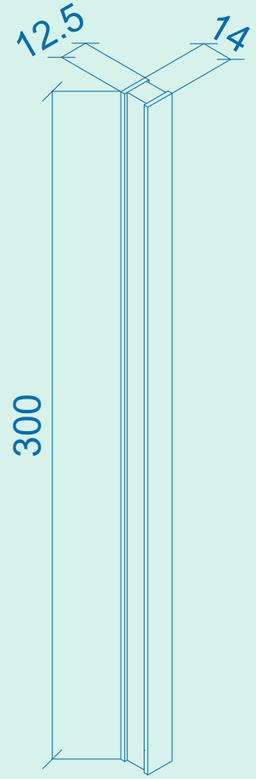
ST-I-03



Elevation



Plan



Isometric view

Characteristics

Material: Douglas wood

Dimension:

Height: 300cm – Width: 12.5cm – Thickness: 14cm

Quantity of elements: 88

Restoration intervention:

Structural assessment and targeted reinforcement, as well as surface refinishing (sanding, priming, painting, varnishing).

Reuse potential:

Upcycling salvaged timber for custom furniture design or external gardening structures.

COLUMN – CORNERED BORDER

Description:

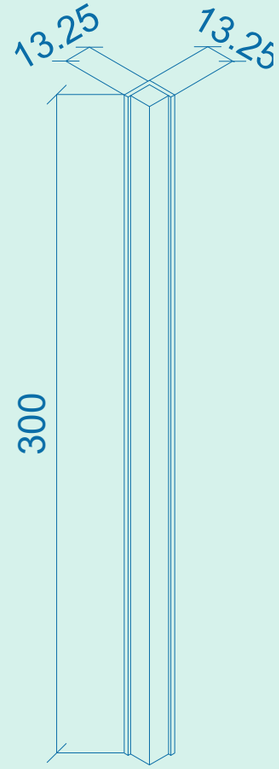
Structural Douglas wood column, with a cornered Douglas wood border.

ST-I-04

Elevation



Plan



Isometric view

Characteristics

Material: Douglas wood

Dimension:

Height: 300cm – Width: 13.25cm – Thickness: 13.25cm

Quantity of elements: 16

Restoration intervention:

Structural assessment and targeted reinforcement, as well as surface refinishing (sanding, priming, painting, varnishing).

Reuse potential:

Upcycling salvaged timber for custom furniture design or external gardening structures.

COLUMN – TRIPLE BORDER

ST-I-05

Description:

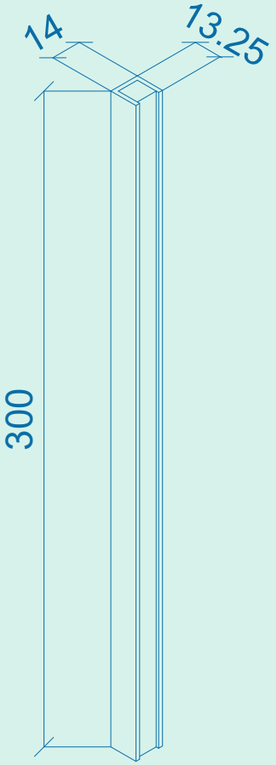
Structural Douglas wood column, with a triple sided Douglas wood border.



Elevation



Plan



Isometric view

Characteristics

Material: Douglas wood

Dimension:

Height: 300cm – Width: 14cm – Thickness: 13.25cm

Quantity of elements: 2

Restoration intervention:

Structural assessment and targeted reinforcement, as well as surface refinishing (sanding, priming, painting, varnishing).

Reuse potential:

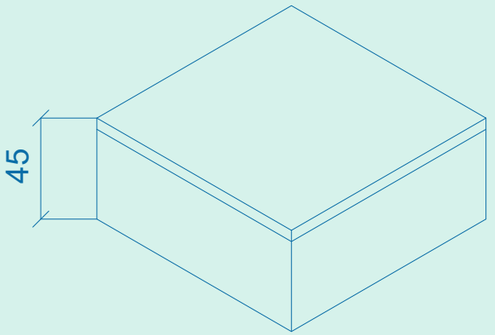
Upcycling salvaged timber for custom furniture design or external gardening structures.

SLAB

ST-I-07

Description:

Structural slab made of reinforced concrete.



Isometric view

Characteristics

Material: Reinforced concrete

Dimension:

Thickness: 45cm

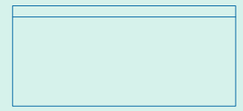
Quantity of elements: 371.6 m²

Restoration intervention:

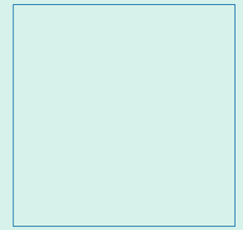
Structural assessment and repair (cracks and decay), and thermal insulation upgrades.

Reuse potential:

Crushing and recycling demolished concrete for use as aggregate in new construction.



Section



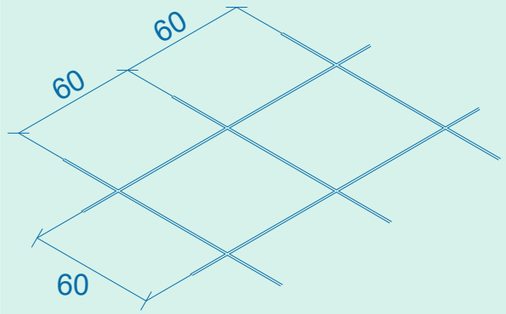
Plan

SOFT PAVEMENT

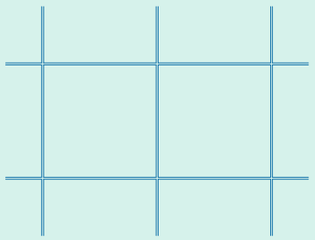
Description:
Interior rubber flooring in the main spaces.

PV-I-01

Isometric view



Section



Plan

Characteristics

Material: Rubber

Dimension:
Length: 60cm – Width: 60cm – Thickness: 1cm

Quantity of elements: 262.6 m²

Restoration intervention:
Full extraction and removal due to end-of-lifecycle material degradation.

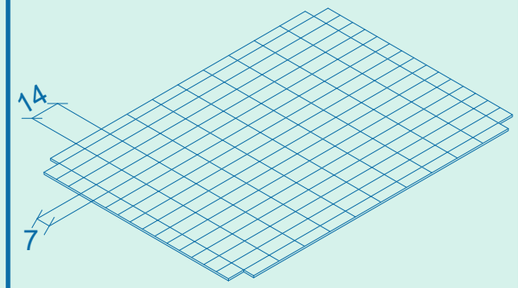
Reuse potential:
Recycling the extracted material into crumbs for acoustic underlayment or playground surfacing.

RECTANGULAR TILES

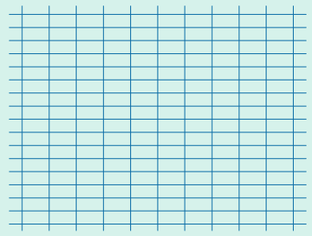
Description:
Flooring made of rectangular tiles in the original kitchen.

PV-I-02

Isometric view



Section



Plan

Characteristics

Material: Brick

Dimension:
Length: 14cm – Width: 7cm – Thickness: 1cm

Quantity of elements: 46.8 m²

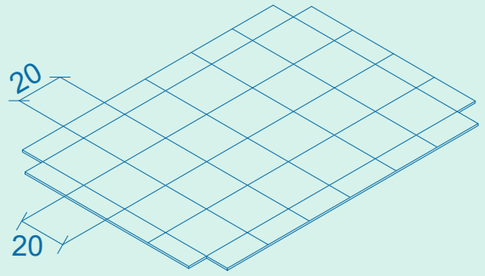
Restoration intervention:
Careful extraction, mechanical cleaning of residual adhesive (scraping), and surface refinishing or painting.

Reuse potential:
Reinstallation as interior flooring, or repurposing as decorative cladding and surfacing for furniture.

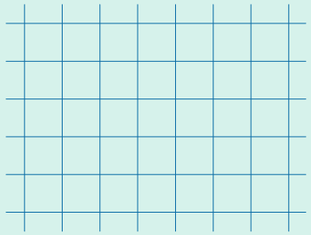
SQUARE TILES

Description:
Flooring made of square tiles, in the bathrooms.

PV-I-03



Section



Plan

Isometric view

Characteristics

Material: Brick

Dimension:
Length: 20cm – Width: 20cm – Thickness: 1cm

Quantity of elements: 38.1 m²

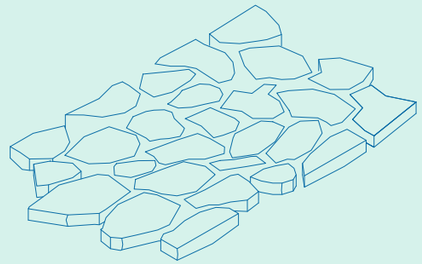
Restoration intervention:
Careful extraction, mechanical cleaning of residual adhesive (scraping), and surface refinishing or painting.

Reuse potential:
Reinstallation as interior flooring, or repurposing as decorative cladding and surfacing for furniture.

STONE PAVEMENT

Description:
Exterior stone pavement.

PV-E-04





Isometric view

Characteristics

Material: Stone

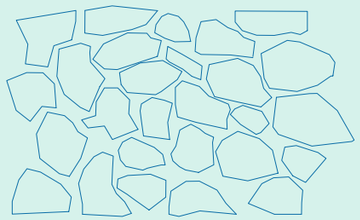
Dimension:
Length~ 30cm – Width~ 15cm – Thickness ~ 5cm

Quantity of elements: 25.3 m²

Restoration intervention:
Surface restoration via high-pressure hydro-cleaning to remove dirt and weathering.

Reuse potential:
Crushing degraded or unrecoverable stones to be recycled as gravel aggregate for new paving.

Section



Plan

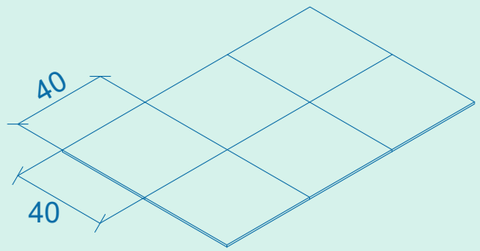
CEMENT TILES

PV-E-05

Description:

Exterior pavement made of cement square tiles.

Isometric view



Characteristics

Material: Cement

Dimension:

Length: 40cm – Width: 40cm – Thickness: 1cm

Quantity of elements: 788

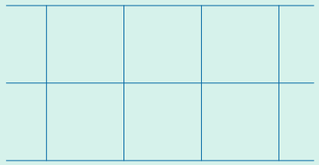
Restoration intervention:

Careful extraction, mechanical cleaning of residual adhesive (scraping), and surface refinishing or painting.

Reuse potential:

Repurposing as pavement, or crushing to be recycled as gravel aggregate for new paving.

Section



Plan

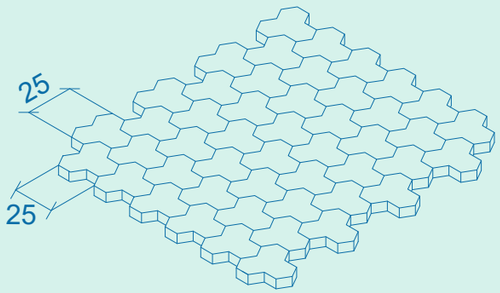
TRI-HEX PAVERS

PV-E-06

Description:

Exterior pavement made of prefabricated concrete pavers.

Isometric view



Characteristics

Material: Concrete

Dimension:

Length: 25cm – Width: 25cm – Thickness: 5cm

Quantity of elements: 184

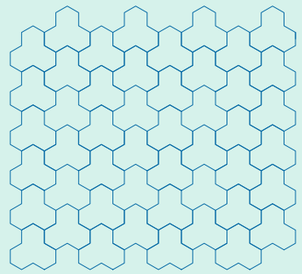
Restoration intervention:

Surface restoration via high-pressure hydro-cleaning to remove dirt and weathering, or replace damaged.

Reuse potential:

Repurposing as pavement, or crushing to be recycled as gravel aggregate for new paving.

Section



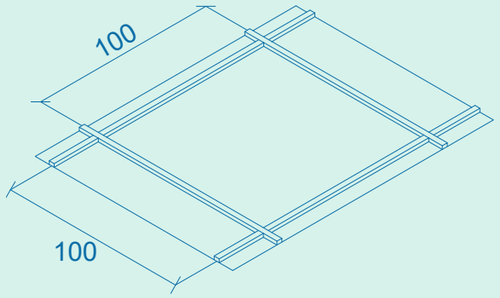
Plan

INTERIOR CEILING

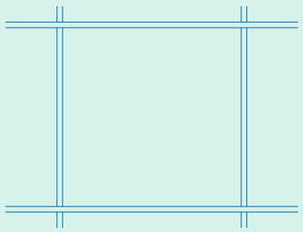
Description:

Interior ceiling made of plasterboard and Douglas wood uprights.

CE-I-01



Section



Plan

Isometric view

Characteristics

Material: Platerboard – Douglas wood

Dimension:

Length: 100cm – Width: 100cm – Thickness: 1.3cm

Quantity of elements: 291

Restoration intervention:

Full extraction and removal due to end-of-lifecycle material degradation.

Reuse potential:

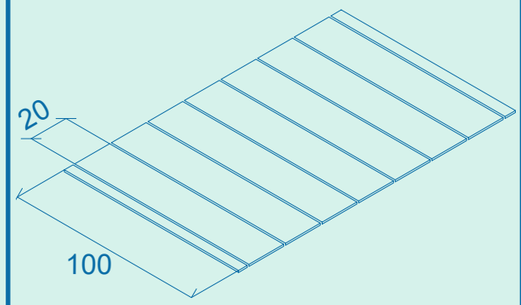
Recycling the extracted material into crumbs for acoustic underlayment or playground surfacing.

EXTERIOR CEILING

Description:

Exterior ceiling made of PVC boards.

CE-E-02



Isometric view

Characteristics

Material: PVC

Dimension:

Length: 100cm – Width: 20cm – Thickness: 1cm

Quantity of elements: 511

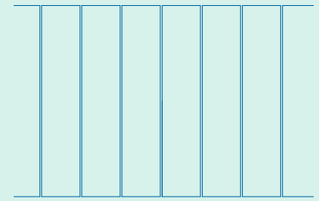
Restoration intervention:

Targeted replacement of degraded panels and specialized surface repainting of the remaining intact planks.

Reuse potential:

Recycling the salvaged planks or repurposing them for custom furniture design.

Section



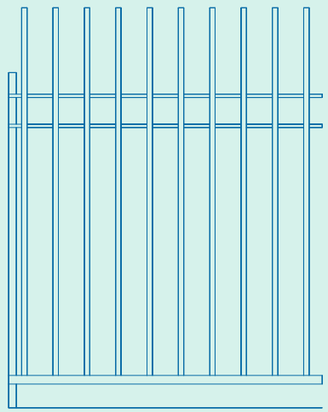
Plan

FENCE – MODULE

Description:

Exterior fence made of a concrete base and metal bars.

FE-E-01



Elevation



Plan

Isometric view

Characteristics

Material: Concrete – metal

Dimension:

Height: 218cm – Width: 145cm – Thickness: 37cm

Quantity of elements: 54

Restoration intervention:

Mechanical rust removal, anti-corrosive priming, and repainting of the metal fencing, combined with surface cleaning of the concrete base.

Reuse potential:

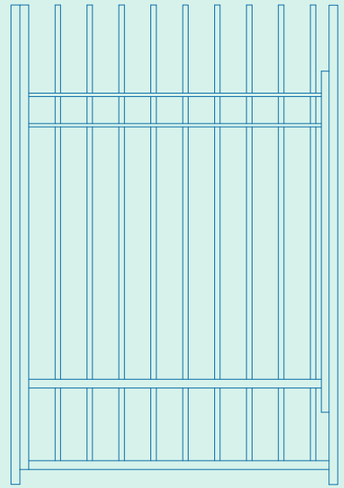
Metal bars upcycled into furniture; concrete base crushed into aggregate.

FENCE – SINGLE GATE

Description:

Single gate made of metal bars.

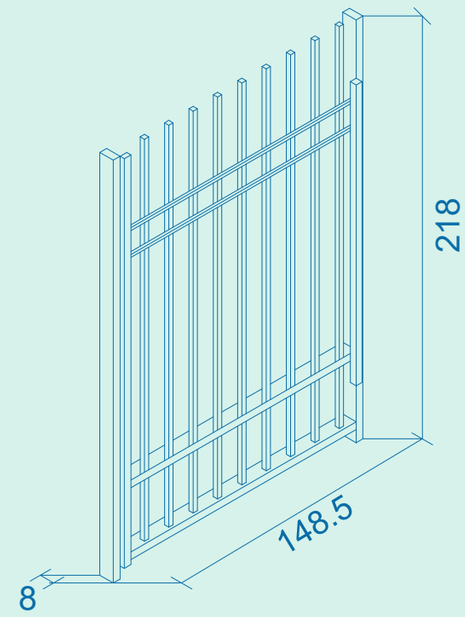
FE-E-02



Elevation



Plan



Isometric view

Characteristics

Material: Metal

Dimension:

Height: 218cm – Width: 148.5cm – Thickness: 8cm

Quantity of elements: 2

Restoration intervention:

Mechanical rust removal, anti-corrosive priming, and repainting of the metal fencing.

Reuse potential:

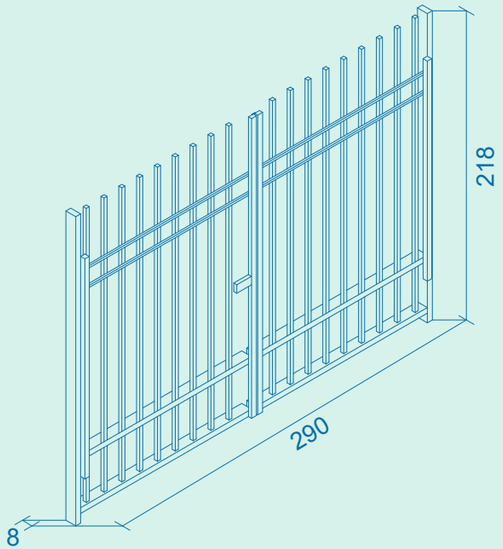
Disassembling the metal bars to upcycle into custom furniture.

FENCE – DOUBLE GATE

Description:

Double gate made of metal bars.

FE-E-03



Isometric view

Elevation



Plan

Characteristics

Material: Metal

Dimension:

Height: 218cm – Width: 290cm – Thickness: 37cm

Quantity of elements: 2

Restoration intervention:

Mechanical rust removal, anti-corrosive priming, and repainting of the metal fencing.

Reuse potential:

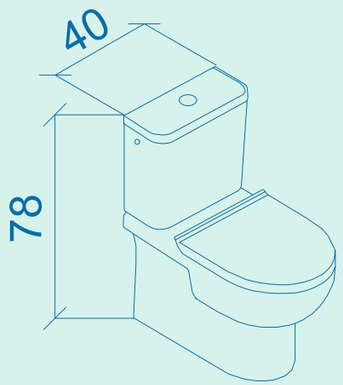
Disassembling the metal bars to upcycle into custom furniture.

TOILET

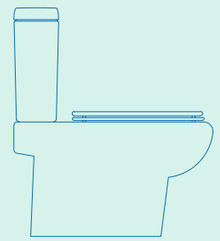
Description:

Ceramic toilet, in the service bathroom.

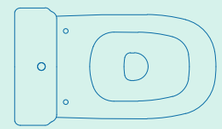
SA-I-01



Isometric view



Elevation



Plan

Characteristics

Material: Ceramic

Dimension:

Height: 78cm – Length: 68.5cm–Width: 40cm

Quantity of elements: 2

Restoration intervention:

Deep chemical descaling, base re-sealing, and upgrading internal tank mechanisms to high-efficiency flush systems.

Reuse potential:

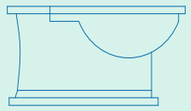
Direct repurposing, or crushing unrecoverable ceramic for custom terrazzo aggregate.

SMALL TOILET

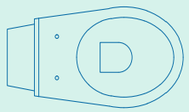
SA-I-02

Description:

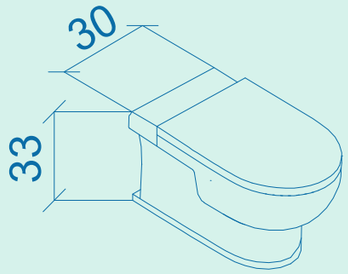
Ceramic toilet, in the student's bathroom.



Elevation



Plan



Isometric view

Characteristics

Material: Ceramic

Dimension:

Height: 33cm – Length: 43cm – Width: 30cm

Quantity of elements: 6

Restoration intervention:

Deep chemical descaling, base re-sealing, and upgrading internal tank mechanisms to high-efficiency flush systems.

Reuse potential:

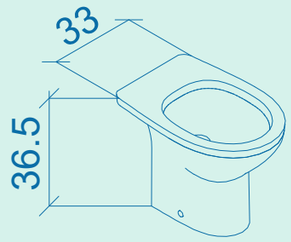
Direct repurposing, or crushing unrecoverable ceramic for custom terrazzo aggregate.

BIDET

SA-I-03

Description:

Ceramic bidet, in the service bathroom.



Isometric view

Characteristics

Material: Ceramic

Dimension:

Height: 36.5cm – Length: 57cm – Width: 33cm

Quantity of elements: 1

Restoration intervention:

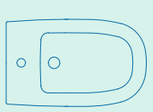
Surface descaling, ceramic polishing, and upgrading hardware to high-efficiency faucets.

Reuse potential:

Direct repurposing, or crushing unrecoverable ceramic for custom terrazzo aggregate.



Elevation



Plan

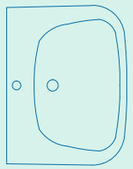
SINK

Description:
Ceramic sink, in the service bathroom.

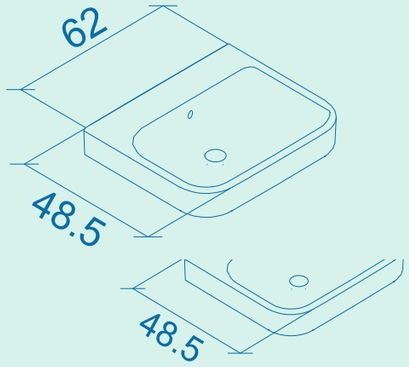
SA-I-04



Elevation



Plan



Isometric view

Characteristics

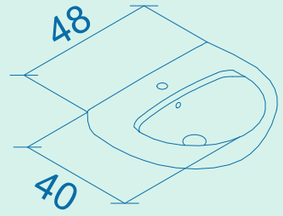
Material: Ceramic

Dimension:
Height: 13cm – Length: 48.5cm – Width: 62cm

Quantity of elements: 2

Restoration intervention:
Surface descaling, ceramic polishing, and upgrading hardware to high-efficiency faucets.

Reuse potential:
Direct repurposing, or crushing unrecoverable ceramic for custom terrazzo aggregate.



Isometric view

Characteristics

Material: Ceramic

Dimension:
Height: 12cm – Length: 40cm – Width: 48cm

Quantity of elements: 10

Restoration intervention:
Surface descaling, ceramic polishing, and upgrading hardware to high-efficiency faucets.

Reuse potential:
Direct repurposing, or crushing unrecoverable ceramic for custom terrazzo aggregate.

SMALL SINK

Description:
Ceramic sink, in the student's bathroom.

SA-I-05



Elevation

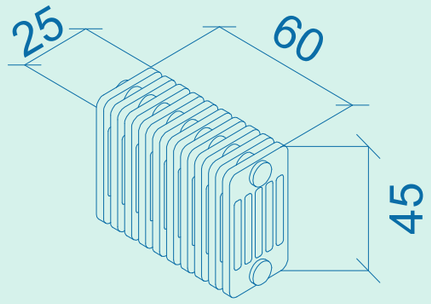


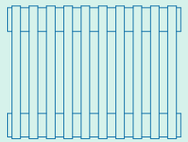
Plan

RADIATOR

Description:
Steel radiators.

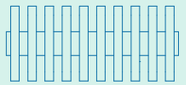
SA-I-06





Elevation

Isometric view



Plan

Characteristics

Material: Steel

Dimension:
Height: 45cm – Length: 60cm – Width: 25cm

Quantity of elements: 32

Restoration intervention:
Sandblasting old paint and applying a durable coat finish.

Reuse potential:
Direct repurposing, upcycled into sturdy industrial furniture.

RETHINKING THE SALVAGED MATTER

3

The rigorous cataloguing and "dissection" of the ex-kindergarten detailed in the previous chapter established the physical baseline for our intervention, effectively transforming the existing structure into a dynamic material bank. However, to meaningfully mobilize this salvaged matter, we must situate our methodology within the broader discourse of circular construction. Before presenting our final architectural design, it is essential to open a theoretical parenthesis. Approaching an adaptive reuse project requires not just spatial ingenuity, but a profound understanding of the realities of the practice. As future architects operating in an era defined by ecological urgency, anchoring our work in a realistic and professional dimension is paramount.

Historically a widespread technique driven by resource scarcity and the valorisation of shared heritage, the practice of reuse was progressively relegated to the margins of the construction sector during the 20th century in favor of destructive demolition and a new paradigm of obsolescence. Today, the environmental necessity to mitigate the construction industry's severe pollution demands a return to reuse. Beyond reducing raw material consumption and waste, the practice acts as a method of substitution between energy and manpower, generating significant job opportunities while preserving the "embodied legacy" of architectural components and projects.

Despite these benefits, translating our on-site cataloguing efforts into a built reality, means confronting the embedded barriers of the professional world. Reuse remains a marginal practice slowed down by complex obstacles, including unpredictable economic costs tied to dismantling and testing, technical challenges such as material toxicity, and rigid regulatory frameworks that frequently categorize reclaimed elements as waste rather than viable resources. Ultimately, understanding these systemic barriers clarifies why our architectural efforts must be deliberate and meticulously documented, preparing us for our future professional practices.

3.1 A brief history of reuse

Case study – Zinneke, Feder Masui4ever

Based in Brussels, Belgium, Zinneke is a socio-artistic non-profit organization promoting social and cultural interactions between the various local communities, through the organization of events and creation of shared spaces throughout the city. In 2015, in an attempt to widen its scope of action, the organisation called for the renovation of its new facility. Located at 265–269 Rue des Palais, the 4,000 m² site, strategically acquired by Zinneke, housed the former factory of the *Atelier Général du Timbre* (Workshop of the Seal). The initiative was spurred by €2,000,000 in financial aid from the European Regional Development Fund (ERDF)[1]. Started in 2018, the final project was the result of 7 years of collaboration between Zinneke and the design practice/reuse specialist, Rotor.

The project stands as a pertinent example of public procurement actively promoting circularity. The architectural intervention retained 94% of the original structure, while 12% of the additions were done with salvaged building components such as 30 steel beams, 5 window frames, 450m² of rock wool insulation as well at the 2 steel staircases. However, the design team pushing the project's values forward did face various barriers on their way. While European and Belgian subsidies made the project financially viable, they also legally classified Zinneke as a public procurer. This obliged the organization to comply with rigid public tendering regulations, which hinder the integration of salvaged materials.

To navigate these legal blockades, Zinneke and Rotor had to employ unconventional strategies. The design team adopted a horizontal and holistic approach, effectively exceeding their traditional role as project commissioner and consultant by collaborating closely with experienced and specialized actors, including Brussels Bouwmeester Kristiaan Borret, and Ouest Architecture. Since the first phases of the project, the team established that preservation and reuse will dictate the design, needing innovative public procurement practices. Their method required a thorough cataloguing of the building's state of the art, including: quantities of material available, description with text and pictures, guidelines for disassembly, and alternative options for sales or donation of components.

19. Established in 1975, the ERDF is the EU's primary structural fund designed to reduce economic, social, and territorial disparities across European regions.



Figure 61. Masui project construction site. Photograph by Delphine Matty. From Zinneke – Feder Masui4ever, by Rotor. rotordb.org



Figure 62. Masui project construction site. Photograph by Delphine Matty. From Zinneke – Feder Masui4ever, by Rotor. rotordb.org



Figure 63. Masui project construction site. Photograph by Delphine Matty. From Zinneke – Feder Masui4ever, by Rotor. rotordb.org

Furthermore, to bypass embedded cultural or social barriers, the team had to " forge strong relationships with all stakeholders translated into active demystification and lowering of barriers to reusing building materials across the entire project" (Steukers et al., 2025). By reconsidering the standard project timelines and procurement structures, the Masui project outlined the potential of reuse in the construction sector, proving that time and pedagogical investments are critical differentiators. Ultimately, while their work serves as a remarkable and replicable pilot, it highlights the numerous administrative hurdles that currently render reuse an expensive and time-consuming practice, rather than an accessible and standard one, amidst today's bioclimatic urgency.

The 20th century: A paradigm shift

Until the 1920s, the demolition of buildings was essentially carried out by professional workers, known as "barmen"[2]. These skillful workers would proceed meticulously using specialized tools, their intervention being closer to the deconstruction of a building rather than its demolition. Jeff Byles, in Rubble (2005) describes their work as that of a noble practice : "Laborious, certainly, but not the slightest waste. It was an elegant way to demolish buildings." He will then proceed to criticize the emergence of "destructive wrecking", that will soon become a universal process. It is not only the method that was changing during the following decades, but the entire paradigm. A clear turning point was the destruction of the Majestic Hotel in New York's Central Park in 1929: the decision to proceed with a destructive rather than a careful demolition was made purely on financial grounds, as the value of recoverable materials was deemed insufficient to justify the labour involved. Byles captures this shift in a single phrase: from a "demolition that creates" to a "demolition that costs."

Several structural factors accelerated this transformation: rising wages, the widespread adoption of new materials such as concrete and mortar impeding an eventual deconstruction, the rise of prefabricated elements, and the growing pressure of real estate speculation. In this context of a constant race for "progress", New York and the other major western cities faced the emergence of a new problem : obsolescence. A growing world-wide problem pushing people towards fast and cheap demolition rather than conscious ones. The post Second World War period will only amplify this scenario with continual technological advance. During the Golden Age of Capitalism[3], reuse was officially relegated to the margins of the construction sector, as we witness it today.

20. A name given in reference to wrecking bar, the main tool they used.

21. A period of rapid, sustained macroeconomic growth and high employment across Western industrialized nations between 1945 and 1973.

A historically universal practice

Reuse has always been a widespread technique throughout history, driven by the scarcity of resources. The method carried an additional symbolic weight, reusing materials from earlier constructions was understood as a form of homage to predecessors, a valorization of shared heritage.

The demolition of Coudenberg Palace in Brussels in 1770 offers a remarkably well-documented example of organised material recovery. The Austrian administration, seeking to erase the traces of previous powers, launched a deconstruction campaign while simultaneously developing a resale system for recovered elements. From construction materials such as iron pieces, tiles and stone blocks to the trees planted in the main alley. The inventory was catalogued and sold to a wide range of buyers, from wealthy merchants to small craftsmen purchasing as little as the equivalent of 200 euros worth of stone. The outcome was striking : local authorities achieved a profit margin of approximately 200% over the cost of demolition, making a case for the financial profitability of a deconstruction site. Similar processes unfolded across the region, particularly regarding fortification walls, representing a significant source of underused materials. At a city scale, Haussmann's transformation of Paris[4] set a European precedent for demolition and reconstruction respecting a different city plan creating a model for other European cities in the following decades.

The practice of reuse is deeply embedded in human construction methodologies, it is only in relatively recent history that ruins have been widely categorized as untouchable artefacts. Archaeological and historical research document a continuous practice of reuse spanning from the Roman Empire through the Middle Ages in Western Europe. Following the collapse of the Roman Empire, the Mediterranean region was left with massive structures no longer used by local populations. In Nîmes, France, beginning in the 5th century, the Roman amphitheatre was appropriated as a fortress for the city, housing a church and residential infrastructures in its perimeter (Mazauric, 1934). Similar phenomena occurred throughout the neighbouring regions, where Roman infrastructures were reused by the local communities either through programmatic adaptive reuse, as the concept is understood today, or through the physical salvaging of building components. Ultimately, these precedents demonstrate that reuse is fundamental practice of human construction, casting the contemporary system of mass-production not as an historical norm, but as a recent paradigm shift.

22. A massive mid-19th-century public works program (1853–1870) under Napoleon III that radically modernized Paris's urban layout and infrastructure.

3.2 A beneficial practice

The case for reuse rests on three distinct but interconnected dimensions: environmental necessity, social opportunity, and cultural responsibility. Together, they establish what is at stake with the return of reuse.

Environmental contribution

Reuse stands in contrast to our society of mass consumption, and has often been promoted throughout criticism of consumerism. In his "Brave New World" (1932), Aldous Huxley highlights this point,

"Ending is better than mending ; the more stitches, the less riches."

going against this propaganda that what is old is inherently worse than what is new.

In a time when construction remains the most polluting industry on the planet. Reuse reduces both the energy and raw materials consumed during manufacturing, as well as the waste generated during demolition and waste management cycles. In "Cradle to Cradle" (2002), William McDonough and Michael Braungar use an interesting parallel with nature, aiming to shift the paradigm around our perspective on waste. They argue that we should mimic nature's system in which the concept of waste does not exist, everything is transformed into a nutrient for another element. For now, most components of any product, including architecture, are considered as waste once used. Rendering their reuse impossible in a vast majority of contexts. However, by considering them as technical nutrients, we open the door to relatively unlimited reuse of materials, ultimately resulting in lower energy and material consumption.

Life Cycle Assessment (LCA)[5] methodologies both strengthen the case for reuse and reveal its limits. Transport distance is the most frequently cited constraint: reuse's environmental benefits can quickly be canceled if the distance between the deconstruction and the building site is too important. Fashion trends introduce unexpected distortions as well, certain reclaimed wood species are more sought-after than others, creating regional extraction pressure and long supply chains that erode the very benefits

23. A standardized methodology (ISO 14040/14044) used to quantify the environmental impacts of a product or process from raw material extraction to final disposal.

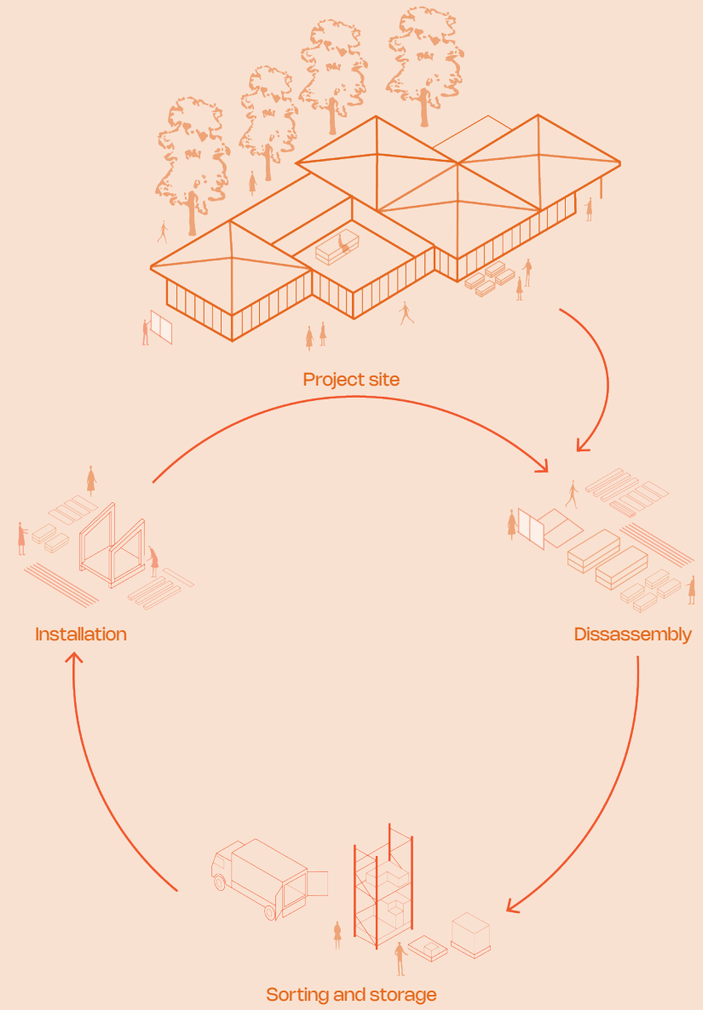


Figure 64. Diagram highlighting the benefits of reuse and circularity.

reuse is supposed to deliver. In other words, for reuse to have a concrete positive impact on the environment, the materials must be used and extracted in reasonable contexts.

Working hand in hand with the Life Cycle Analysis, is the concept of the waterfall effect highlighted by Julian M. Allwood in "Sustainable Materials". He argues that all materials are heading towards obsolescence, but reuse can slow this process by relocating them into less demanding environments. Railway tracks offer a compelling example — first inverted left to right to equalise wear, then reassigned from primary to secondary lines. A material does not need to be destroyed when it no longer meets its original function, it can simply find a new one.

Impact on the community

While reuse is often criticized for being more expensive than using standardized elements or industrialized materials because of the labor force it requires, this constraint can also be seen as a social benefit. Indeed, this implies a higher demand for workers and therefore creates a great number of job opportunities.

In Geneviève Reday-Mulvey and Walter Sahel's, "The potential for substituting manpower for energy" (1981) in which he argues that reuse basically acts as a substitution method between energy and manpower. In a context where two thirds of the energy is consumed during the extraction and manufacturing of materials, it is the opposite in terms of manpower. Therefore, if we push towards a growth of the industry of transformation and reuse, we will need more manpower while consuming less energy. In a 2015 report, Deb Stones established a 1: 7 ratio between recycling and traditional waste disposal, referring to the labor force needed for both interventions. Ultimately highlighting that a deconstruction site creates 7 times more work opportunities than a regular demolition site. For local communities, this is a doubly attractive proposition: fewer carbon emissions and more employment. In 1997, the Institute for Local Self Reliance published a report estimating that reuse creates 38 times more job opportunities than traditional waste management, and 9 times more than recycling.

Reuse can also generates employment beyond the demolition site: in logistics, stock management, documentation, archival research, technical testing, repair and refurbishment, sales, and accounting. As always there are limitations to those new jobs: dangerous, repetitive, physically demanding and not very stimulating. However, the context may allow people to feel a sense of pride due to social and environmental values of their work. After performing an ethnographic study, Marc Van den Berg and his team were able to assess this sentiment in their work "Recovering building elements for reuse" (2020). Highlighting, the special attention with which some workers attend to the deconstruction site, and the pride they take "to enable reuse with minimal damage for most large elements." Furthermore, every working site is inherently different from the previous one, limiting the repetitiveness of the work. Conclusively, reuse creates job opportunities in sales, storage, refurbishing, and documentation, therefore benefiting the local economy.

3.3 The barriers to reuse

Despite the numerous advantages and benefits of reuse, it remains a marginal practice in our times. Understanding why, requires mapping the full range of obstacles — economic, technical, informational, and regulatory — that currently prevent it from becoming a default practice.

Economic criteria

The price of a construction material is broadly determined by two factors: the cost of the raw material and the cost of installation. Reused materials introduce additional costs during their various life cycles, dismantling, testing, transport, storage, and refurbishment. None of which are determined by conventional supply chains. As a result, reused elements are frequently perceived as costly materials, due to the absence of a well established system promoting their extraction and re-integration.

Integrating reused materials into construction projects introduces a distinct set of economic challenges. First, costs can arise unexpectedly due to the unpredictability of reused materials supply. Certain materials, particularly load-bearing ones, require additional testing and certification before use, adding both time and expenses to the process. Furthermore, sourcing a specific material may demand significant research effort, and when that material becomes available on a different timeline than the project requires, it can generate important added costs generally correlated to transport or storage.

A central issue lies in the decision-making power held by the deconstruction contractor. It is the contractor who evaluates the potential demand and market value of each component on a given site. As with most economic decisions, profit ultimately determines whether a component will be carefully dismantled for reuse or simply demolished and left as waste. Therefore, the recovery of reuse components is inherently dependent on the contractor identifying sufficient economic value in a given element.

Designing with reused components also demands a fundamentally different approach than designing with new materials. Rather than sourcing materials to fit the project, the designer must adapt the project to fit the materials available at a given place and time. This new reversed supply logic introduces a set of constraints that the construction industry is largely unaccustomed to. A reuse oriented project, therefore requires



Figure 65. Masui project construction site. Photograph by Delphine Matty. From Zinneke – Feder Masui4ever, by Rotor. rotordb.org

more time and effort on the design part, representing a considerable increase in general fees.

That said, these additional costs can often be offset by the lower acquisition price of reused components. More broadly, greater investment in deconstruction practices creates a virtuous circle: more materials become available, supply becomes more reliable, and dependency on volatile new material markets decreases, making reuse an increasingly viable and economically sound choice.

Technical criteria

The most critical technical obstacle for the salvaging and later reuse of components, is toxicity. Materials contaminated with asbestos or lead, both widely used in the building sector throughout the 1960s and 1970s, cannot be repurposed and require specific handling protocols during removal. Despite being banned from new construction, their legacy in the existing building stock remains significant and cannot be overlooked in any deconstruction assessment.

Beyond the eventual toxicity, deconstruction raises questions about the mechanical properties of the salvaged building components. The deconstruction contractor must be able to identify and then implement the corresponding dismantling process for each component. This requires both the technical feasibility of disconnecting the element from the rest of the structure and the contractor's capacity to carry it out. The disassembly method depends of the elements characteristics, therefore requirng the dismantlling operators to adapt their approach to pratically every project.

Furthermore, the contractor must be able to conserve the element's performance from the moment of disassembly through to its integration into a new building. This involves having sufficient time for careful removal and ensuring that the element retains its physical and structural integrity during storage and transport. In practice, some elements, such as slabs and roof systems, can be temporarily stored outside on-site without risk, while more sensitive elements, like appliances, require protective wrapping and indoor storage. Additionally, the availability of repair facilities can help restore and maintain element quality.

All those conditions are intimately linked to the economical constraints that the contractor or client faces during the deconstruction period. In other words there is no universal formula when it comes to the feasibility of the dismantling of a project making reuse inherently case-by-case and time-intensive.

Cultural barrier

Even if the concept of a circular economy is slowly gaining ground, we mostly follow a linear economic model, in which we extract, manufacture, consume and finally dispose of a product. A model that is responsible for the exhaustion of our resources, and mass pollution. On the other hand, the circular economy promotes a regenerative production where materials are used to their full potential, limiting waste and loss in quality.

In their work Cruz Rios, Grau and Bilec (2021) reviewed and compared a number of surveys, interviews and case studies in various countries in order to identify the main cultural barriers to circular building design. The study underlined that the most commonly mentioned cultural barrier was a lack of clients' interest and therefore knowledge on the subject, ultimately resulting in suspicion towards the practice. The situation inherently creates a vicious circle where lack of awareness leads to lack of interest and vice-versa.

In a similar exercise Rakhshan et al. (2020), noticed a general distrust from the majority of actors within the building sectors towards salvaged construction components. A first concern is raised regarding the aesthetic value of a recovered component, generally associated with a lower quality of materials. The potential altered visual appearance of the elements subsequently leads to refusal from architects or stakeholders to include them within their projects. Moreover, studies show, lack of awareness on the matter results in overall mistrust and fear concerning potential health liabilities. In other words, one cultural barrier is highlighted in these numerous studies, the absence of education on the practice. As a society, we are accustomed to purchasing virgin products or components, ultimately leading in mistrust towards previously used elements. While we still associate "new" products with progress, safety and sanitation, an awareness raising-effort led by contractors and architects would help overcome those barriers.

Barriers of the legal framework

The European regulatory framework presents several legal obstacles that limit the re-use of components after deconstruction. The main barrier being the lack of clear, harmonized regulations specifically for reclaimed materials.

First and foremost, in Italy, the major obstacle for an eventual reuse of a construction component is its dual legal status. Under Article 184-bis of the D.lgs. 152/2006 (Testo Unico Ambientale) a material or component can be classified as a "by-product" in



Figure 66. European Quarter 2025, Photograph by houseeurope.eu ©J. Schmidt, M. Lewark, A. Throm

order to avoid being considered as waste. However, said article represents a consequent legal burden for a contractor, in order to meet all the conditions established. Therefore, motivated by convenience, contractors classify the potential by-products as ordinary waste under the Article 184-ter.

At the European scale, the legislation set by the Construction Products Regulation (CPR) and controlled through the CE marking[6] represent a complementary legal barrier for reuse. In order for building materials or components to be sold and then used legally in the EU, they must acquire a CE mark. However, the CPR was originally designed for new, mass-produced goods that are uniform and easily testable. Reclaimed materials being inherently unique, they can not fall under the standardized testing methods promoted by the CPR. Inadvertently creating a legal blockade against reused elements to access the mandatory CE mark and be integrated in projects. Recent updates to the CPR (Regulation (EU) 2024/3110) do tend to address these issues, by including reused products. This new law introduces the Digital Product Passport concept, which aims to make performance information easier to track. However, this updated legislation focuses on structures built today and onwards, easing the potential reuse of their components. While completely dismissing the immediate problem of how to certify the reuse of already existing structures in order to avoid their demolition.

In Italy, architects must conform to the Criteri Ambientali Minimi (CAM) established by the Article 57 of D.lgs. 36/2023, for which the technical requirements are outlined in the Ministerial Decree of November 24th 2025 (CAM Edilizia). While the law dictates a minimum percentage of recycled or recovered materials, the legal proof required in order for the material to meet the CAM requirements creates a subsequent limit. The need for standardized third party certifications, generally expensive and complex, pushes contractors towards downcycled heavy materials such as the use of a crushed brick as recycled aggregate, rather than promoting low-impact reuse. As mentioned for the European CPR, the Italian CAM are based on the outdated assumption that materials are exclusively standardized and uniform, therefore minimizing the potential of reuse in the building sector.

24. An administrative declaration certifying that a commercial product complies with European Union safety, health, and environmental standards.

3.4 Towards a culture of circularity

Anticipating reuse during design

In order to maximize the reuse of materials of a building, we ought to include the deconstruction phase in our general design reflection. This paradigm is known under the name of Design for Disassembly (DfD)[7], whose goal is to maximize material conservation and create a closed loop system for the built environment. At the material level, DfD follows the precautionary principle, prioritizing non-toxic, high-quality substances that retain value after their initial use. Designers are therefore encouraged to limit the range of materials and avoid composite materials or secondary finishes. As these practices often contaminate recycling streams and impede effective sorting of materials.

Crucial to this methodology is the preference for mechanical connections, such as bolts or screws, rather than using mechanical binders or adhesives, because of their irreversible and destructive nature. Furthermore, these joints must be visually and ergonomically accessible to ensure that components can be separated easily without having to require specialized equipment or damage them. DfD, adopts a layered approach, recognizing that different components have different life spans. By disconnecting the various layers, especially from the primary structure, designers enable the parallel disassembly. Therefore, extending the building's life expectancy without compromising its structural integrity.

Finally, the physical design must be supported by a complete thorough "as built" documentation, which we will develop in the following part. Together, these principles help create a system where building materials can be used over and over.

Documenting the building and material passports

Where buildings already exist without adequate documentation, the first step is to create it. This begins with as-built drawings and technical surveys, capturing not just the original design but all subsequent modifications. The second level operates at the scale of the individual element: identifying each component and characterising its reuse potential, from mechanical properties

25. A sustainable design paradigm for future deconstruction and material recovery, codified by the international standard ISO 20887:2020.



Figure 67. Masui project promoting social inclusivity. Photograph by Delphine Matty. From Zinneke – Feder Masui4ever, by Rotor. rotordb.org

to the history behind its manufacture and use.

Paola Sassi[8] recommends that this information be transmitted actively: providing as-built drawings, maintaining maintenance logs, and physically marking components with disassembly instructions at the point of installation. The concept of a material passport formalises this idea, a standardised, structured record of each element's key characteristics, stored in a way that remains accessible throughout the building's life and beyond.

The Subsequent Intervention File (SIF), now mandatory in most countries, serves as a logbook for the building and is an important existing repository for this kind of data. The BedZED project in London demonstrated what becomes possible with good documentation: structural engineers from Ellis & Moore were able to certify the reuse potential of steel profiles, turning a theoretical commitment to reuse into a verifiable construction decision.

In this context, one method comes out on top, Building Information Modeling (BIM). Its multidimensional approach and interoperability is perfectly suited to overcome the challenges of documenting a building for reuse. Through the use of BIM, both the temporality of the project as well as the material passport can be easily included in the model. New on-site technologies, such as 3D scanners, wall sensors, asbestos detectors, also significantly reduce the time and therefore cost of these surveys and site assessments.

Progressive regulatory frameworks

While the development of reuse requires investment from a broad range of actors, deconstruction contractors, manufacturers, architects and others, the real power ultimately lies in the hands of public authorities. Moreover, they are best positioned to encourage the global spread of the practice by introducing positive incentives, such as financial bonuses or tax reductions.

The model promoted in the United States showcases the potential of fiscal incentives. An owner who donates demolition materials to a charitable organisation receives a tax deduction equal to the total value of those materials. Making deconstruction a more attractive option for both companies and private individuals. Founded in 1993, the Reuse People of America (TRP) is one of the more prominent organisations built around this model. In Europe, targeted VAT reductions have already proven to be an effective policy. In Belgium, the VAT rate for companies in the repair sector drops from 21% to 6% (SPF Finances, 2025), while in Sweden this rate goes from 25% to 10% (Orange, 2016). Extending these reforms to the reuse sector has the potential to initiate change in general consumption trends. Direct bonuses for exemplary projects are another instrument. Brussels has rewarded projects demonstrating high standards of deconstruction and reuse with financial bonuses, creating a positive precedent.

As demonstrated by researcher Leonidas Milios (2018), while contractors often view fiscal incentives as useful, they do not consider them the most impactful intervention available to public authorities. The policy instrument that comes up on top, as referred in the same report, is Public Procurement. Due to the immense purchasing power held by a government, these initiatives have the potential to spur reuse's influence and impact on the market. These policies can range from direct purchase of reused materials for governmental projects or sourcing used components. Resulting in a complete transition process rather than creating a new market without replacing existing ones. Making it a more effective tool for driving long termed impacts on the markets and more generally on our society.

As a formal representation of these concerns the non-profit organisation HouseEurope![9] launched the European Citizens' Initiative "Power to Renovation". The aim behind this project is for the European Commission to consider a new legislation making renovation and reuse the European norm regarding projects on existing buildings. Their objective is

"to establish a Right to Reuse for existing buildings based on three key pillars:
(I) tax reductions for renovation works and the reuse of materials,
(II)fair rules for the assessment of existing buildings, and
(III) new values for the embedded CO2 in existing structures"

(HouseEurope!, n.d.). By doing so, HouseEurope! aims to defend existing structures as well as their historical and cultural value, while promoting affordable housing and a fairer building sector at a European level.

26. Italian architect and academic Paola Sassi (b. 1964) is widely recognized for her foundational 2006 book, Strategies for Sustainable Architecture

27. HouseEurope! is a non-profit organization and policy lab dedicated to shaping legislation and public advocacy to prioritize the adaptive reuse of existing buildings over demolition.

Furthermore, the creation of a dedicated quality label for reused materials or components can act as a tool in order to address eventual uncertainties regarding their performances and technical capacities. In order words, it would allow to reassure the buyer, generally hesitant due to the cultural barriers regarding used components in construction. Such a label should address various requirements:

- Origin of material : sourced directly from a deconstruction site, not extracted by force.
- Distance : total distance travelled between deconstruction site, processing, and new site of use
- Working conditions across the supply chain.
- Product performance : confirmed structural properties.

PROJECTING THE COMMUNAL SPACE

4

This final chapter illustrates the synthesis of our comprehensive investigative journey. Having meticulously explored the ex-kindergarten on Via Bertola through historical archival research, phenomenological observation, and rigorous metric cataloguing, we now translate this theoretical and analytical groundwork into a tangible architectural response. This phase bridges our conceptual research with a physical design, proposing a future for the site that is deeply informed by its past.

At the core of our design philosophy is a profound respect for what Ernesto N. Rogers (1955) defined as "environmental pre-existences". Our intervention is not an abstract exercise, but rather a project deliberately anchored in the socio-political landscape of the site and its surrounding neighborhood. Consequently, we advocate for a minimalist, surgical approach, one that honors the inherent architectural qualities of the original building while fundamentally respecting the vital ongoing work of the volunteers who currently occupy the space.

Informed by our extensive cataloguing efforts, the project operationalizes the principles of circularity. The intervention predominantly utilizes salvaged matter recovered directly from the site's selective deconstruction. Where the integration of new elements is strictly necessary, the design prioritizes affordable, highly durable, and time-resistant materials. This strategy ensures the structure's longevity and functionality without representing an excessive economic or ecological impact.

Ultimately, the objective of this architectural proposal is to nurture a lively, shared space that is radically accessible and inviting to all. By transforming this infrastructure into an inclusive communal hub, the project empowers the local community to feel at ease and appropriate the space according to their own needs. It is here, at the intersection of conscious material reuse and social inclusivity, that the architecture truly serves its purpose, fostering community resilience and securing a shared future.

4.1 Genesis of the design

Translating theory into form

The transition from our theoretical research to an architectural design begins with a fundamental recognition: the pre-existing structure must dictate the intervention. Our various investigations into the building's "embodied legacy" allowed us to fully grasp the historical, social, and physical importance of the ex-kindergarten. Consequently, our primary architectural intent is to maintain and preserve the existing fabric to the greatest possible extent. This commitment to preservation is symbolized by the P-63 prefabricated panel system, whose inherent modularity and material qualities serve as the foundational matrix for our design.

Currently, the structure suffers from underuse and progressive decay, a condition symptomatic of the broader, systemic lack of maintenance plaguing contemporary public heritage across Italy. As architectural professionals operating within this challenging reality, our objective is to revitalize the building's legacy while remaining fiercely loyal to its original essence. To achieve this, the project implements a calibrated strategy encompassing formal, functional, and technological restoration interventions. These deliberate actions are designed not to overwrite the past, but to secure the building's structural and operational viability, ensuring this structure can see another 50 years.

To articulate how these intentions materialized, the following section presents a series of illustrated explanations detailing the progressive thought process that ultimately led to our final architectural design. Throughout this sequence, one guiding principle remains constant: we did not impose an external concept onto the site. Instead, every spatial reconfiguration, material choice, and programmatic addition was intrinsically guided by the geometry, materiality, and limitations of the existing architecture.

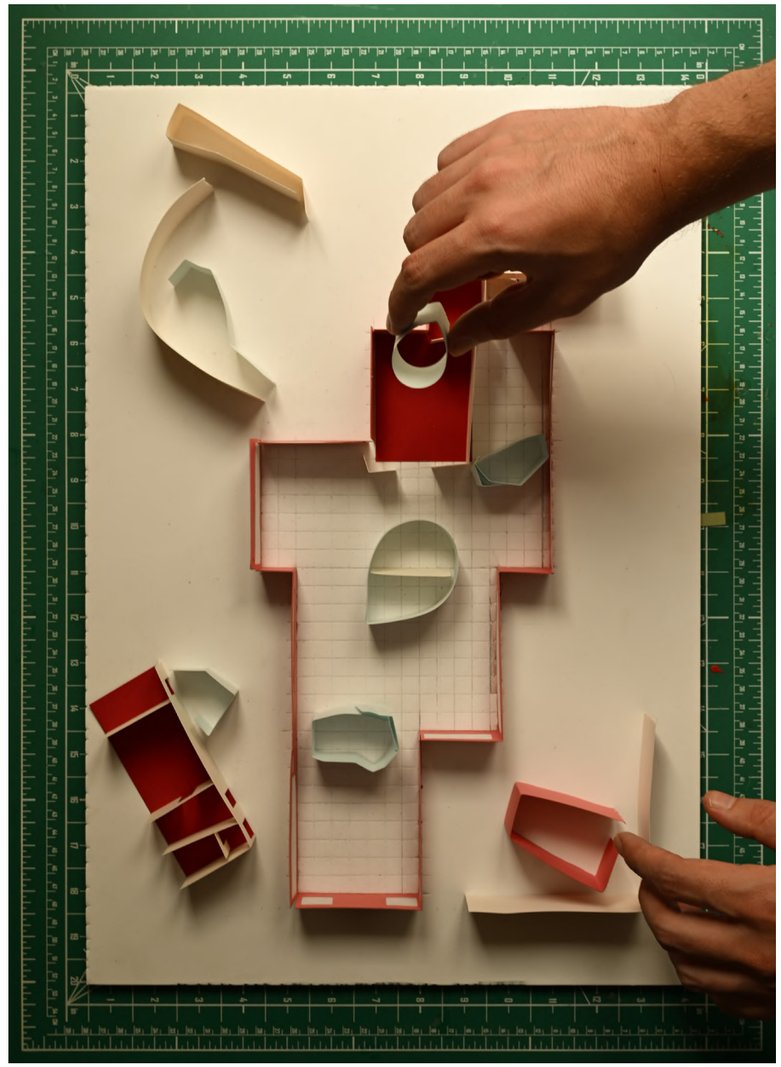
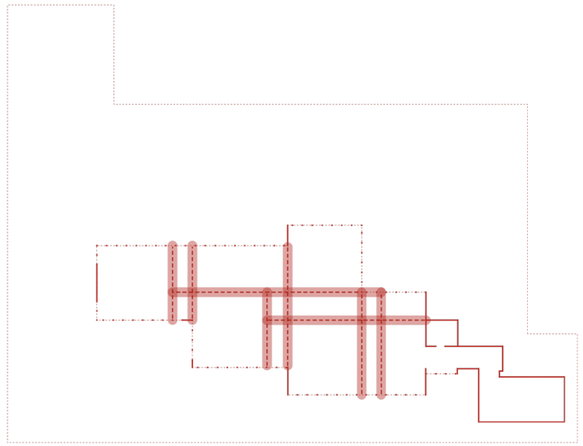


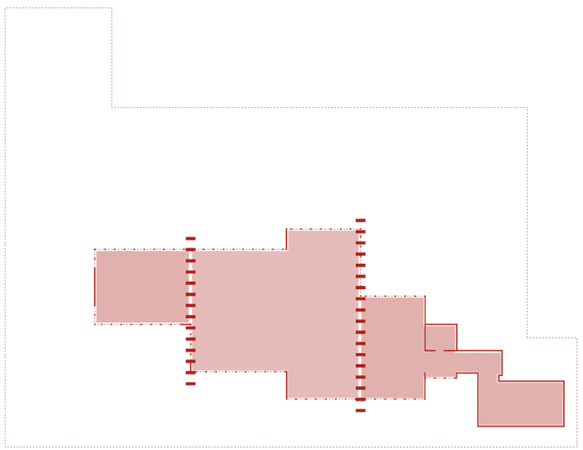
Figure 68. Photograph of the 1/100 working model used during the design phase.

1. Structural analysis and consolidation that establish the physical boundary conditions and load bearing parameters for intervention.



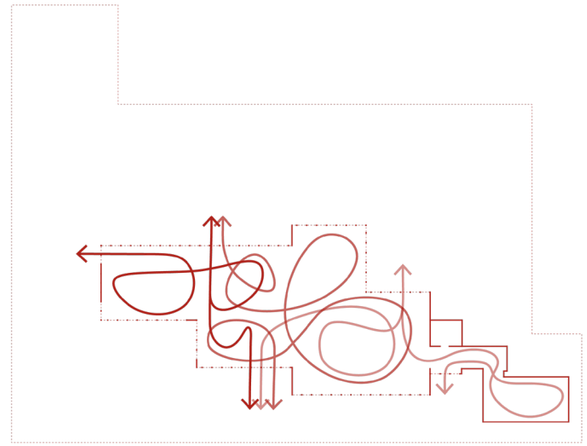
Assessment

2. Differentiation of internal spatial programs and functions guided by the structural grid and existing spatial logic.



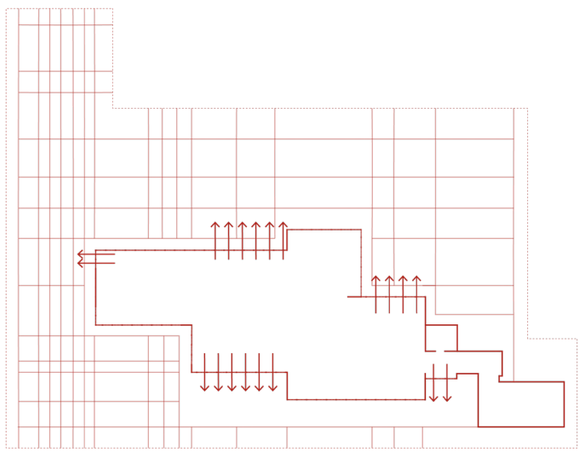
Compartment

3. Creation of continuos circulation paths through the spaces, allowing flexible interconnection or separation as operational needs shift.



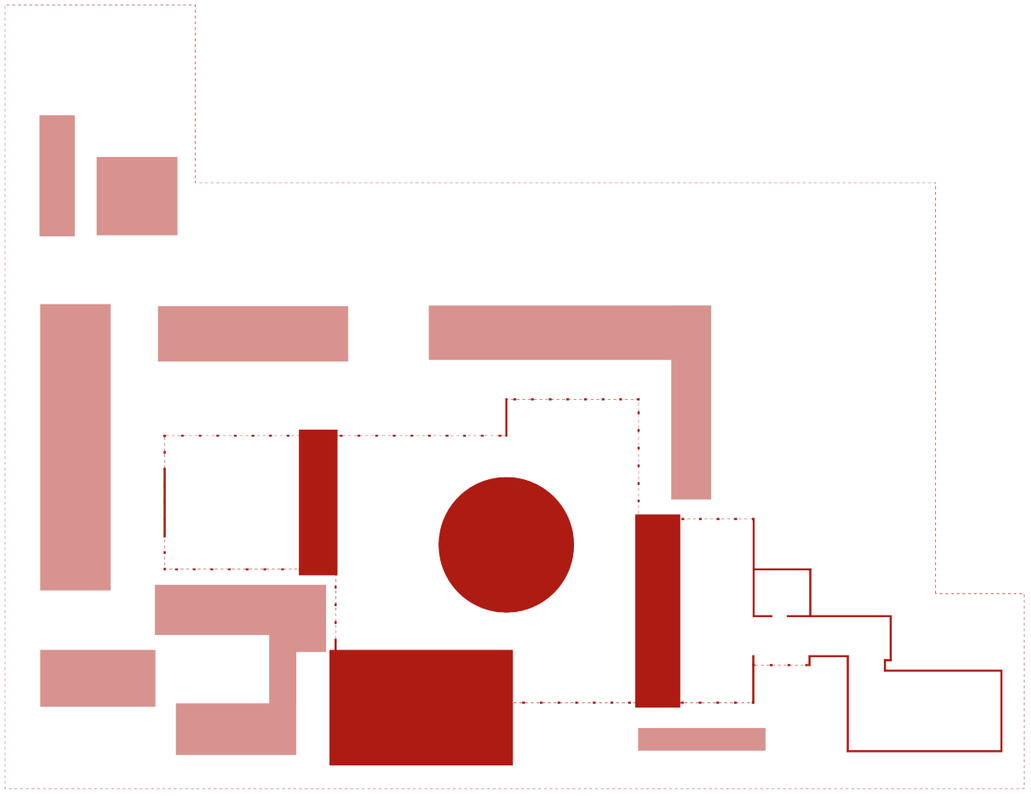
Movement

4. Integration of the building layout with exterior environmental factors, surrounding vegetation, and contextual user flows.



Alignment

5. Final volumetric ahspes and positions that synthesizes structure, function, circulation, and site connections into a unified physical proposal.



Arrangement

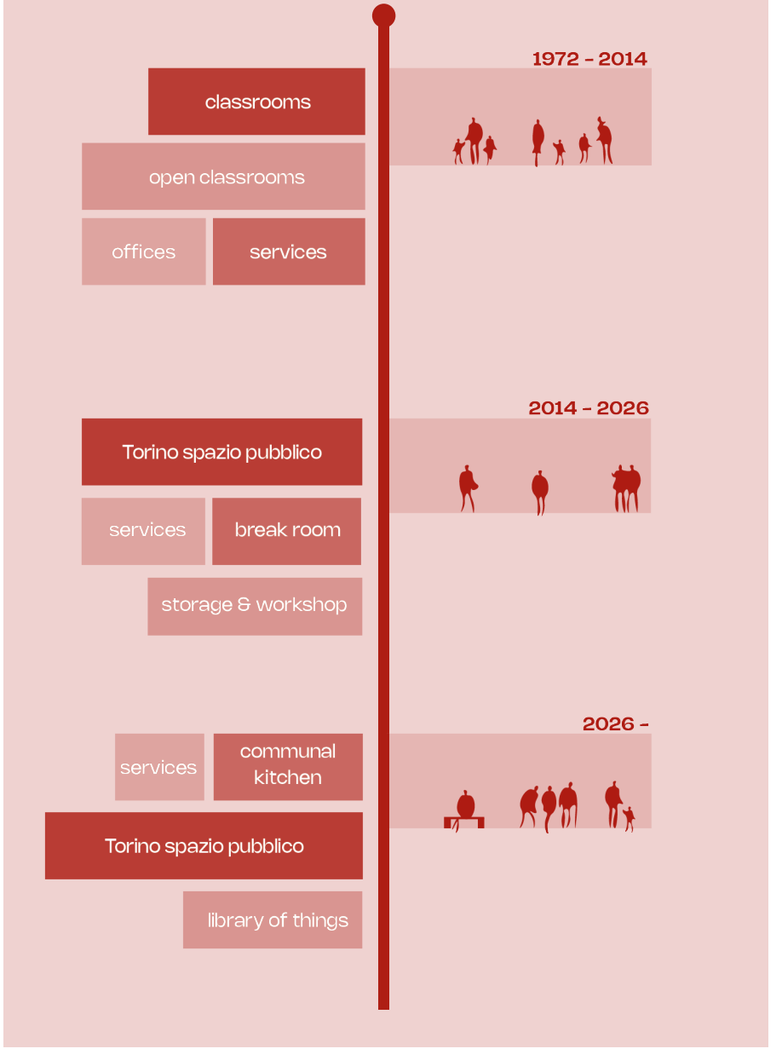
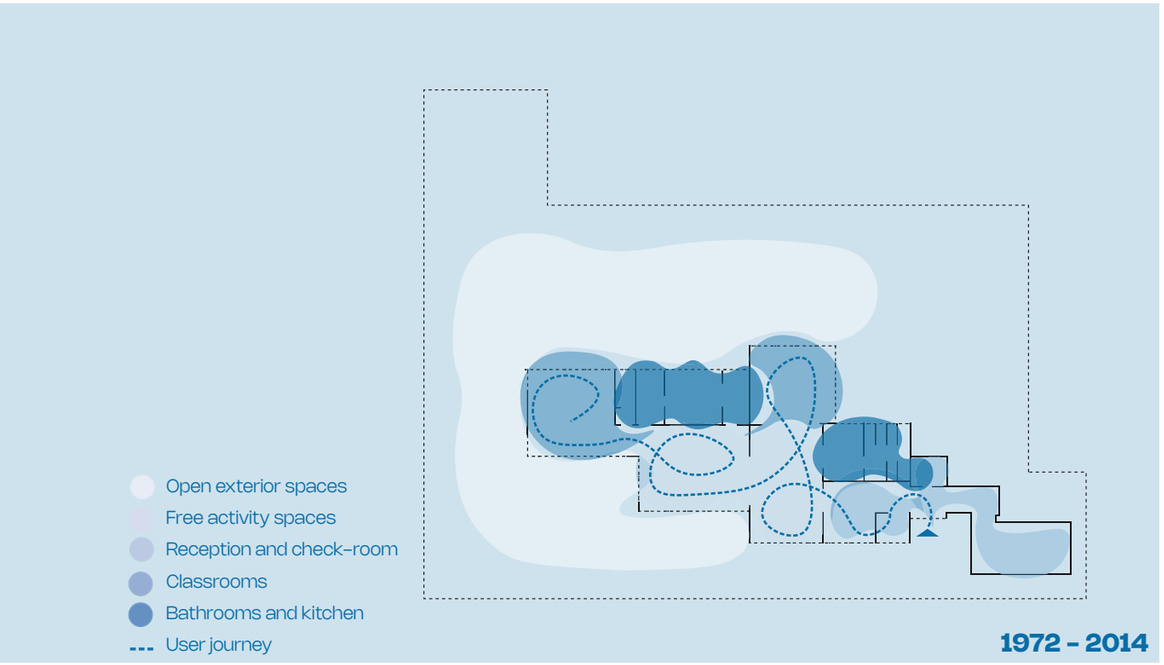
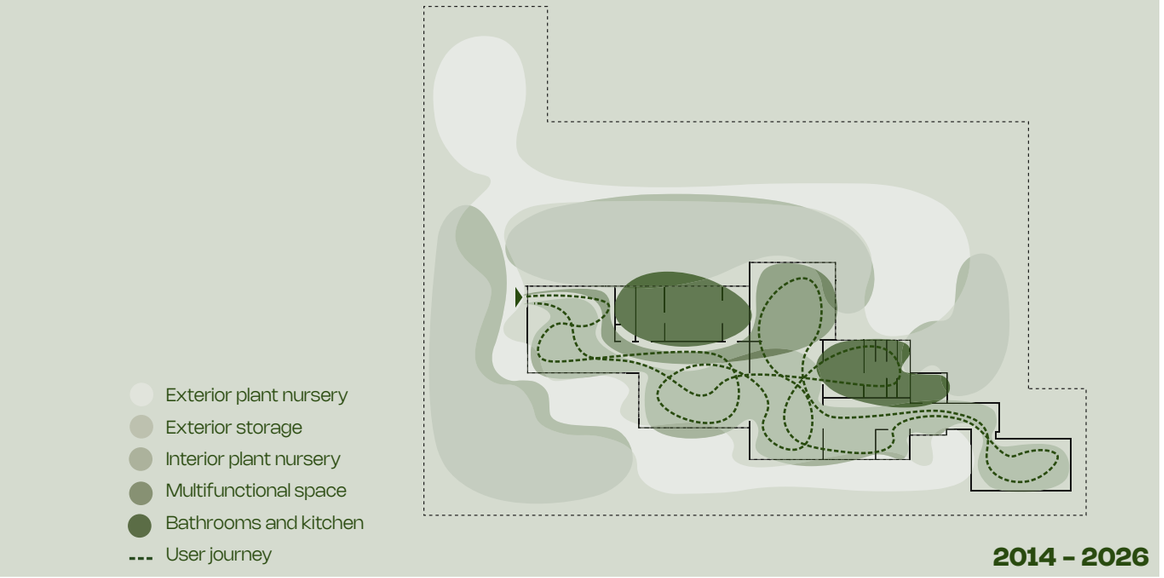


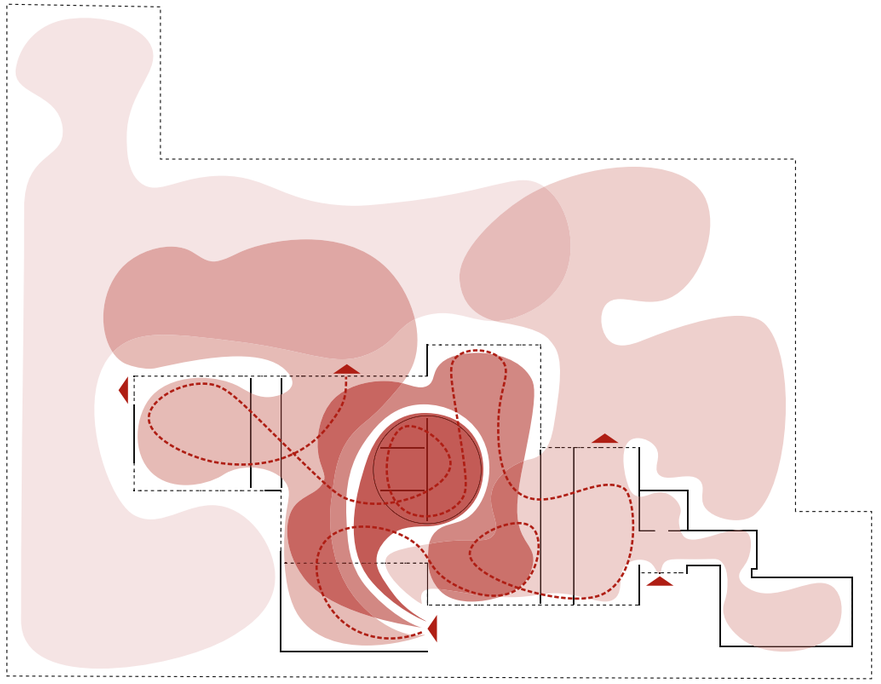
Figure 69. Users' timeline of the space.





Exterior plant nursery
Interior plant nursery
Multifunctional space
Social kitchen
Library of things
User journey

Diagram, mix uses and journeys



4.2 The architectural response

Functions, flow, and flexibility

The architectural design we propose is fundamentally guided by the evolution of the building's inhabitants. By comparing the various users who have occupied the structure across its lifecycle—from the children and educators of the 1970s to the current volunteers of Torino Spazio Pubblico—we recognize that the architecture must adapt to shifting socio-demographic realities. Therefore, our design is not merely an exercise in physical preservation, but an explicative translation of these changing needs, ensuring that the communal legacy of the ex-kindergarten continues to serve the contemporary neighborhood.

To achieve this, the project introduces a carefully curated programmatic layout designed to foster social interaction and resource sharing. We integrate distinct yet complementary functions: a social kitchen, a library of things, and an optimized operational headquarters for the Torino Spazio Pubblico volunteers. Rather than imposing a new, rigid geometry, the spatial organization embraces the original P-63 modular grid. By utilizing the inherent flexibility of Conte and Fiori's system, the design establishes an intuitive and highly accessible flow between these diverse activities.

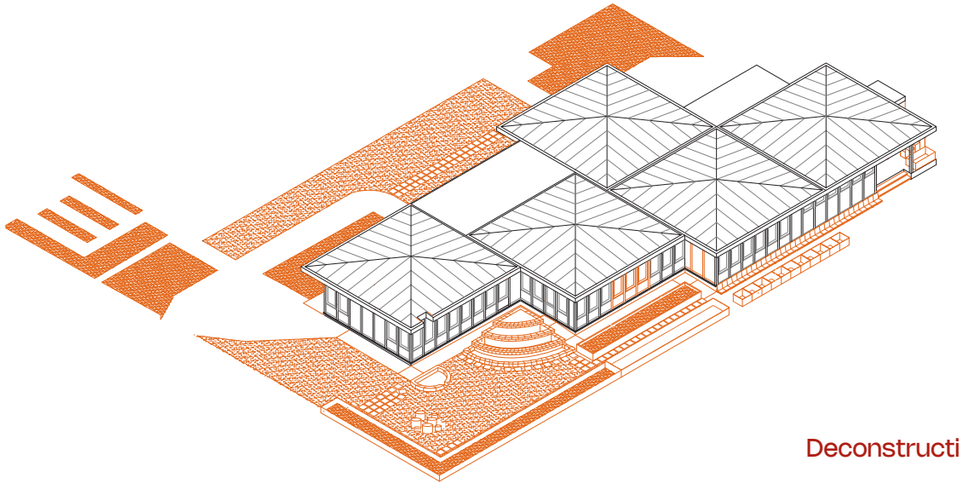
A critical challenge in accommodating these varied user groups within a singular structure is the precise sequencing of the space. Because the newly introduced functions operate with different rhythms and operational requirements, the design implements calibrated physical and visual separations. These strategic spatial thresholds allow for simultaneous, independent activities, such as focused botanical maintenance occurring alongside a communal meal, without compromising the fluid, open-plan nature of the original pedagogical environment. This deliberate spatial choreography provides the necessary operational boundaries while actively encouraging the intergenerational social cohesion that remains the core objective of our intervention.



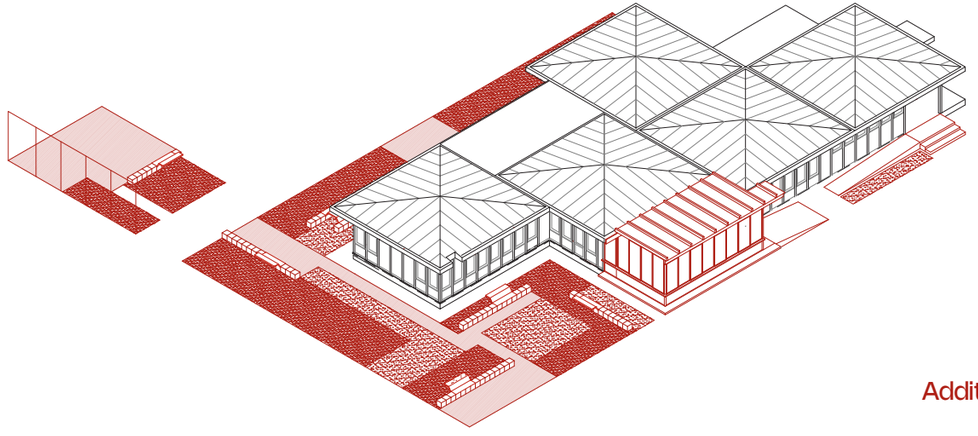
Figure 70. Photograph of the 1/100 model, view of the new entrance.

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Isometric view



Deconstruction



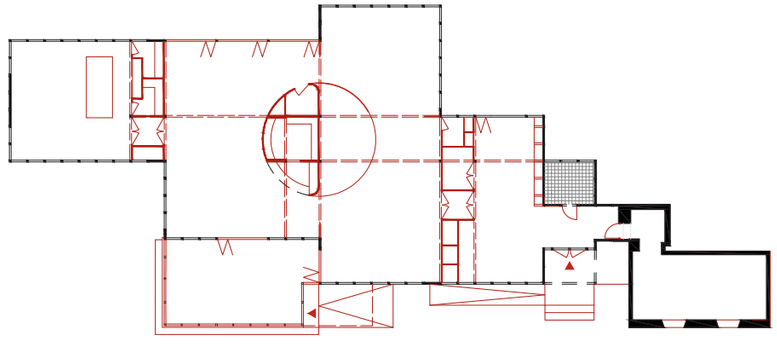
Addition

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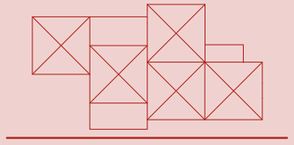
Plan
ground floor



Deconstruction

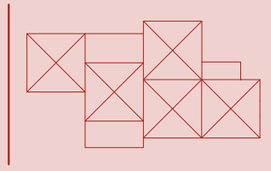


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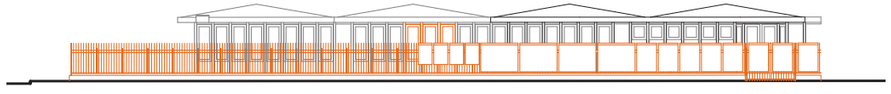
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Elevation
Via Bertola

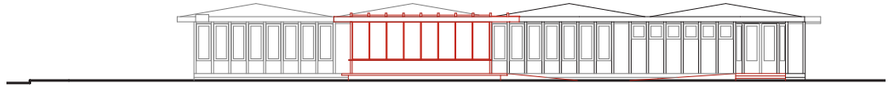


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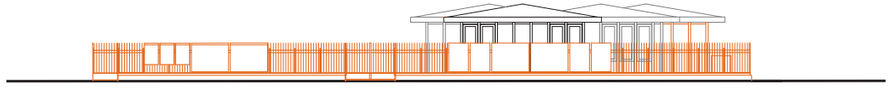
Elevation
Via Perrone



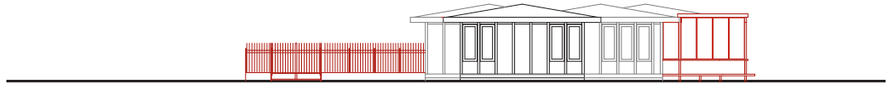
Deconstruction



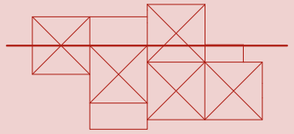
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Deconstruction

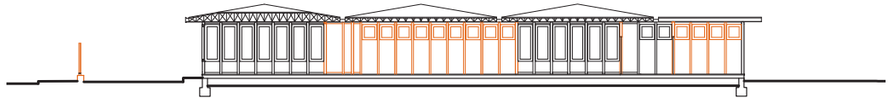


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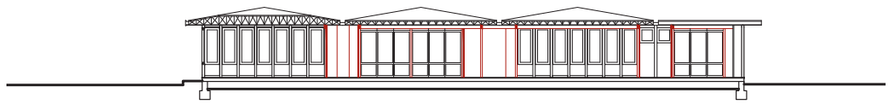


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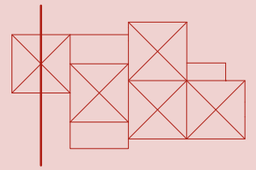
Section
longitudinal



Deconstruction

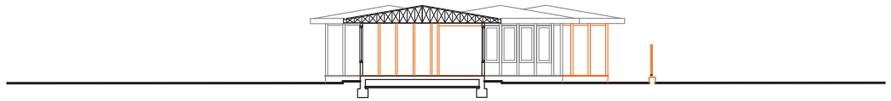


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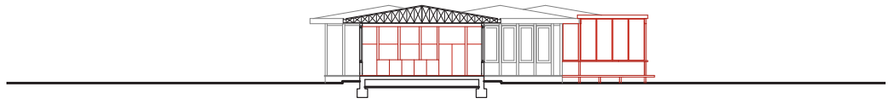


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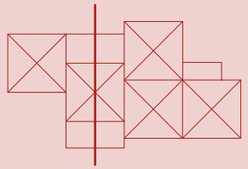
Section
social kitchen



Deconstruction

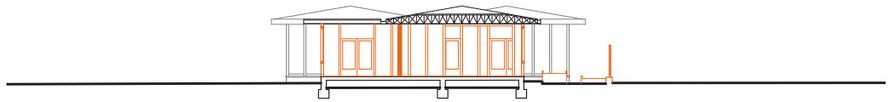


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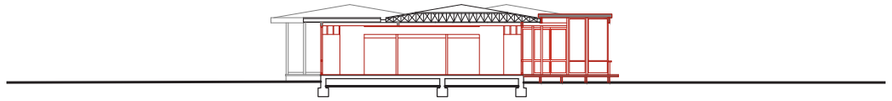


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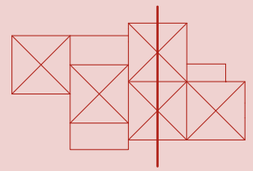
Section
library of things



Deconstruction

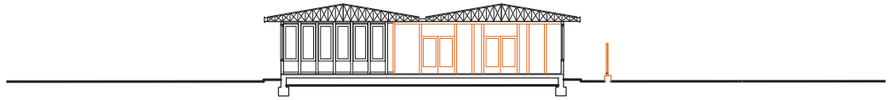


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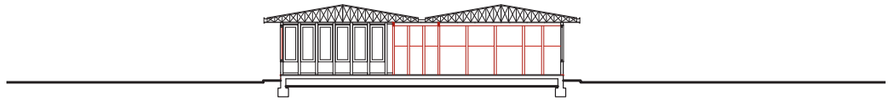


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Section
main hall



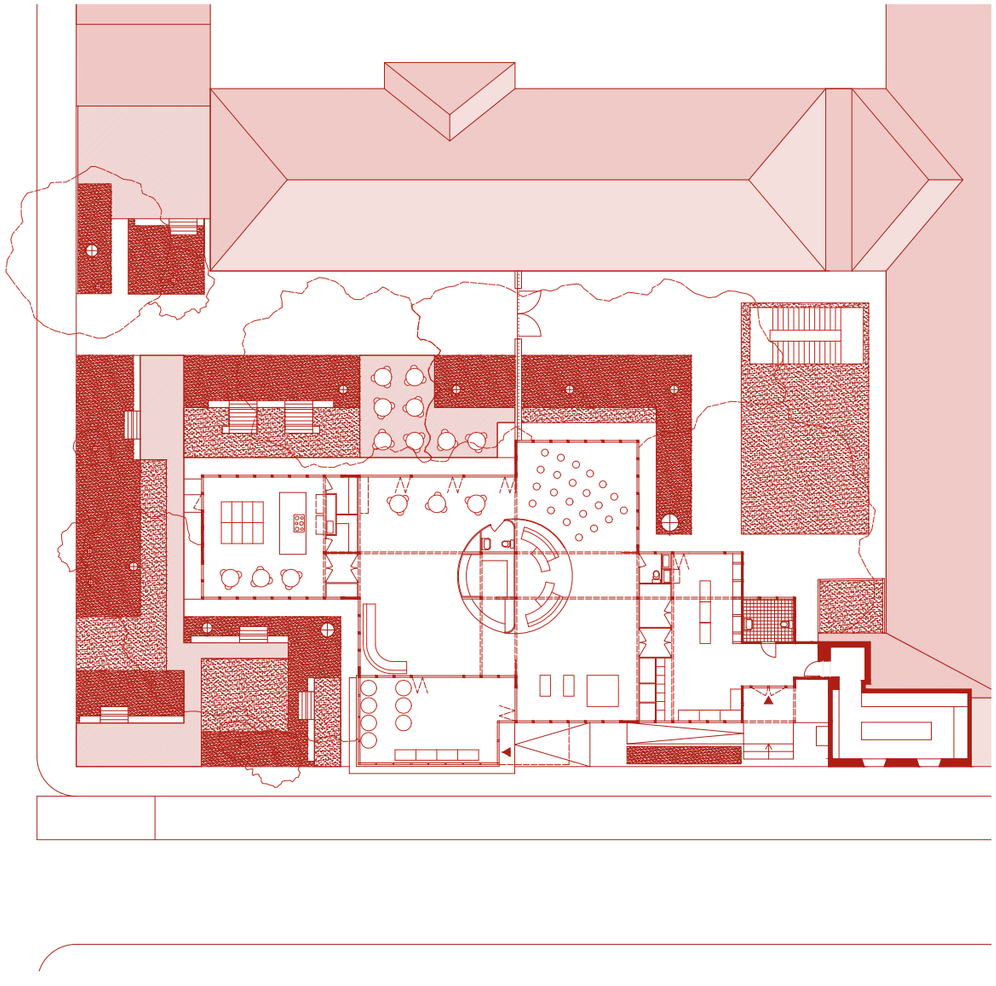
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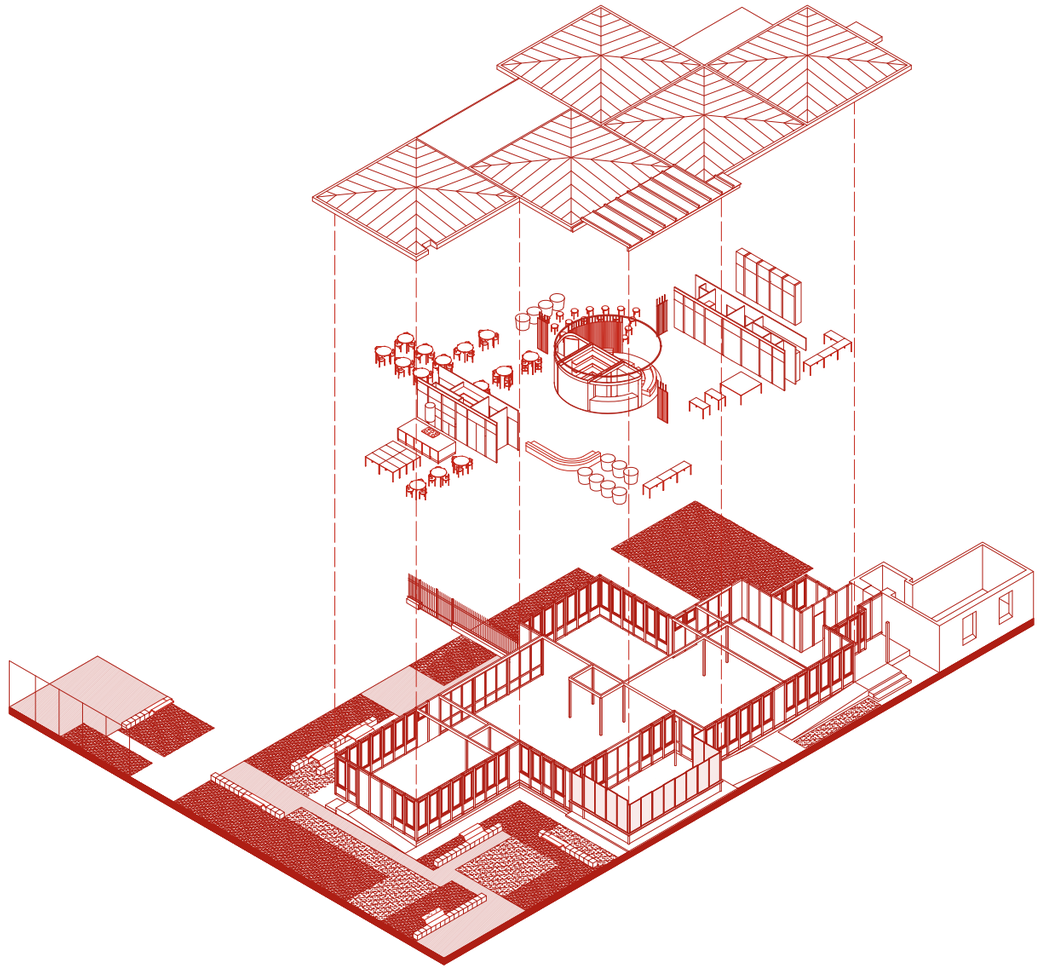
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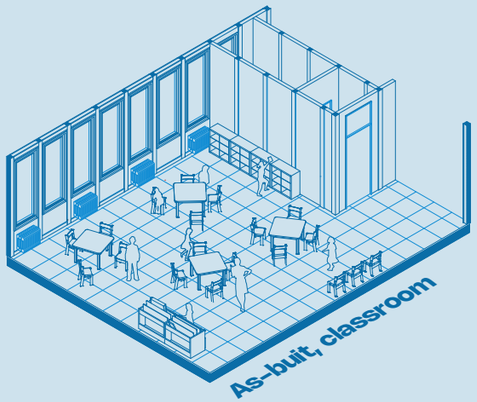
Plan
ground floor



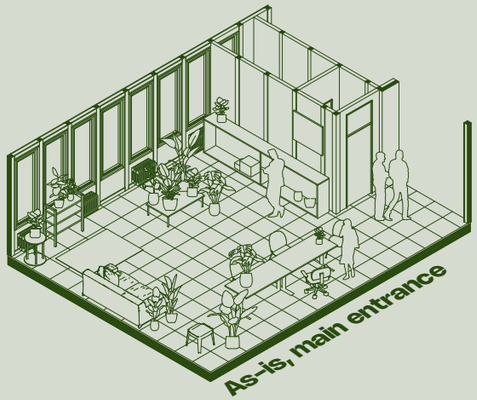
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Isometric view
project

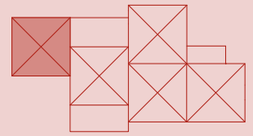




1972 - 2014

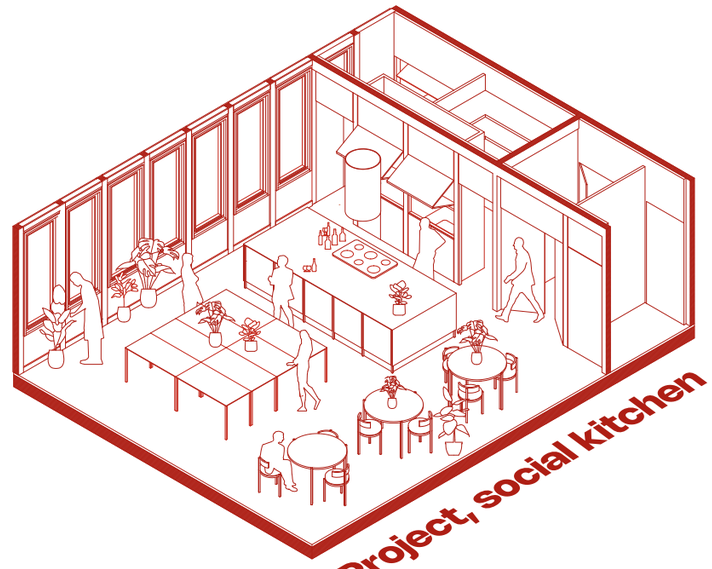


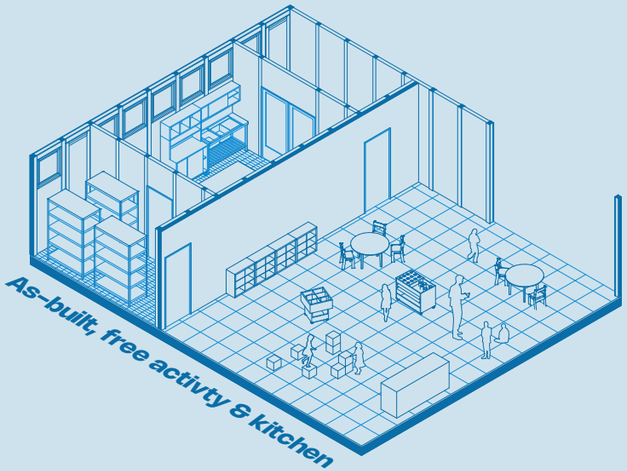
2014 - 2026



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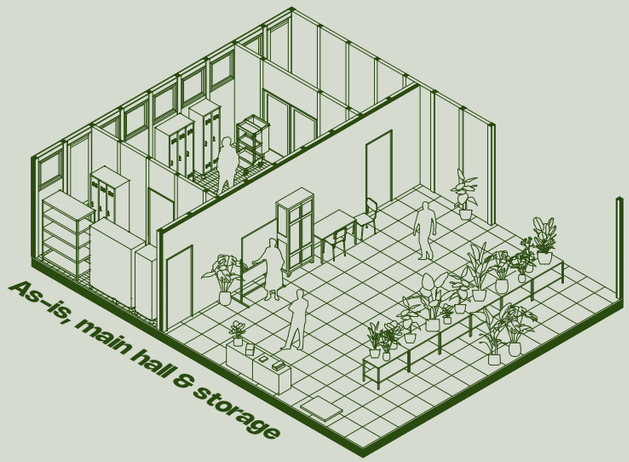
Isometric views
social kitchen





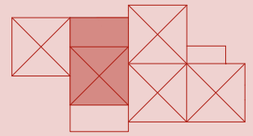
As-built, free activty & kitchen

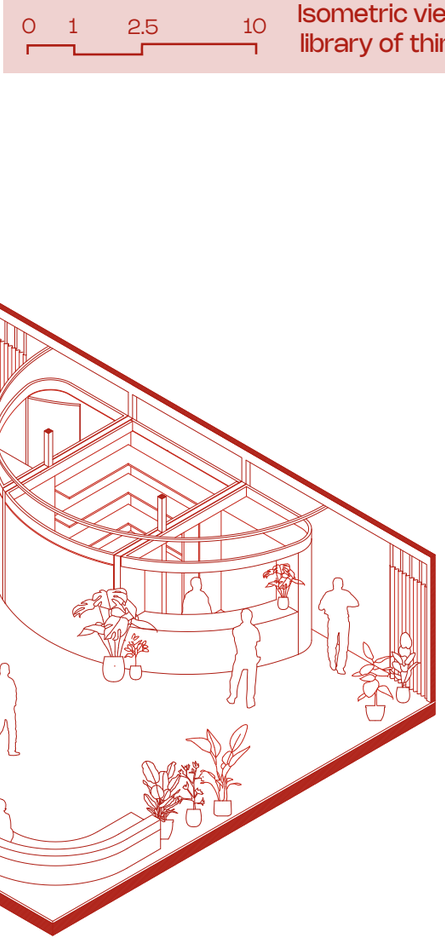
1972 - 2014



As-is, main hall & storage

2014 - 2026

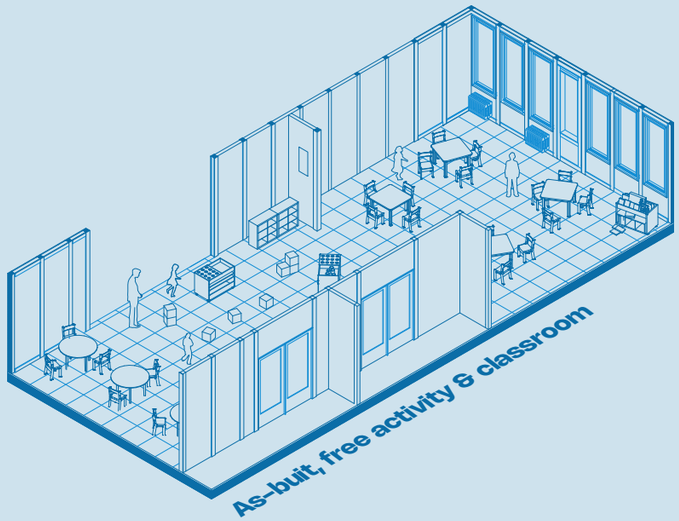




Project, library of things

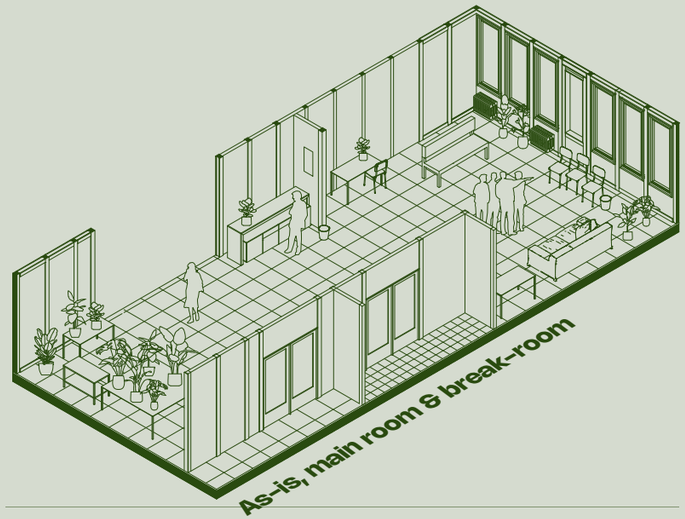
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Isometric views
library of things



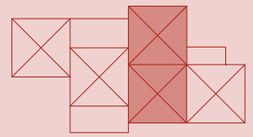
As-buit, free activity & classroom

1972 - 2014



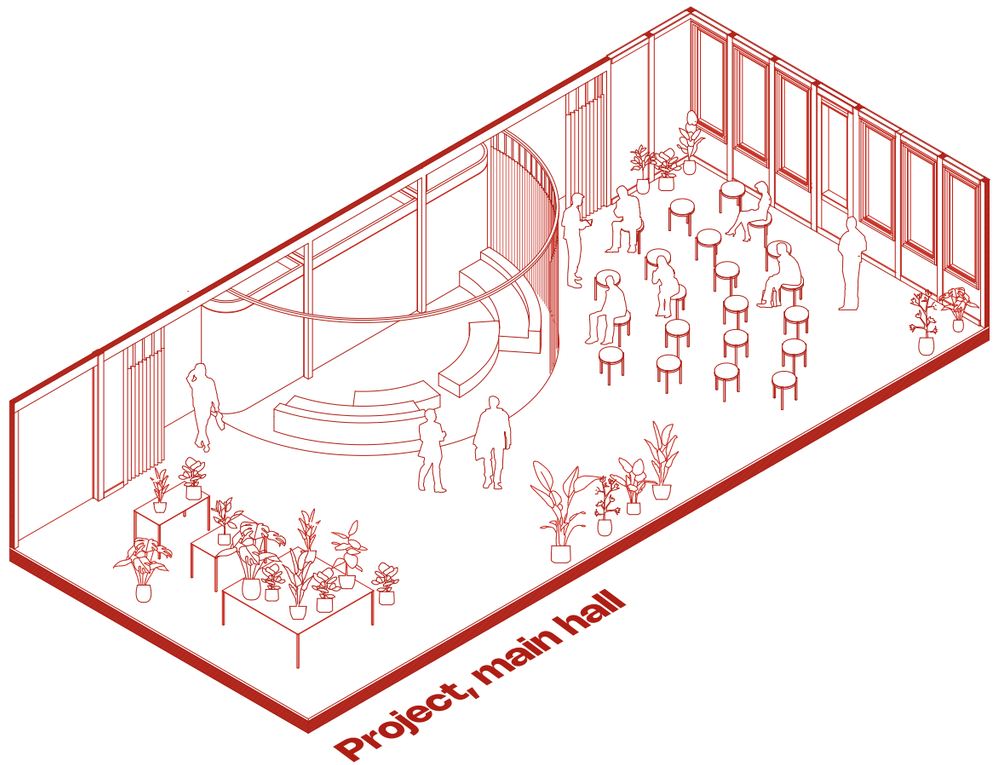
As-is, main room & break-room

2014 - 2026

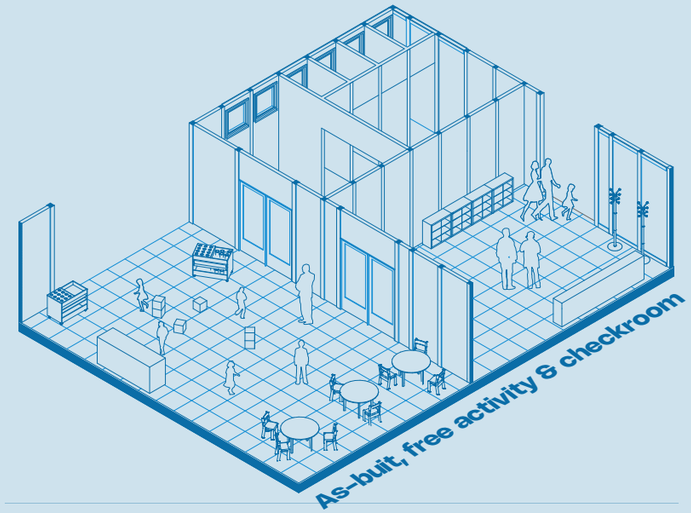




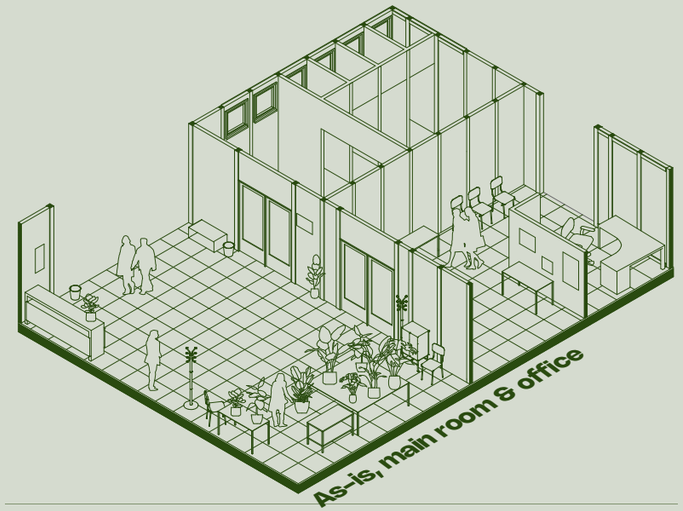
Isometric views
main hall



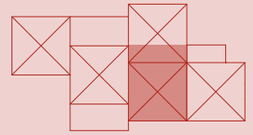
Project, main hall



1972 - 2014

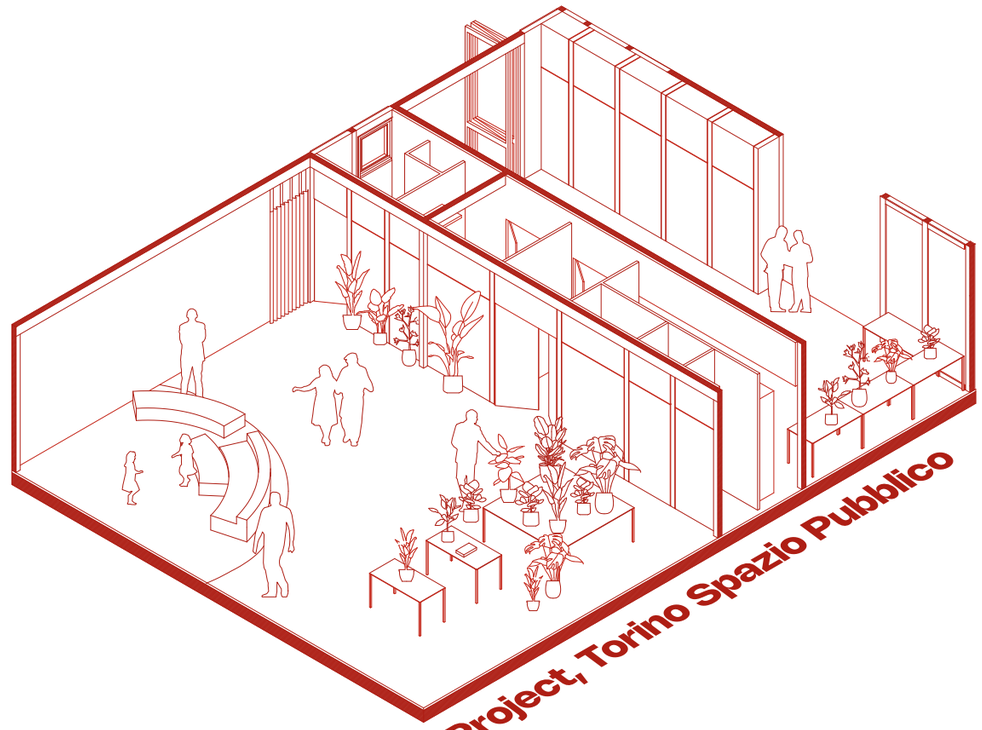


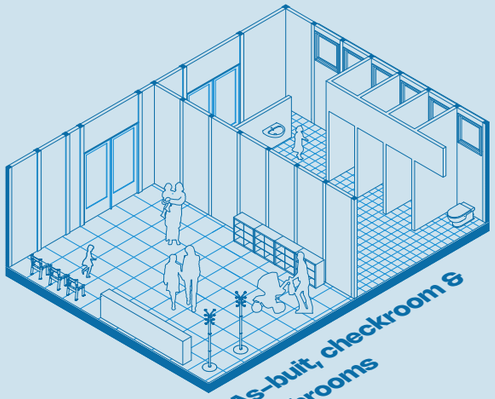
2014 - 2026



Isometric views
Torino Spazio
Pubblico

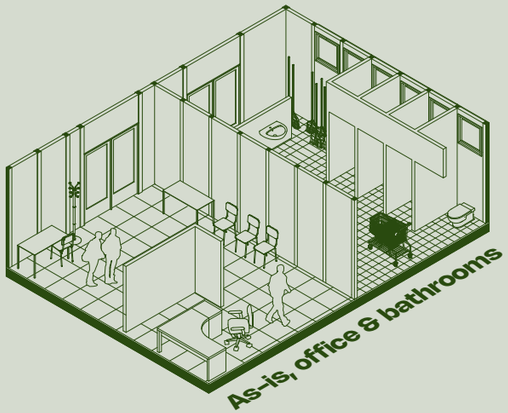
0 1 2.5 10





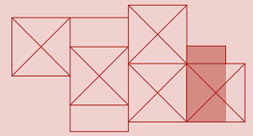
As-buit, checkroom & bathrooms

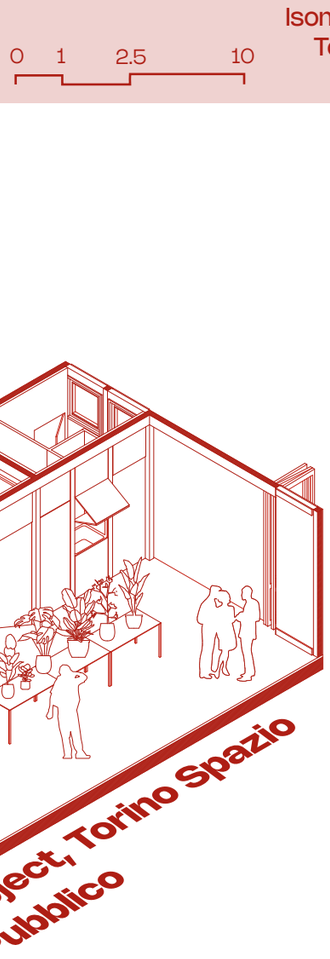
1972 - 2014



As-is, office & bathrooms

2014 - 2026

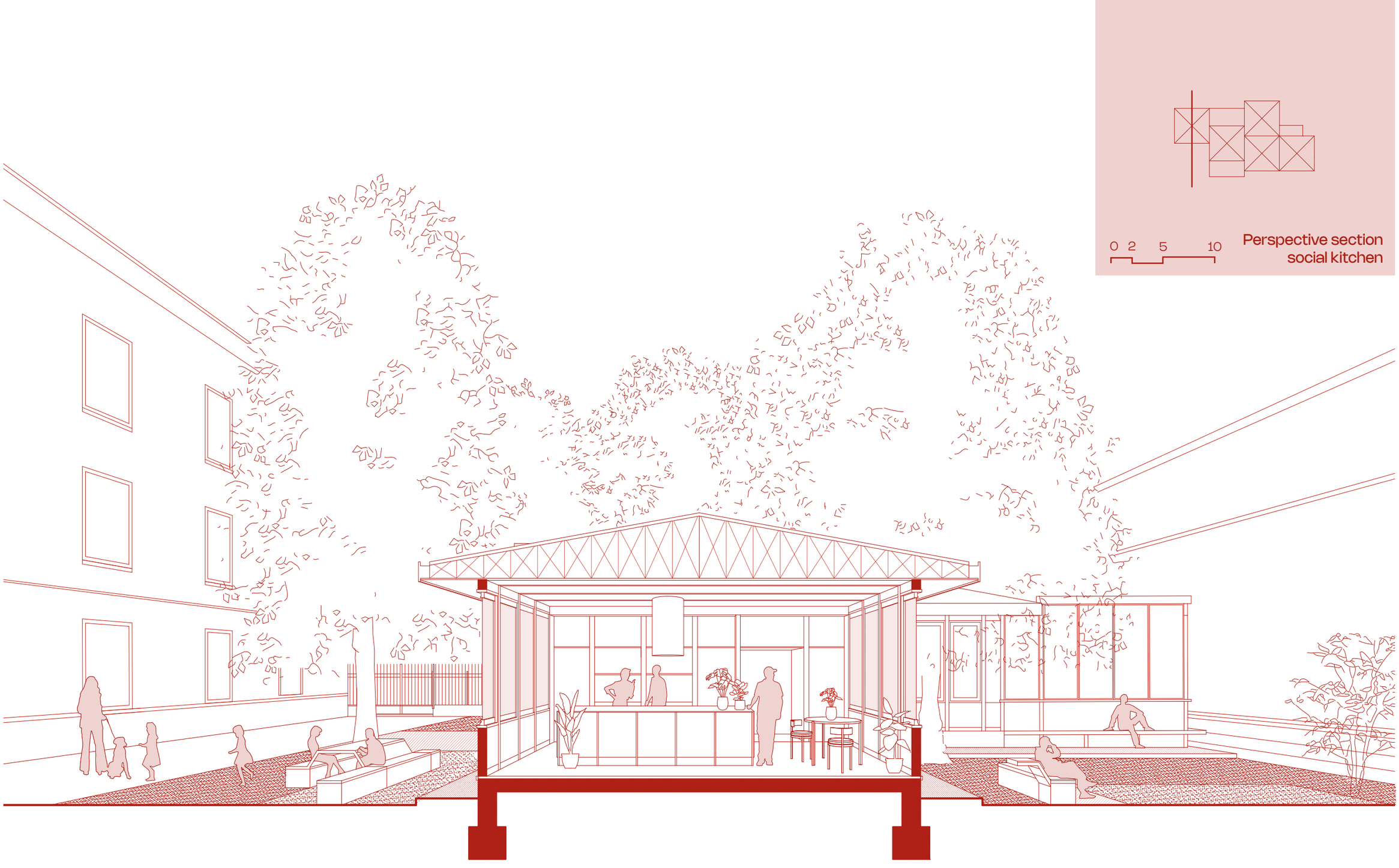




Project, Torino Spazio Pubblico

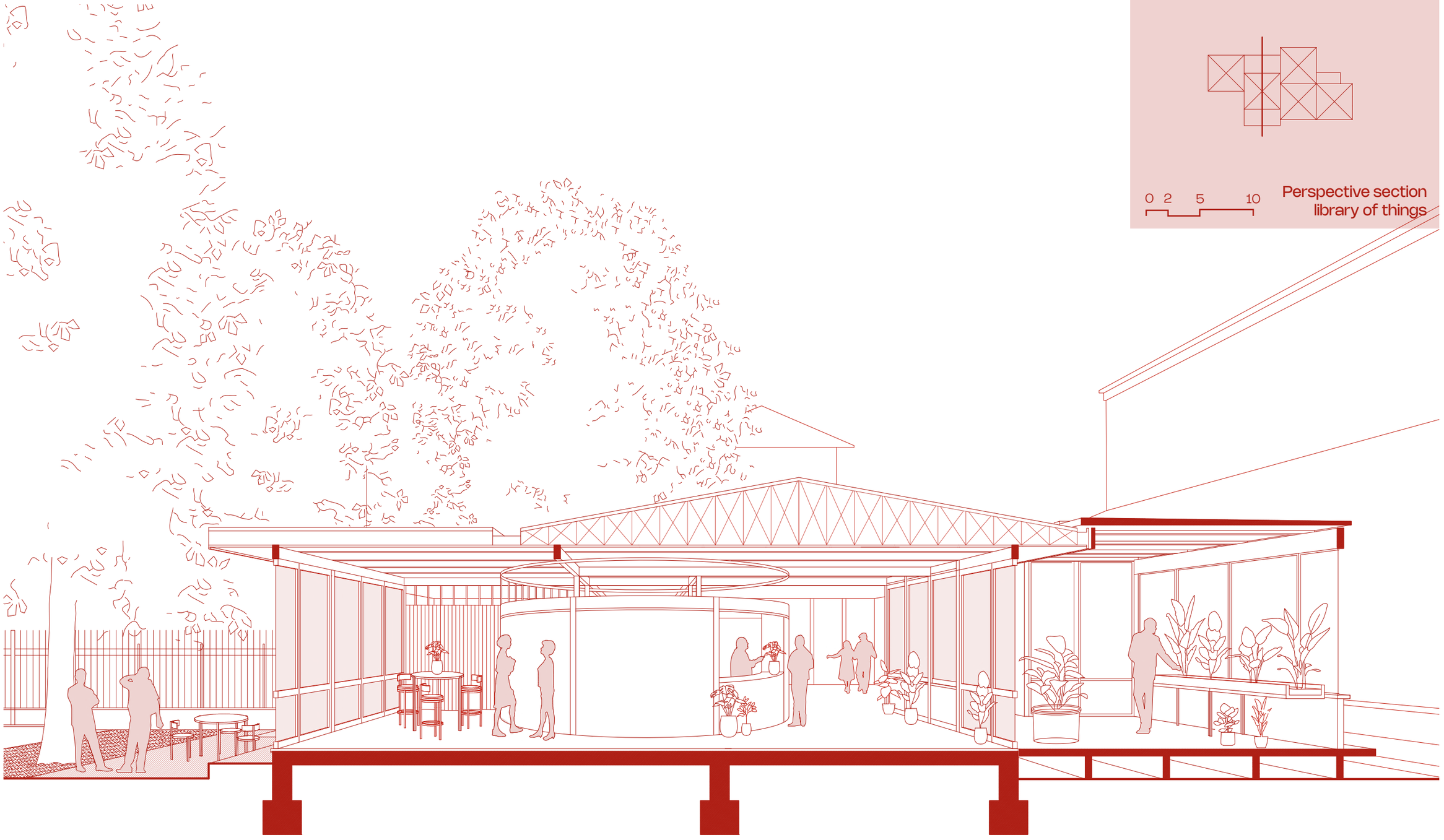
0 1 2.5 10

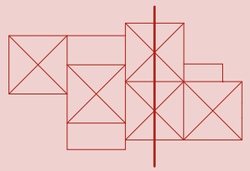
Isometric views
Torino Spazio
Pubblico



0 2 5 10

Perspective section
social kitchen


0 2 5 10
Perspective section
library of things



0 2 5 10

Perspective section
main hall

4.3 Details and furniture

Materializing the circular strategy

Transitioning from the broader spatial organization to the micro-scale, this section focuses on the specific architectural details and custom furniture that define the project. Our approach relies on punctual, highly resolved interventions designed to clearly sequence the communal environment while providing the elegant storage solutions required by the newly introduced functions. By strategically deploying these built-in elements, we clarify the internal organization of the ex-kindergarten, yielding a highly adaptable space that can be easily modulated and intuitively appropriated by its diverse users.

The physical execution of these interventions is strictly governed by our circular methodology. The primary strategy prioritizes the direct reintegration of materials salvaged during the site's selective deconstruction, treating the building as a dynamic material bank. In instances where the existing salvaged matter is insufficient to meet functional demands, the introduction of new elements adheres to rigorous criteria: we opt exclusively for materials that are affordable, ecologically responsible, and highly resistant to wear over time. This approach ensures that the structural additions are both economically viable and equipped to sustain decades of public use.

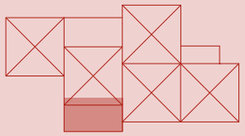
Crucially, our intervention extends beyond the definition of architectural boundaries to encompass the design of the furniture itself. It was imperative that these human-scale elements operate in absolute continuity with our broader design philosophy. By crafting custom furniture predominantly from reclaimed components, specifically, the metal from the original exterior fences and the Douglas wood extracted from the dismantled P-63 panels, we ensure these objects transcend mere functional utility. They stand as tangible, living reminders of our theoretical research, physically demonstrating the immense aesthetic and practical potential of adaptive reuse within contemporary architecture and design.



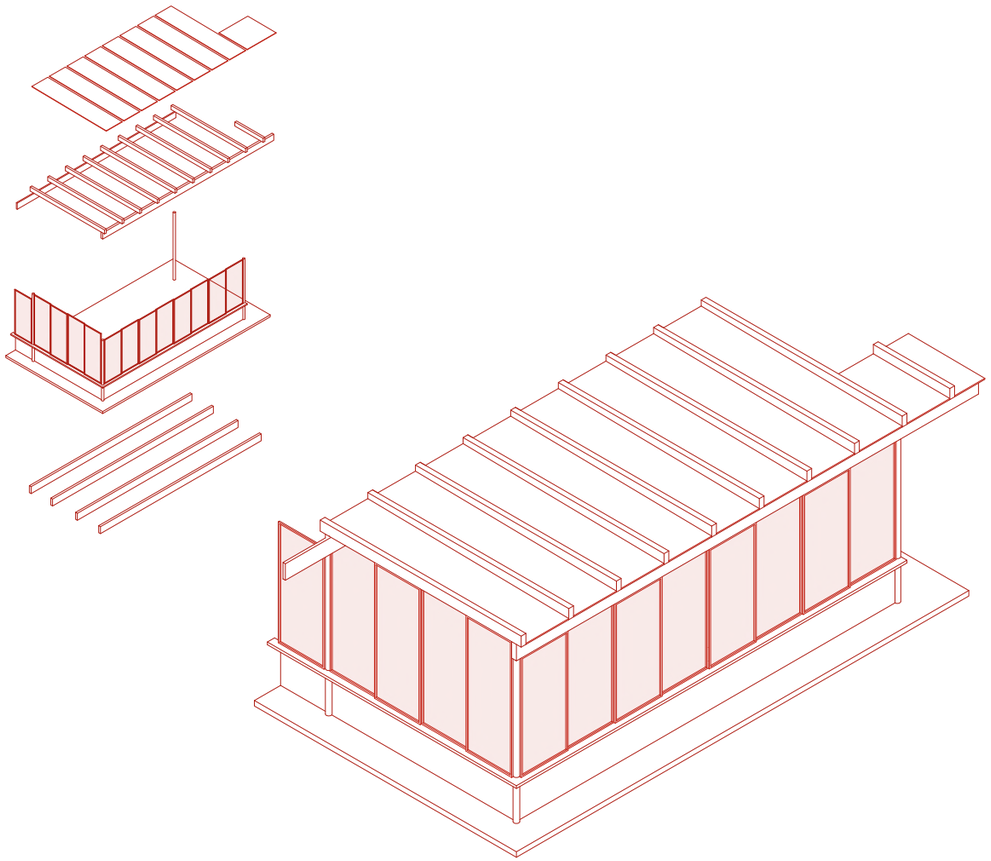
Figure 71. Photograph of the 1/50 model, view of the main hall.

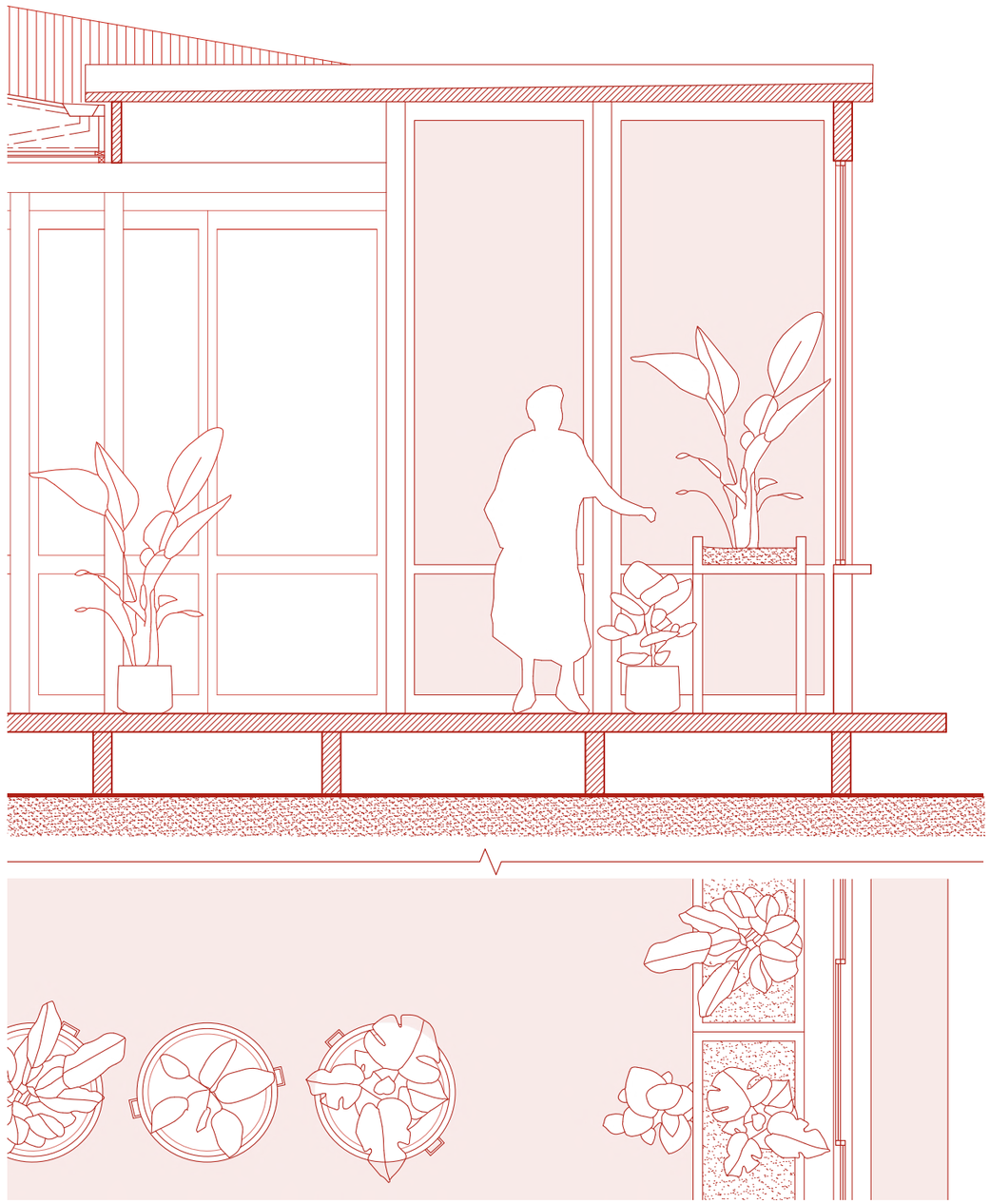
Veranda, main entrance:

Designed as the primary entrance to the communal hub, this new veranda serves as a clear, legible access that was previously absent from the original structure. Serving as a welcoming focal point that actively calls the users, the extension features a lightweight wooden post-and-beam framework that establishes a logical material continuity with the ex-kindergarten. By reinterpreting the modularity of the original P-63 panels, this addition extracts and the structural essence of the existing facade. The assembly integrates cementolegno ceiling panels positioned between the secondary beams, grounded by a warm wooden floor. Ultimately, this intervention not only clarifies the building's circulation and invites the community inside, but ensures that the new spatial sequence dialogues seamlessly with the site's embodied legacy.



Isometric view



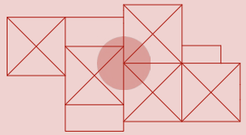


0 0.2 0.5 1

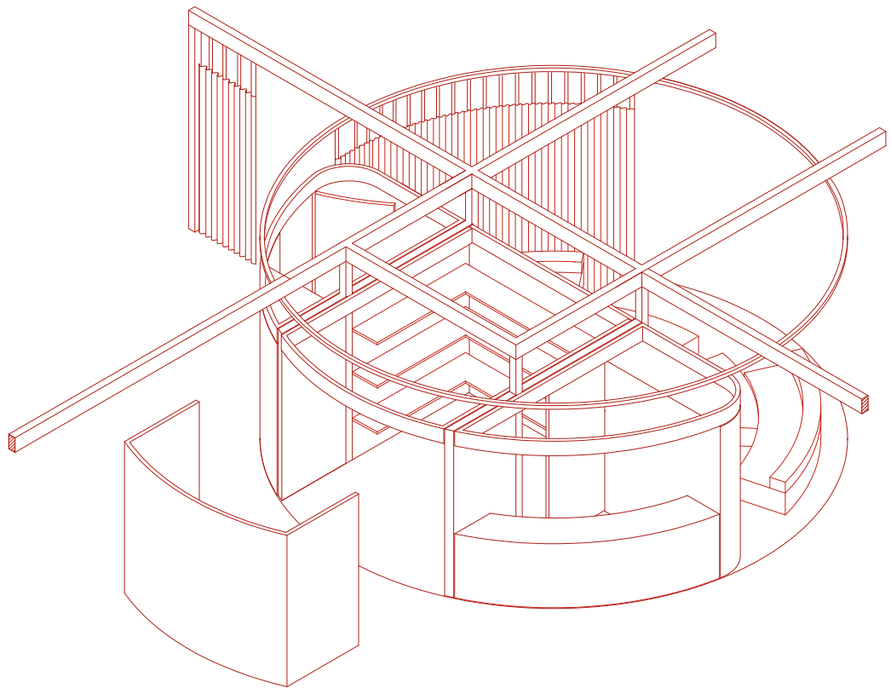
Detailed plan & section

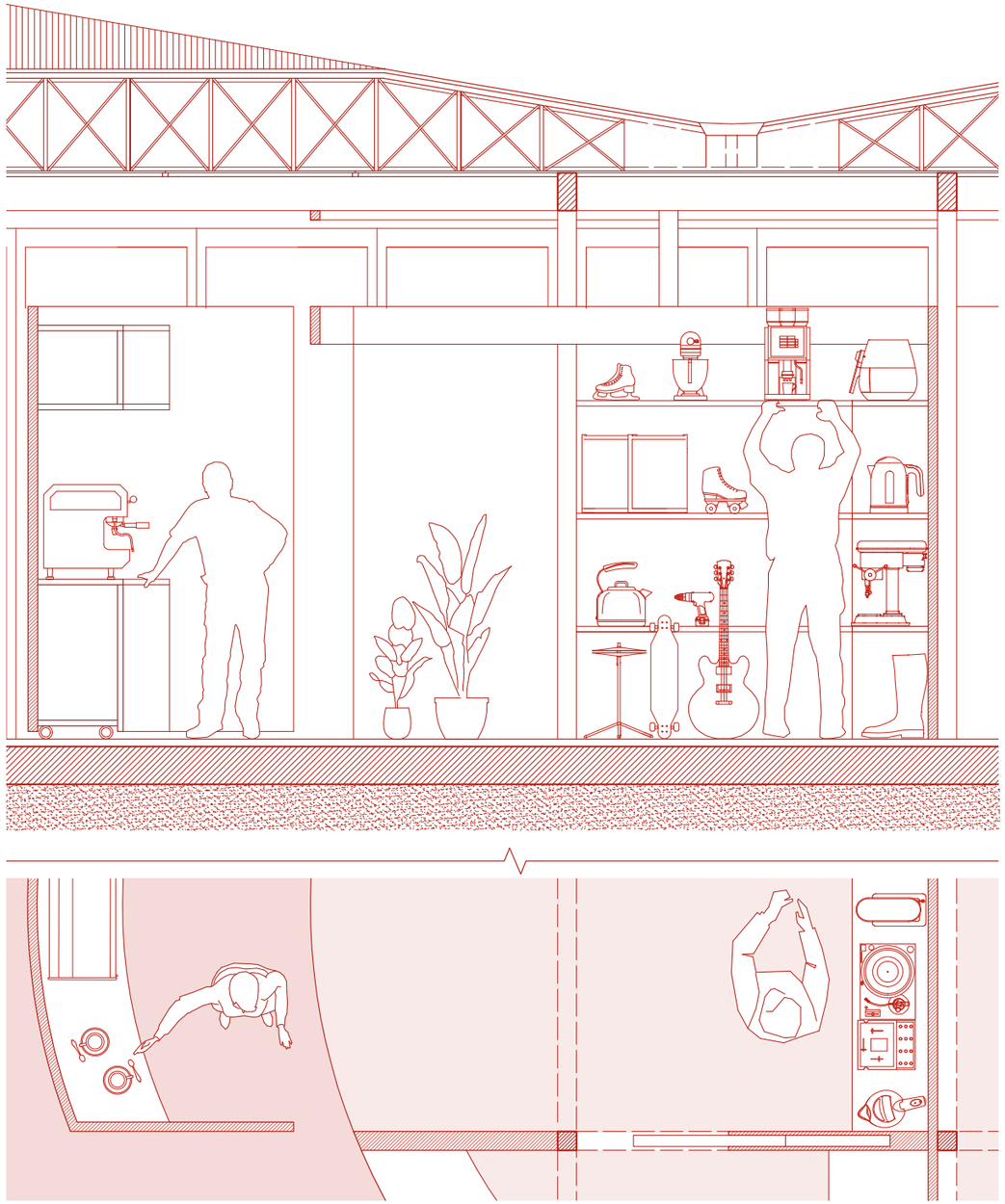
Library of things:

Serving as a vital programmatic node within the plan, this intervention features a semi-circular wooden entity designed to host the project's 'Library of Things,' alongside a main reception and integrated sanitary facilities.. To provide flexibility, a section of this wooden frame is mounted on wheels, allowing it to be pulled out and adapt to different interior uses and activities. Based on the Italian Leila model, the Library of things functions as a shared storage unit where people can borrow everyday objects and tools instead of buying them, promoting collaborative access over individual ownership. Through this design, the structure organizes the internal flow of the space while practically supporting the project's focus on social sustainability and a circular economy.



Isometric view



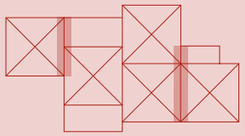


0 0.2 0.5 1

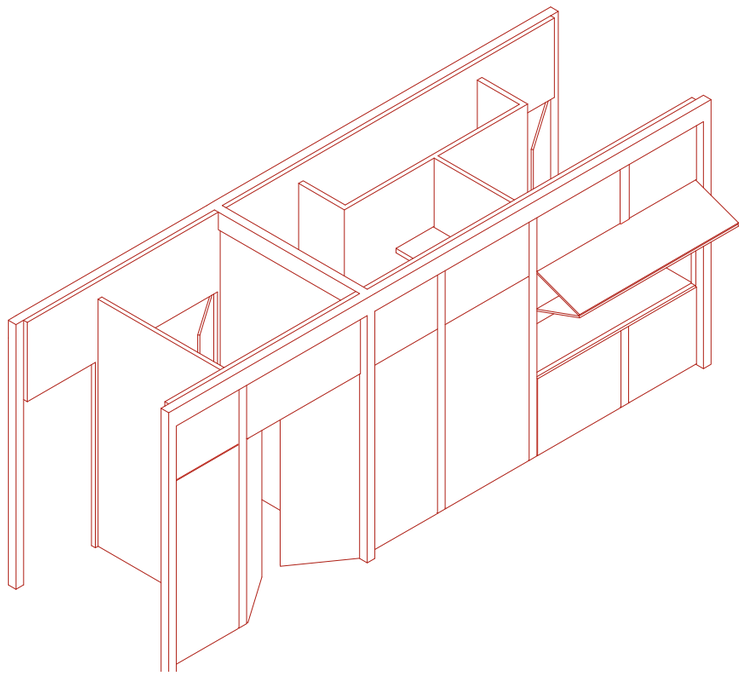
Detailed plan & section

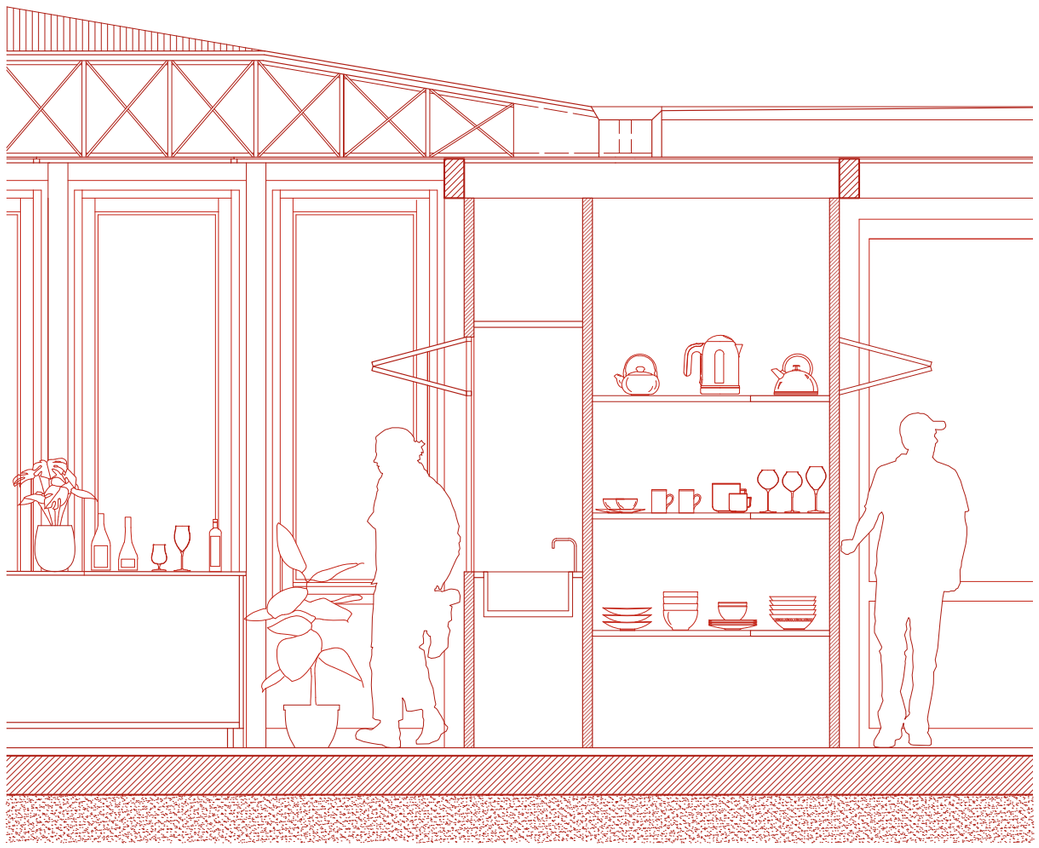
Transition spaces:

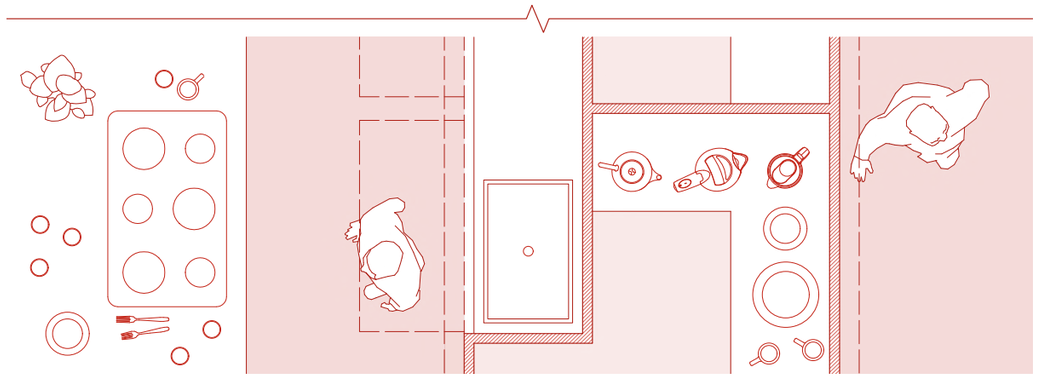
Acting as a flexible boundary between the main halls and the more intimate areas of the project, this intervention allows specific zones to remain open to the public while others are securely closed. Built with wood, the structures carefully align with the grid established by the existing P-63 panels. Rather than concealing the building's structural reinforcements, the design integrates and subtly highlights them. These wooden elements function as much more than simple room dividers. Their thickness allows them to host essential project services, including restrooms, storage, and dedicated sinks for both the social kitchen and Torino Spazio Pubblico. By embedding these practical functions within the separation itself, the structure acts as a highly efficient connector that serves, rather than just divides, the surrounding spaces.



Isometric view





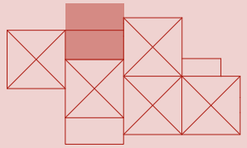


0 0.2 0.5 1

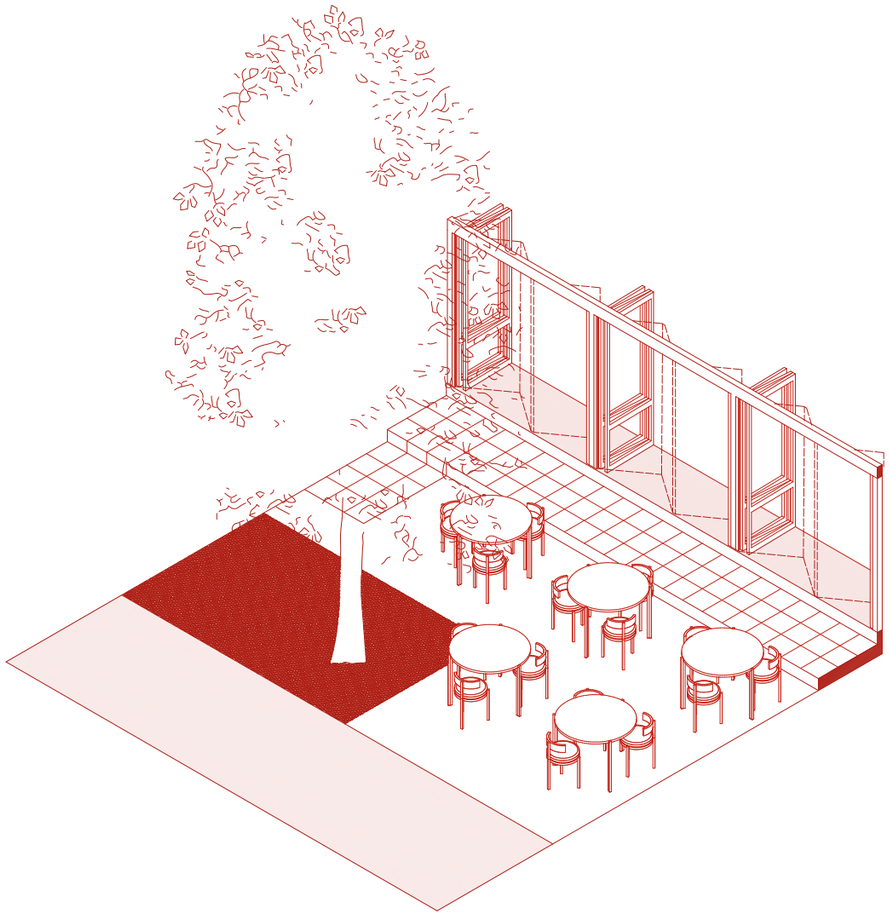
Detailed plan & section

Interior/exterior relationship:

While the existing infrastructure suffered from a disconnected relationship with its natural context, the intervention within the main hall aims to establish a profound visual and physical transparency. To resolve this we implemented a highly permeable facade system composed of foldable, double-glazed wooden frames. This system allows the interior space to open completely towards gardens and terraces, effectively blurring the boundary between the indoors and the urban greenery. The new exterior paving is made of repurposed cement tiles and salvaged stone recovered directly during the site's deconstruction phase. Ultimately, this intervention not only reconnects the lived space with the outdoors but physically embodies the project's commitment to circularity and material reuse.



Isometric view





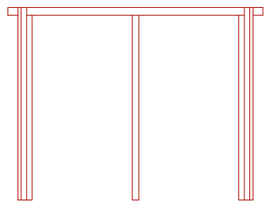
0 0.2 0.5 1

Detailed plan & section

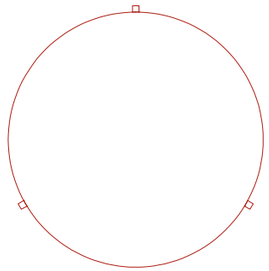
ROUND TABLE

Description:
Rounded low table made of a metal structure and wooden planks.

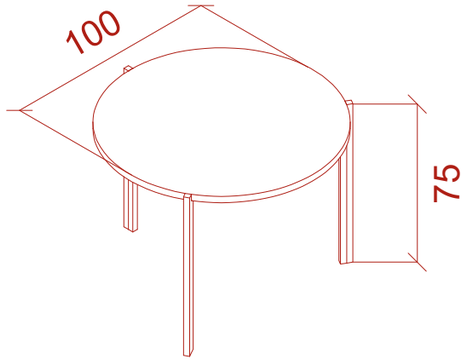
FU-E-01



Elevation



Plan



Isometric view

Characteristics

Material: Metal – Wood

Dimension:
Height: 75cm – Diameter: 100cm

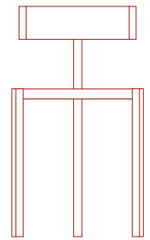
Quantity of elements: 11

Structure:
Crafted with metal salvaged from the deconstructed exterior fence, while the tabletop features reclaimed Douglas wood planks sourced from the salvaged panels.

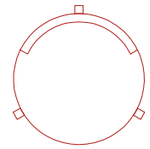
CHAIR – EXTERIOR

Description:
Exterior chair made of a metal structure and wooden planks.

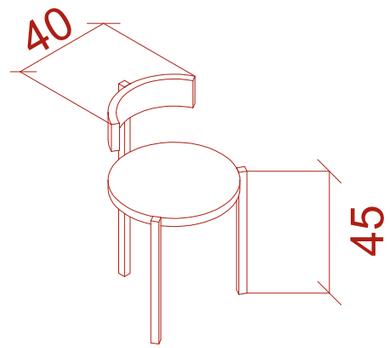
FU-E-02



Elevation



Plan



Isometric view

Characteristics

Material: Metal – Wood

Dimension:
Height: 45cm – Diameter: 40cm

Quantity of elements: 24

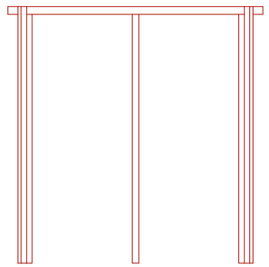
Structure:
Crafted with metal salvaged from the deconstructed exterior fence, while the seating features reclaimed Douglas wood planks sourced from the salvaged panels.

ROUND TABLE – HIGH

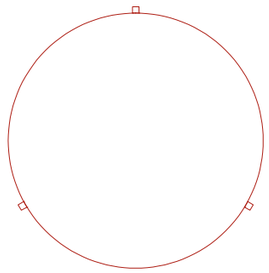
Description:
Rounded high table made of a metal structure and wooden planks.

FU-I-03

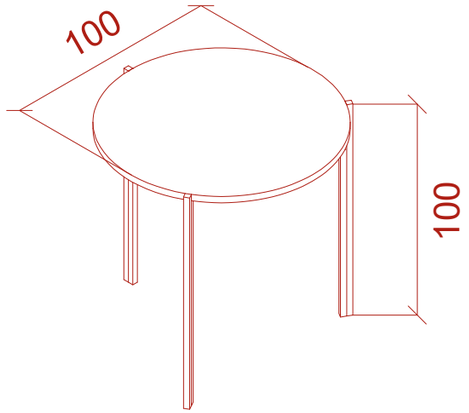
Elevation



Plan



Isometric view



Characteristics

Material: Metal – Wood

Dimension:
Height: 100cm – Diameter: 100cm

Quantity of elements: 9

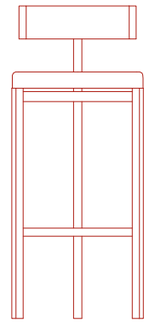
Structure:
Crafted with metal salvaged from the deconstructed exterior fence, while the tabletop features reclaimed Douglas wood planks sourced from the salvaged panels.

STOOL – HIGH

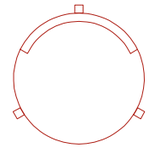
Description:
High stool made of a metal structure and wooden planks.

FU-I-04

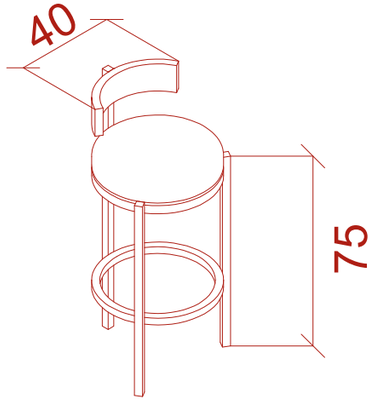
Elevation



Plan



Isometric view



Characteristics

Material: Metal – Wood

Dimension:
Height: 75cm – Diameter: 40cm

Quantity of elements: 9

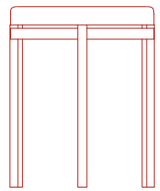
Structure:
Crafted with metal salvaged from the deconstructed exterior fence, while the seating features reclaimed Douglas wood planks sourced from the salvaged panels.

STOOL – LOW

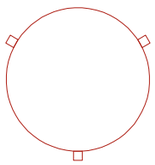
Description:

Low stool made of a metal structure and wooden planks.

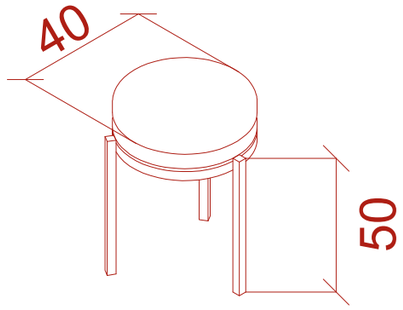
FU-I-05



Elevation



Plan



Isometric view

Characteristics

Material: Metal – Wood – Fabric

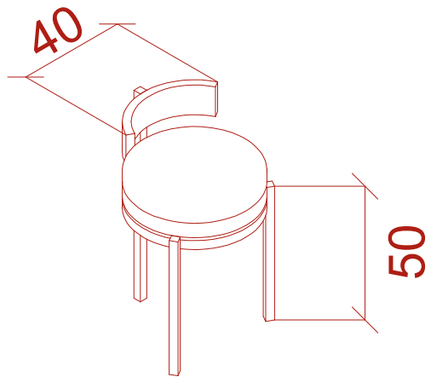
Dimension:

Height: 50cm – Diameter: 40cm

Quantity of elements: 20

Structure:

Crafted with metal salvaged from the deconstructed exterior fence, while the seating features reclaimed Douglas wood planks sourced from the salvaged panels, with a soft cushion.



Isometric view

Characteristics

Material: Metal – Wood – Fabric

Dimension:

Height: 50cm – Diameter: 40cm

Quantity of elements: 9

Structure:

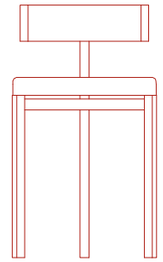
Crafted with metal salvaged from the deconstructed exterior fence, while the seating features reclaimed Douglas wood planks sourced from the salvaged panels, with a soft cushion.

CHAIR – INTERIOR

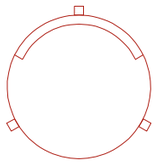
Description:

Interior chair made of a metal structure, wooden planks with a cushion.

FU-I-06



Elevation



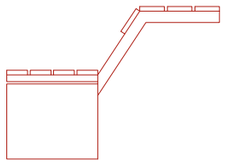
Plan

BENCH

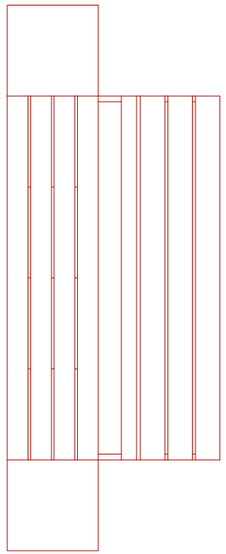
Description:

Exterior bench with an included table, made of a metal structure and cement blocks

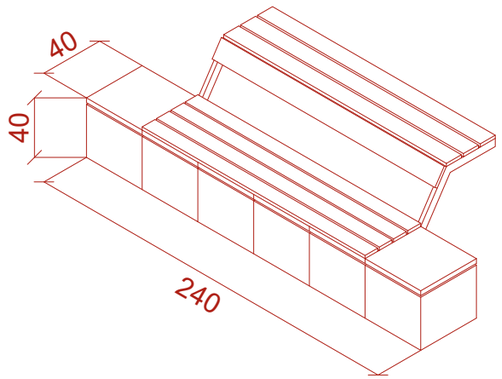
FU-E-07



Section



Plan



Isometric view

Characteristics

Material: Metal – Wood – Cement

Dimension:

Height: 40cm – Length: 240cm – Width: 40cm

Quantity of elements: 9

Structure:

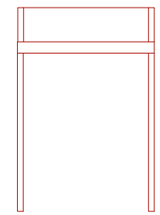
Crafted with metal salvaged from the deconstructed exterior fence, while the tabletop features reclaimed Douglas wood planks sourced from the salvaged panels, and the seating from the recovered cement pavement blocks.

FLOWERBED

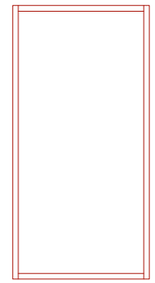
Description:

Flowerbed made of a metal structure and wooden planks.

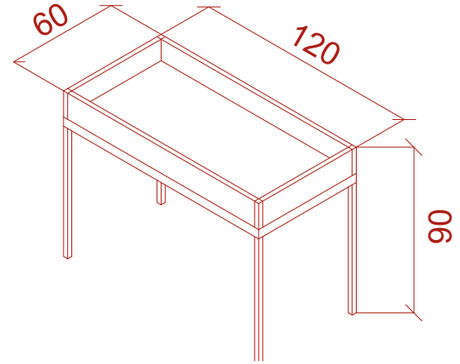
FU-I-08



Elevation



Plan



Isometric view

Characteristics

Material: Metal – Wood

Dimension:

Height: 90cm – Length: 120cm – Width: 60cm

Quantity of elements: 3

Structure:

Crafted with metal salvaged from the deconstructed exterior fence, while the walls is made with reclaimed Douglas wood planks sourced from the salvaged panels.

4.4 The lived space

Envisioning collective coexistence

Through a curated series of atmospheric collages and photographs of physical models, this concluding section illustrates the ex-kindergarten not as a static, empty structure, but as a dynamic, inhabited environment. Because the human experience has remained at the absolute center of our theoretical and architectural reflection, it is imperative that we conclude our research by presenting the space exactly as it is meant to be experienced, fully lived and actively appropriated by the community.

These visual representations serve to powerfully highlight the core social values embedded within our design. By illustrating the daily interactions and overlapping activities within the Social Kitchen, the Library of Things, and the operational hub for the volunteers of Torino Spazio Pubblico, the imagery underscores our unwavering commitment to social inclusivity and the reactivation of community spaces.

Ultimately, these scenes demonstrate that the architecture acts merely as a supportive framework for collective coexistence. The design fosters a welcoming atmosphere where civic volunteering, resource sharing, and intergenerational connection can naturally flourish. By concluding with the lived reality of the project, we reaffirm our foundational thesis: the true success of an adaptive reuse intervention lies not solely in the preservation of physical materials, but in the successful nurturing of a resilient, shared space for the neighborhood's inhabitants.



Figure 72. Photograph of the 1/50 model, view of Torino Spazio Pubblico.



Figure 73. Photograph of the 1/50 model, view of the new entrance.



Figure 74. Photograph of the 1/50 model, view of the front garden.



Figure 75. Photograph of the 1/50 model, view of the garden.



Figure 76. Photograph of the 1/50 model, view of the social kitchen.



Figure 77. Photograph of the 1/50 model, view of the social kitchen.



Figure 78. Photograph of the 1/50 model, view of the social kitchen.

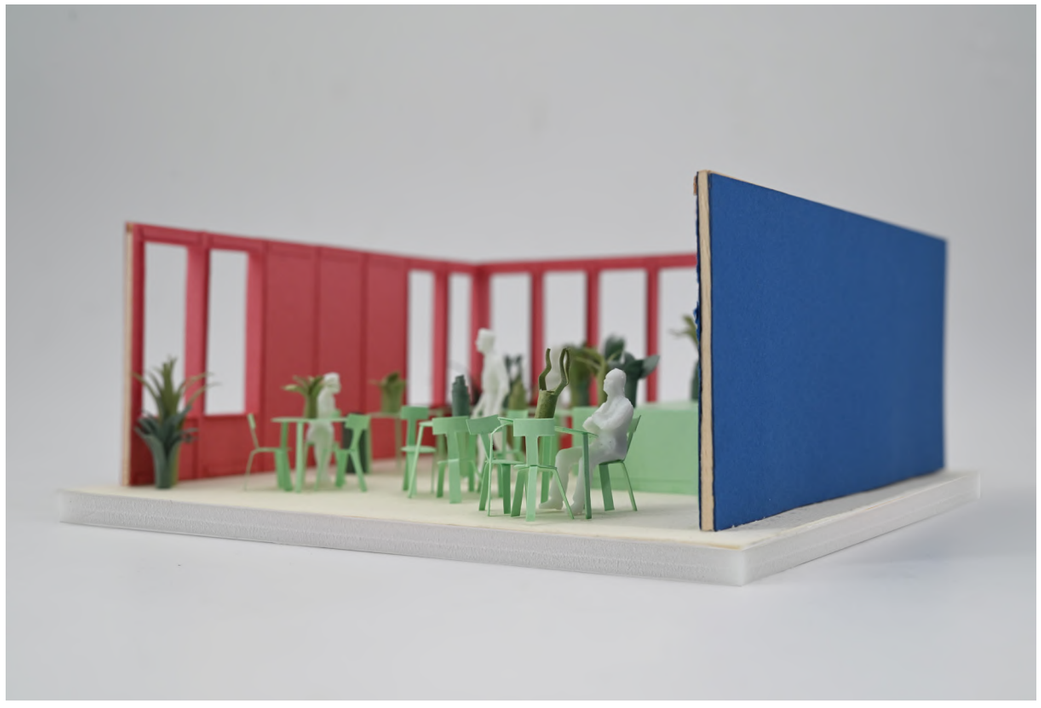


Figure 79. Photograph of the 1/50 model, view of the social kitchen.



Figure 80. Photograph of the 1/50 model, view of the main hall.



Figure 81. Photograph of the 1/50 model, view of the reception.



Figure 82. Photograph of the 1/50 model, view of the main hall.



Figure 83. Photograph of the 1/50 model, exterior view of the conference room.



Figure 84. Photograph of the 1/50 model, view of Torino Spazio Pubblico.

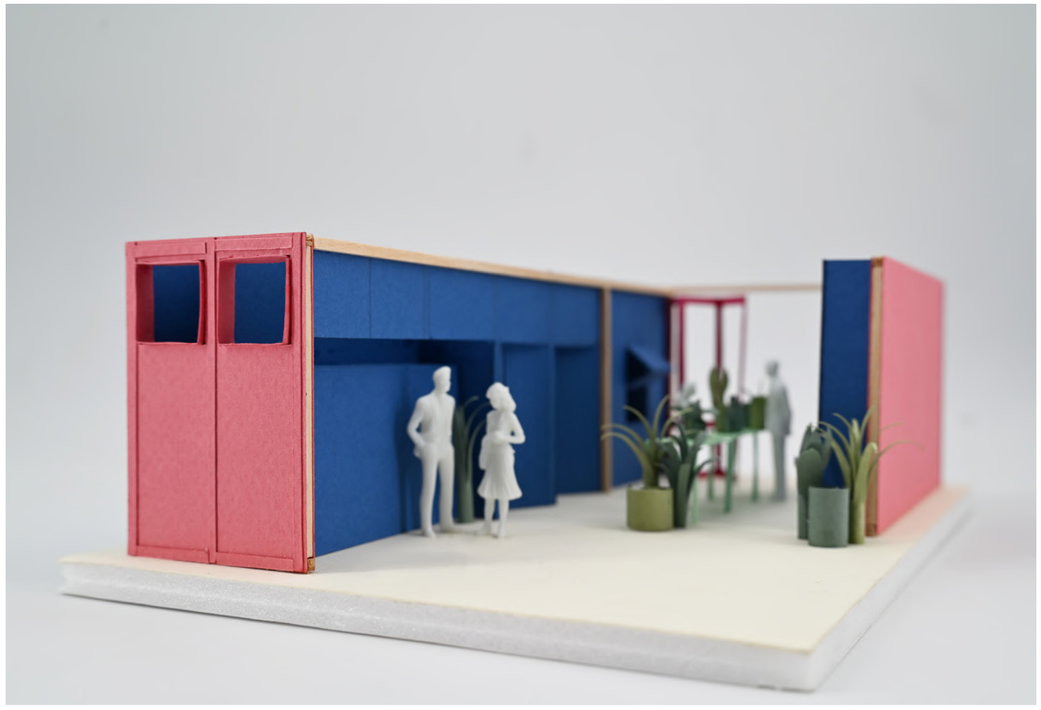


Figure 85. Photograph of the 1/50 model, view of Torino Spazio Pubblico.



Figure 86. Interior collage of the social kitchen closed.

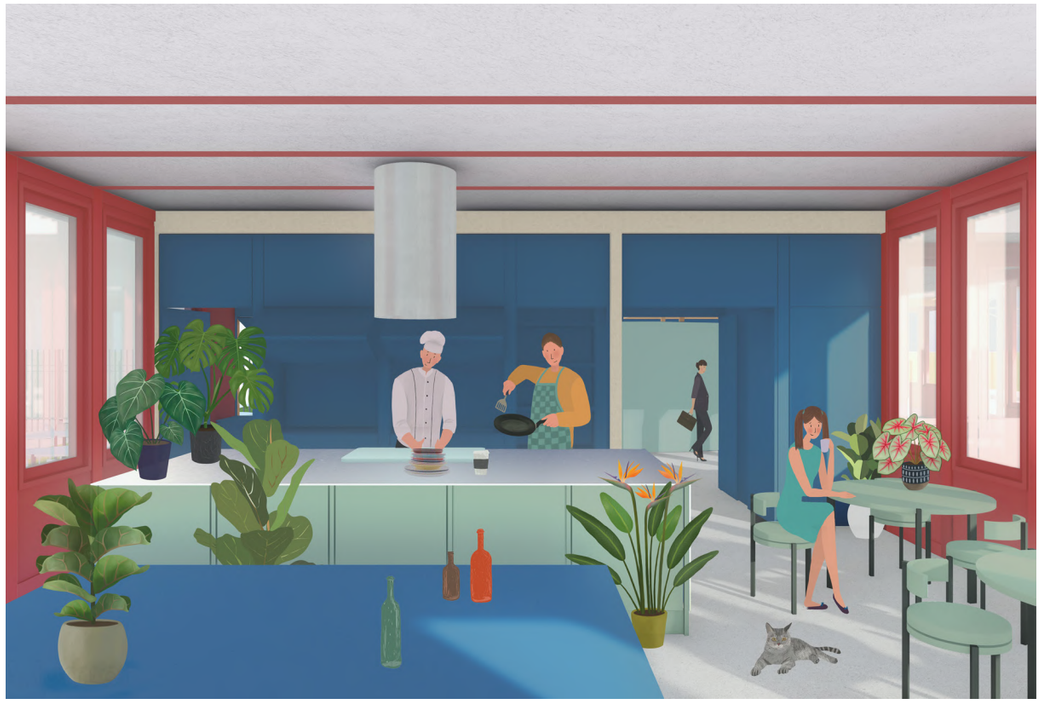


Figure 87. Interior collage of the social kitchen open.



Figure 88. Interior collage of the library of things closed.



Figure 89. Interior collage of the library of things open.



Figure 90. Interior collage of the main hall closed.



Figure 91. Interior collage of the main hall open.



Figure 92. Interior collage of the Torino Spazio Pubblico closed.



Figure 93. Interior collage of the Torino Spazio Pubblico open.



Figure 94. Interior collage of the relationship between the existing building and the new entrance.



Figure 95. Interior collage of the new entrance.



Figure 96. Interior collage of the relationship between the existing building and the new entrance.



Figure 97. Interior collage of the space dedicated for children.



Figure 98. Interior collage of the main hall.

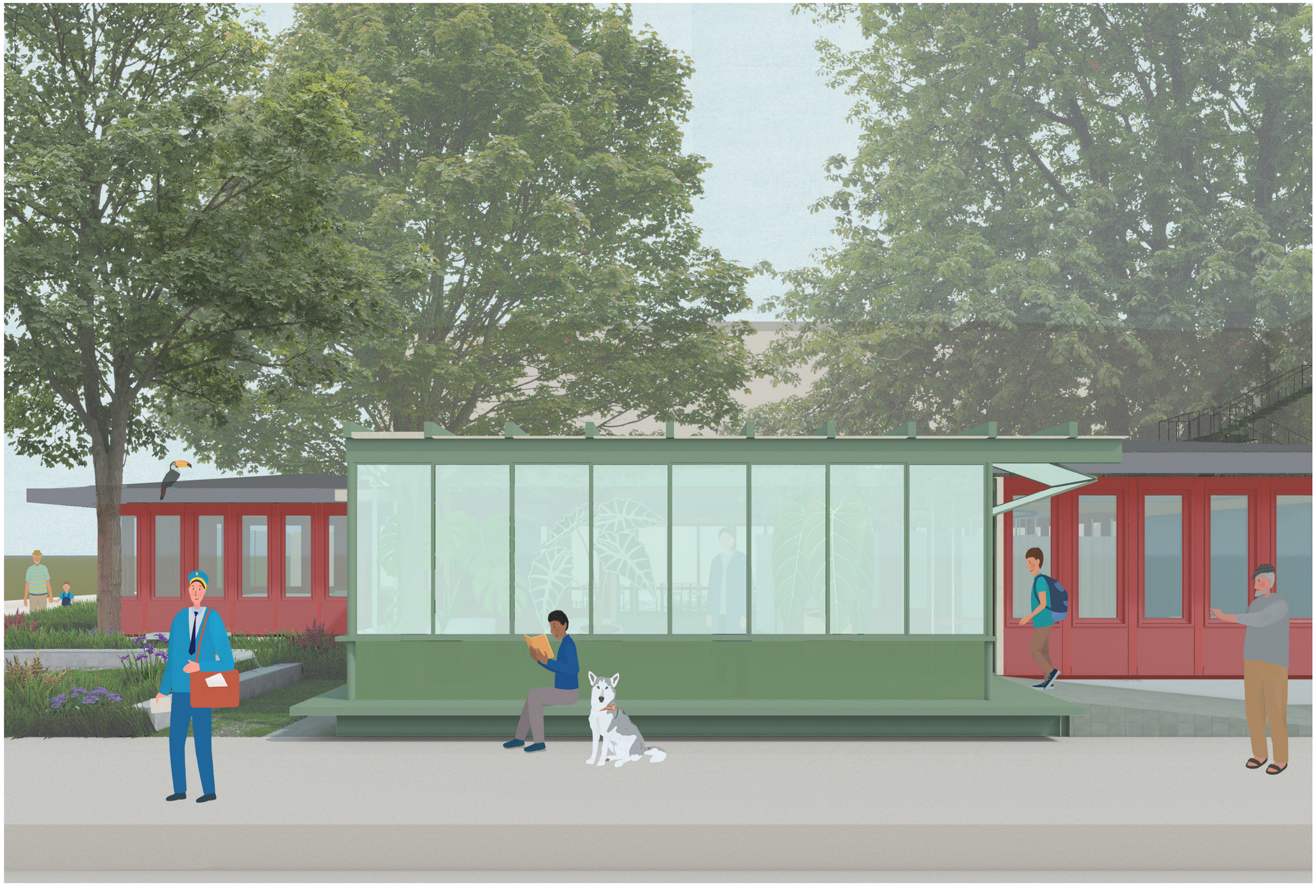


Figure 99. Exterior collage of the main entrance from Via Bertola.



Figure 100. Night collage of the main entrance from Via Bertola.



Figure 101. Exterior collage of the garden at the corner of Via Perrone and Via Bertola.



Figure 102. Exterior collage of the garden and the terrace.



Figure 103. Exterior collage of the terrace.

4.5 Calculations

Restored and repurposed materials

The beginning of this conclusion represents the realization of the theory of adaptive reuse. By addressing the community's needs and the school's current activities through the architectural proposal, the project demonstrates a significant sustainable impact achieved through the rehabilitation, restoration, and repurposing of deconstructed elements, thereby minimizing waste generation.

Much of the removed material was reused in the project: the wood from the disused panels and columns was used for the tops of indoor and outdoor tables and benches, supported by metal structures made from the old perimeter fences. Likewise, the stone paving was almost entirely restored, with the surplus used for the garden's new permeable pathways. The ceramic tiles recovered by volunteers, which had previously been scattered or used as makeshift steps leading to the roof, were fully integrated into the building's perimeter path and the cladding of the garden benches. Finally, the interior rubber flooring was cleaned, treated, and shredded to be reused as safety surfacing in the children's play area and the outdoor park.

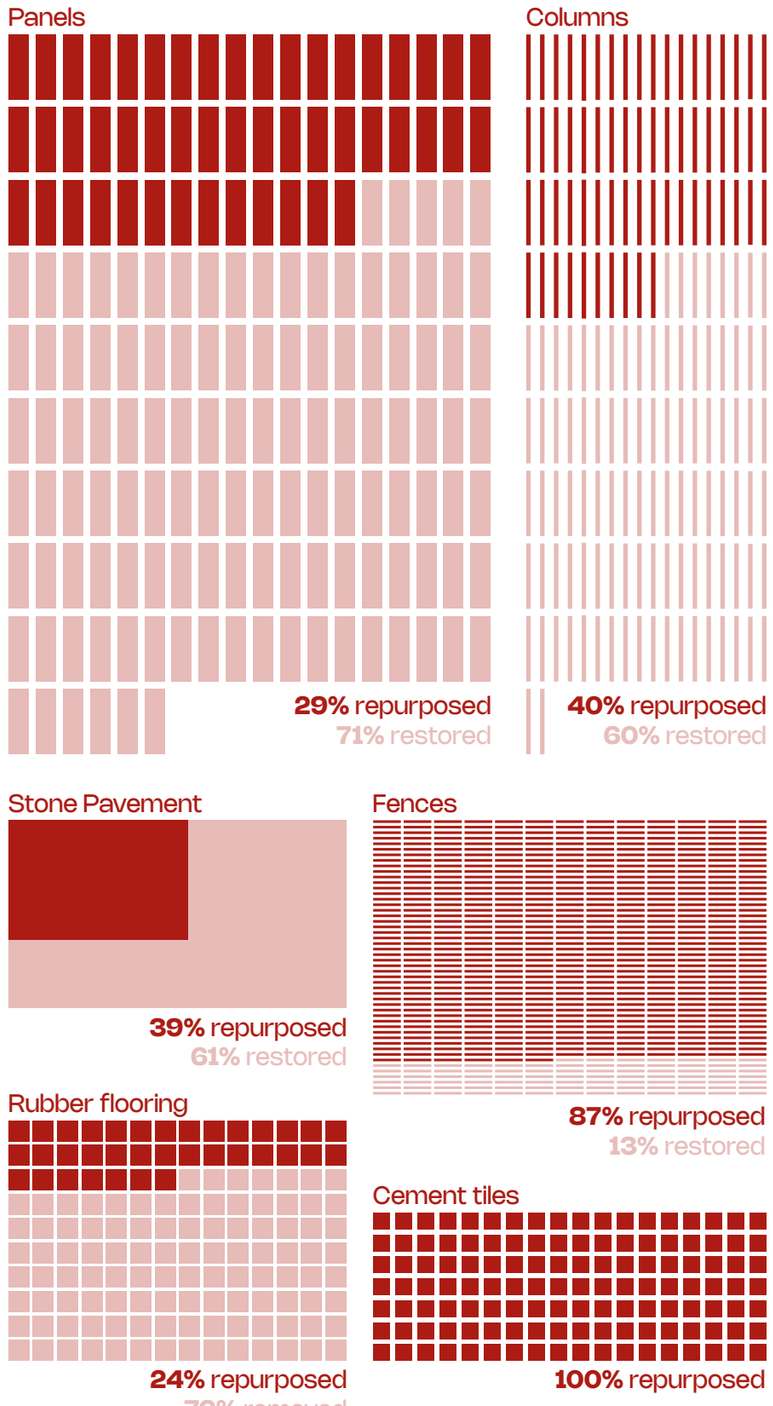


Figure 104. Diagram reporting the percentage of repurposed and restored elements.

RECLAIMING THE EXISTING STRUCTURE

5

5.1 Closing statement

The ex-kindergarten at the corner of Via Antonio Giuseppe Bertola and Via Ettore Perrone has progressed through distinct programmatic and structural stages across its existence, without losing its civic role. Rather than viewing its current state of underuse and physical decay as an end, this thesis has positioned these transitions as a catalyst for regeneration, culminating in a surgical architectural intervention that reinforces the site's embodied legacy within contemporary urban heritage.

By confronting the systemic lack of maintenance plaguing Italy's public infrastructure, we established a rigorous methodological baseline. Through the meticulous cataloguing of the P-63 prefabricated panel system and all associated building components, we acquired a profound understanding of the structure, reading it both as a collection of individual salvaged matter and as a unified spatial entity.

This extensive documentation directly informed our circular design strategy, enabling us to avoid a traditional demolition in favour of a selective deconstruction and material reintegration.

Grounded in this analytical research, the proposed architectural response reimagines the existing infrastructure without erasing its history. To address the spatial underuse, the project introduces highly targeted, socially inclusive functions, while carefully preserving the operational capacity of the existing Torino Spazio Pubblico volunteers. These programmatic additions are translated into communal spaces that explicitly highlight the original structural grid. Furthermore, through the integration of the necessary technical reinforcements and safety measures, the intervention considerably extends the building's life expectancy.

Ultimately, this thesis aims to demonstrate that the practice of adaptive reuse must be both ecologically responsible and socially driven. By prioritizing the reintegration of the on-site salvaged matter, the project offers a tangible framework for circular architecture. More importantly, it has the potential to transform a decaying educational artefact into a resilient, multifunctional urban commons.

By nurturing this shared space, we practiced a design approach that provides the enduring physical framework necessary to foster intergenerational coexistence and support local civic action.



Figure 105. Photograph of the 1/100 model, view of the facade Via Perrone.

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5.3 List of figures

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Figure 1 . Timeline showing the demographic evolution of the province of Turin from 1951 to 1981. (ISTAT, 1990)

Figure 2. Construction Site of Public Housing in Mirafiori Sud (1960s). Source: From Cantiere dei nuovi insediamenti di case popolari in zona Mirafiori Sud negli anni ,60 [Photograph], by MuseoTorino.

Figure 3. Diagram identifying the new educational infrastructure from 1960 to 1980. (Barioglio & Campobenedetto, 2022)

Figure 4. Le donne hanno vinto: gli asili nido sono.(The women have won: the nurseries are.) legge, December 2th, 1971.

Figure 5. DSC_0113 Photograph of the Rebaudengo area, Turin.

Figure 6. DSC_0128 Photograph of the Rebaudengo area, Turin.

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Beyond standard quantifiable metrics of sustainability, how do we reclaim the "embodied legacy" of our built environment?

In an era of environmental urgency and social disparties, this thesis advocates for the preservation of ordinary, contemporary heritage as a fundamental catalyst for socio-cultural revitalization. Centered on the dormant potential of a decommissioned 1972 prefabricated kindergarten in Turin, the research employs a holistic methodology, including an historical archival research, phenomenological observation, and rigorous metric point-cloud surveying. By systematically dissecting the building's components, the approach transcends traditional preservation, reframing the existing structure as a dynamic "material bank" ready for circular reintegration.

Translating this multidimensional analysis into a surgical architectural intervention, the project reclaims the ex-kindergarten as a highly accessible, shared communal space. Ultimately, this work demonstrates how adaptive reuse can achieve far more than the reduction of material waste; actively fostering social cohesion, empowering local civic initiatives, and building a lasting culture of circularity within our cities.

Made with love in Via Nizza 23
Torino, 2026