UPGRADING THE OLD: THE ADAPTATION OF TRADITIONAL RESIDENTIAL BUILDINGS TO THE CONTEMPORARY LIFE

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UPGRADING THE OLD: THE ADAPTATION OF TRADITIONAL RESIDENTIAL BUILDINGS TO THE CONTEMPORARY LIFE

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ABSTRACT

UPGRADING THE OLD: THE ADAPTATION OF TRADITIONAL RESIDENTIAL BUILDINGS TO THE CONTEMPORARY LIFE

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Traditional residential buildings constitute an important part of Turkey's cultural heritage. However, in most of the cases, these buildings face with the problems of arbitrary alterations disregarding their values, abandonment, neglect and even demolition. To prevent these problems, they need to be 'upgraded' to the contemporary life, while sustaining their values and cultural significance. During this 'upgrading' process, the most common and important problems are faced with during the re-functioning of the existing spaces and the provision of the service spaces according to the contemporary living standards and expectations of users.

Therefore, this thesis proposes the process, content, method and criteria for conservation and design for upgrading traditional residential buildings to the contemporary life, focusing on the existing and expected functional layout and new service spaces. The proposed method is assessed on three selected cases from İstiklal District, Ankara. Based on the proposed process, content, method and design/conservation criteria within this thesis, the functional layouts are studied and the service spaces are designed, including implementation details for the selected cases.

As a conclusion, this thesis revealed that the spatial properties of the traditional residential buildings can offer even more than the spaces that the inhabitants can expect from a contemporary house, while the service spaces with contemporary standards can also be provided with a conscientious approach.

Keywords: traditional residential buildings, upgrading, adaptation, functional layout, service spaces, İstiklal District, Ankara.

ÖZ

ESKİYİ GÜNCELLEME: GELENEKSEL KONUTLARIN ÇAĞDAŞ YAŞAMA UYARLANMASI

Avcı, Deniz
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Geleneksel konutlar, Türkiye'nin kültürel mirasının önemli bir bölümünü oluşturmaktadır. Ancak, çoğu durumda, bu yapılar değerleri göz ardı edilerek yapılan gelişigüzel müdahaleler ile terk edilme, ihmal ve hatta yıkım problemlerine maruz kalmaktadırlar. Bu sorunları önlemek için, bu yapıların bir yandan değerleri ve kültürel önemleri sürdürülürken, bir yandan da çağdaş yaşama göre 'güncellenmeleri' gerekmektedir. Bu güncelleme sürecinde, en önemli sorunlarla çağdaş yaşam standartları ve kullanıcıların beklentilerine göre yaşam mekânlarının yeniden işlevlendirilmesi ve ıslak mekânların oluşturulması sırasında karşılaşılmaktadır.

Bu nedenle, bu tez, geleneksel konutların çağdaş yaşama göre güncellenebilmeleri için, işlevsel düzenleme ve yeni servis mekânlarına odaklanarak, izlenmesi gereken süreç, içerik, yöntem ile koruma ve tasarım kriterlerini önermektedir. Önerilen yöntem, İstiklal Mahallesi, Ankara'dan seçilmiş üç yapı üzerinde değerlendirilmektedir. Tez kapsamında önerilen süreç, içerik, yöntem ve tasarım / koruma kriterlerinden hareketle, seçilmiş yapıların işlevsel düzenlemesi çalışılmış, servis mekânlarına ilişkin, uygulama detayları dâhil olmak üzere, tasarım ve uygulama önerileri getirilmiştir.

Sonuç olarak bu tez, hem mevcut geleneksel yapıların mekânsal özellikleri ile kullanıcıların çağdaş konutlardaki beklentilerini karşılayacak mekânlardan daha fazlasını sunduklarını; hem de hassas ve bilinçli bir yaklaşımla çağdaş standartlara uygun servis mekânlarının bu yapılarda yer alabileceğini ortaya koymuştur.

Anahtar Kelimeler: geleneksel konutlar, güncelleme, uyarlama, işlevsel düzenleme, servis mekânları, İstiklal Mahallesi, Ankara

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The author is thankful to the families residing in İstiklal District; especially to the current dwellers of the studied traditional residential buildings; Birlik Street No: 3, Eskicioğlu Street No: 8 and most importantly the *Şahin* family in Kargı Street No: 29 for their enthusiasm and tolerance during the field survey.

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CHAPTER 1

INTRODUCTION

The traditional residential buildings form a considerable part of the cultural heritage of Turkey. These buildings represent the tangible and intangible traces and values of past generations. They have 'historical value' in terms of their construction date and period, 'aesthetic and artistic value' for their construction system, facade organization, architectural elements and spatial organization. The most important of them all traditional residential buildings have 'social value' for representing the family structure, life standards of many generations. These buildings also have 'economic value' as they can be re-used and 'functional value' as they can still provide living conditions if adapted to new centuries[1].

The traditional residential buildings are shaped by the socio-cultural and economical features of their inhabitants. They provide living conditions for different family types and sizes. However the changing centuries and the developing construction systems outdated these buildings. Even though they can still be used as residences, in most of the cases, most of the time, they are either changed or abandoned or even demolished. In order for them to continue their existence and function; they need to be 'upgraded' to the contemporary life.

1.1. The Problem: Traditional Residential Buildings 'Out of Date'

Contrary to their importance; the traditional residential buildings in Turkey are neglected especially in metropolitan cities such as Ankara. These zones are used as 'temporary settlements' or rather as 'transition zones' (Şahin, 1995). One apparent reason of abandonment of traditional residential buildings is the inadequate urban infrastructure and inappropriate urban land use around these

[1] The definitions of values are based on value definitions by Alois Riegl (1996)

traditional residential areas. Besides this, insufficiency of the traditional residential buildings in terms of providing contemporary life standards, is obviously another important reason. That is, they do not fulfill the expectations of the inhabitants both in urban and building scale. Hence, they are considered to be 'out of date' both as residential buildings as well as residential zones.

As a consequence, the owners of these traditional residential buildings, if their economic condition allow, tend to move to new residences for more contemporary lifestyle. The traditional residential buildings are either left empty and face obsolescence cycles or the structures are rented to lower income families, who also want to move to a 'better' building and zone as soon as their economic condition allows. In most of the cases, as the owners look for economic gain from their traditional residential buildings, they can rent a building for multiple tenants, which results in the overuse and extensive changes of the building. Also they might prefer to abandon them and wait for the collapse by natural means which unfortunately is one of the aims of the owners so they can get profit from their property. As a result, generally, the dwellers of these buildings become the tenants of lower income, who prefer these zones due to their location as having access to public services of the city and because they can not afford to live in contemporary neighborhoods. These users alter the residential buildings according to their needs. Larkham defined this process as:

> *"(...) applications are initiated by occupiers who are intent upon adapting the premises to suit their own requirements of layout.., sometimes with little apparent regard for the historical and architectural significance of the building. ... entirely obscuring the character and appearance of the original building."*
>
> *(Larkham, 1996, p.171)*

The traditional residential buildings are structurally deformed due to additions, removals and divisions made within them. The divisions are made vertically and horizontally so the traditional use of one building for one extended family changes into an apartment type of building where each floor is used by one family or the building is divided vertically with additions of partition walls and new

stairs. Additions for service spaces become compulsory for these divisions. This causes structural and material problems. For service spaces, some quick fix solutions are tried without any regard to structural capacity and the historical value of the residential buildings.

When the buildings are rented to multiple tenants, overuse, structural and material problems, unsanitary conditions develop within the buildings. The use of the residential buildings for renting purposes causes disregard in maintenance, where the owner does not care for the traditional residential building as long as the income is satisfactory and the dweller does not care because they plan to reside in these traditional residential buildings temporarily and leave as soon as they could afford to buy or rent a contemporary residence. Besides, the lack of physical and social infrastructure of these neighborhoods causes an unlivable environment where these zones become unappealing to the families of better economic conditions. Even if they are interested in living in a historical atmosphere, the current social and physical condition repels these families and again the cultural heritage becomes neglected.

To endure the past and carry it into the future; it is preferable if the traditional residential zones remain as residential zones. It is for sure that this is a problem which should be considered in urban scale, through conservation and development plans. However, it is also for sure that, architectural conservation decisions and interventions are as important as the previous. It is impossible to ask men of 21st century to live in the standards of 18th, so this is when the 'upgrading' process comes into attention.

1.2. The Aim: 'Upgrading' the Traditional Residential Buildings to Contemporary Life

> *"Although conservation is now at a high point in the socio-political agenda, it may readily become displaced by other wide-ranging concerns, for example that for sustainability in planning and development."*
>
> *Elkin, 1991*
> *(cited in Larkham, 1996, p.33)*

The solution is to conserve and to prolong the existence of traditional residential buildings. If a traditional residential building is inhabited then, the family looks after the structure, as human beings tend to make their surrounding sanitary and livable. However if the habitants leave them, then deterioration, decay and as a result collapse will happen in long periods of time. The solution of protecting our cultural heritage is: not only conserve but to provide continuity in use.

To stop the processes of abandonment, the lack of care of the users or unconscious alterations which lead the way to collapse in long terms, an adaptation process of traditional residential buildings to contemporary life becomes urgent. A conscious development model and technique is therefore urgent to stop unconscious alterations to our cultural heritage. However this process should be able to adapt conversions in contemporary techniques easily without damaging the historical and cultural importance of the heritage. Any type of scientific alteration should be reversible so as the technology develops further more, the methods of today should be replaced easily with the future new. To provide continuity in the function of the traditional residential buildings, the proposals should be able to adapt the technological developments while offering solutions to the basic conservation and intervention principles. The characteristics and the spirit of place should always be the main concern. The reversible or retrievable interventions should not harm the historical and architectural characteristics: the plan layout, facade organization and architectural elements of the traditional residential buildings.

Therefore, the aim of this thesis is to define and assess a process, method and options for 'upgrading' of the traditional residential buildings to the contemporary life while providing continuity in the original function and conserving its values.

The adaptation process should be in such a way that the traditional residential buildings will continue their original function and be conserved with their facade organization, plan organization and architectural elements while the spatial organization will be introduced to new and contemporary equipments of contemporary life such as service spaces and the technical infrastructure such as electricity, water supply and water drainage, ventilation etc. The design must be

integrated to the structure in a minimum and considerate way that the traditional residential buildings will not be affected by new mass additions or removal of any parts, divisions in spatial organization or loss of any authentic architectural elements.

The reason for this approach is to sustain the dwellers within the traditional residential zones and accordingly; the aim is to provide constant maintenance and conservation on traditional residential buildings instead of abandoning them to their faith as being temporary settlements.

The focus of this thesis is on the functional layout and service spaces, so as to find options on how to convert them and conserve them without harming the values, while finding solutions to adapt them to the 21st century. This leads the way to analyze the interiors of traditional residential buildings in upgrading them to contemporary life in terms of spatial organization and sanitary conditions. Therefore the analyses of the spatial organization and architectural properties of the selected cases play an important role. The most important input of the contemporary lifestyle is the service spaces, their current problems and application mistakes which eventually lead to the proposals of service space insertions to traditional residential buildings. The focus on this issue is due to the author's background of undergraduate program of Interior Architecture and Urban Design, so that the role of interior design on restoration of traditional residential building architecture can be properly researched.

1.3. The Methodology and the Content of the Thesis

According to the above defined problem, aim and scope; the methodology of the thesis is structured. To start with; a literature survey is progressed in order to understand the traditional residential zones in Ankara and the position of these zones in Ankara's urban development and conservation planning processes. The contents and values of traditional residential zones in terms of the lifestyle within these areas and their current place in the developing cities and how to sustain the values are researched within articles, thesis and related books.

The literature survey focused on İstiklal District as the next step where the documentations (photographs, drawings, written) on İstiklal District are gathered in terms of historical, urban and architectural characteristics. “İstiklal District Preservation and Rehabilitation Project”, studied in the Graduate Program in Restoration of fall semester of 1983-84 in METU, is one of the most important sources to support this thesis.

The literature survey also focused on the concept of adaptation of historic buildings and contemporary housing standards, which are the main concerns of the thesis. The theoretical background on these concepts are provided through various sources, such as the documents provided by international organizations such as ICOMOS, different National Organizations such as English Heritage, Scottish Civic Trust and the books and journals covering the papers of various authors on these issues. In addition to that, examples are gathered, analyzed and compared to understand the problems and see different solutions. The concept of re-use of historic buildings and especially the traditional residential buildings are analyzed. Examples from around the world are gathered in terms of adaptive re-use of historic buildings and recycling / conversion of the spaces for the requirements of contemporary living, where the conversion of spaces were scanned focusing on the service spaces. It must be stressed that the conversion of the historic / traditional spaces into service spaces is hard to come by within literature survey. So within this input, interviews with the professionals; Yavuz Özkaya, Saadet Sayın and Süleyman Doğan, who work on the conservation and conversion of historic buildings in Turkey, are done to gather the application examples in Turkey. All these helped for proposing a process, method, content and options for 'upgrading' traditional residential buildings, which is explained in detail in the Chapter 2.

To assess the proposed method for the upgrading of the traditional residential buildings, three cases are chosen from İstiklal District. The inputs affecting the identification of the three cases from İstiklal District are as follows: *authenticity*, *the permission of the users*, *representing the characteristics of the district*,

alternative sizes for various family types, and a previous study on İstiklal District[2].

The three cases are cultural heritages as traditional residential buildings and conserve their original properties. They represent the general characteristics of the traditional residential buildings from İstiklal District in terms of plan and facade typology and they provide alternative sizes for three different kinds of family types. There are more than few examples with these properties in İstiklal District however the chosen cases are the ones where the users allowed the surveyor into the intended building. However even the chosen cases could be studied in a very limited time due to the limited permission of the users.

These three cases (TABLE 1.3) are as follows:

Case A: Birlik Street, No:3, İstiklal District, Ulus / Ankara,

Case B: Eskicioğlu Street, No: 8, İstiklal District, Ulus / Ankara,

Case C: Kargı Street, No:29, İstiklal District, Ulus / Ankara

As a part of the case study, a site survey was carried on in 2010-2011, both in urban and architectural scales. First of all urban analyses (Figure 1.1) are made in order to understand the general characteristics of İstiklal District and the position of İstiklal District in this century in terms of the condition of the buildings and the general (social, economical and urban) condition of the district. The urban analyses are studied in terms of categories of edifices, current use of edifices, new building & traditional building development and their existence affecting each other, transportation and vehicular & pedestrian density within the district, the structural system of the traditional residential buildings, the number of storey of the traditional residential buildings, the architectural elements of the traditional residential buildings and finally the condition of edifices in the current century. The cadastral map of İstiklal District is provided from Altındağ General

[2] The study of "İstiklal District Preservation and Rehabilitation Project" studied in the Graduate Program in Restoration of fall semester of 1983-84 in METU.

Directorate of Land Registry and Cadastre[3]. The Cadastral Map of 1936 and the Cadastral Map of 2010 are analyzed, shown and compared in separate drawings. These urban analyses can be found in Appendix A.

Following this, the field study in terms of identification of the representative traditional residential buildings is carried on. Before identification of the chosen three cases, a number of traditional residential buildings are studied in terms of their architectural characteristics and sketched in terms of their plan and facade organization (Figure 1.2 - Figure 1.4).

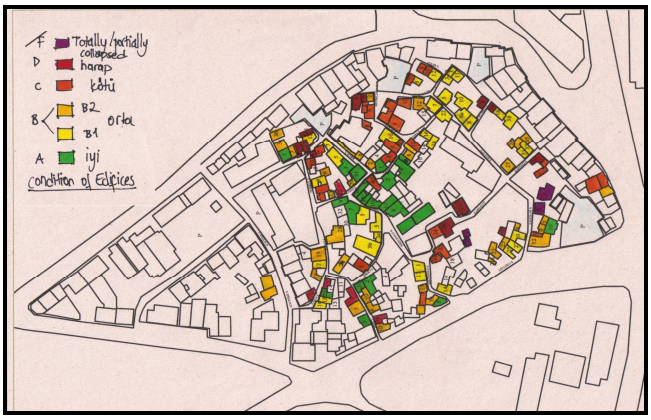


Figure 1.1
An Example of the Urban Survey studied in the Site Survey:
The Condition of Edifices

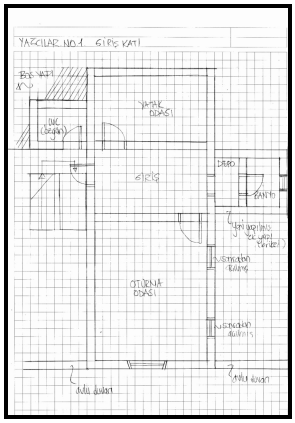
In the third step; the chosen cases are analyzed and studied with survey sheets (Figure 1.5 & Figure 1.6) in terms of gathering of the documentation as photos, sketches in terms of plan/section/details and measurements. The chosen cases are measured by the author with laser measurer except for Eskicioğlu Street No: 8 where only the service spaces are re-measured[4].

[3] Altındağ Tapu ve Kadastro Genel Müdürlüğü

[4] The drawing and the measurements of Eskicioğlu 8 is gathered from the study of "İstiklal District Preservation and Rehabilitation Project" studied in the Graduate Program in Restoration of fall semester of 1983-84 in METU.

As the next step, the analyses of the current state of the chosen cases and the space analyses of the chosen cases are studied and evaluated. The cases are studied thoroughly in terms of ownership, user definitions, spatial characteristics, architectural and structural characteristics, current function of the spaces, circulation/ventilation/light properties, spatial adequacy, condition of finishing, architectural elements and traditional materials where these are supported with detailed sketches, photographs gathered and taken by the author.

Figure 1.2
An Example of the Sketches studied in the Site Survey:
The Facade of Eskicioğlu 7



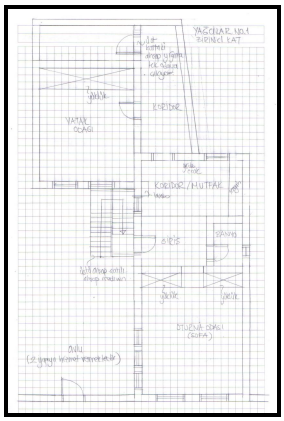
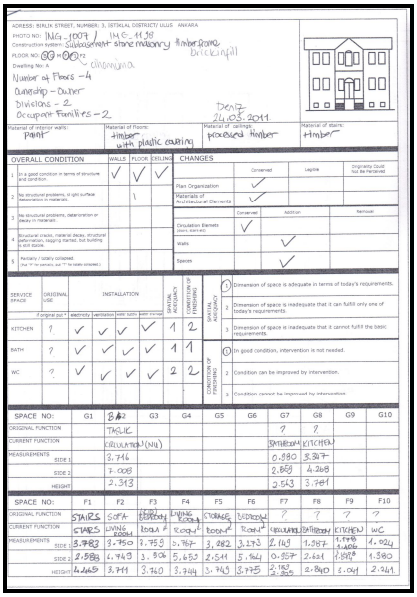


Figure 1.3 **Figure 1.4**

Figure 1.3 & Figure 1.4
An Example of the Sketches studied in the Site Survey:
The Plan Layout of Yağcılar 1



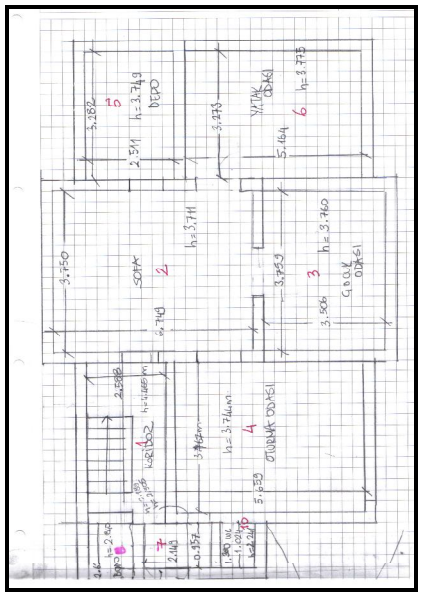


Figure 1.5 **Figure 1.6**

Figure 1.5 & Figure 1.6
The Example Survey Sheets of the Measured Data of Birlik Street No. 3 studied in the Site Survey

As the final step the analyses are evaluated and the probable original states of the cases are studied with the values / problems / potentials of the cases as cultural heritages. The final approach is the definition of conservation and design principles to be used in the proposals on the newly offered usage schemes based on the user definitions and the service space insertions which are offered as the final product.

According to the above defined aim and methodology, the thesis is structured in five chapters. The first chapter is the introduction, where the current status of traditional residential buildings and the traditional residential zones in metropolitan cities are described; the problems of these traditional residential buildings are defined and accordingly the reasons for choosing İstiklal District as a representative are listed. The İstiklal District is studied in terms of its location, with a brief historical background and the development of İstiklal District from the first urban planning and conservation projects in Ankara. The traditional

residential buildings in İstiklal District in terms of their architectural, structural and typological characteristics are also defined within this chapter.

The second chapter emphasizes the aim of conserving the traditional residential buildings with their original function while the main aspect of conserving with the original function is indicated as being the lack of service spaces in these buildings. It includes a review on the theoretical background of adaptation of the historic buildings and describes the benefits and contributions of adaptation to society and cultural heritage while giving examples of conversions and adaptations of historic buildings from around the world. This chapter includes the methodology prepared especially for adapting traditional residential buildings to the contemporary century in terms of conservation and design criteria on the functional layout and service spaces. This methodology is defined by the author to test the adaptability of traditional residential buildings to contemporary life.

The third chapter includes the three chosen cases from İstiklal District; Birlik Street No: 3, Eskicioğlu Street No: 8 and Kargı Street No: 29. These are comprehensively described in terms of their architectural characteristics, structural system, spatial organization, usage & users and most importantly the condition of their service spaces. These analyses and definitions are the base of the adaptation processes to contemporary residences as the author can point out the absent aspects of these residential buildings that estrange them from being contemporary. Also within this chapter, the cases are assessed in terms of their original functions and their values, problems and potentials.

The fourth chapter offers the alternative usage scheme which these buildings offer in terms of their functional layout and as a result of these functional layout schemes; designs and the proposals for these chosen spaces which aim the improvement of living conditions and their capacity to meet the requirements of contemporary life are offered. The proposals which focus on the service spaces in terms of performing the requirements of today while conserving and undamaging the cultural heritage are offered within this chapter.

The final chapter is the conclusion with a brief summary of the benefits of the adaptation of the three traditional residential buildings of İstiklal District as the

chosen cases where as a final remark the adaptation and *house upgrading* concept in the conservation of cultural heritage in the 21st century are emphasized.

1.4. Three Cases from İstiklal District, Ankara

The problem of this thesis highlights the general condition of the traditional residential zones in contemporary cities of Turkey. An example from one of these zones must be taken as a case study to test this thesis but although the concept of the problem replies as a representative for other cases, it must not be forgotten that each case must be investigated within itself.

The case at the focus of this thesis is "İstiklal District" which is situated in Ulus, historic center of Ankara. This site was chosen due to representing the historic traditional residential zones in contemporary cities where the traditional residential buildings are either abandoned or used with unconscious alterations which are done by the dwellers.

The district is also known as the *Sakalar District* (Şahin et al., 1988) which is a traditional residential zone survived from the *18th century that has been a settlement area for Jewish population in Ottoman Empire's Ankara* (Şahin et al., 1988).

Today, İstiklal District is governed by Altındağ Municipality and belongs to Altındağ Province. The İstiklal District is located in the historic center of Ankara: Ulus. It is spread on southwest skirt of historic Ankara castle. The area is surrounded by Denizciler and Hasırcılar Street on the west, Anafartalar Street on the east and Talatpaşa Boulevard on the south. These are the main commercial axes of Ulus.

On the opposite side of Talatpaşa Boulevard, there are Ankara Numune Hospital, Hacettepe Hospital and İbni Sina Hospital. On Hasırcılar Street, there is the Medical School of Hacettepe. The service building of Municipality of Altındağ is located on the southeast of the district on the opposite side of Anafartalar Street. The location of the district is in the commercial and medical centers of Ankara.

However the traditional buildings are trapped in the center of these commercial and social activities. They are hidden from view surrounded by high buildings. Most of them are almost demolished due to being abandoned for their unsanitary condition and lack of providing contemporary life standards.

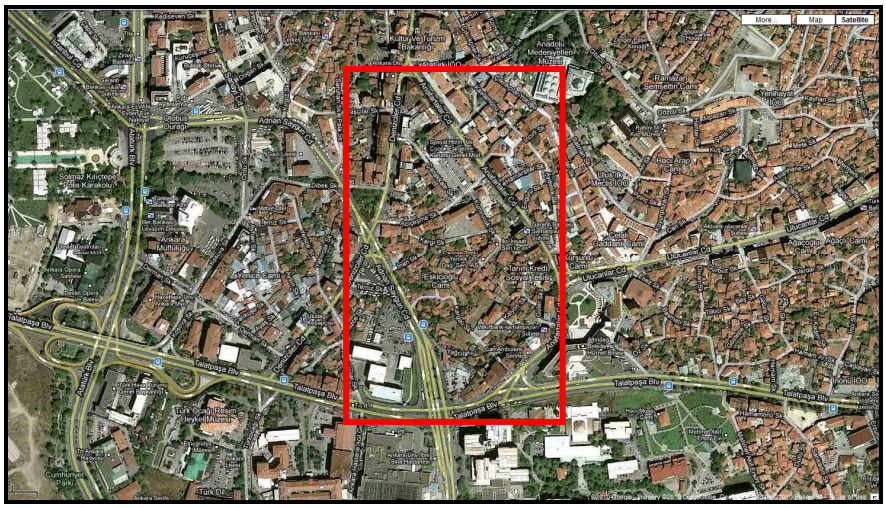


Figure 1.7 The Location of İstiklal District [5]

1.4.1. İstiklal District in Urban Development and Conservation Projects of Ankara

In 1927, a competition for a new city development plan was organized and it was won by German Architect Hermann Jansen. The concept of the competition included the idea of 'conservation of the traditional pattern'. The aim of Jansen was to develop the city around the citadel, making the citadel the focus of the city, where the city developed around the castle as the "New Construction Zone" and the "Traditional Zone". The traditional zone to be protected was named as '*Protokol Sahasi'* meaning the area of memorandum (protocol) (Tunçer, 1998).

The İstiklal District was not in the list of the registered lands known as '*Protokol Sahası*' in Jansen's Development Plan in 1932. In the plan, the neighborhood was

[5] (retrieved from Google Earth, 11.2010)

demolished, converted to a newly constructed settlement area with two storey high buildings (Şahin et al., 1988). However the plan went through several changes even after then.

In 1928, the regulation, number *1351* was anounced which established the Directorate of Ankara City Development[6] (Şahin et al., 1988). In 1939 Hermann Jansen abandoned his plan to the Directorate of Ankara City Development due to controversy between him and the directorate about the application. The conversion of İstiklal District to a new settlement area was automatically cancelled (Şahin et al., 1988). The Talatpaşa Boulevard and the Atatürk Boulevard had developed with new building constructions on the sides. The widening process of Denizciler, Anafartalar and Ulucanlar had finished with high commercial buildings surrounding them. The area between Samanpazarı and Talatpaşa Boulevard was registered as the "Protocol Area" (Şahin et al., 1988).

Up to 1950s, the application of the development plan was very poorly; the city was unorganized and in chaos. The center of the city had already shifted to Kızılay, leaving the traditional zones in Ulus to lower class families. In these zones, the population continued to grow and the unsanitary conditions occurred in these areas. In 1955, a new competition was established for a new development plan which was won by N.Yucel and R.Uybadin (Aktüre et al., 1981; Şahin et al., 1988; Karaburun, 2009). In 1957, this plan was put into application. This plan was more on vertical growth, rather than horizontal growth to new areas. From 1960s the number of storey of the buildings reached up to 8 (Şahin et al., 1988). In 1960s, the 12-15 m high buildings were all demolished to be replaced by up to 22 m high buildings, permitted by Uybadin-Yucel Development Plan (Şahin et al., 1988). This affected the axes of Anafartalar and Denizciler streets, where the tall buildings were again replaced by even taller ones or they were elongated with floor additions (Şahin et al., 1988).

In 1969, the Metropolitan Area Master Plan Bureau (AMAMPB) was established in Ankara. The AMAMPB focused on the 1990 Master Plan of Ankara (Karaburn,

[6] Ankara Şehri İmar Müdürlüğü

2009). Also the today's condition of the historic center shows the inadequacy of this plan for the historic center of Ankara.

The traditional residential building zones of Ulus, including the İstiklal District were registered in 1980. However, in the same year, this status was regarded by Ankara Municipality itself due to the opening a new ax, connecting the north-south commercial ax. The 56 of the traditional residential buildings in İstiklal District, 8 of them being registered by 1980 regulation were demolished, now replaced by Hasırcılar Street (Şahin et al., 1988).

In 1983, the Council of Monuments[7] announced the decrease in the number of new constructions around the traditional residential zones. Due to this plan, the number of storey allowed in the Hasırcılar Street became two, in Anafartalar and Denizciler streets became four, and in the Talatpaşa Boulevard six storeys were permitted. However the buildings which had been already constructed remained (Şahin et al., 1988).

1.4.2. The Traditional Residential Buildings in İstiklal District

In this part; the characteristics of traditional residential buildings in İstiklal District are defined in terms of the structural system and construction materials, the number of storey and the condition of edifices. The traditional residential buildings are analyzed with plan and facade typologies and architectural elements.

The range of the heights (Appendix A) changes from one to four however many of the residential buildings are two storey high structures. There is a major height difference between the traditional fabric and the newly built environment, especially on the axes of Anafartalar and Denizciler Street which reach up to five and more storey. Other than these new constructions, the traditional fabric shows homogeneity in height and structural system within the area.

[7] Anıtlar Yüksek Kurulu

The traditional residential buildings in İstiklal District, unfortunately, are neglected and the neighborhood in general needs urgent care (Appendix A). The residential buildings on the outer parts are deformed and partially collapsed. There are many residential buildings which are abandoned and structurally deformed. In the core, the residential buildings are habited but even the habited ones need maintenance.

Figure 1.8 Zümrüt Street Figure 1.9 Kargalı Street

The general problems of the residential buildings of İstiklal District can be listed as material loss, surface deterioration and structural problems such as deformations on the structural system due to overload. Also unconscious alterations which are not compatible with the traditional materials give irreversible damage to the traditional residential buildings.

All traditional buildings lack sanitary service spaces, where the existing ones are quick fixes, done unconsciously for short periods of time as conversion of living spaces (Figure 1.11 & Figure 1.12 & Figure 1.13) or additions to the buildings (Figure 1.10). These alterations harm the residential buildings not only architecturally and aesthetically but structurally in more ways than imagined.

Figure 1.10

An Example to a Wet Space Addition from Yağcılar Street No. 1

Figure 1.11

An Example of a Converted Kitchen from a Living Space from Eskicioğlu Street No.10a

Figure 1.12

An Example of a Converted Kitchen from a Living Space from Eskicioğlu Street No. 10

Figure 1.13
An Example of an Entrance of a Bathroom from Eskicioğlu Street No. 10a
(The sink is placed in the circulation area due to limited space within the bathroom conversion)

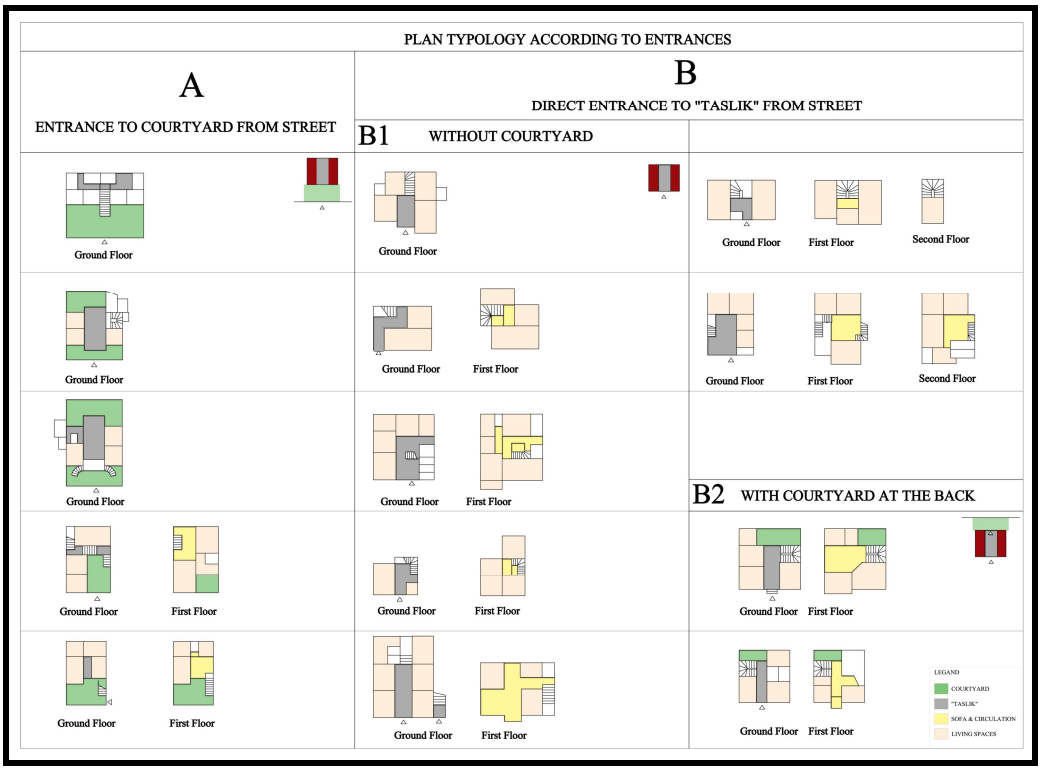
Typology of Traditional Residential Buildings:

Plan Typology (Table 1.1): The building lot and residential building sizes show differences where the entrances to the structures can be grouped as the ones with entrances to the courtyard and then to the buildings (Table 1.1; Input: A) and the ones which open directly to "*taşlık*" (Table 1.1; Input: B), and might have a courtyard within the lot (Table 1.1; Input: B1) or might not have courtyard within the lot (Table 1.1; Input: B2). The courtyards show many different plan layouts which can be related to the fact that new building constructions, for service spaces or for renting purposes, to the courtyards, affected and changed the original spatial organization of the courtyards.

The basic general characteristics of the plan layout can be defined as such; the main entrances open to the "taşlık" in the ground floors. The "taşlık" generally cover the floor from one end to the other and these might open to the back courtyard. The "taşlık" are generally seen in the middle where the spaces are around them *or* they might be at one side of the plan layout where the other spaces are in juxtaposition to the "taşlık" at one side. The spaces next to the "taşlık" are either used as service spaces or storages or if the windows are adequate for living areas than these spaces might have been used as rooms as well.

From the ground floors, the stairs lead to the first floors opening to “sofa” which are the main living & gathering and the circulation area within the traditional residential buildings. “Sofa”s are generally right over the “taşlık”. These might also cover the floor from one end to other or there might be an extra room as an extension of the “sofa”, dividing the relation of the “sofa” either with the street or the back courtyard. Usually, these spaces can be read on the facade as they are generally projected over the main entrance. The spaces around the “sofa” are used as rooms. If there are multiple upper floors; the plan layout of these are usually similar with each other. In a few number of traditional residential buildings in İstiklal District, *“cihannüma”* are seen where these are used as the third floors and their location are above the “sofa” in the previous floors.

TABLE 1.1 THE PLAN TYPOLOGY OF İSTİKLAL DISTRICT [8]



[8] This is a revised plan typology which is gathered from the study of “İstiklal District Preservation and Rehabilitation Project” studied in the Graduate Program in Restoration of fall semester of 1983-84 in METU.

Facade Typology (Table 1.2): The facade organization may vary although the similar types of architectural elements can be seen. The heights of the buildings change from one to three where the projections are seen on upper floors. There are two types of facade layout and two under titles for each type, so a traditional residential building from İstiklal District might have an organized facade layout (Table 1.2; Input: A) with either *symmetric* or *asymmetric* properties *or* might have an unorganized facade layout (Table 1.2; Input:B) with *asymmetric* properties.

TABLE 1.2 THE FACADE TYPOLOGY OF İSTİKLAL DISTRICT [9]

[9] This is a revised facade typology which is gathered from the study of "İstiklal District Preservation and Rehabilitation Project" studied in the Graduate Program in Restoration of fall semester of 1983-84 in METU.

The Architectural Elements:

The projections of the residential buildings of İstiklal District show variety. The projections can be seen as closed or semi open-spaces like balconies. They might be located on the middle of the facade, one side or two sides of the upper floors or sometimes a floor might be projected itself. The most common ones, however, are the projections which are seen on the middle of the facade organization in the upper floors. The supported structural elements of the projections also vary, where they are generally used as decorative elements of the facade. In previous studies it is also mentioned that *"Ankara Projections"* constructed by overlapping timber beams, are not very common but can be seen within the district (Şahin et al., 1988).

Figure 1.14
An Example of a Projection from Eskicioğlu Street No. 7

The door properties change according to their function as either providing an entrance to the courtyard or being the main door of the residential building as providing entrance to the "*taşlık*". The doors of the courtyards are timber without any major work on the timber. The doors of the facade organization however are generally paneled timber doors either having single or double wings and some having upper windows and pediments as decorations.

Figure 1.15
Examples of the Windows with Pediments from Eskici Street No. 4

The windows are generally seen as sash type windows which are considered as the original elements of the residential buildings or they are either single casement windows or double casement windows. The windows are the main decorative elements of İstiklal Districts' traditional residential buildings. The arched windows can be seen as well as windows with triangular decorative pediments which can be seen in the several of the traditional residential buildings within the district.

Figure 1.16
An Example of the Doors with Triangular Pediments from Kalas Street No. 3

The interior architectural elements are mostly studied with the help of the study *"İstiklal Mahallesi Preservation and Rehabilitation Project"*[10] since the surveyor could not observe the interiors of every residential building as the topic of this thesis does not cover a typical urban study. Some of the residential buildings are entered and sketched and the sketches & observations of the author are compared with the documentation. According to this study, the area is not very rich in interior architectural elements; however original timber cupboards with "*güsülhane*" are seen in some of the residential buildings. The timber doors of the cupboards are processed and paneled. Fountains, wells, "*sedir*"s, decorated ceilings, fireplaces are also some architectural elements that can be found in the courtyards or buildings in İstiklal District[11] (Şahin et al., 1988).

Figure 1.17
An Example of a Traditional Fountain from Eskicioğlu Street No. 7

The main construction material of the architectural elements is timber. The covering of the floors are done with timber flooring in upper floors where the ground floors, the "taşlık" areas are paved with stone. Today these stones are

[10] Studied in the Graduate Program in Restoration, fall semester of 1983-84, METU

[11] The 40 houses were studied in terms of interior analyses in 83/ 84 study of Graduate Program in Restoration, METU. The data of the interior architectural elements are gathered from this study.

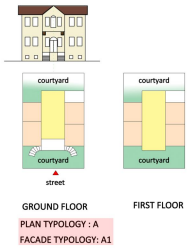
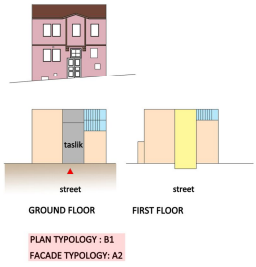
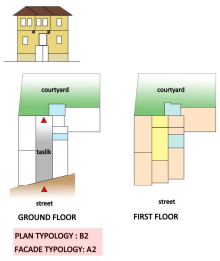
replaced with cast concrete or screed. The ceilings are constructed with timber beams overlapping each other and covered with timber panels sometimes with decorative elements. According to the study of the site in 1988, most of the *"güsülhane"* are intervened with concrete cast and the fireplaces are covered with plasters (Şahin et al., 1988).

Figure 1.18
An Example of a Traditional Fountain from Birlik Street No. 3

Figure 1.19
An Example of a Traditional Cupboard from Yağcılar Street No.1

TABLE 1.3

THE 3 CASES' ARCHITECTURAL PROPERTIES IN PLAN & FACADE TYPOLOGY OF ISTIKLAL DISTRICT [12]

PLAN \ FACADE	A ORGANIZED FACADE LAYOUT		B UNORGANIZED FACADE LAYOUT
	A1 SYMMETRIC	A2 ASYMMETRIC	B2 ASYMMETRIC
A ENT. TO COURTYARD			
B ENT. TO "TASLIK" — B1 W/O COURTYARD			
B ENT. TO "TASLIK" — B2 W. COURTYARD			

[12] This is a combination chart, defined by the author, of the revised plan & facade typology which are gathered from the study of "İstiklal District Preservation and Rehabilitation Project" studied in the Graduate Program in Restoration of fall semester of 1983-84 in METU.

CHAPTER 2

RE-ADAPTING THE TRADITIONAL RESIDENTIAL BUILDINGS TO THE CONTEMPORARY LIFE: DEFINING THE FUNCTIONAL LAYOUT AND 'UPGRADING' THE SERVICE SPACES

> *"It is a challenge in our current preservation practice to develop sustainable and creative strategies to rescue old buildings."*
>
> *(Casal, n.d.)*

Buildings in general are built for a purpose. However in time, these buildings can no longer continue their purpose due to changing environment and circumstances. When these times come, there are three possible futures for these buildings; they will be abandoned and eventually be demolished; they will be adapted to contemporary developments, in other words 'upgraded' or if these buildings outlive their purpose, they will be introduced to new functions. This is when the terms "adaptation", "adaptive re-use", "re-use", "conversion" and "upgrading" comes into the conservation agenda.

There are actually two basic reasons of this process: The first reason is to conserve and prolong the life-span of historic structures by giving new functions when they are threatened with abandonment and faced with demolition. The second reason is the changing expectations of the property owners. Over centuries, the owners of historic buildings can no longer make use of their property as their expectations change; since the technology provides more effective solutions that the historic buildings can no longer offer. Adaptation is necessary so the owners can make use of their property. The historic structures need adaptation, so that modern facilities can be introduced to these buildings in order to continue making use of them instead of leaving them as ruins.

The adaptation can be defined as a key strategy in conservation world of 21st century. Conserving only the exteriors of these buildings is no longer appropriate. The new goal has become to consider the building as a whole, together with all its tangible and intangible values, while providing continuity in use by upgrading to contemporary life. By adaptation, these cultural heritages will represent and serve many generations to come.

2.1. Adaptation of Historic Buildings as a Conservation Issue

"Adaptation" became popular in the architecture since 20th century, however it can be said that the idea was applied by our ancestors. For example, The Athena Temple in Sycrause, constructed for Greek Gods, was converted into a church about 800 A.D. Also The Marcellus Theater, in Rome, dating back to Julius Caesar, was converted into residences (apartments) in the Middle Ages (Velthuis & Spenneman, 2007; McLaughlin, 2008).

Also, farm buildings in Europe have been adapted for a very long time to accommodate developing farming practices and technologies (Velthuis & Spenneman, 2007; McLaughlin, 2008). By the 19th century, conversions of old buildings for new uses had become common since several transformations were happening around the world such as industrial and technological developments (English Heritage, 2006).

However, in late 19th and early 20th centuries, new building construction became popular and replaced the idea of conversion with the one of 'demolition and new construction'. "*.. in Edinburgh, residences which had once been converted to offices in 1950s were converted into dwellings again" (Douglas, 2006)*. Nevertheless the second half of 20th century has been enlightenment on adaptation and conversion concept as the benefits such as economical, physical and psychological of adaptation are determined at the end of this century. The concept of adaptation in the scientific approach of conservation was the main assimilated issue at the beginning of 21st century that accordingly this caused re-conversions as the converted buildings of 18th & 19th centuries were being re-converted to their original use.

The terms “adaptation”, “adaptation”, “re-use”, “conversion” and “upgrading” are briefly explained as follows. However, it must be stressed that each term is linked with another and they can be under-titles of each other in different sources. Nevertheless, these terms are mostly used in defining these basic facts; to provide continuation in “old” buildings’ original function by upgrading these to contemporary standards, to provide continuity in the use of “old” buildings by offering new functions.

The following are the basic definitions of these terms: Conversion is “the process of changing or causing something to change from one form to another” [1] and can also be defined as “a place for living in that has been changed from its previous use”[2]. James Douglas (2006) describes conversion under three different parts; these are “adaptation to the same use”, “conversion to an alternative use” and “conversion into a mixed use.” According to Douglas, adaptation to the same use means the modification to the internal lay out. However, change to a new use involves spatial and functional requirements that are different from the original (Douglas, 2006).

Adaptation can be defined as “make (something) suitable for a new use or purpose; modify”[3]; the action or process of adapting or being adapted”[4] and “the process of changing to suit different conditions”[5]. To sum up, adaptation is the process of altering the historic structures for new purposes or providing maintenance to the structure by upgrading it to contemporary technology and requirements either by offering new use or continuing the original one with upgraded technical services and equipments. Re-use is generally used as an alternative to adaptation and can be defined as “refers to the renewed use of the building in its original function or to the recycling of its material” (Asselbergs, 1996 cited in Velthuis & Spenneman, 2007). Adaptation is often referred to providing new use alternating the original one (Douglas, 2006). In the 21st

[1] Oxford Dictionary, http://oxforddictionaries.com , last visited on March 2011

[2] Cambridge Dictionary, http://dictionary.cambridge.org, last visited on March 2011

[3] Oxford Dictionary, http://oxforddictionaries.com , last visited on March 2011

[4] Oxford Dictionary, http://oxforddictionaries.com , last visited on March 2011

[5] Cambridge Dictionary, http://dictionary.cambridge.org, last visited on March 2011

century, traditional residential buildings need comprehensive interventions to meet the requirements of contemporary technology and life standards. Therefore, it can be said that the continuation of the original use has become an "adaptation process" as the amount of interventions are as comprehensive as offering a new use.

Types of adaptations can be defined both as the upgrading of the building to new developments while continuing its original use or as introducing a completely new function and also as introducing multiple functions (residences & offices solved in the same building, in other words: mixed-use).

If adaptation refers to continuing the original use, 'upgrading' is the used term that is used for this definition. The term 'upgrading' is defined as "to raise (something) to a higher standard, in particular improve (equipment or machinery) by adding or replacing components"[6] ,"an improved or more modern version of something"[7] and "to improve the quality or usefulness of something" [8] . In short, 'upgrading' is to adapt something into the contemporary to get more efficiency from the original while the function continues its originality.

The next example (Figures 2.1 & 2.2 & 2.3) is an example for the historic buildings which are introduced to a completely new function. The structure was originally built as a store grain in Lukasod, Germany[9]. Recently, it has been converted into a residence by Eberhard Stauss. Steel tie rods were used to control the expansion of the wood (as it swells in damp) which is the original construction material of the building. The interiors were introduced to modern service units. New materials and techniques were applied during the adaptation process (Thiebaut, 2007, p.108).

[6] Oxford Dictionary, http://oxforddictionaries.com , last visited on March 2011

[7] Oxford Dictionary, http://oxforddictionaries.com , last visited on March 2011

[8] Cambridge Dictionary, http://dictionary.cambridge.org, last visited on March 2011

[9] Example from "Old Buildings Looking for New Use", by Thiebaut,P.; 2007

Figure 2.1 **Figure 2.2** **Figure 2.3**

Figure 2.1 & Figure 2.2 & Figure 2.3[10]

An Adaptation of a Store Grain as a Residential in Lukasod, Germany

Adaptation can be applied to any kind of cultural heritage such as residential buildings, religious buildings, industrial buildings, vernacular buildings, educational buildings etc. The most common adaptations of cultural heritage around the world are as follows; to residential, to commercial, to monumental, to educational/museum, to industrial (such as railways, textile mills, factories, hospitals) and to accommodation purposes (hotels, apartments etc.). These are the most common adaptation examples but there can be many more options for the adaptation of historic buildings.

The Dall'Aqua Textile Factory in Buenos Aires, Argentina is an example of a monumental building being converted for residential purposes (Figure 2.4 & Figure 2.5). It was converted into modern lofts, renamed "Lofts de Darwin" in 1990. The open working spaces were adapted into living contemporary units. The conversion had no damaging impact on its character whereas environmental development occurred where several owners showed efforts to improve their houses (Casal, n.d.) [11].

[10] Images from "Old Buildings Looking for New Use", by Thiebaut,P.; 2007

[11] Example from the article "The spirit of place and the new uses", Casal, S.M.; University of Buenos Aires

Figure 2.4 **Figure 2.5**

Figure 2.4 & Figure 2.5[12]
An Adaptation of a Textile Factory as a Residential in Buenos Aires, Argentina

There are many benefits of adaptation, such as economical, social, environmental and architectural. The first obvious economical benefit is that the infrastructure and materials of the historic structure will be saved rather than being wasted by demolition.

> *"The adaptive reuse of existing buildings saves energy and resources. The reuse of an existing structure and shell reduces the need to manufacture and construct the building with new materials thus reducing the need for additional natural resources and the energy required to make them."*
>
> *(New Jersey Department of Environmental Protection, 2007)*

Also as these historic buildings are conserved and adapted to new purposes, the area becomes attractive for tourists which accordingly lead the way to economical benefits as well as the social as the income brought by tourists contributes to the welfare of the country. For example, in Tarsus/İçel, Mersin, Turkey, the traditional residential buildings were converted into hotels & restaurants. These projects are prepared by "SAYKA Architecture" where the new rehabilitation project enlivens the area and attracts tourists (Figure 2.6 & Figure 2.7).

[12] http://darwin.com.ar/sobte/

Figure 2.6 **Figure 2.7**

Figure 2.6 & Figure 2.7
Before and After the Restoration Project of a Traditional Residential Building in Tarsus, İçel prepared by SAYKA Architecture
(Photographs by SAYKA Architecture)

The example (Figure 2.8 & Figure 2.9) shows a room of a traditional dwelling in Tarsus, İçel, which is converted into a hotel room and as can be seen, the bathroom is inserted into the space with the help of the division panels (Figure 2.9). The materials used are both compatible and distinguishable from the original materials: timber reflecting the past and plastic panels representing the contemporary.

Figure 2.8 **Figure 2.9**

Figure 2.8 & Figure 2.9
A Restoration Project of a Traditional Residential Building in Tarsus, İçel
(Photographs by SAYKA Architecture)

The most important social benefit of adaptation is its contribution to the sustainability of the commemorative value that the historic buildings behold. People of a certain cultural background feel an emotional bound with these structures because they belong to their ancestors and represent their lifestyle.

For example a shelter building constructed in 1830s in the period of industrial revolution in Hamburg (Germany) as a shelter for poor, unemployed and homeless people, was used as shelter until 1920s, when later it was converted into workshops after the World War II[13]. Today, this historical building serves as seven lofts, offices and studios of the lofts' owners, designed by "Swartz Design Associates" (Figures 2.10 & 2.11 & 2.12). The aim of the project is defined as to conserve the originality of the structure while adapting the spaces to fulfill the requirements of modern and comfortable homes. The original characteristics of the building are mostly conserved while the interiors are adapted to modern life standards with new materials, parquet floors and partitions to separate areas (Schleifer, 2006, p. 281).

These historic buildings provide historic, attractive landscapes and represent characteristics of a certain region. If they continue their original functions, these properties will attract tourists. The use of historic buildings will bring new activities to their surroundings and therefore attract new people, which will animate the neighborhood instead of being abandoned as 'ghost towns'.

> *"The successful adaptation (whether refurbishment or adaptive reuse) of a redundant property can offer hope to a community devastated by the loss of traditional industries."*
>
> *(Douglas, 2006)*

[13] Example from "Converted Spaces", by Schleifer, S.; 2006.

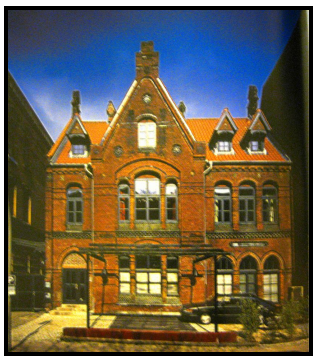
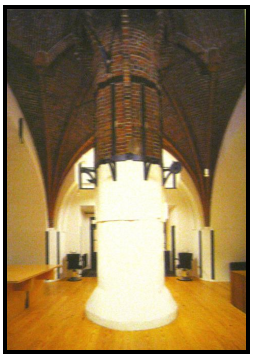




Figure 2.10 **Figure 2.11** **Figure 2.12**

Figure 2.10 & Figure 2.11 & Figure 2.12 [14]

An Adaptation of a Shelter Building as a Residential in Hamburg, Germany

Adaptive re-use of buildings have many environmental benefits. First of all, demolition is prevented which causes loss in materials, causes air pollution during the demolition and increase in general waste. The recycling of materials makes a great contribution to our environment. The next example shows the use of contemporary technical equipment with the traditional materials of the historic building. The example is a building which was constructed as an old mill, located on top of a hill in Padley Canyon in Derbyshire, UK[15]; today, serves as a country house, designed by the architect Peter Blundell Jones (Figure 2.13 & Figure 2.14). This example focuses on meeting the contemporary life standards and requirements of contemporary living. The restoration focused on conserving the sandstone characteristics of that specific area and the original medieval slate roof. However, the interiors are completely introduced to contemporary elements and materials where the spaces meet the requirements of contemporary life while respecting the original craftsmen work as the interventions are done using stone from the surroundings, put in place by local craftsmen. Additional steel girder is added to support the weight of the arched beams on the first floor (Schleifer, 2006, p.300).

[14] Images from "Converted Spaces", by Schleifer, S.; 2006.

[15] Example from "Converted Spaces", by Schleifer, S.; 2006

Figure 2.13

Figure 2.14

Figure 2.13 & Figure 2.14[16]

An Adaptation of an Old Mill as a Residential in Padley Canyon in Derbyshire, UK

During the 20th century, parallel to the developments in materials and construction technologies, fast constructions became the key issue in construction. As a result, mass-production came into the agenda of construction and architecture. The prototype of "a single unit" is an offer for an ideal home for an average family. George Fred Keck, an American architect defines the concept of modern house as:

> *"...to provide the maximal interior living area with the minimal use of space, to provide a scientifically healthful, light, cheerful residence, to design a house that lends itself to mass production... and cutting down construction time." (Keck, 1943)*
>
> *(Searing, 2002, p.108)*

Similar expectations of people all around the world can be solved with similar solutions and approaches. The basic parameters of contemporary development are to provide light, air and maximum sun into the residential space and to solve technical infrastructure such as water supply, water drainage, heating, ventilation and technical equipments for service spaces such as kitchen, bathroom and WC units.

[16] Images from "Converted Spaces", by Schleifer, S.; 2006

"Rescuing the spirit of a place which goes through rehabilitation is a challenging task. It needs that professionals involved are more aware of the intangible message that lies beneath the material message."

(Casal, n.d.)

The most preferred adaptation can be defined as the adaptation of historic buildings as residences, which shows the urgent and growing need of housing stock in most of the European countries and especially in Turkey. There are many new constructions as housing projects especially in metropolitan cities where the already existing housing stock are highly regarded. So it is important to carry the past into the future by upgrading and providing continuity in the use of the regarded housing stock which are also our cultural heritage: the traditional residential buildings.

Figure 2.15

Figure 2.16

Figure 2.15 & Figure 2.16
An Adaptation of a Traditional Residential Building from Şirince, İzmir as a Hotel where the Service Units are converted from Traditional Rooms
Architect: Etem Ülkütaş
(Photographs by Güliz Bilgin Altınöz)

The concept of adaptation is in demand in conservation of traditional residential buildings due to the need of the housing stock in the central areas of contemporary cities where the population had decreased and conditions of neglected historic buildings have caused abandonment of these zones. To enliven these zones, the buildings must be upgraded.

In the adaptation of traditional residential buildings to the new functions, the service spaces become important as these historic buildings do not have the contemporary service spaces of today. In many projects the implementation of service units to these traditional houses can be seen, however the examples are hard to find in the literature as documentations. The topic of installation of the service units to the historic buildings with scientific approach has become the new concept in adaptive re-use. The example above shows the traditional residential buildings from Şirince, İzmir in Turkey where these serve as the guest houses for tourists (Figure 2.15 & Figure 2.16). The following figures show (Figure 2.17 & Figure 2.18) the service unit implementation to traditional houses from Şirince where the traditional spaces are introduced to new functions as the service spaces.

Figure 2.17 **Figure 2.18** **Figure 2.19**

Figure 2.17 & Figure 2.18 & Figure 2.19
An Adaptation of a Traditional Residential Building from Şirince, İzmir as a Hotel where the Service Units are converted from Traditional Rooms
Architect: Etem Ülkütaş
(Photographs by Güliz Bilgin Altınöz)

"The most successful built heritage adaptive reuse projects are those that best respect and retain the building's heritage significance and add a contemporary layer that provides value for the future."

(Department of Environment and Heritage, 2004 cited in Bullen & Love, 2010)

2.2. A Proposal for Adaptation of the Traditional Residential Buildings: The Process and Content

On adaptation and conservation of historic buildings; ICOMOS defines general issues and principles:

"Adaptation and reuse of vernacular structures should be carried out in a manner which will respect the integrity of the structure, its character and form while being compatible with acceptable standards of living ..."

(ICOMOS, 1999)

"Adaptation is acceptable only where the adaptation has minimal impact on the cultural significance of the place. (Adaptation may involve the introduction of new services, or a new use, or changes to safeguard the place)"

(ICOMOS, 1999)

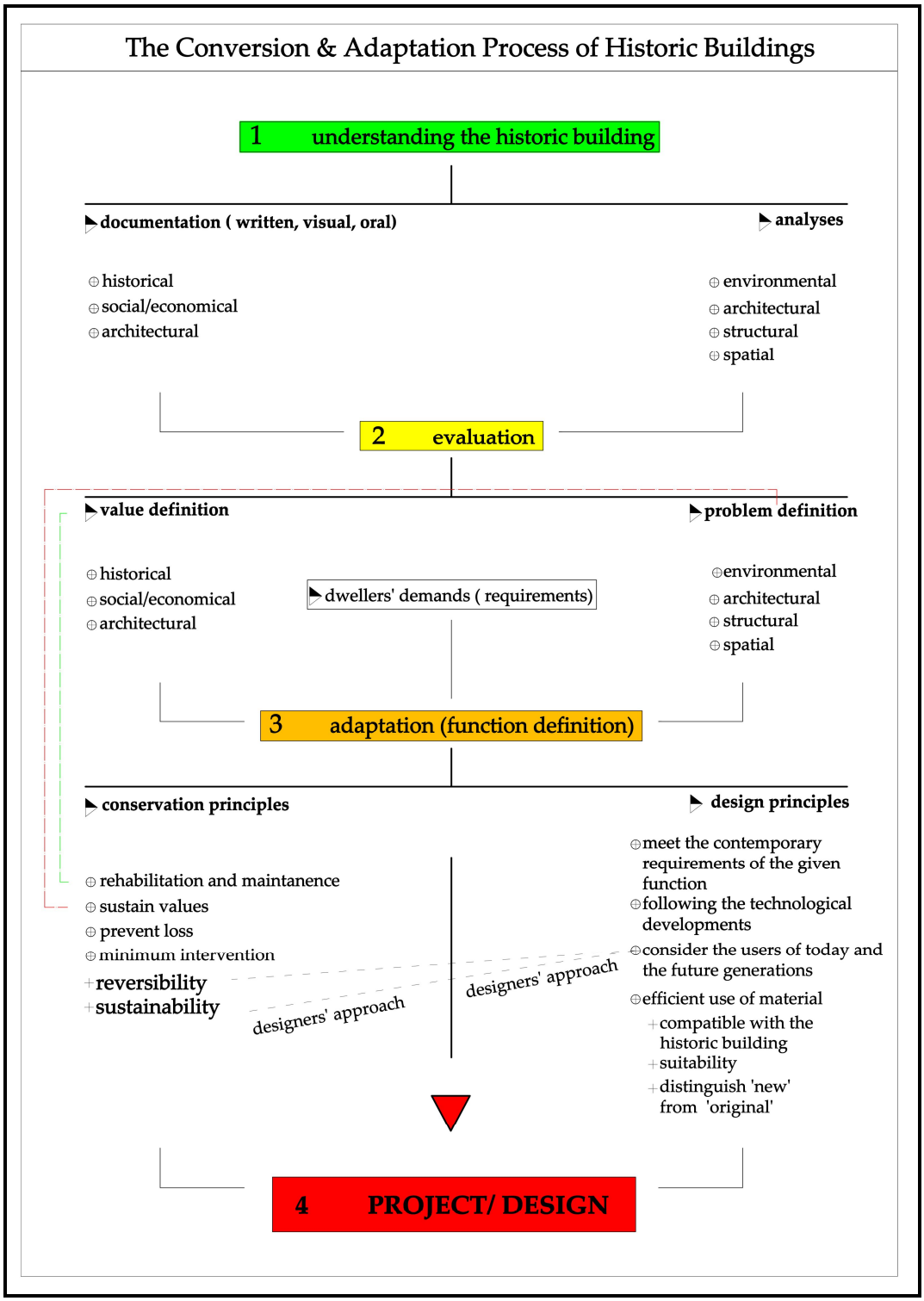
The main concern on adaptation of cultural heritage is careful approach on not only the materialistic values of the building but also the intangible message that lies beneath. The main characteristic and authentic properties of buildings must be conserved (facade organization, plan organization and architectural elements) and careful (preferably minimum) interventions must be done for the required interventions and upgrading of the technical equipments and infrastructure.

Within the content of this thesis a methodology is proposed firstly on the adaptation of historic buildings and secondly on the upgrading of traditional residential buildings. The following chart and definitions focus on the adaptation of historic buildings in general.

The first step of the adaptation process is understanding the historic building, which includes “documentation” and “analyses”. The background of the building must be researched and documentations (written, visual and oral) must be gathered in order to understand the historical, social & economical and architectural properties of the historic building. The character and cultural significance of the building must be defined. Analyses phase includes the survey of various aspects of the building. These surveys are done in terms of environmental, architectural, structural and spatial aspects of the historic building. In the environmental survey; the settings and environmental characteristics of the intended building must be properly studied. The architectural survey; must be done comprehensively in order to define the architectural characteristics of the building. In terms of the structural survey; the structural and material condition of the building must be investigated to understand the amount and priority of the interventions it needs. Before the installation of new service units, the structural capacity of the building must be considered. The spatial survey must be studied in terms of the plan layout and the current use of spaces.

The second step is the assessment of the historic building, in which the values, problems, potentials of the building and the owners’ demands are considered. Value definition includes the historical, social & economical and architectural values of the building. Problem definition consists of the analyses (environmental, architectural, structural, and spatial) which are done in the research phase. These must be evaluated in order to define the problems of the historic building. Potential definition must be done to evaluate the historical, social & economical and architectural potentials of the building so a proper conservation project can be offered with respect to these potentials. The owners’ demands are one of the most important inputs as the proposed design must meet the requirements of the owners.

TABLE 2.1 CONSERVATION & ADAPTATION PROCESS OF HISTORIC BUILDINGS



The third phase is the adaptation process, where the conservation and design principles are defined. After the proper application of these steps, the designer can focus on the design where it must be emphasized that the design becomes the product of an individual. The designer however should consider that the design must answer and follow the requirements of the century. The upgrading of a building's status to contemporary standards of the 21st century includes: providing water supply & water drainage system, efficient lighting, heating & heat insulation, ventilation, sound insulation; designing in terms of fire safety; addition of new service units and addition of new equipments.

Replacing mechanical systems might be critical as the older structures are not designed with space to behold these, so before any installation, the structural capacity of the building must be tested and if necessary consolidation studies must be done. The designs must provide the insertion of the technical systems as these are required to provide contemporary living standards while these elements might be exposed as design features. Most of the infrastructural properties may already be installed to the structure. If these technical systems do not cross the principles described above then rather than new installations, it is preferable if these are upgraded. The sustainability of these equipments must be provided because removing the properly working ones and replacing them with something new might harm the building. However, providing new service units and equipments to the structure cannot remain regarded. These must be provided for the building to attract the residents which look for comfort the technology of the contemporary life offers.

The traditional residential buildings can provide the required standards for the contemporary usage if upgraded to the changing contemporary standards of living. This can be provided with minor modification of the functional layout and insertion of the service spaces since one of the major problems in abandonment and unconscious alterations to these buildings are the lack of contemporary and sanitary service units. The following methodology is proposed especially for traditional residential buildings.

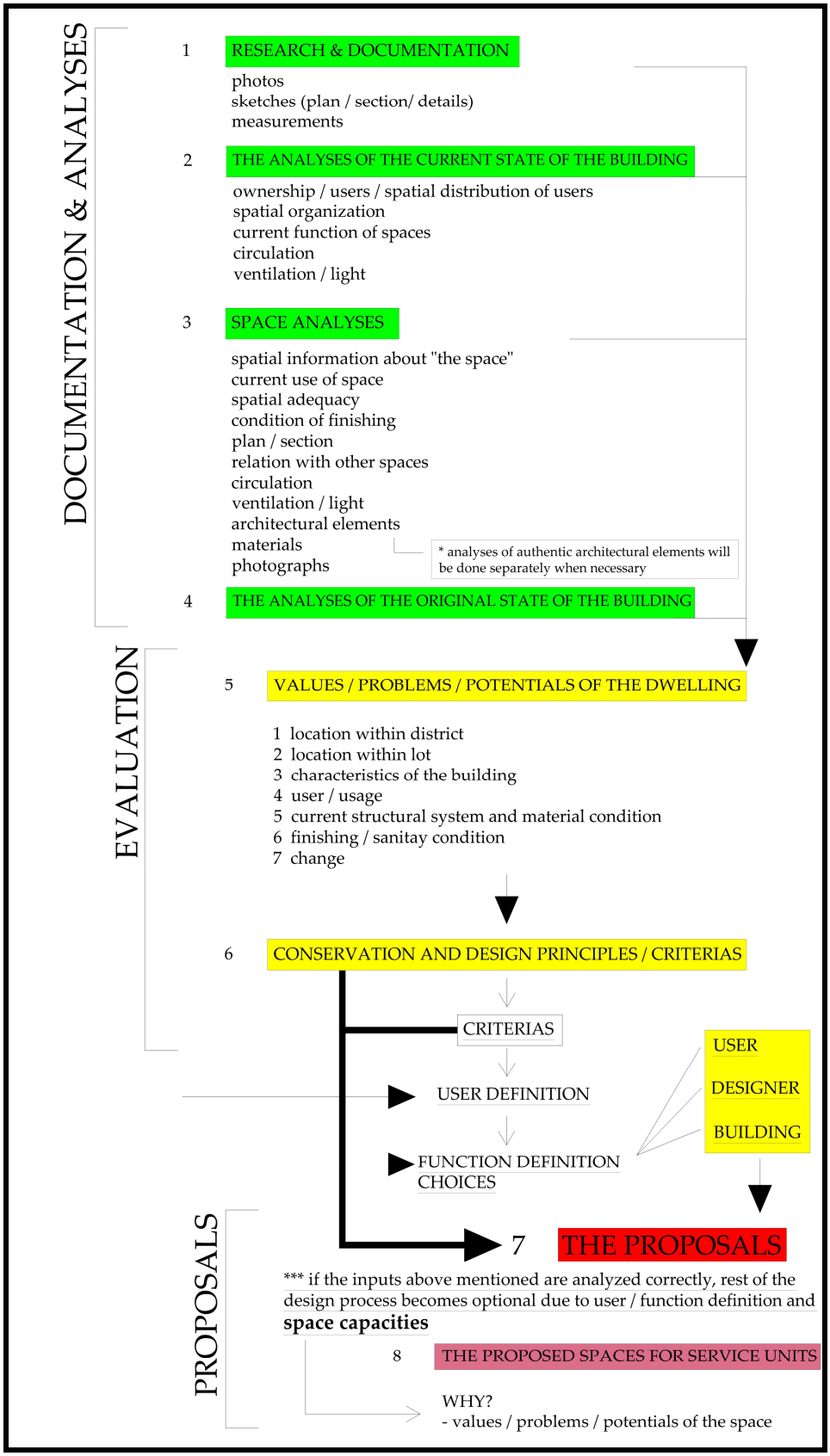
In "the Documentations and Analyses Phase" (Table 2.2); the chosen cases are described in terms of "the analyses of the current state of the building" and "the

space analyses". These give brief information about the general characteristics of the chosen cases and include the definition of the current plan organization and the usage scheme. The space analyses focuses on the service units of each case. In "the analyses of the current state of the building", the chosen cases are studied in terms of their; ownership/users/spatial distribution of the users, the spatial organization of the building, the current function of spaces, especially the service units, and circulation/ventilation/light properties (Table 2.2). In "the space analyses" (Table 2.2), the spaces of the chosen cases are studied in terms of; spatial organization within the space, the current use of the space, the location of the space/the relation with the other spaces, the plan and section and the architectural elements of the space, circulation/ventilation/light properties, the spatial adequacy to meet the requirements, the condition of the finishing of the space and the materials of the space, where all these data are supported with photographs**.**

In the space analyses survey sheets; in terms of "spatial adequacy", the spaces are analyzed according to these numerical input: 1 the dimension of the space is adequate in terms of today's requirements, 2 the dimension of the space is partially inadequate that it can fulfill only one of today's requirements, 3 the dimension of the space is inadequate that it cannot fulfill the basic requirements. Also the "condition of finishing" of the spaces are studied according to these numerical data: 1 in a good condition and intervention is not needed, 2 the condition can be improved by intervention, 3 the condition needs comprehensive intervention. In the space analyses survey sheets another analyzed input is the change in the plan organization and the architectural elements and these are studied according to these numerical input: 1 conserved, 2 legible, 3 the originality could not be perceived.

The evaluation (Table 2.2) of the chosen cases are described in terms of their probable original function, value definition (historical, social/economical, architectural), problem definition (environmental, architectural, structural, spatial) and potential definition (environmental, architectural, structural, spatial) where these descriptions result in the intervention principles of the cases and the proposed designs which are based on conservation and design principles.

TABLE 2.2 THE PROPOSED METHODOLOGY FOR ASSESMENT



2.3. A Proposal for Upgrading Traditional Residential Buildings: Conservation and Design Criteria

The Conservation Principles:

1 Rehabilitation & Maintenance: The condition of the building must be analyzed, evaluated and conservation of the structural system and original materials must be done before any application.

2 Sustain values: The values of the building must be protected during the interventions.

3 Prevent loss: The loss of existing values during the adaptation process must be prevented.

4 Minimum intervention: The proposed new use to the building or to a space must be compatible with the original one to prevent major alterations. The problems must be solved with minimum intervention.

5 Sustainability: Sustainability on design must be provided where the new alterations can be easily adapted to newer technological inputs by future generations.

6 Reversibility: The alterations such as insertion of the new service spaces & equipments must be reversible, in other words the alterations must be capable of being removed (without harming the buildings) for future adaptation works.

The Design Principles:

1 Meet the contemporary requirements of the given function

2 Follow the technological developments

3 Consider the users of today and the future generations: Meet the requirements of the owners as they are the most important decision makers. Carry on the cultural heritage with minimum intervention & propose reversible designs so the future generations can adapt the units to new technological developments.

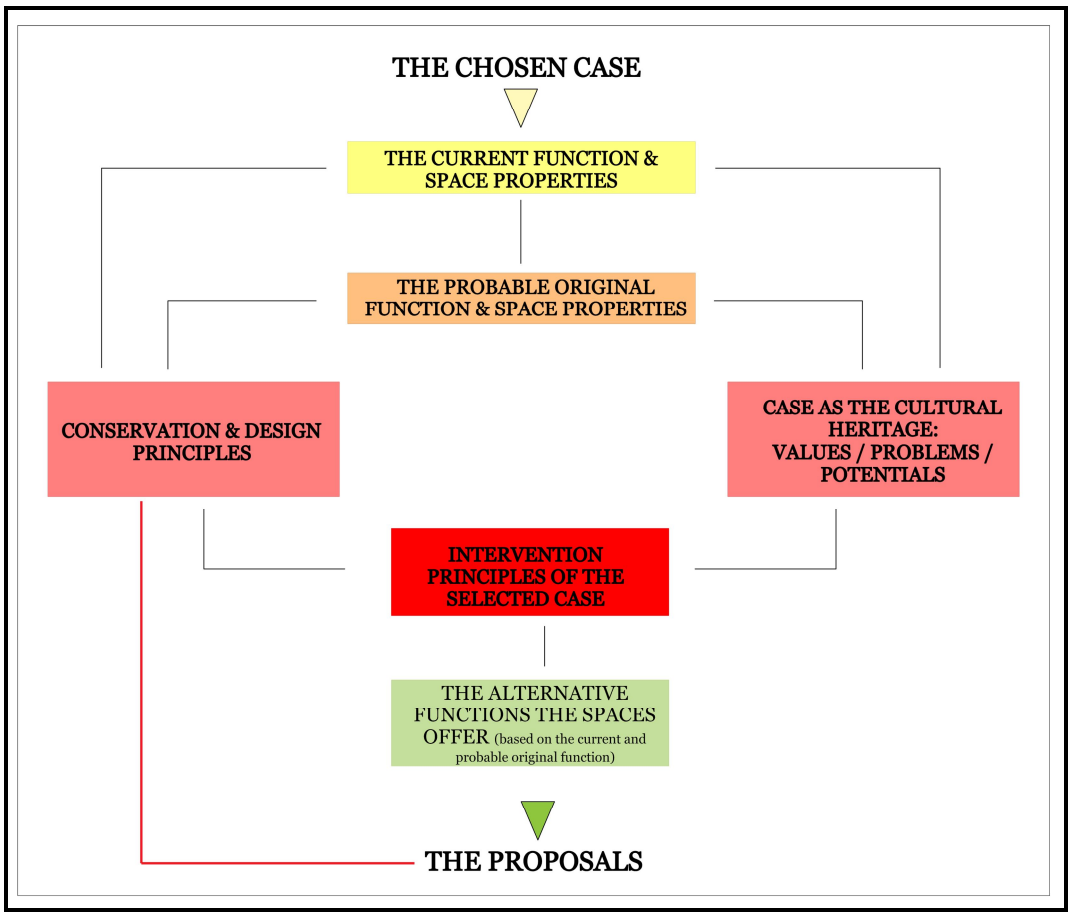
4 Efficient use of Materials: The new materials must be suitable for and compatible with the historic buildings so that the traditional materials are not harmed. The added parts, services, equipments must be distinguished from the original to respect the authenticity of the building.

The key words of the conservation and design principles are to sustain values and prevent loss while meeting the contemporary requirements of the given function meaning the design which follow the technological developments must be done with minimum intervention and efficient use of material. The added parts, services, equipments must be distinguished from the original to respect the originality of the building. The proposed materials must be compatible with the historical building. Sustainability on design must be provided where the new alterations can be easily adapted to newer technological developments by future generations and the alterations such as insertion of new service units & equipments must be reversible, in other words the alterations must be capable of being removed, without harming the buildings, for future adaptation works.

The demands and the requirements of the users get involved before the adaptation process as they are the most important decision makers as the users. Their requirements are the inputs from the users which must be considered before the final proposal. If the steps up to this point are followed correctly and the inputs from the building and the users are analyzed and merged into the adaptation process sufficiently, then the final input is from the designer in terms of the designs (Table 2.2).

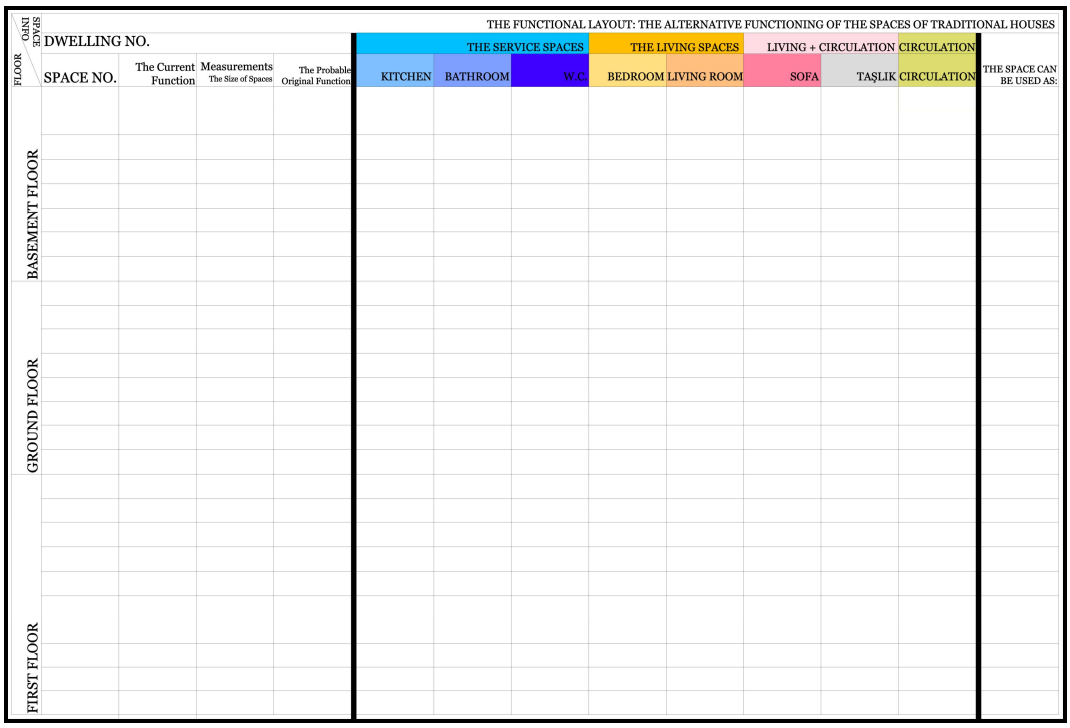
The traditional residential buildings as cultural heritage should be approached while considering the following steps which will result in final usage scheme of the proposed use; conserve the cultural heritage, sustain values and prevent loss, analyze the current functions of the spaces with their facilities and limitations, consider the contemporary housing standards in terms of sanitary conditions within contemporary residences. These steps result in alternative functioning layout in terms of the size of the spaces in contemporary housing and lighting/ventilation/circulation properties. The alternative functioning of the spaces result in the final usage scheme of the traditional residential buildings in the proposals and designs. So there are two charts to be evaluated for each case. These are studied to determine the final stage where the final space functions are defined in the new proposals to be offered to chosen cases: “The Functional Layout: The Alternative Functioning of the Spaces of Traditional Houses” (based on the Current and Probable Original Functions) and the distribution of the gathered data in the plan layout (Table 2.3).

TABLE 2.3 THE PROGRESS OF THE FUNCTIONING OF THE SPACES



The current function and the size of the spaces carry the clues of how the spaces might have been used originally. Comprehensive restoration projects specify the original use of spaces in the restitution phase. This study does not include a comprehensive restoration project rather is the last step of the restoration project where the data analyzed are taken from the project. In this part original use of the spaces of the case must be taken from the restitution phase but for this thesis “the original use” will be mentioned as “the probable original function”.

TABLE 2.4 THE FUNCTIONAL LAYOUT



In the analyzed chart “The Alternative Functioning of the Spaces” (Table 2.4), the spaces analyzed in the Documentation & Analyses Phase are listed in the chart and analyzed in terms of their current function, measurements giving the sizes of the spaces and with their probable original functions, determined by the data from the building such as documentations, traces, space characteristics. The aim of this chart is to show the alternative functions the spaces offer while conserving their originality. The chart puts emphasis on the spaces which do not appear in the modern housing plan layouts and suggest that these spaces preferably continue their original function other than any alternative functions. This comment is based on the fact that these spaces are the main elements of the traditional residential buildings’ usage scheme. For example circulation & living spaces are the main components of the plan layout where these are used as circulation, the main living and gathering area of dwellers. The main rooms of the house which shows different characteristics from other spaces as these rooms are rich in architectural elements & ornaments and they are slightly larger than the other living areas. It would be unwise to convert or divide these spaces for service

unit conversions, however not impossible. The other spaces other than these show flexibility in adapting very different alternative functions as well as continuing their original functions which will be seen in the application to the chosen cases of this thesis. This chart aims to show the final functioning of the spaces in terms of different alternative functions they offer and these alternative functions' suitability to contemporary housing standards. This final data can be used in new proposals for the current and the future users. If the inputs above mentioned are followed correctly, rest of the design process become optional due to user / function definition and space capacities where the chosen spaces for the service units affect the design and application principles which will be described later on in the fourth chapter.

In the adaptation of traditional residential buildings to contemporary life the key steps are to provide contemporary standards in terms of service spaces such as kitchens, bathroom, W.C.s and infrastructure. The historic building should endow with lighting, heating, ventilation as "the building services" and water supply & water drainage as "the main services", which are the main elements of comfort in contemporary housing, without extinguishing its values. The building services such as lighting and heating should be proposed with professional consultants such as electricians and engineers, preferably having experience and expertise in conservation. So these are not the topics of this thesis. However, designing the service spaces while considering the values of the historic building, is among the main objectives.

TABLE 2.5 THE PROPOSED SERVICE UNIT INSERTION & BATHROOM ADAPTATION CHART

SERVICE UNIT INSERTION & BATHROOM ADAPTATION

SIZE of SPACES *

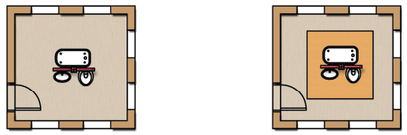
ARCHITECTURAL ELEMENTS

THE SPACE CHARACTERISTICS/ ARCHITECTURAL ELEMENTS & ORNAMENTS

X — ALL THE WALLS have ARCH. ELMNTS. & ORNAMENTS

A THE ROOM IS CONVERTED INTO A SERVICE UNIT

* with alternative platforms

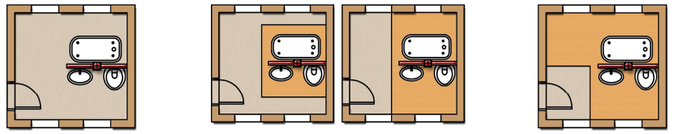


the service unit is placed in the middle of the space

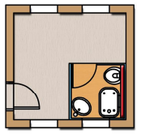
B A PART OF THE ROOM IS USED AS THE SERVICE UNIT

Y — THE 3/4 WALLS have ARCH. ELMNTS. & ORNAMENTS

* with alternative platforms



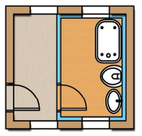
the service unit is placed vertically at one side of the space only having contact at one point



* inspired from "GÜSÜLHANE"

* with alternative platforms

the service unit is placed horizantally at one side of the space



* inspired from "GÜSÜLHANE"

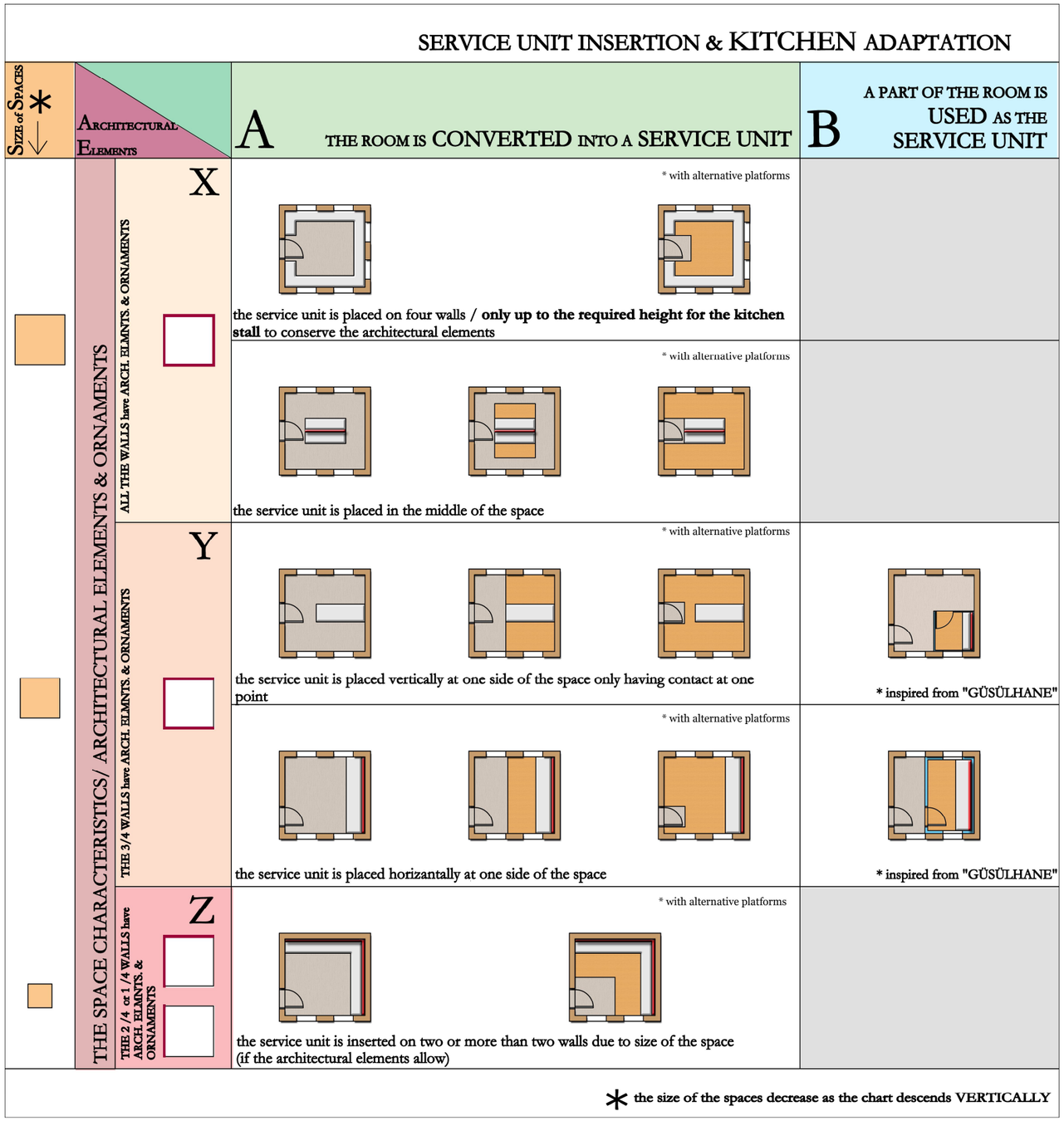
Z — THE 2 /4 or 1 /4 WALLS have ARCH. ELMNTS. & ORNAMENTS

* with alternative platforms

the service unit is inserted on two or more than two walls due to size of the space (if the architectural elements allow)

* the size of the spaces decrease as the chart descends VERTICALLY

TABLE 2.6 THE PROPOSED SERVICE UNIT INSERTION & KITCHEN ADAPTATION CHART



This thesis consists of proposals for the service units for each case in terms of:

- Principles to Protect the Traditional Residential Building (conservation & design principles)
- Insertion of the Service Units (location, compatibility with the traditional characteristics of the space such as size and architectural elements & ornaments , materials of the proposed designs)
- Technical Equipments
- Main Services of the Buildings: Water Supply and Water Drainage

The design of the service spaces depend on 3 inputs: *1 the size of the space*, *2 the architectural characteristics of the space* and after the insertion of the service units according to these 2 steps, finally; *3 the material choices for the designs which should be compatible with, distinguishable from and suitable for a traditional residential building*.

The size of the spaces is an important factor as the size determines the installation space of the technical equipments of the service spaces within the traditional room. The best ideal installation spot of the technical equipment would be the middle of the room if the space is spatially adequate for this proposal (Table 2.5 & Table 2.6; Input : X). Within this input; the new equipments do not harm the traditional materials as the equipment neither touches the walls or the ceiling. As the size of the room decreases, the second best alternative would be the installation of the technical equipments vertically to one side of the space (Table 2.5 & Table 2.6; Input : Y), touching the traditional wall at one point only where this proposal protects the walls and the ceiling. A smaller sized room would also offer this usage where the technical equipments are placed horizontally against one side of the space (Table 2.5 & Table 2.6; Input: Y). However if the size of the room is so small that it cannot offer a single sided conversion then as a solution the equipments can be placed against two sides of the space (Table 2.5 & Table 2.6; Input: Z).

This order is parallel to the second input to be considered in the adaptation of the service units which is the architectural characteristics of the space. If the chosen room for the service unit installation is that all the walls, meaning 4/4 walls of the

space have architectural elements & ornaments with an ornamented ceiling (Table 2.5 & Table 2.6; Input: X) then the installation of the technical equipments must be placed in the middle of the room without having any contact with the walls or the ceiling. If 3/4 walls have architectural elements & ornaments along with an ornamented ceiling (Table 2.5 & Table 2.6; Input: Y) than the design can be placed against one side of the space either vertically (preferably) or if the size is not available then horizontally. This proposal protects the 3 walls and the ceiling. If the equipments are placed vertically then it can be said that even 4 walls are conserved. If 2/4 or 1/4 of the walls have architectural elements & ornaments along with an ornamented ceiling (Table 2.5 & Table 2.6; Input: Z) then the design can be placed against 2 even 3 sides of the space. But 3 side installations are not proposed, it would be better if the designs (if installed to the whole wall from floor to ceiling) are limited with 2 sided installations.

For the kitchen there is an exception of covering all sides of the space only when the kitchen stall and equipments are limited with the level under the window sill line (if the kitchen stall meets the 90 cm height standard of contemporary housing). This proposal fits into the first definition (Table 2.5 & Table 2.6; Input: X) where rather than in the middle of the room the kitchen stall is around the room only up to required length conserving the upper walls, the architectural elements and the ornamented ceiling. Spatially this design is only proper for larger traditional rooms where the flexibility in motion within the space must be provided.

There are two alternatives in service unit insertions; the first one is where the room is converted into a service unit itself (Table 2.5 & Table 2.6; Input: A) and the second one is where a part of the room is used as the service unit (Table 2.5 & Table 2.6; Input: B). In the first one, the technical equipments of the given function is exposed within the space where in the second one, the service unit is installed up to the ceiling as if a cabin. In this proposal the service unit can either be revealed as a cabin with new materials distinguishable from the original materials or the service unit can be revealed as if as a traditional cupboard to reference the usage of traditional architectural elements within the traditional rooms. This becomes optional due to designer / user choices.

The third input, in adaptation of the service units into traditional residential buildings, is the material choices where the materials must be compatible with the traditional materials where these do not harm the original materials and the structural system. Also the newly inserted materials must be distinguishable from the original materials where the alterations of a new era must be emphasized in the design so the new and the original materials are read separately. The materials must also be suitable for the historic building where the newly added materials don't cause overload, decay and deformation on the original.

CHAPTER 3

THREE CASES IN İSTİKLAL DISTRICT, ANKARA: UNDERSTANDING AND ASSESSING THE BUILDINGS

The first stage while 'upgrading a traditional residential building', is understanding the architectural properties and current functional layout of the building, considering its location within the district, its location within the lot, characteristics of the building, its users, properties and condition of its structural system and materials, its plan organization and functional layout and changes. Following this, the original functional layout of the building needs to be studied. All these help to define the overall values, problems and potentials which will guide the re-definition of the functional layout of the building. A part of all these, the current state of the service spaces need to be understood and assessed, as they form the most important part of the 'upgrading process' of a traditional residential building. Thereupon, in this chapter each selected case is tried to be understood comprehensively through the above given topics, so that proposals can be developed for their 'upgrading' in the following chapter.

3.1. Case A: Birlik Street No: 3

This traditional residential building is located at Birlik Street No: 3 in İstiklal District, in the historic center of Ankara: Ulus. The building is close to Anafartalar Street, one of the main commercial axes of Ulus. Although it has a central location, Birlik Street is one of the many abandoned streets of İstiklal District. This building is the only occupied building on the street (Figure 3.2 & 3.3). İstiklal District was known as the *"Jewish District"* during Ottoman Period. There is a Synagogue, a monumental religious building on Birlik Street. The building is located across of the Synagogue, facing to it with its main facade.

According to Şahin (1995, pp. 160-161), this building along with the one next to it (Birlik Street No: 5) were built in the later periods of the district; early 20th or late 19th century. Its street facade is important with a monumental design understanding having a symmetrical order with recesses and projections.

3.1.1. The Architectural Properties and the Current Functional Layout

The building shows different characteristics from the rest of the traditional residential buildings of the district in terms of mass, facade, spatial and architectural properties. However examples such as these ones, late period and large scale traditional residential buildings can be seen in various districts in Ankara (Şahin, 1995, p. 161, Figure 3.5).

Figure 3.1
Birlik Street No. 3

The building has three floors and a *cihannüma* (Figure 3.7). It is probably the only example within the district as it has three courtyards (Figures 3.4 & 3.5 & 3.6). The facade organization is symmetrical. It has a monumental entrance (Figure 3.5). There are two entrances to the building. One of them is a monumental entrance with a two sided symmetrical and circular stairway each having seven steps, which leads to the ground floor and the other one is the

entrance to the basement down from the middle of the monumental stairway. The living spaces are very large. Due to the characteristics of the windows, the rooms are always bright and have natural light throughout the day.

Figure 3.2 Birlik Street

Figure 3.3 Birlik Street

Figure 3.4

Figure 3.5

Figure 3.4 Birlik Street No. 3, the "Cihannüma"

Figure 3.5 Birlik Street No. 3, the Second Entrance

TABLE 3.1 THE GENERAL INFORMATION ON BİRLİK STREET NO: 3

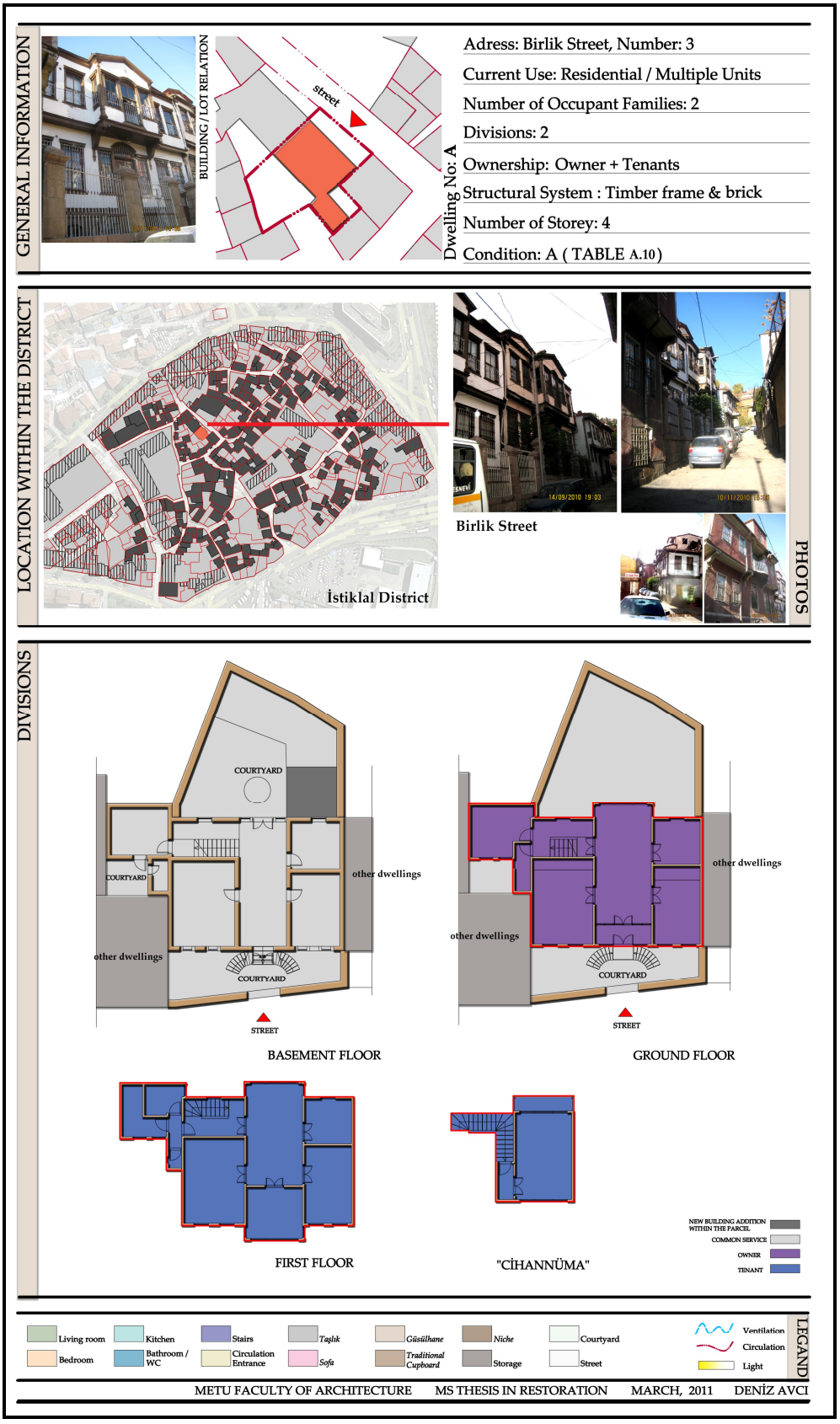


TABLE 3.2 THE CURRENT BASEMENT FLOOR OF BİRLİK STREET NO: 3

GENERAL INFORMATION

BUILDING / LOT RELATION

Adress: Birlik Street, Number: 3

Current Use: Residential / Multiple Units

Number of Occupant Families: 2

Divisions: 2

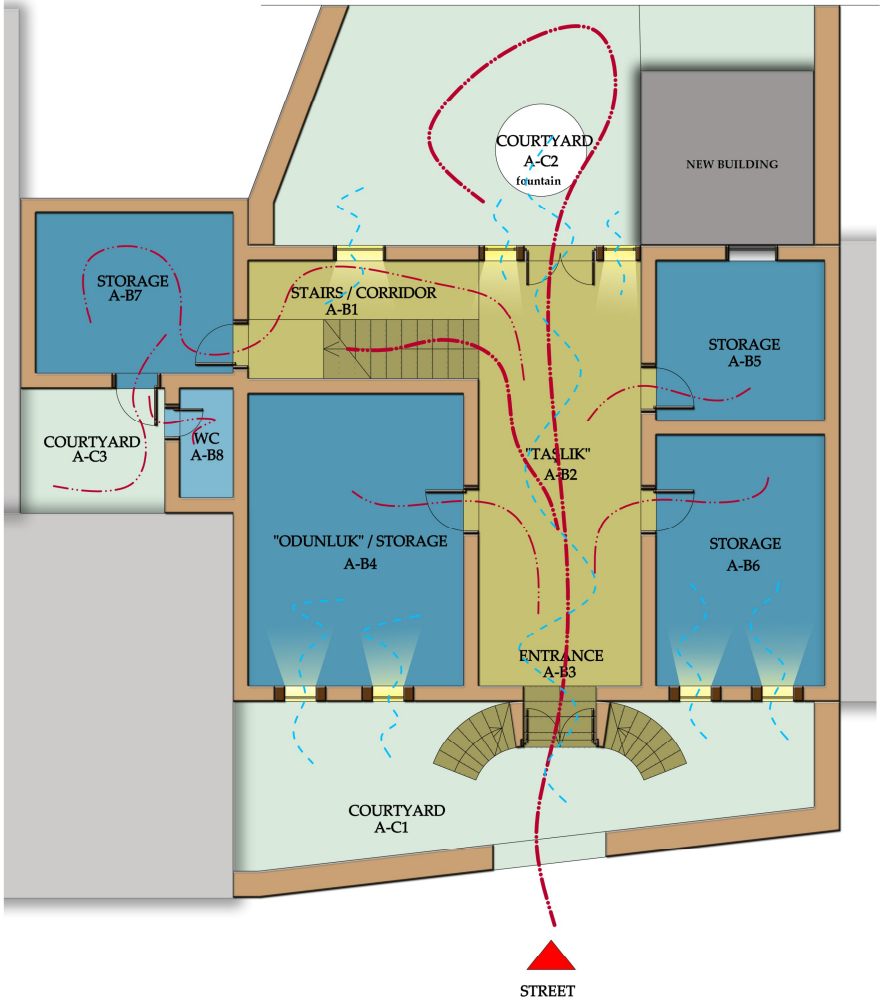
Ownership: Owner + Tenants

Structural System : Timber frame & brick

Number of Storey: 4

Condition: A (TABLE A.10)

SPATIAL INFORMATION / CURRENT USE



BİRLİK NO:3 BASEMENT FLOOR

* The building is measured and drawn by the writer

LEGAND

LIVING SPACES: Living room, Bedroom
CIRCULATION & LIVING: "Sofa"
CIRCULATION: "Taşlık", Circulation / Entrance, Stairs
SERVICE SPACES: Kitchen, Bathroom / WC, Storage
ARCHITECTURAL ELEMENTS: Traditional Cupboard, Güsülhane, Niche
OUTDOOR SPACES: Courtyard, Street
Ventilation, Circulation, Light

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TABLE 3.3 THE CURRENT GROUND FLOOR OF BİRLİK STREET NO: 3

GENERAL INFORMATION

BUILDING / LOT RELATION

Adress: Birlik Street, Number: 3

Current Use: Residential / Multiple Units

Number of Occupant Families: 2

Divisions: 2

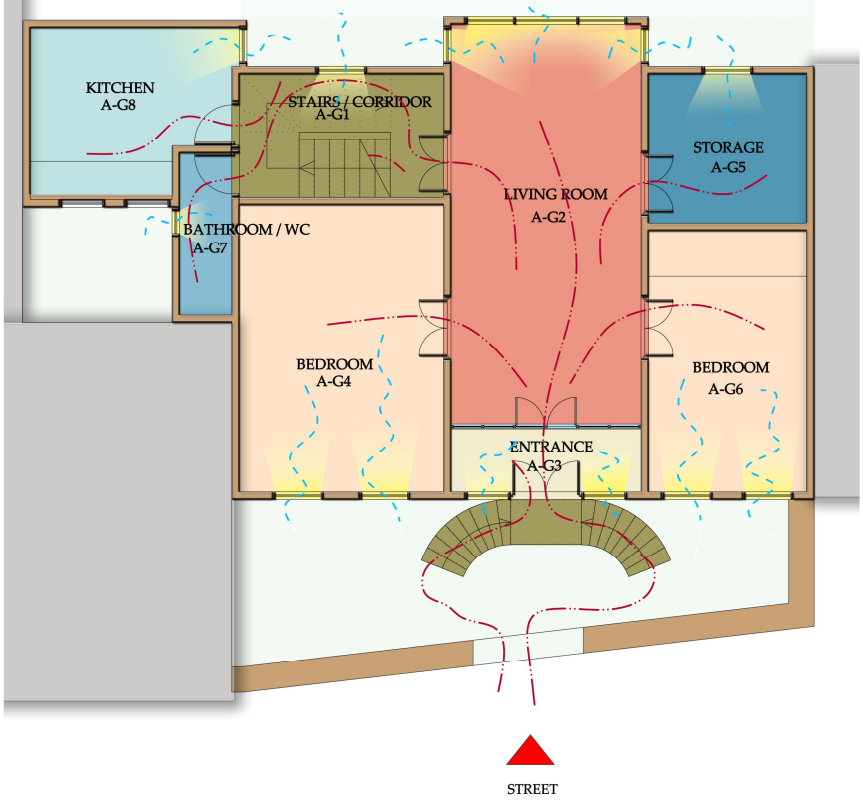
Ownership: Owner + Tenants

Structural System : Timber frame & brick

Number of Storey: 4

Condition: A (TABLE A.10)

SPATIAL INFORMATION / CURRENT USE



* The building is measured and drawn by the writer

BİRLİK NO:3 GROUND FLOOR

LEGAND

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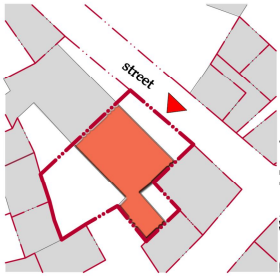
TABLE 3.4 THE CURRENT FIRST FLOOR OF BİRLİK STREET NO: 3

GENERAL INFORMATION

BUILDING / LOT RELATION



Dwelling No: A

Adress: Birlik Street, Number: 3

Current Use: Residential / Multiple Units

Number of Occupant Families: 2

Divisions: 2

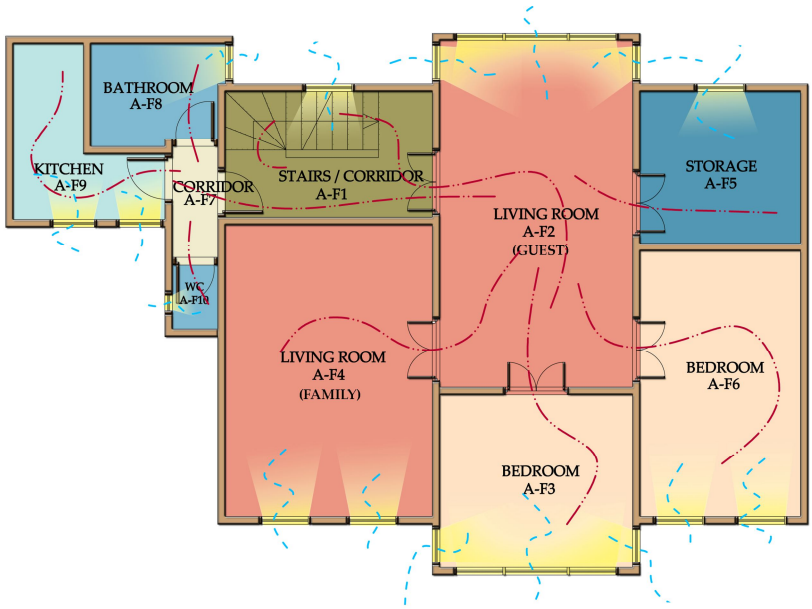
Ownership: Owner + Tenants

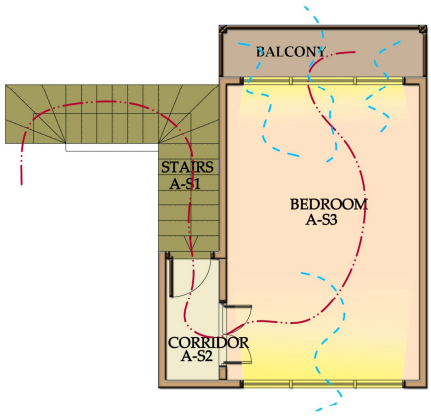
Structural System : Timber frame & brick

Number of Storey: 4

Condition: A (TABLE A.10)

SPATIAL INFORMATION / CURRENT USE





* The building is measured and drawn by the writer

BİRLİK NO:3 FIRST FLOOR + CİHANNÜMA

LEGAND

LIVING SPACES: Living room, Bedroom
CIRCULATION & LIVING: "Sofa"
CIRCULATION: "Taşlık", Stairs, Circulation / Entrance
SERVICES SPACES: Kitchen, Storage, Bathroom / WC
ARCHITECTURAL ELEMENTS: Traditional Cupboard, Güsülhane, Niche
OUTDOOR SPACES: Courtyard, Street
Ventilation, Circulation, Light

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The lot of the building is quite large. The building is located in the middle of the lot, forming three separate courtyards which serve for different purposes. There is no direct entrance to the building from the street; rather one of the courtyards, the fore courtyard, serves as the entrance area (Figure 3.7) (Table 3.1). The rear courtyard serves as the private courtyard and the garden (Figure 3.6), and the smallest courtyard serves as the courtyard of the service spaces, where there is one traditional toilet at the basement level (Figure 3.8). The fore courtyard and the rear courtyard have visual contact with the neighboring building (Birlik 5 [Figure 3.7]) which is a very similar building as this one, built by the same architect and during the same period. There are no major mass additions in the courtyards, only a small addition exists at the rear courtyard. However these courtyards are neglected and lost their function.

Figure 3.6 **Figure 3.7**

Figure 3.6 Birlik Street No. 3, the Rear Courtyard

Figure 3.7 Birlik Street No. 3, the Fore Courtyard

The structural system of Birlik Street No: 3 is timber frame built on a stone masonry at the basement level. As an infill material, brick is used (Figure 3.9 & 3.10). The part of the building which beholds the current service spaces might be a later addition, since this part is constructed with brick masonry and the floor materials of this part of the building even in upper floors are stone. The structural system is in good condition in terms of materials and stability. The original

structural system and materials are conserved. The building can carry loads of newly inserted technical equipments; however on upper floors this process needs more attention and consolidation must be done prior to any intervention if necessary. In fact, this should be decided after a proper assessment of the structural system and material condition of the building by experts (Table 3.5).

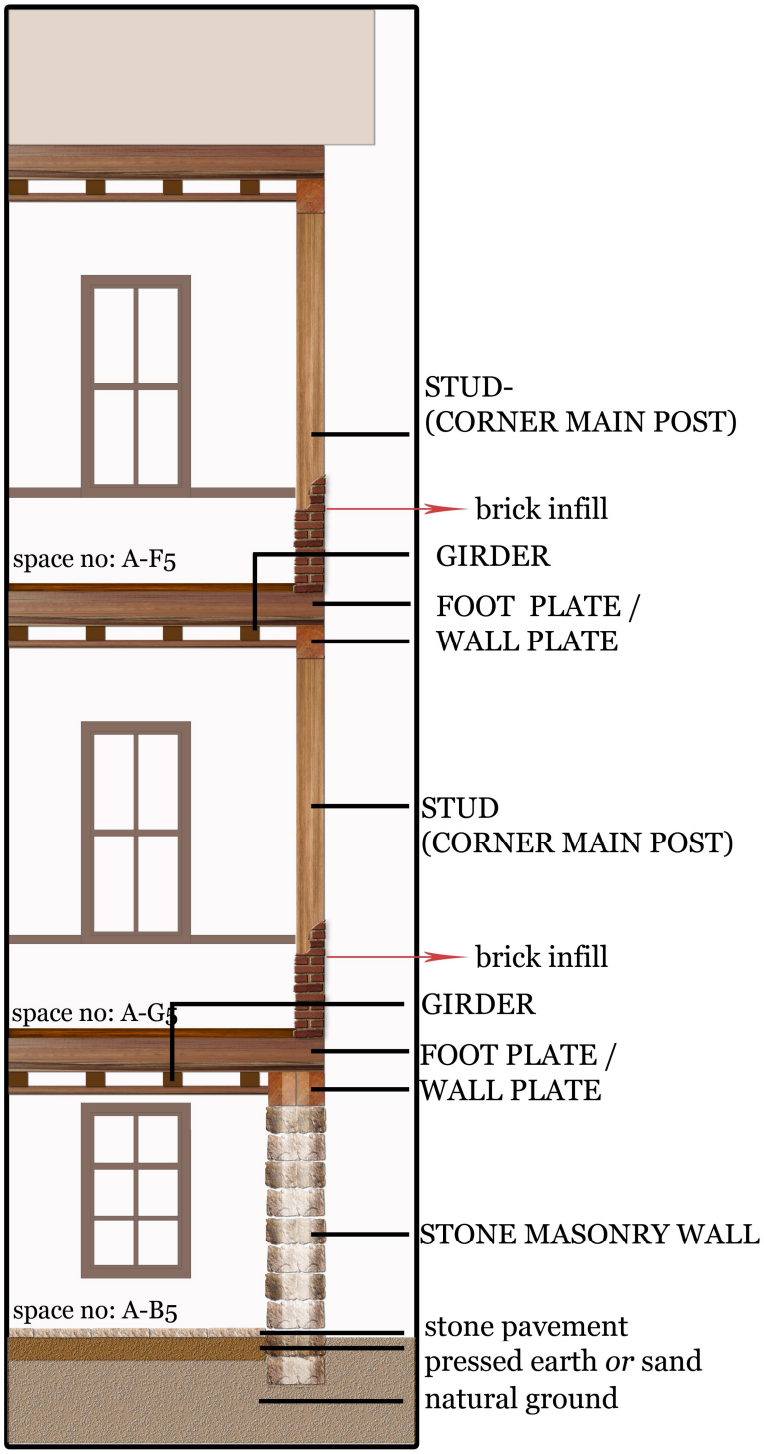
Figure 3.8
Birlik Street No. 3, the Private Courtyard

Figure 3.9 **Figure 3.10**

Figure 3.9 & Figure 3.10
Birlik Street No. 3, the Structural System

TABLE 3.5 THE WALL SECTION OF BİRLİK STREET NO: 3

THE WALL SECTION OF BİRLİK 3



* this schematic drawing of Birlik 3 in İstiklal District is based on the structure system described in "A Study on Conservation and Rehabilitation Problems of Historic Timber Houses in Ankara", the Ph.d. thesis by Neriman Şahin,1995 (pp.183 - 190).

* the terminology is taken from "A Study on Conservation and Rehabilitation Problems of Historic Timber Houses in Ankara", the Ph.d. thesis by Neriman Şahin,1995 (pp.183 - 190).

As mentioned previously, the building has three floors and a *cihannüma*. The basement floor has a different entrance which opens to "taşlık". The "taşlık" has access to three rooms on sides; two rooms on the right, one room and the staircase on the left (Figure 3.12). At the back of the left side, there is an access to an extension part of the building where that space consists of one room and an access to the private and the smallest courtyard, which probably has served as the courtyard of the service spaces (Figure 3.12). In this courtyard, there is the original toilet. The "taşlık" also directly opens to the rear and the biggest courtyard. This courtyard has soil part for gardening and an original fountain in the middle. There is one small mass addition (Figure 3.4) at the courtyard which is adherent to one side of the traditional building at the basement floor (Table 3.2).

Figure 3.11

Figure 3.12

Figure 3.11 Birlik Street No. 3, the Second Entrance Opening to "Taşlık"

Figure 3.12 Birlik Street No. 3, the Stairway in the Basement Leading up from the "Taşlık"

The ground floor is either reached from inside by a staircase from the basement floor, or from outside through the main entrance with a monumental staircase. In each case, the first space entered is the "sofa" of the ground floor (Figure 3.5). In the ground floor, when entered from the main monumental door, the space is divided by a glass panel and a door. This entrance area opens to the wide "sofa"

covering the floor from one side from the street to the other where it faces the rear courtyard (Figure 3.13). Around the “sofa”, there are three rooms, two on the right and one on the left, exactly as the basement floor. The staircase is on the left side. Through the staircase & circulation area, the spaces at the extension part serve as the service spaces. Today, there is a W.C. and a kitchen at this area. The W.C. is located exactly over the traditional toilet which is in the basement floor (Table 3.3).

The first floor is exactly like the ground floor, except there is a fourth room which is the partially projected space over the main entrance area (Figure 3.15). Therefore the first floor has four bedrooms, three on the front facing the street and one at the right back, facing the rear courtyard. Also the service spaces (kitchen, bathroom and the toilet) of this floor are exactly above the ground floor’s service spaces. The *cihannüma* is accessible from this floor through a staircase. The *cihannüma* consist of one room which opens to the balcony facing the rear courtyard (Table 3.4).

Figure 3.13 **Figure 3.14**

Figure 3.13 Birlik Street No. 3, the “Sofa” in the Ground Floor

Figure 3.14 Birlik Street No. 3, the “Sofa” in the First Floor

Today, the building is occupied by two families who are relatives, each occupying one floor. The owners appreciate their residence and keep it in good condition. The original plan layout is conserved and the usage scheme has been through

minor change. Some of the rooms in the basement floor are not used; some are used as seasonal storages. The ground floor is inhabited by the owners and the first floor with the *cihannüma* is inhabited by the son of the owners with his wife and one child. In the current use of the building the basement entrance is used by the family in the first floor and the main entrance in the ground floor is used by the owners occupying in the ground floor.

There are many underused spaces since the spaces are many and large. As the heating is difficult the dwellers gather and live in the “sofa”s. They are used as living rooms facing to the private courtyard at the rear. On the contrary to the "sofa"s, the “taşlık” on the basement is used as a storage space (Table 3.6).

The building is in good condition in terms of finishing materials both in the exterior and the interior. The living spaces and the service spaces have been lately intervened. The walls are plastered with lime plaster, and painted with white oil paint. The timber ceilings, the doors and windows are in good condition and lately been maintained. The architectural elements are painted with dark brown timber polish (Figure 3.16 & Figure 3.17). The technical equipments such as electric cables and water pipes etc. are solved consciously and do not cause hindrance to the visual perception of the traditional spaces. However, the finishing materials of the “taşlık” spaces, due to being used as storages, are neglected.

The service spaces of the building are adequate to meet the requirements of contemporary life where these spaces can meet two and more of today’s requirements at the same time. These spaces, presumably, have been used as service spaces originally at the extension part of the buildings since the floor material of the upper floors are stone. However, the conversions of the current service spaces are not compatible with the properties of the building. Their problems will be mentioned more comprehensively in the following parts[1].

[1] The sanitary conditions of the service spaces are analyzed in the “Focusing on the Service Spaces: Understanding and Assessing their Current States”

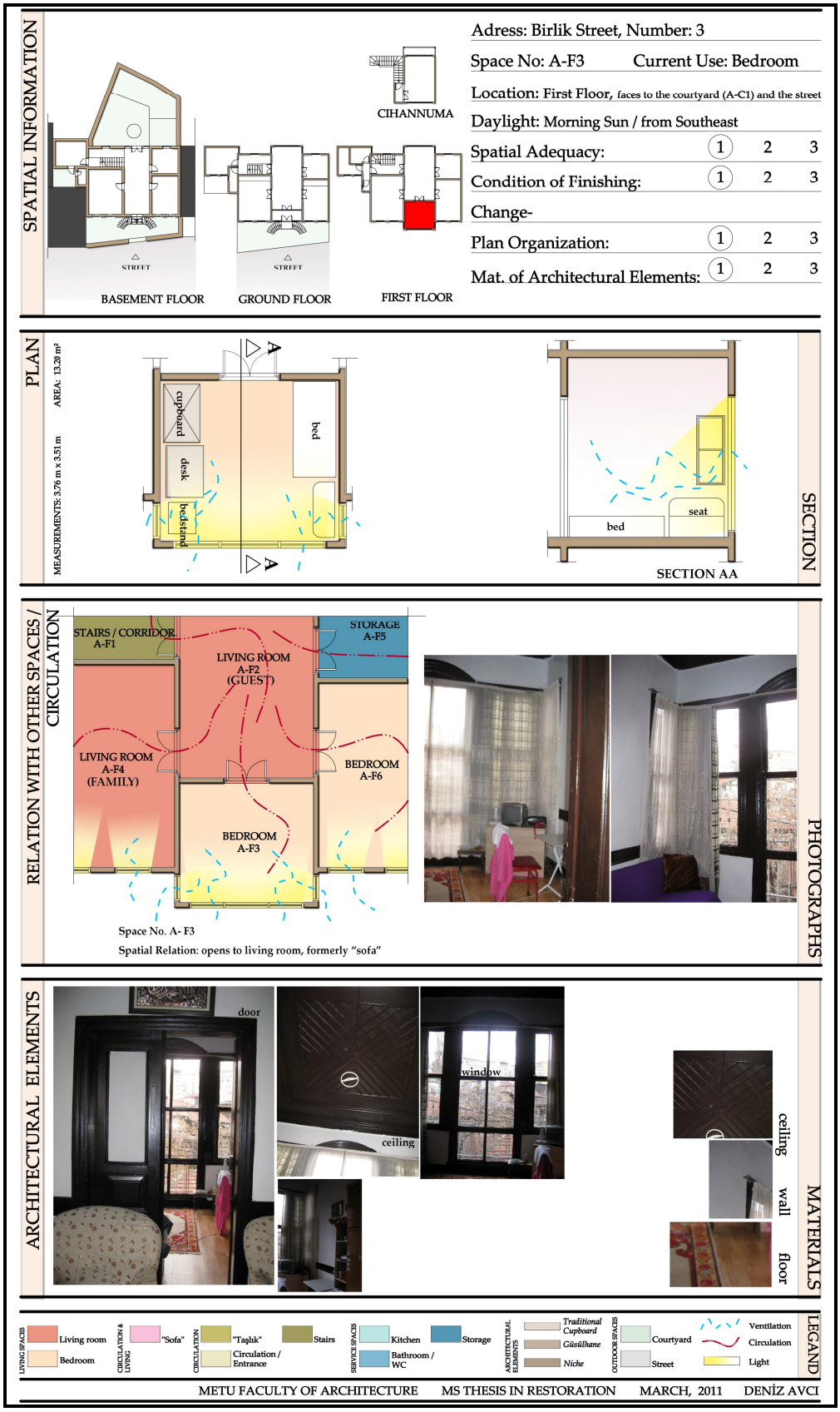
The building has minor changes. The original plan layout can fully be perceived and the architectural elements are mostly conserved. Minor alterations are made only in order to adapt the building to the contemporary living standards, so that it can continue its existence.

Figure 3.15
Birlik Street No. 3, the Room Projected Over the Main Entrance

Figure 3.16 **Figure 3.17**

Figure 3.16 & Figure 3.17
Birlik Street No. 3, the Finishing Materials of the Interior Walls and Architectural Elements

TABLE 3.6 THE SPACE ANALYSES OF A BEDROOM IN BİRLİK STREET NO: 3



3.1.2. The Probable Original Functional Layout

This building was originally built as a residential building. Originally, it had two entrances; the main entrance opens to the ground floor which is a monumental entrance with symmetrical stairs, the second entrance under the monumental entrance opening to the "taşlık" at the basement floor. The spaces around the "taşlık", one on the left and two on the right were either used as service spaces or storages such as "odunluk" (timber storage), "kömürlük"(coal storage) which are the space names for heating supply storages. However these spaces may also have been used as rooms. There is one more room reached through the staircase at the left back. This room also shows the same characteristics as the other "taşlık" spaces. This space opens to the smallest private courtyard where there is a toilet. The smallest courtyard can only be used through the basement floor. The "taşlık" opens to the large courtyard at the rear straight from the entrance. The rear courtyard has one fountain and a soil part for gardening (Table 3.7). The main monumental entrance with the symmetrical stairs with decorated ceiling opens to the "sofa" in the ground floor. This "sofa" covers the ground floor from one end to the other. There are three rooms around the "sofa". On the left back side there is again the staircase shaft and a circulation hall which leads to the space which may either have been used as a room or a service space, this assumption is based on the fact that the floor material is stone at this part of the building. It can also be assumed that this part is a later addition (Table 3.8).

The first floor is reached by the stairs at the left back side of the plan lay out. There is the "sofa" in the middle. There are three rooms on the sides, one on the left and two on the right, and one in the middle front as the projected area over the main entrance. Due to extra room, the "sofa" in this floor is smaller than the ground floor's. As the ground floor, there is another room through the staircase and the circulation hall which may either have been used as a room or a service space. Again it must be stressed that this part can be a later addition and must be analyzed more discriminatingly as a restitution part of a restoration project so the exact function can be determined. The "cihannüma", which is reached by the stairs through the first floor where the stairs make an L- shape, is a one room space which faces the street and the back courtyard through the balcony (Table 3.9).

TABLE 3.7 BİRLİK STREET NO: 3

PROBABLE ORIGINAL FUNCTION / BASEMENT FLOOR

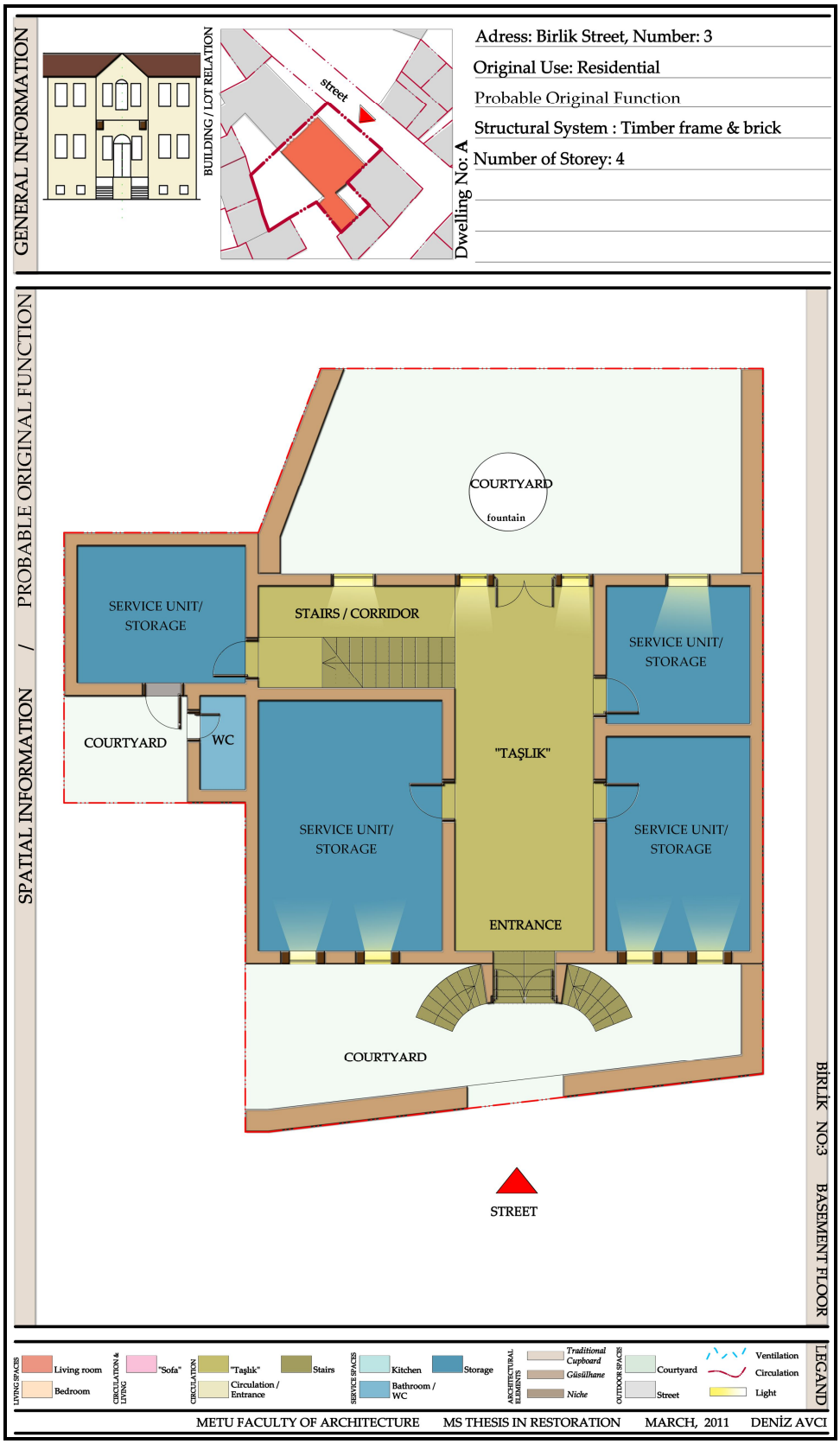


TABLE 3.8 BİRLİK STREET NO: 3

PROBABLE ORIGINAL FUNCTION / GROUND FLOOR

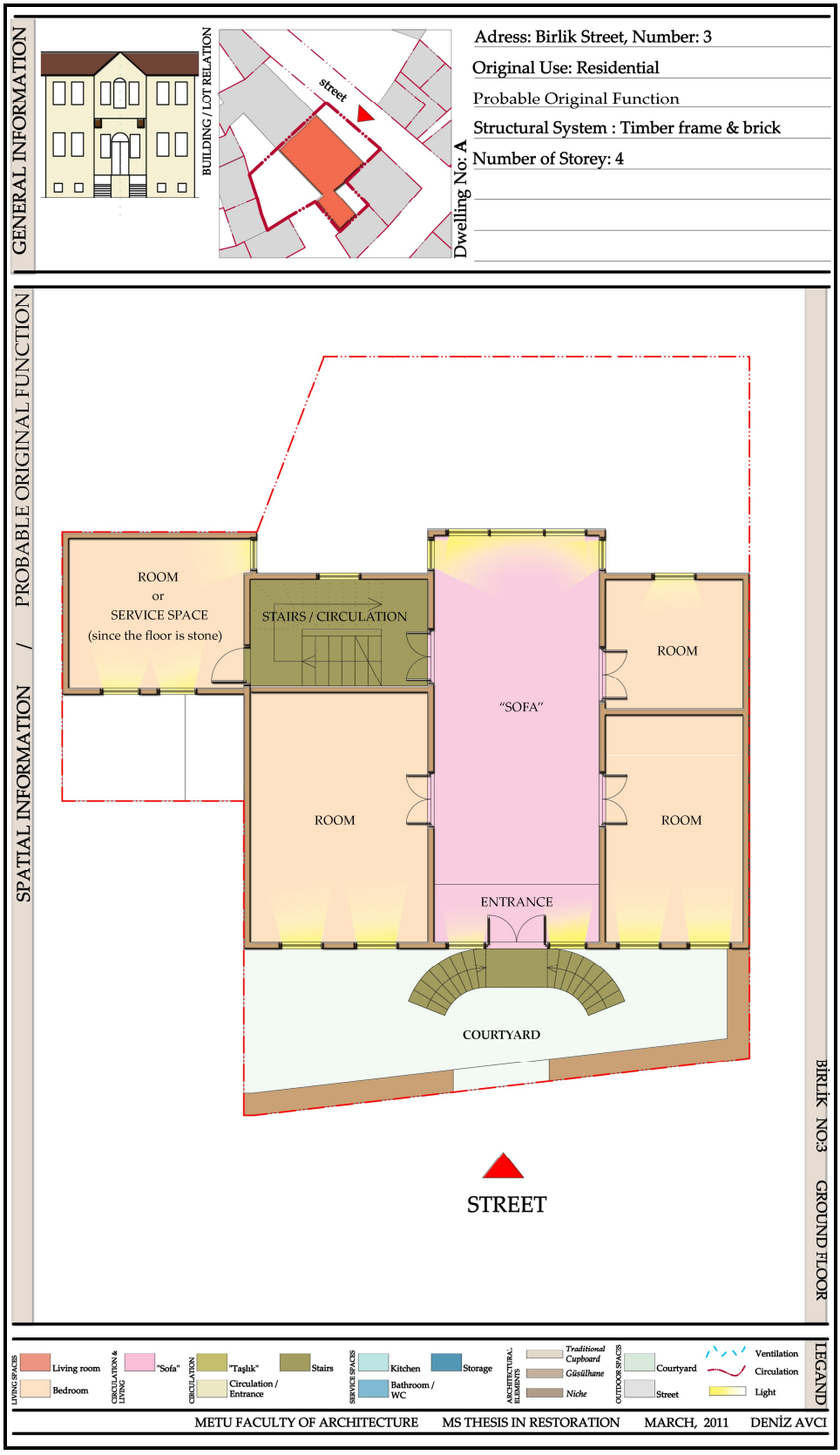
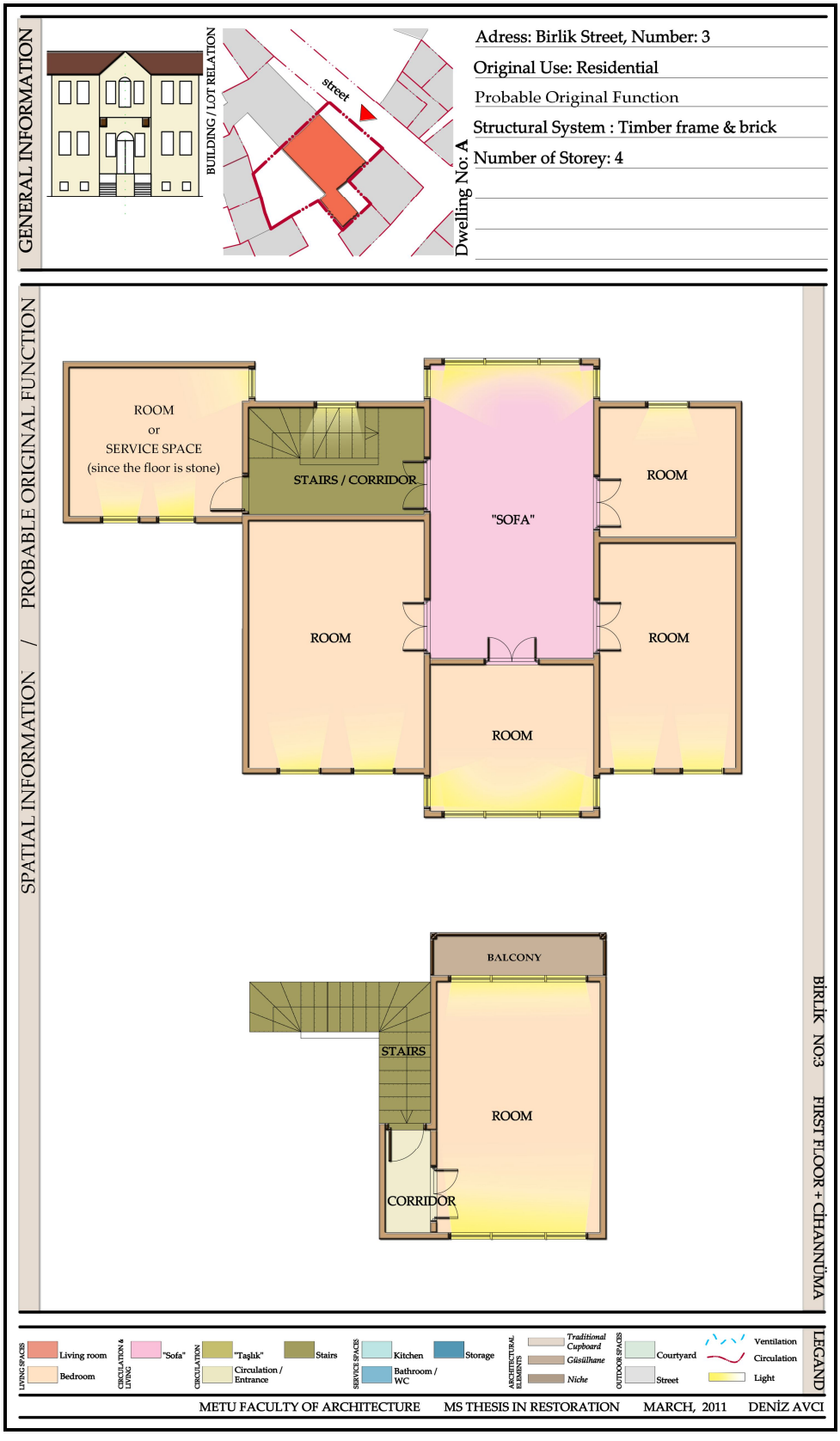


TABLE 3.9 BİRLİK STREET NO: 3

PROBABLE ORIGINAL FUNCTION / FIRST FLOOR



3.1.3. Values, Problems and Potentials of the Building

Birlik Street No: 3 has many values in relation to its location, character, properties and usage. First of all, the building is located at the central Ulus in the middle of commercial axes. It is very close to Anafartalar Street, a commercial axe of Ulus. It also faces a monumental historic building: a Synagogue. There are no high buildings around the building so the building has vista of İstiklal District. The lot of the building is not a divided lot which is very large. The building is placed in the middle, forming three courtyards, the entrance, the rear and a small private one for service spaces. The building shows different characteristic properties from the rest of the traditional residential buildings in the district in terms of its size, architectural elements and facade organization. There are three floors and one *cihannüma* where most of the traditional residential buildings in İstiklal District have two floors. The *cihannüma* also can be seen in few other examples within the district. As another different characteristic property, this building has three courtyards where most of the dwellings in İstiklal District have one where some have none. The users have kept the building in good condition with constant maintenance. There has been minor alteration to the plan layout and the usage scheme but the originality can still be read. The living and the gathering areas; "sofa"s are private where they face the rear courtyard. In the altered plan layout every floor has service spaces; a kitchen and a W.C. The current structural system and materials, where the originality of these elements is mostly conserved, are in a good condition. The building offers sanitary conditions and the finishing materials are lately renewed and in a good condition. Most importantly the main living areas and the service spaces provide sanitary conditions. Overall of the values of the building has minor change as the original plan layout is mostly conserved, most of the spaces continue their probable original functions and there are almost no alterations to the architectural elements.

In sum, the building has environmental value as it is in a historical traditional residential zone belonging to early 18th century known as the "Jewish District"; historical value as an evidence of past centuries; architectural, technical and aesthetic value due to its architectural and structural properties; commemorative value as it represents the memory of the earlier generations.

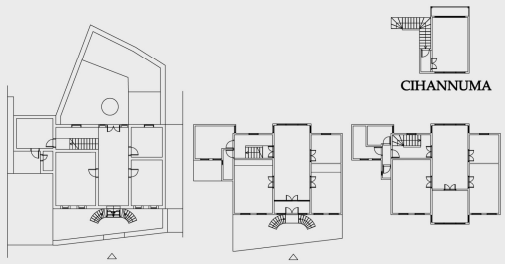
Besides all its values, Birlik Street No: 3, as a traditional residential building existing in a contemporary city, has many problems as well. The street is abandoned; the other traditional residential buildings in this street are empty, neglected and face demolition in long term. The building is underused within itself. The two out of three courtyards are not in use, the one which is in use is the entrance courtyard. Due to being seldom used these courtyards are neglected. The rear courtyard which has a gardening area does not serve its original purpose. Another problem of these courtyards is that the two courtyards, the entrance and the back courtyard, have visual contact with its neighboring building (Birlik 5). As for the characteristics of this building, its size is not suitable for the nuclear family of 21st century; it was designed to be used by a large family of 18th - 19th centuries. Also with large architectural elements in the facade organization, the large rooms of the plan layout and with the limited heating technology of its construction period, heating becomes very difficult. The only heating is the installed furnaces in the “sofa”s. Also due to the size of the building one of each service spaces is not enough. There are many unused spaces within the building for example the spaces in the basement floor. The spaces are either empty or used as storages where another nuclear family can easily reside in the basement floor. In the upper floors there are also many rooms where more than 2 are underused in each floor. The dwellers gather and live in the “sofa”s so it can be assumed that while the rooms are underused the “sofa”s are overused. Each floor has service spaces as one family resides in one floor. This obviously is needed however the situation may overload the structural system. However with proper analyses and consolidation this may be overcome. One of the most important problems in the structural system is that the basement floor has dampness problem probably due to the rising damp. Also as the basement floor is not in use, the finishing materials in this floor are neglected and need maintenance. Another important problem of this building is that although the later installed service spaces provide contemporary standards, these installations are done as if to a new construction not with the intention of conserving a traditional residential building.

This building offers various potentials that should be considered. The building has environmental potential as it is very close to a commercial axe and faces a

historical monumental building: a Synagogue. The building also has visual sights of İstiklal District which are vista which cannot be captured from anywhere else. One of the biggest potential is that there is no ownership problem of the building so the future of the building can be determined with one decision maker as the user. The three courtyards and the position of the building within the lot offer easy usage scheme where these courtyards become an important part of the design process. The building is suitable for various family types: a very large family or two to three nuclear families of 21st century. One of the potential the building provides is that the plan organization has only minor change and the originality of the building can be carried on to future generations. The sizes of the spaces give many alternative functioning and offer different usage scheme to the users and the designer. Also the structural system can carry technical loads of service spaces, which gives flexibility to the designing process. It must be stressed that the structural system needs proper structural analyses where consolidations must be done if necessary. Finally as the original plan layout is conserved, the new proposals can be shaped with respect to the originality of the plan layout and the usage scheme. There are many spaces available and suitable for service space installations or conversions into service spaces as the building shows flexibility in adaptability to a contemporary residence. The spaces in the basement floor which are unused today can either serve as living areas such as bedrooms, living rooms or service spaces such as W.C., kitchen, bathroom. The upper floors are also flexible for such conversions (Tables 3.10 & 3.11).

TABLE 3.10 VALUES / PROBLEMS / POTENTIALS (1) OF BİRLİK STREET NO: 3

SPATIAL INFORMATION



Adress: Birlik Street, Number: 3

Spatial Adequacy:	(1)	2	3
Condition of Finishing:	(1)	2	3
Change in Plan Organization:	(1)	2	3
Change in Mat. of Arch.Elmnts:	1	(2)	3

Dwelling No: A

BİRLİK 3 VALUES / PROBLEMS / POTENTIALS

VALUES	PROBLEMS	POTENTIALS
1 LOCATION WITHIN DISTRICT		
* faces the synagogue * very close to Anafartalar Street (commercial axe) * there are no high buildings around the dwelling * has vista	* the other buildings on this street are abandoned and in bad condition	* it faces a historical monumental building * The dwelling has visual sights of İstiklal District
2 LOCATION WITHIN LOT		
* the lot has not been divided/ the dwelling is placed within one parcel * large lot * has an entrance area as a courtyard * has 3 courtyards	*due to being seldom used the courtyards are neglected *The back and the fore courtyard have visual contact with the courtyards of the neighboring dwelling(Birlik 5) *The back courtyard which has soil land for gardening is not in use	* there is no ownership problem * three courtyards serving for different purposes -entrance -service units' -private with a fountain & soil for gardening * the courtyards work separately from each other
3 CHARACTERISTICS OF THE BUILDING		
* has different characteristics in facade organization, (number of floors), size and architectural elements from the rest of the district * large in size * has 3 floors (the traditional dwellings of İstiklal District generally have 2) and one of the few *cihannüma*s within the district * has 3 courtyards	* size of the dwelling is too large for a family of 21st century *since the architectural elements are large and with limited heating capacity (with no technical heating / only furnaces in *sofa*s), the dwelling is very difficult to heat * due to the size of the dwelling multiple service units are needed	* three floors and one *cihannüma* * the size of spaces offer alternative functioning * three separate courtyards

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TABLE 3.11 VALUES / PROBLEMS / POTENTIALS (2) OF BİRLİK STREET NO: 3

BİRLİK 3 VALUES / PROBLEMS / POTENTIALS

VALUES	PROBLEMS	POTENTIALS
4 USER / USAGE		
* the users kept the dwelling in good condition with constant maintenance * the original plan layout is conserved and the usage scheme has minor change *every floor where a family resides has service units	* the basement floor is not in use * many not in use or underused spaces however living rooms (*sofas*) are overused *every floor has service units (might be an advantage but harms the structural system)	* the dwelling is suitable for either very large family *or* for 2 - 3 nuclear families *or* a user who wants to have many spaces * the usage scheme has been through minor change and can be carried on to the future generations * the number and size of spaces offer alternative functioning
5 CURRENT STRUCTURAL SYSTEM & MATERIAL CONDITION		
* in a good condition * the original structural system and materials are conserved * the building is stable to behold technical equipments	* the stone masonry basement floor have dampness problem	* the building can easily carry new additions such as service units with their technical equipments (however consolidation must be done if necessary)
6 FINISHING / SANITARY CONDITION		
* in a good condition * original finishing has been respected (except the new service units) * the service units are sanitary	* the taşlık spaces due to being used as storages are neglected in finishing materials *the service units are designed as if they were to be placed into a new building not a traditional dwelling which should be conserved	* the materials of architectural elements and finishing have lately been maintained
7 CHANGE		
* minor change / original plan layout is conserved * most of the spaces conserve their original function * architectural elements are conserved (doors / windows / ceilings / cupboards / niches)	* due to addition of service units by combining or dividing rooms with division walls the original usage scheme has been partially changed	* the original plan layout is conserved / the proposal can easily be shaped with respect to the originality * there are many spaces suitable for service unit insertion or conversion *the *taşlık* spaces are not in use and rather used as storages, a new usage scheme can be offered for this neglected floor

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3.1.4. Focusing on the Service Spaces: Understanding and Assessing their Current States

As there are two dwellings in this traditional residential building, there are two sets of service spaces which are kitchen & W.C. for each household and one bathroom used by both. The ground floor has one W.C. and one kitchen; the first floor has one W.C., one kitchen and one bathroom which is used only as the showering area.

The Current Kitchen in the Ground Floor (Space No.A-G8): This kitchen is in the ground floor, separated from the living areas by the stairs and the circulation shaft of the building. To know the original function of this space is not possible with the limited survey done in limited time which was allowed to the surveyor. However the current material of the floor is stone and it can be presumed that this space was either used as a room or a service space.

The size of the kitchen is about 3.41 × 3.98 meters. A part of this space is divided for the current bathroom on this floor and this arrangement is done by a partition wall between the kitchen and the bathroom. There is a traditional cupboard in this room where the floor of this traditional cupboard is stone (Figure 3.18). Today these traditional cupboards are used for the kitchen equipments. There used to be two traditional windows on the left side from the entrance. These are opening to the smallest and the private courtyard which beholds the traditional bathroom. Today these windows are closed with bricks, plastered & painted. The kitchen stall and cupboard over the stall have been placed over them (Figure 3.18 & 3.19). Therefore the space is left with one traditional window on the other side of the room which faces the biggest courtyard at the back. All the kitchen equipments are present and the kitchen provides modern usage, however, the insertion of this kitchen stall harms the original perception of the room. The wall which has the kitchen stall is covered with ceramic tiles, which is not a compatible material with the traditional. The floor is covered with linoleum floor covering (Figure 3.21). The installation of this service space as the rest in the building is done as if a service space installation to a new construction, it is not done with the intention of conserving the traditional (Table 3.12).

Figure 3.18 **Figure 3.19**

Figure 3.18 & Figure 3.19
Birlik Street No. 3, the Kitchen in the Ground Floor
The Closed Windows and the New Cupboard

Figure 3.20 **Figure 3.21**

Figure 3.20 & Figure 3.21
Birlik Street No. 3, the Kitchen in the Ground Floor
The Window & the Floor Cover

The Current W.C. in the Ground Floor (Space No. A-G7): This space, although the original function is unknown, might have been built as a part of the current kitchen. Today it is converted into a W.C. with European type closet and a ceramic sink (Figure 3.22). The size of the W.C. is about 1.03 × 3.18 meters. The space is extended horizontally by a space addition from the current kitchen where a partition wall has been added to provide space for the European type closet and sink at the same time .The floor is covered with ceramic tiles and the walls are covered with ceramic tiles up to approximately 1.30 meters (Figure 3.22). There is a new window addition, which faces the smallest and the private courtyard (Table 3.13).

TABLE 3.12 THE SPACE ANALYSES OF THE CURRENT KITCHEN IN THE GROUND FLOOR OF BİRLİK STREET NO: 3

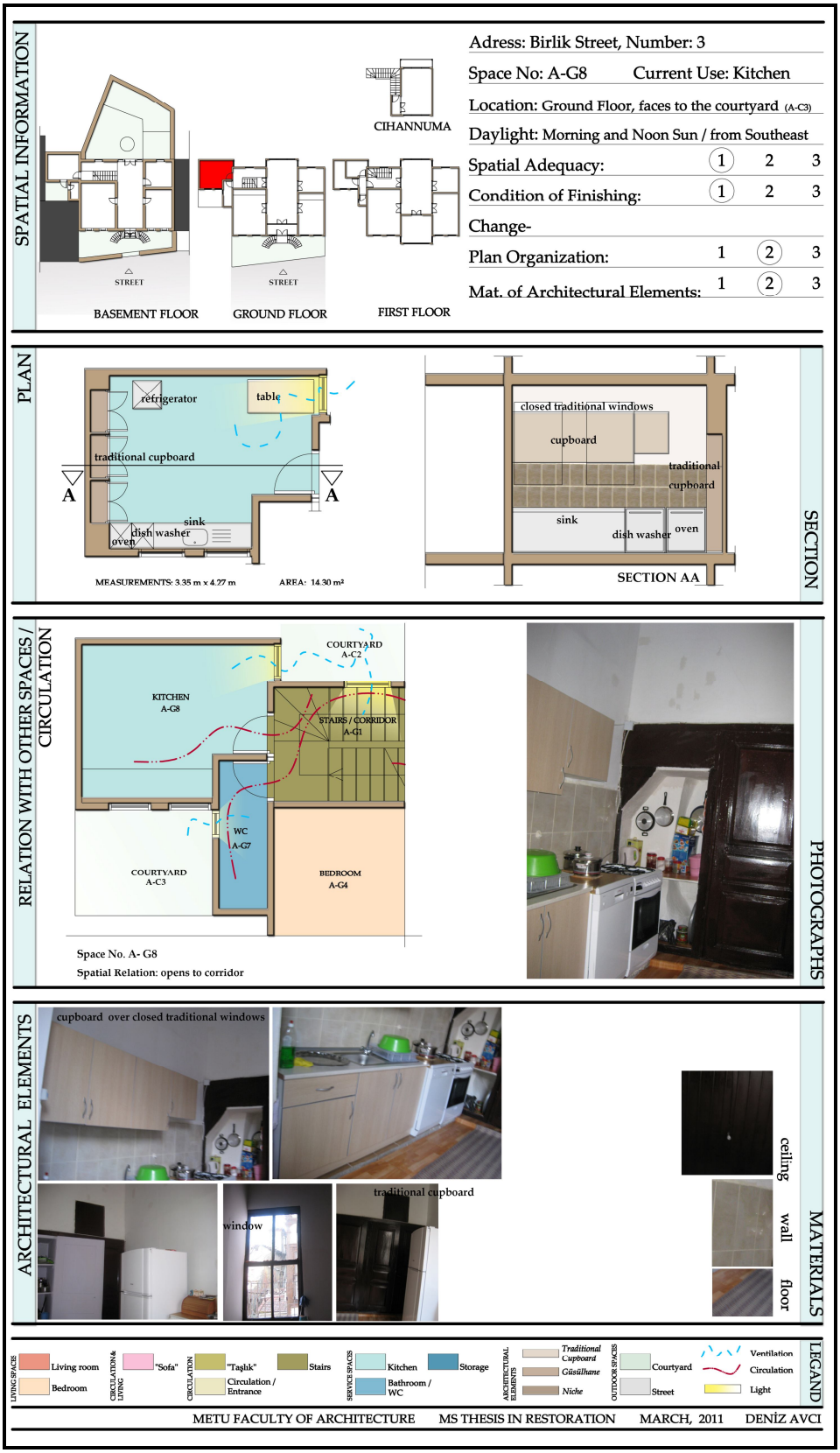


Figure 3.22
Birlik Street No. 3, the W.C. in the Ground Floor

The Current Kitchen in the First Floor (Space No. A-F9): This kitchen is in the first floor, exactly above the kitchen in the ground floor, separated from the living areas by the stairs and the circulation shaft of the building. To know the exact function of this room apprehensive research is needed in wide period of time which was not allowed to the surveyor. However as in the ground floor, the floor of this room is also stone and it can be presumed that the space might have been used either as a room or a service space. The L-shaped form is due to the new partition wall (between the kitchen and the bathroom) as a later addition for the extra needed space of the current bathroom (Figure 3.23). The space is one step lower from the circulation area due to new floor application (ceramic tiles) to the circulation area along with the bathroom and the W.C. (Figure 3.24). In this L-shaped space, the area where there is the kitchen stall from the entrance to the traditional cupboard of the room is 1.26 × 2.95 meters. The second area which is used as a storage space, where there is a traditional cupboard, a new cupboard and a refrigerator is 1.36 × 2.15 meters. The traditional cupboard and the niche are used as storage space for the kitchen equipments (Figure 3.25 & Figure 3.26). Contrary to the kitchen in the ground floor, the windows are only half closed, leaving the top parts to provide light and ventilation into the space (Figure 3.27) (Table 3.14).

TABLE 3.13 THE SPACE ANALYSES OF THE CURRENT W.C. IN THE GROUND FLOOR OF BİRLİK STREET NO: 3

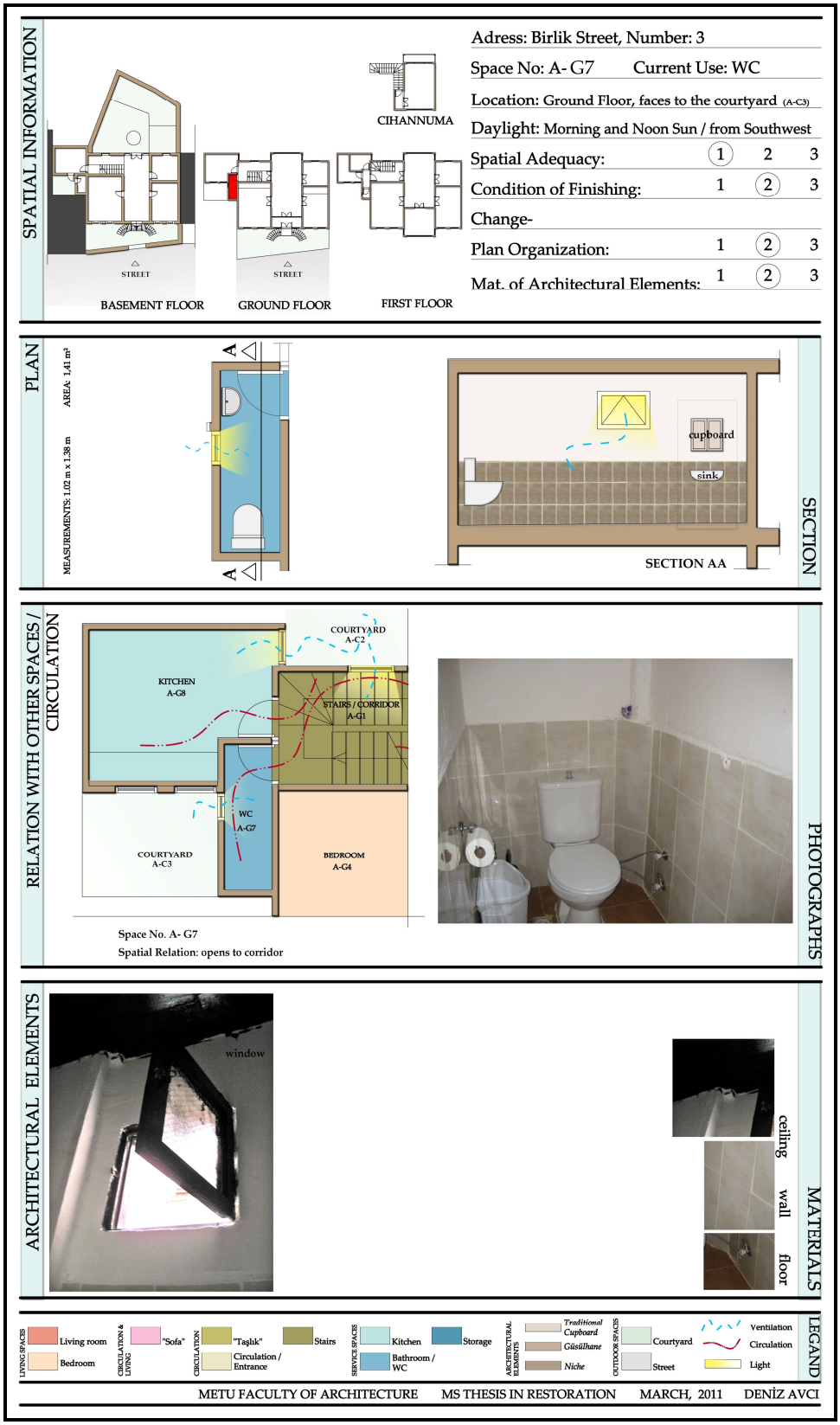
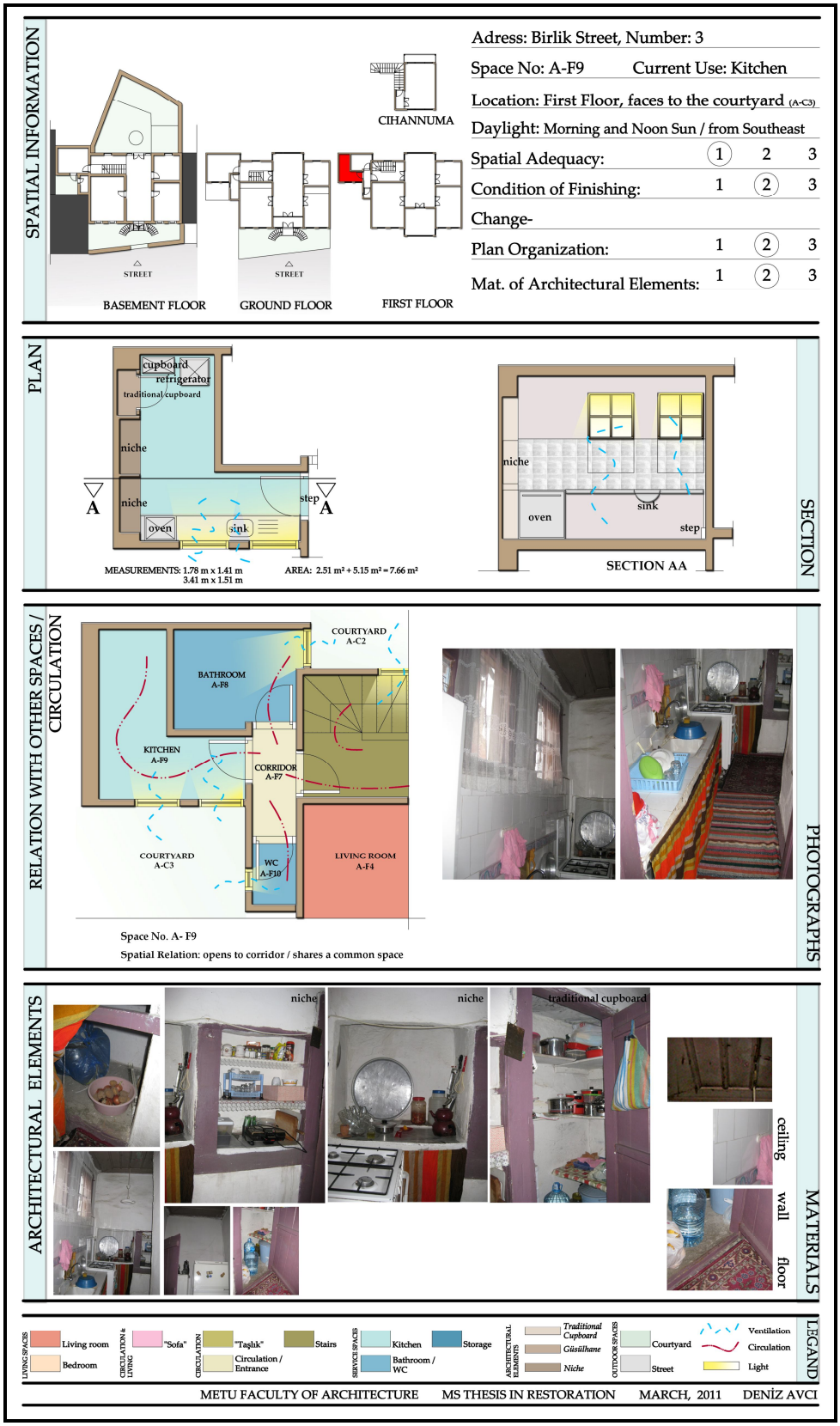


TABLE 3.14 THE SPACE ANALYSES OF THE CURRENT KITCHEN IN THE FIRST FLOOR OF BİRLİK STREET NO: 3



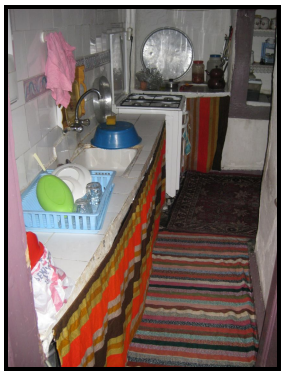



Figure 3.23 **Figure 3.24**

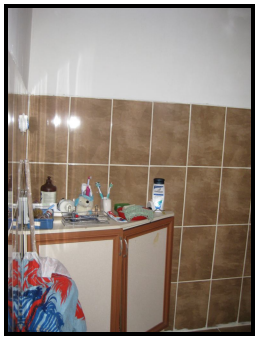
Figure 3.23 & Figure 3.24
Birlik Street No. 3, the Kitchen in the First Floor
The Partition Wall


Figure 3.25 **Figure 3.26**

Figure 3.25 & Figure 3.26
Birlik Street No. 3, the Kitchen in the First Floor
The Niche and the Traditional Cupboard

Figure 3.27
Birlik Street No. 3, the Kitchen in the First Floor
The Half Closed Windows

The Current Bathroom in the First Floor (Space No. A-F8): This bathroom is in the first floor, separated from the living areas by the stairs and the circulation shaft of the building; it is next to the kitchen. The part separated from the kitchen with a partition wall is converted into a bathroom where only a shower cabin is added. The measurements of this space are 2.00 × 2.47 meters. The floor and the walls are covered with ceramic tiles (Figure 3.28). The walls are covered with ceramic tiles up to approximately 1.30 meters. There is a traditional window facing the private courtyard at the back. However the shower cabin is exactly in front of the window where this causes hindrance to the functioning of the window (Figure 3.29 & Figure 3.30). This bathroom is used by the both habitants in each floor (Table 3.15).



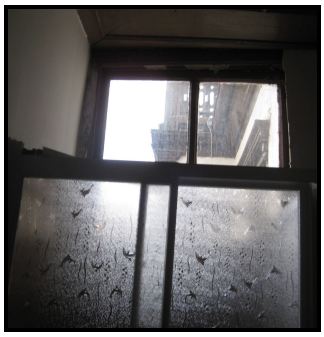


Figure 3.28 **Figure 3.29**

Figure 3.28 & Figure 3.29
Birlik Street No. 3, the Bathroom in the First Floor

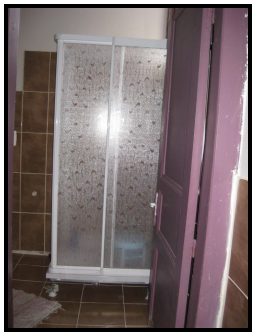


Figure 3.30
Birlik Street No. 3, the Bathroom in the First Floor
The Shower Cabin

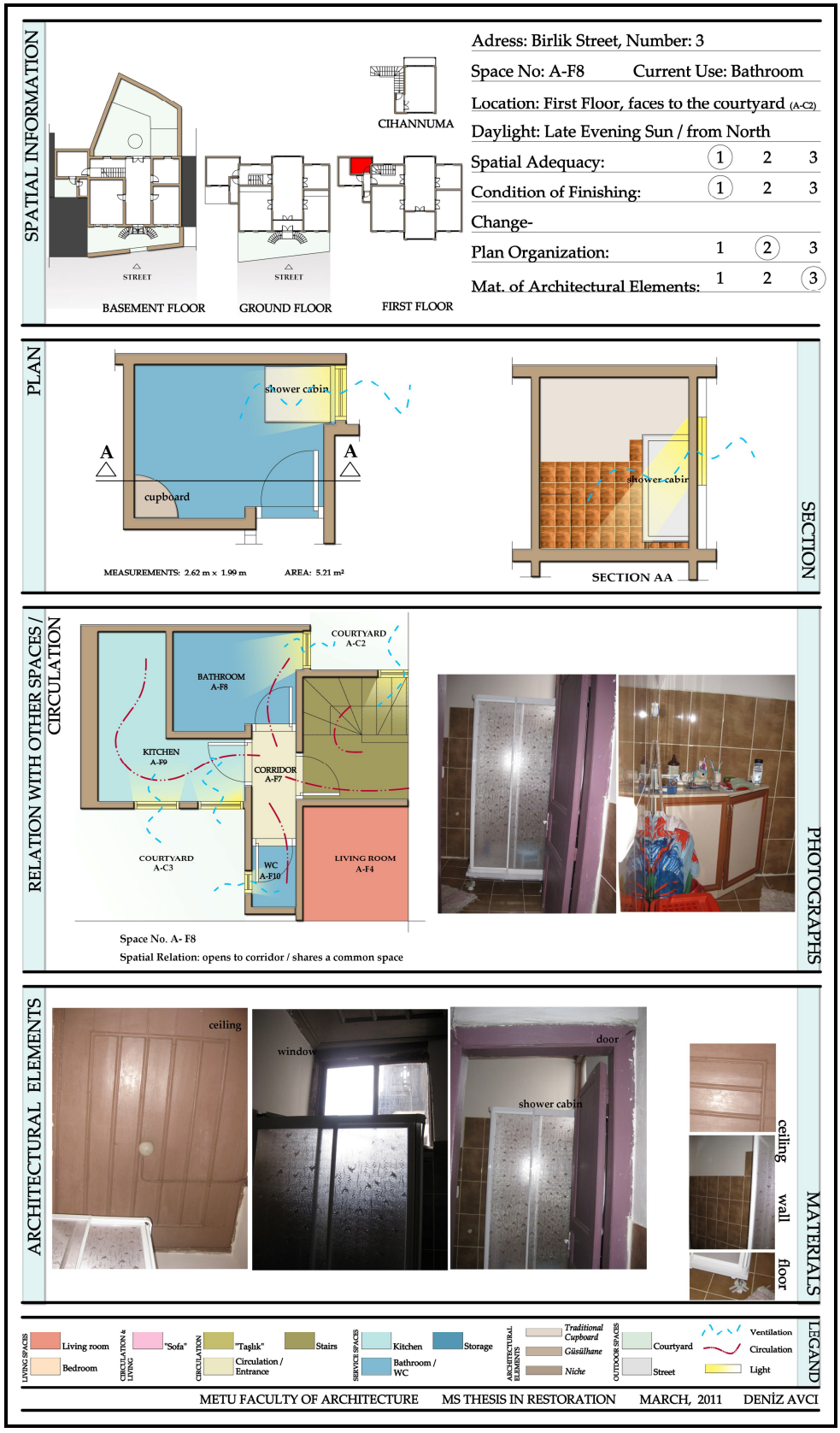
The Current W.C. in the First Floor (Space No. A-F10 / A-F11): This toilet is in the first floor, separated from the living areas by the stairs and the circulation shaft of the building; it is next to the kitchen. This space, although the original function is unknown, might have been built as the part of the current kitchen. Today it is converted into a W.C. with the alaturca toilet (Figure 3.31). The floor and the walls are covered with ceramic tiles (Figure 3.31). There is a later window addition to the service spaces' courtyard. There is no sink in this space. Rather there is a marble cut sink at this circulation area which serves as a part of the toilet (Figure 3.33). This area is also covered with ceramic tiles. The measurements of the W.C. are 88 cm × 1.23 meters and the measurements of the circulation area are 88 cm × 2.15 meters where there is the marble sink. This area serves as the circulation area to all the service spaces of the first floor (Table 3.16).

Figure 3.31 **Figure 3.32**

Figure 3.31 & Figure 3.32
Birlik Street No. 3, the W.C. in the First Floor
The Alaturca Toilet and the New Window Addition

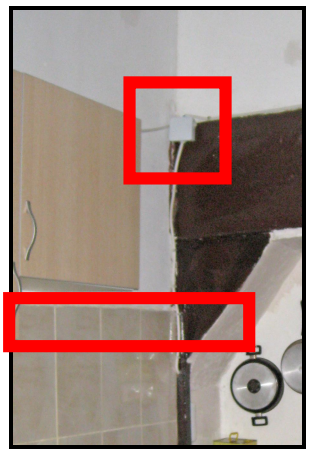
Figure 3.33
The Sink in the Circulation Area in the First Floor

TABLE 3.15 THE SPACE ANALYSES OF THE CURRENT BATHROOM IN THE FIRST FLOOR OF BİRLİK STREET NO: 3



Overall Assessment of the Service Spaces:

As an assessment of the current state of the services; the service spaces are spatially adequate however these spaces are provided with division walls. As the users are two separate families within one building, the service spaces are consequently doubled for each household. This situation might be harming the structural system of the traditional building. The consolidation studies should have been done to test the capacity of the structural system to carry the extra technical load. The finishing materials of these service spaces (the installations of the ceramic tiles) are not suitable for a traditional building and harm the traditional material (Figure 3.18 - Figure 3.33). All the division walls hinder the perception of the original plan layout and usage scheme. Also these walls are extra load to the building's structural capacity (Figure 3.23, 3.24). The alterations to the windows, especially in kitchens of the both floors harm the traditional architectural elements (Figure 3.19), whereas the additions of the new windows in the W.C.s harm the traditional materials and the structural system (Figure 3.32). These alterations of the windows caused disturbance in the perception of the traditional spaces.



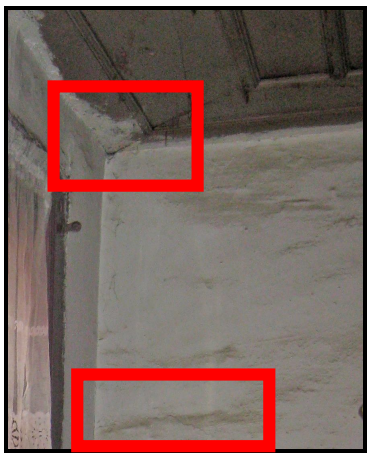
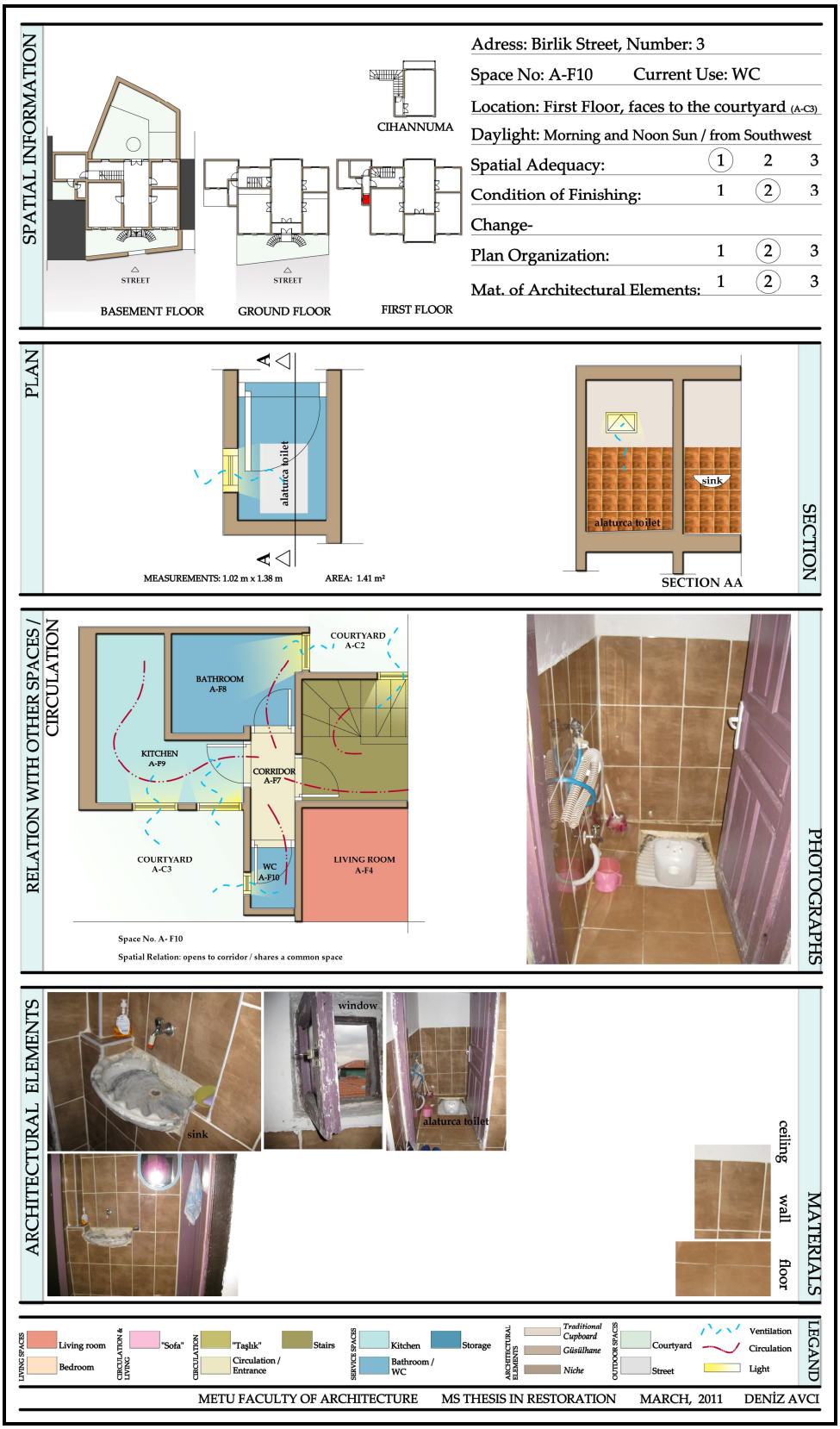


Figure 3.34 **Figure 3.35**

Figure 3.34 & Figure 3.35
Birlik Street No. 3, the Kitchen in the Ground Floor
Ceramic Tiles and Plaster Application over the Traditional Material
Dampness Problem

TABLE 3.16 THE SPACE ANALYSES OF THE CURRENT W.C. IN THE FIRST FLOOR OF BİRLİK STREET NO: 3



The divisions of spaces with partition wall (for the needed space to the current bathroom and the W.C.s) harm the authentic properties of the spaces. The installation of ceramic tiles prevents the traditional material from breathing and accordingly causes dampness problem and decay in traditional materials especially in the original timber ornamented ceilings (Figure 3.19 & Figure 3.34). The floor is renewed with linoleum floor covering in the kitchen of the ground floor which is a short term solution. The original material of this space is stone and is actually suitable for a service space (Figure 3.21). The division of the spaces in the first floor caused limited space to work. The load of the division wall harms the structural system (Figure 3.23 & Figure 3.24). The alterations to the windows harm the traditional architectural elements such as the filling the window opening with brick and putting a kitchen stall over them (kitchen in the ground floor) or half closing of the windows (kitchen in the first floor)(Figure 3.27). The application of the cement based plaster harms the original ceiling and causes dampness problem (Figure 3.35). The division of spaces caused perception loss in the original plan layout. The walls of the bathroom and the W.C. s which are covered with the ceramic tiles harm the traditional material (Figure 3.28 & Figure 3.30). In the bathroom the shower cabin is installed right before the traditional window and hinders the usage of the window (Figure 3.29 & Figure 3.30). The bathroom is used by two families who live separately in each floor. The toilet applications are done as if to a new house, not with the intention of protecting the traditional residential building. The space divisions caused perception loss in the original plan layout. The ceramic tiles harm the traditional material (Figures 3.22 & 3.28 & 3.29 & 3.30 & 3.31 & 3.33). In the first floor the sink is on the outside of the toilet and in the circulation area (Figure 3.33).

3.2. Case B: Eskicioğlu Street No: 8

This traditional residential building is located at Eskicioğlu Street No: 8 in İstiklal District, Ulus in Ankara. The buiding is very close to Eskicioğlu Mosque, a monumental historic mosque which has given the street its name. Also it is close to Hasırcılar Street, a commercial axe of Ulus. Eskicioğlu Street has a central location and it is one of the most densely used streets of the neighborhood (Figures 3.37 & 3.38). In this respect, the traditional residential buildings on this street are relatively in good condition when compared with the rest of the district.

3.2.1. The Architectural Properties and the Current Functional Layout

The building has many similar characteristics with the rest of the tissue. Hence, it is a good representative of the traditional residential buildings in İstiklal District in terms of mass, plan, facade and architectural properties. It has two floors. It has projections on the upper floor. Its wooden framed windows with pediments can also be seen on some other dwellings within the district (Figure 3.39). The building has many interior architectural elements such as traditional cupboards and one probable "*güsülhane*". The spaces inside are wide and bright in terms of natural lighting.

Figure 3.36
Eskicioğlu Street No.8

Figure 3.37 Eskicioğlu Street

Figure 3.38 Eskicioğlu Street

The lot of the building is quite large. The building is placed on the street side of the lot. There is a very large courtyard at the rear, which unfortunately has lost its function due to massive new building additions within the courtyard (Figure 3.39 & 3.40). Due to these new additions the originality and the boundaries of the courtyard cannot be perceived. Also these arbitrarily built new building additions not only prevent the use of the courtyard but also cause unsanitary conditions as the infrastructure for one building is now used by three buildings (Table 3.17) .

Figure 3.39
Eskicioğlu Street No.8, the Windows with Pediments

TABLE 3.17 THE GENERAL INFORMATION ON ESKİCİOĞLU STREET NO: 8

TABLE 3.18 THE CURRENT GROUND FLOOR OF ESKİCİOĞLU STREET NO: 8

GENERAL INFORMATION

BUILDING / LOT RELATION

Dwelling No: **B**

Adress: Eskicioğlu Street, Number: 8

Current Use: Residential / Multiple Dwellings

Number of Occupant Families: 6

Divisions: 6

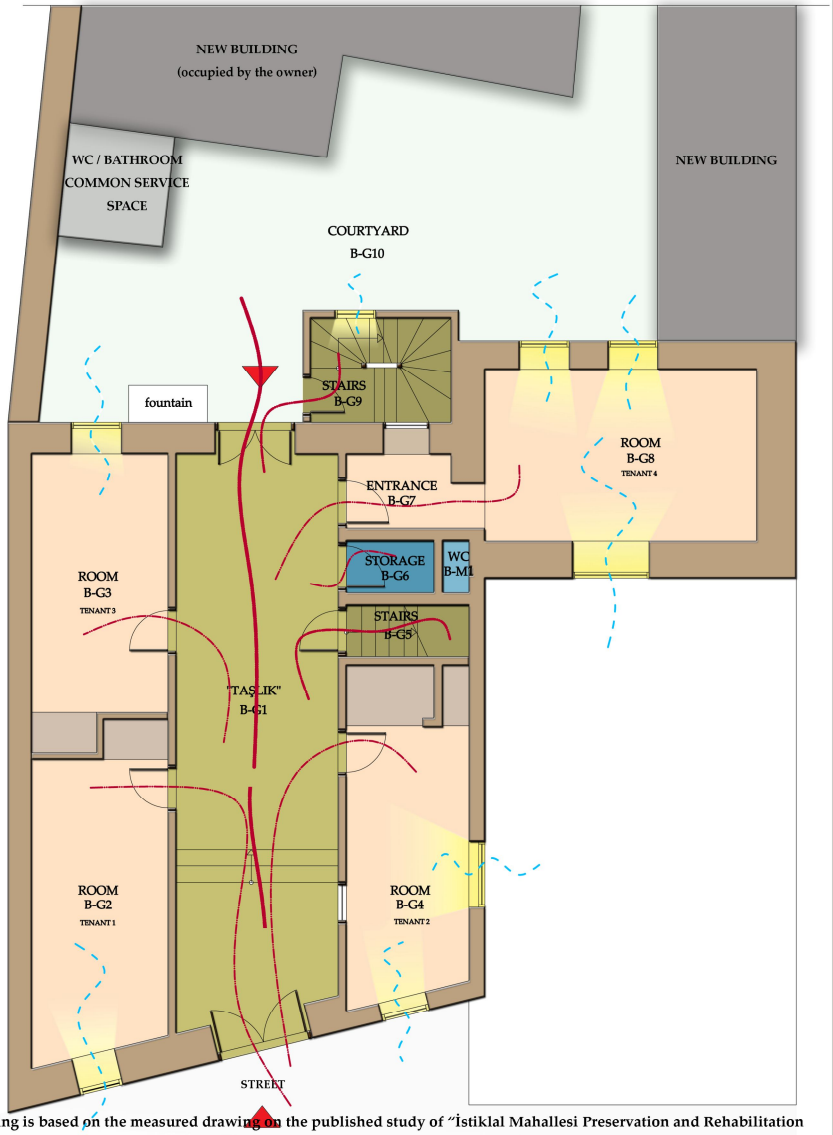
Ownership: Owner + Tenants

Structural System : Timber frame & Mudbrick

Number of Storey: 2

Condition: A (TABLE A.10)

SPATIAL INFORMATION / CURRENT USE



* this drawing is based on the measured drawing on the published study of "İstiklal Mahallesi Preservation and Rehabilitation Project" (Graduate Program in Restoration, fall semester of 1983-84, METU)

** the service units are re-measured by the writer

ESKİCİOĞLU NO:8 GROUND FLOOR

LEGAND

LIVING SPACE: Living room, Bedroom

CIRCULATION & LIVING: "Sofa"

CIRCULATION: "Taşlık", Circulation / Entrance, Stairs

SERVICE SPACES: Kitchen, Bathroom / WC, Storage

ARCHITECTURAL ELEMENTS: *Traditional Cupboard*, *Güsülhane*, *Niche*

OUTDOOR SPACES: Courtyard, Street

Ventilation, Circulation, Light

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TABLE 3.19 THE CURRENT FIRST FLOOR OF ESKİCİOĞLU STREET NO: 8

GENERAL INFORMATION

BUILDING / LOT RELATION

Dwelling No: **B**

Adress: Eskicioğlu Street, Number: 8

Current Use: Residential / Multiple Dwellings

Number of Occupant Families: 6

Divisions: 6

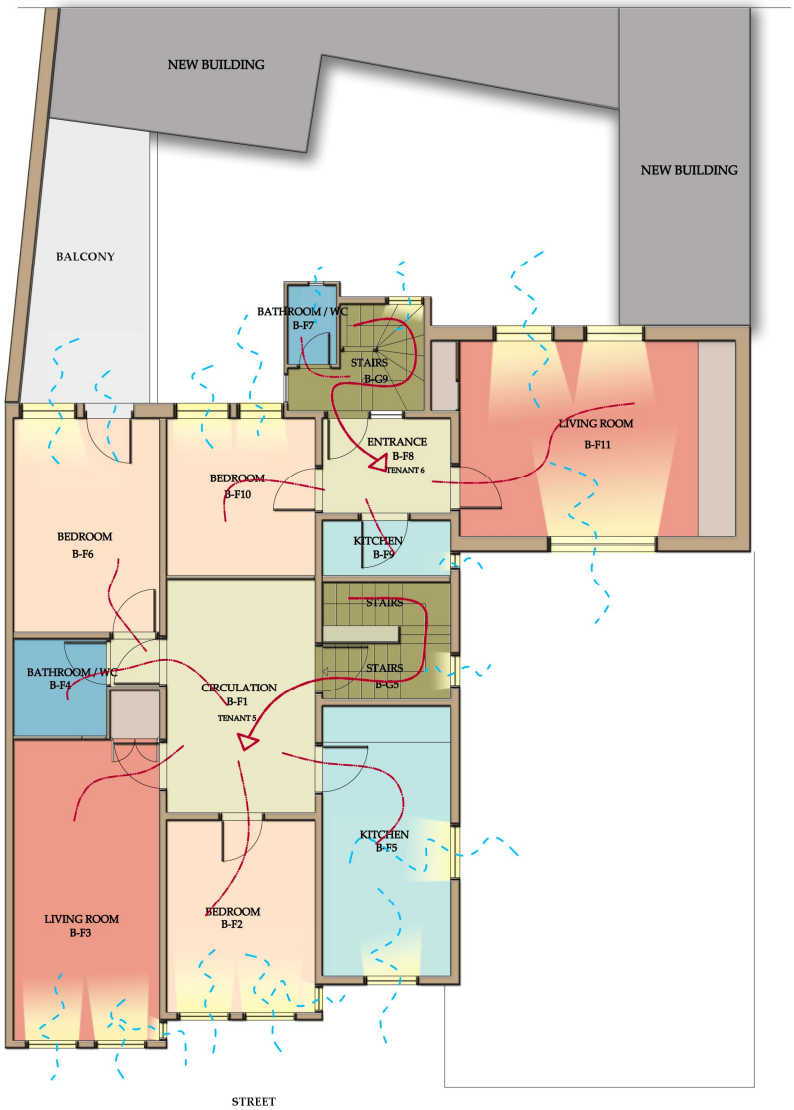
Ownership: Owner + Tenants

Structural System : Timber frame & Mudbrick

Number of Storey: 2

Condition: A (TABLE A.10)

SPATIAL INFORMATION / CURRENT USE



* this drawing is based on the measured drawing on the published study of "İstiklal Mahallesi Preservation and Rehabilitation Project" (Graduate Program in Restoration, fall semester of 1983-84, METU)

** the service units are re-measured by the writer

ESKİCİOĞLU NO:8 FIRST FLOOR

LEGAND

LIVING SPACES: Living room, Bedroom

CIRCULATION & LIVING: "Sofa"

CIRCULATION: "Taşlık", Stairs, Circulation / Entrance

SERVICE SPACES: Kitchen, Storage, Bathroom / WC

ARCHITECTURAL ELEMENTS: *Traditional Cupboard*, *Güsülhane*, *Niche*

OUTDOOR SPACES: Courtyard, Street

Ventilation, Circulation, Light

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The structural system of Eskicioğlu Street No: 8 is mud brick masonry at the ground floor on a stone masonry subbasement level; the first floor is constructed with timber frame with mud brick infill (Figure 3.40 & 3.41). The original structural system and materials are conserved. However the load of the division walls and the service space additions per unit inside the building harms the structural system. The building is overloaded so it might be risky to insert new technical equipments without careful analyses and consolidation however this can be decided only after proper structural system and material analyses (Table 3.20).

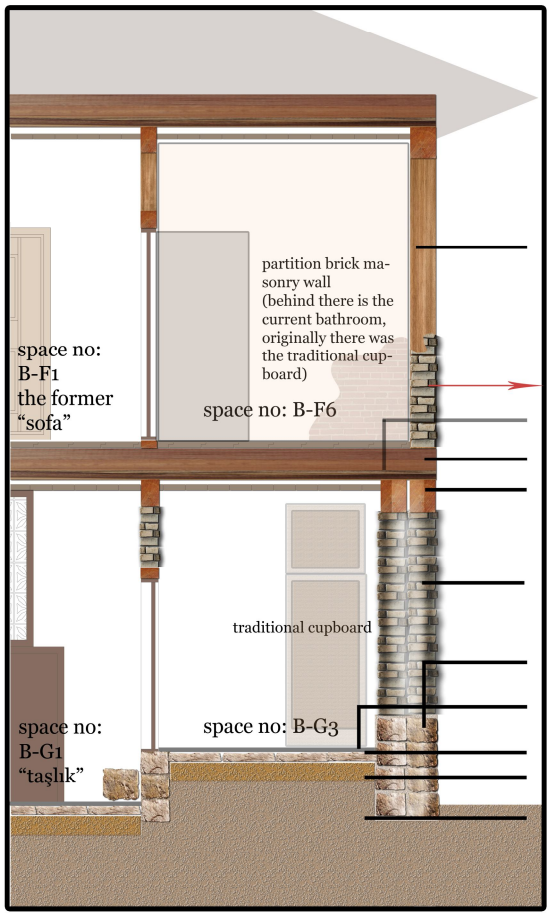
Figure 3.40 **Figure 3.41**

Figure 3.40 & Figure 3.41
Eskicioğlu Street No.8, the Structural System

Today the building is used by six different occupants as tenants. The first floor is used by two families, arrangement provided by one partition wall in the middle of the "sofa". The rooms in the ground floor are rented as tenant per room. The tenants of the ground floor use the same bathroom and W.C. in the courtyard which is a new building addition, where the condition is very unsanitary. The tenant per room usage scheme caused unsanitary conditions for the users where those rooms are used as living, sleeping and dining areas.

TABLE 3.20 THE WALL SECTION OF ESKİCİOĞLU STREET NO: 8

THE WALL SECTION OF ESKİCİOĞLU 8



* this schematic drawing of Eskicioğlu 8 in İstiklal District is based on the structure system described in "A Study on Conservation and Rehabilitation Problems of Historic Timber Houses in Ankara", the Ph.d. thesis by Neriman Şahin,1995 (pp.183 - 190).

* the terminology is taken from "A Study on Conservation and Rehabilitation Problems of Historic Timber Houses in Ankara", the Ph.d. thesis by Neriman Şahin,1995 (pp.183 - 190).

This usage is directly reflected on the plan scheme and functional layout of the building. The building is divided horizontally and vertically into six building units**.** As mentioned above, the building has two floors: ground floor and first floor. The entrance from the street opens to the "taşlık" at the ground floor (Figure 3.42 & Figure 3.43). Today, it no longer serves as the "taşlık" but rather as a part of the Eskicioğlu Street, as this connection is the only way to reach the new buildings constructed at the courtyard of this lot.

Figure 3.42 **Figure 3.43**

Figure 3.42 & Figure 3.43
Eskicioğlu Street No.8, the Courtyard

The ground floor has four rooms where these are used by four different tenants. It could not be possible to enter and survey these rooms, where the users didn't allow access. On the 3rd door from the right when entered from street there is the original stairway of the building, which reaches to one of the dwellings facing the street on the first floor. For the access to the second building on the first floor which faces the courtyard, the circulation is provided by a later addition stairway (Figure 3.47 & Figure 3.48). This stairway is constructed with timber within stone masonry shaft (Table 3.18).

On the first floor, there is a partition wall that separates the two occupants' units. In 1995, Şahin observes that, *"The plan scheme of the first floor is changed but can still be read. Today, the main central hall of the building is divided into two separate spaces. A part of the original hall is used for circulation, while the other part is the bedroom."* During the site survey in 2010-2011, the building still had the same functional layout. The first building which faces the street has three rooms, one bedroom for the parents, one bedroom for the child and one living room (Figure 3.46). Besides there is a kitchen converted from a traditional room (Figure 3.51) and a bathroom which is converted from a traditional cupboard by adding an extra space by a partition wall between the cupboard and the room (Figure 3.54). There is a connection to a new balcony in the bedroom at the left back of the "sofa" which faces the courtyard, as it opens to the roof of a new building which is a mass addition at the courtyard. The second building at the

first floor faces the courtyard. It has one room which is the other part of the "sofa", one living room, one inadequate kitchen converted from a part of a traditional room, where the other part is used as the new entrance. There is another partition wall between the entrance of this second building and the kitchen. The bathroom and W.C. of this building is on the shaft of the staircase. This space is inadequate, unsanitary and can hardly meet today's requirements (Table 3.19).

The courtyard can no longer serve its original purpose as it has one small mass addition and two new building additions. One of these new buildings is occupied by the owner of the traditional building. The other mass addition is the bathroom and toilet of the four residents of the ground floor.

Figure 3.44 **Figure 3.45**

Figure 3.44 & Figure 3.45
Eskicioğlu Street No.8, the "Taşlık"

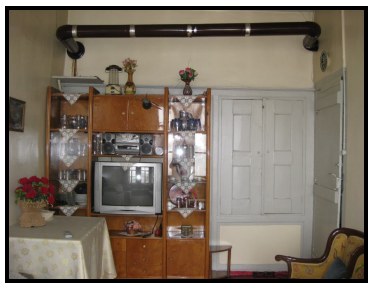


Figure 3.46
Eskicioğlu Street No.8, the Living room

This building, today, has unsanitary conditions, as one building suitable for one building is instead used by six dwellings. The service spaces of the building are inadequate to meet the requirements of contemporary life, as they are converted from other spaces by division. There are two bathrooms and two kitchens at the first floor, due to divisions of the dwellings which harm not only the traditional structural system but also the sanitary condition of the spaces. The traditional cupboards of the two rooms in the first floor are converted into service spaces which were also observed by Şahin in 1995. These service spaces are inserted to meet basic requirements in short term, which have probably are giving damage to the traditional structure and materials. These spaces can hardly meet today's basic requirements and lack hygienic atmosphere[2].

Figure 3.47 **Figure 3.48**

Figure 3.47 **Eskicioğlu Street No.8, the Second Stairway (As a later addition)**

Figure 3.48 **Eskicioğlu Street No.8, the Bathroom of the Second Household (As perceived from the exterior)**

As Şahin stresses in 1995; the plaster of the house is completely renewed both from the interior and the exterior by a cement based plaster. The interior spaces' finishing materials are lately renewed with cement based plaster and oil paint where the walls are painted to various colors. These look appropriate for now as they are lately renewed however they should be replaced with water-based paint so the building can breathe and dampness accordingly will be avoided. Şahin

[2] The sanitary conditions of the service spaces are analyzed in the "Focusing on the Service Spaces: Understanding and Assessing their Current States"

mentioned the dampness problem in the “taşlık” due to service space conversions at the first floor and the rising damp on the street facade especially in the stone sections as the biggest problem of this building in 1995 (Şahin, 1995). The architectural elements such as doors, windows, traditional cupboards are painted with white oil paint (Figure 3.49 & Figure 3.50). The technical equipments such as electric cables and pipes are hidden better than the other examples within the district (Figure 3.50). The electricity supply is equipped over the walls and timber ceilings.

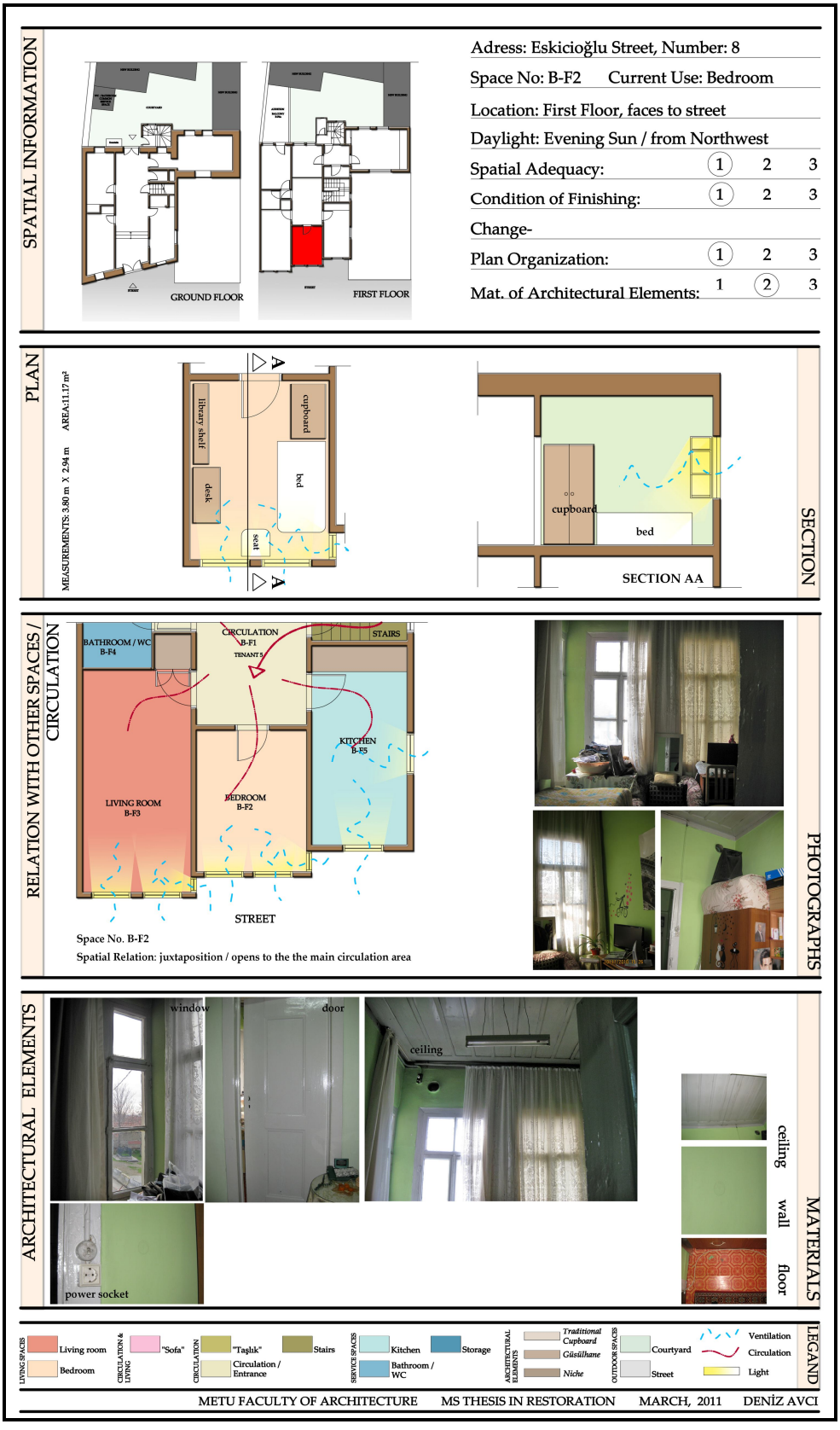
Figure 3.49 **Figure 3.50**

Figure 3.49 Eskicioğlu Street No.8, an Original Door Painted with Oil Paint

Figure 3.50 Eskicioğlu Street No.8, the Technical Equipments (Electric plug, light switch and electric cable)

Even though there are many divisions that change the usage scheme, the plan organization of the building - though changed - can still be read. The rooms are conserved without any divisions (Table 3.21). However the common spaces such as “sofa”, “taşlık” and the courtyard have lost their originality and function. The “taşlık” space has lost its function and today serves as a circulation area and as an extension of the street. The “sofa” is divided into two parts; one as the circulation area of one of the divisions belonging to one tenant, the other as the bedroom of the other tenant. The most important factor in change is that the traditional cupboards are converted into service spaces, one to a bathroom and one as the service stall of the kitchen.

TABLE 3.21 THE SPACE ANALYSES OF A BEDROOM IN ESKİCİOĞLU STREET NO: 8



The architectural elements are conserved with their original material such as doors, windows etc. However, the originality of these architectural elements can hardly be perceived. Overall; the building needs re-conversion to its original plan organization as the divisions caused extra load, unsanitary conditions, harm in the structural system and loss in the perception of the original plan layout. When the spaces are returned to their original function and size, there are many advantages of these spaces as they are wide and bright, rich in architectural elements and have authentic qualities.

3.2.2. The Probable Original Functional Layout

The following describes the probable original usage scheme of Eskicioğlu Street No: 8 based on the current usage scheme and the space characteristics in terms of size, circulation/ventilation/lighting properties and architectural elements.

The entrance from the street opens to the “taşlık” in the ground floor which cover the floor from one side (the main entrance) to another (entrance to the courtyard). There are four spaces surrounding the “taşlık”. These were either used as service spaces/storages such as “odunluk” (timber storage) or “kömürlük” (coal storage). These spaces may have been used as rooms as well. The three of the rooms in the basement floor have cupboards (traditional). On the right side there is the staircase between the two spaces which lead to the first floor. The room at the right back at this point serves as the circulation area due to a later period mass addition which also is constructed with a traditional technique. Due to this addition, a division occurred at the room at the right back of the plan layout and due to this alteration; there is a storage area next to the staircase. The mass addition has one space which also has been used as a service space / storage or a room. The “taşlık” opens to the large private courtyard at the back (Table 3.22).

The first floor is reached through the staircase at the right side of the plan layout. It opens to the “sofa” in the first floor which is in the middle of the usage scheme. The “sofa” is used as living/ gathering and the circulation area of the building and it is the most important element of the plan layout.

TABLE 3.22 ESKİCİOĞLU STREET NO: 8

PROBABLE ORIGINAL FUNCTION / GROUND FLOOR

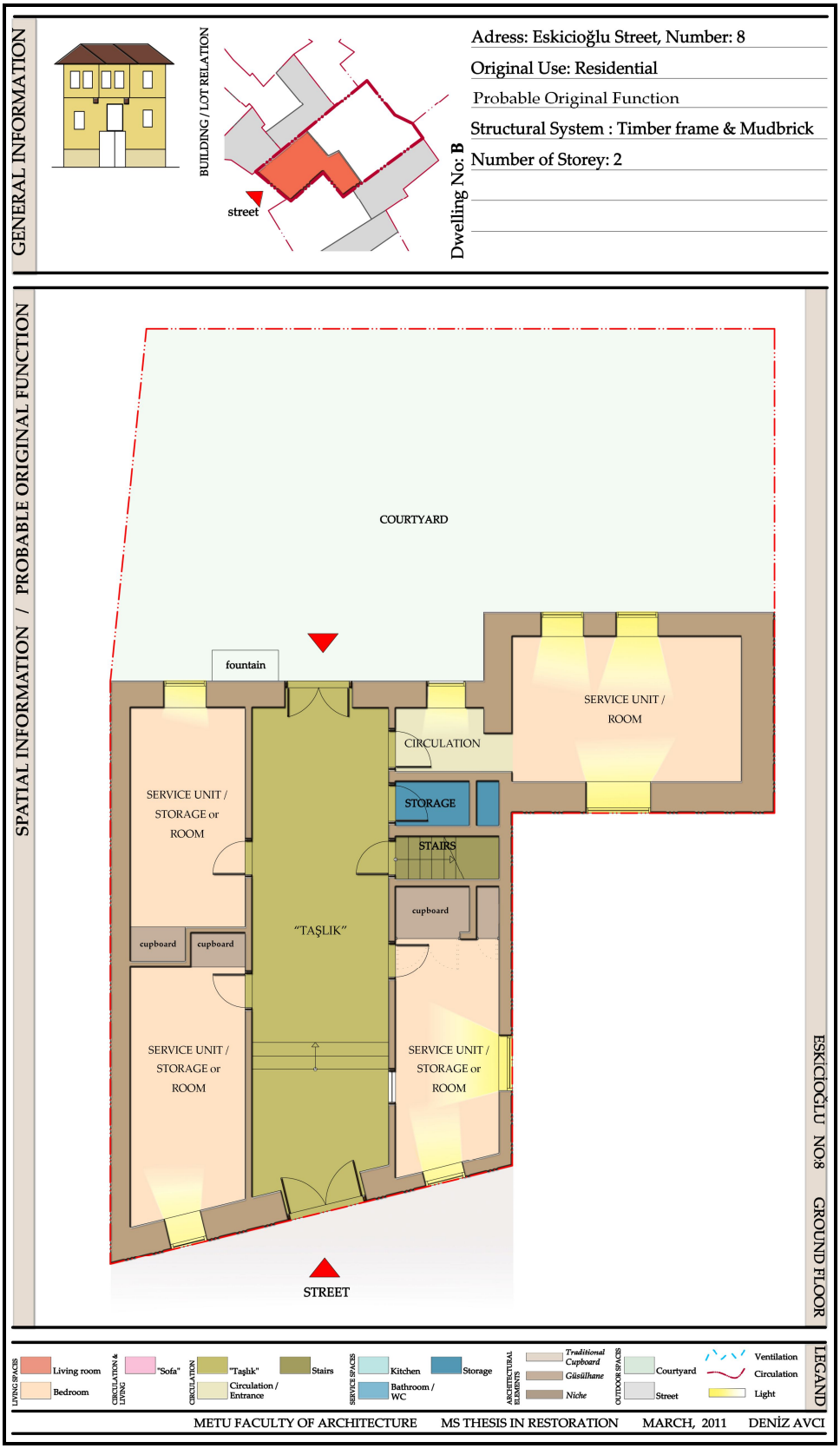
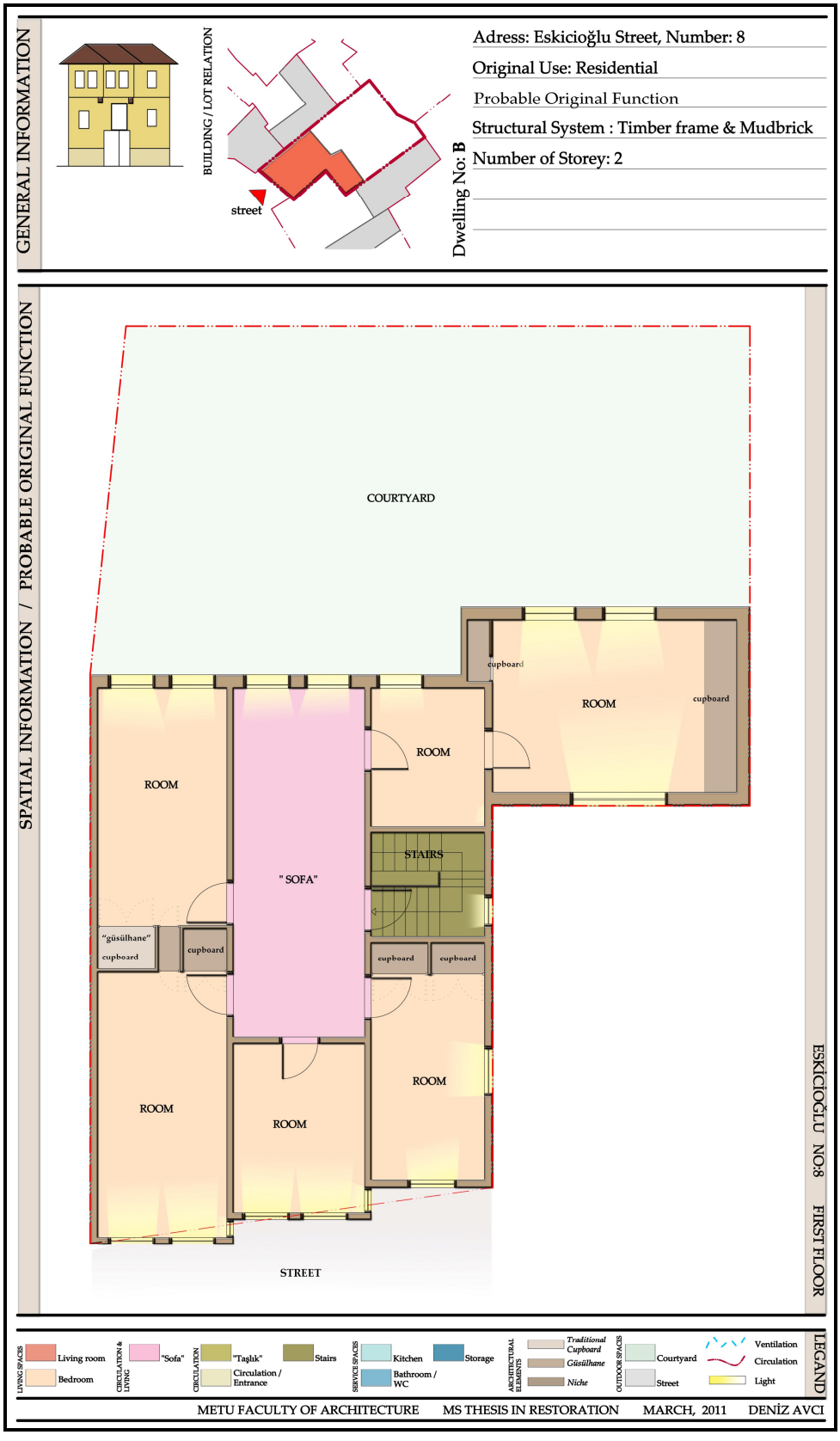


TABLE 3.23 ESKİCİOĞLU STREET NO: 8

PROBABLE ORIGINAL FUNCTION / FIRST FLOOR



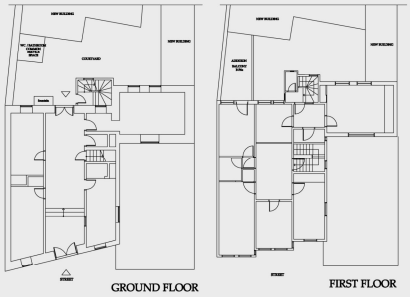
There are five spaces surrounding the “sofa”, two on the left (at the sides of the staircase), two on the right and one in the front middle. These spaces are used as rooms. Three rooms face the street where two face the courtyard at the rear. Three of the rooms have cupboards (traditional) where in one of the rooms there might have been a “güsülhane” (bathing area). The room at the right back side serves as the pre-entrance area of the larger room. This space is added after a mass addition which is also constructed with a traditional construction technique. This space also faces the courtyard however it also faces the garden of another lot by a later alteration of window opening. This space is also used as a room and has two cupboards. Generally the windows of the building which open to the right side are later alterations since that area belongs to another lot (Table 3.23).

3.2.3. Values, Problems and Potentials of the Building

The values listed below are inputs from the building which should be considered in the proposal phase along with the problems and the potentials. Eskicioğlu Street No: 8, today, is located at the center and the densely part of the district, which resulted in the dweller occupation and accordingly maintenance on the dwellings on this street. The building is very close to Hasırcılar Street which is a commercial axe of Ulus. Also from two blocks to this building there is a historical monumental building which is the Eskicioğlu Mosque which gives the street its name. The front facade of Eskicioğlu Street No: 8 faces an empty area, the node in the Eskicioğlu Street, probably due to a previous demolition of a traditional residential building in the district’s history. The building is placed on a very large lot and entered directly from street into a “taşlık” area where there is a large courtyard at the back.

TABLE 3.24 VALUES / PROBLEMS /POTENTIALS (1) OF ESKİCİOĞLU ST. NO: 8

SPATIAL INFORMATION



Adress: Eskicioğlu Street, Number: 8

Spatial Adequacy:	1	(2)	3
Condition of Finishing:	(1)	2	3
Change in Plan Organization:	1	(2)	3
Change in Mat. of Arch.Elmnts:	1	(2)	3

Dwelling No: **B**

ESKİCİOĞLU 8 / VALUES / PROBLEMS / POTENTIALS

VALUES	PROBLEMS	POTENTIALS
1 LOCATION WITHIN DISTRICT		
* located at the center of the district * on one of the densely used streets of the district / the dwellings in this street are in good condition * close to Hasırcılar Street (commercial axe) * close to Eskicioğlu Mosque * due to demolished dwellings, it faces an empty area	* at the overused center of the district where the housing demands in this area are higher which causes over use of traditional houses in this area * doesn't have vista * has a very limited scenery of the surroundings	* in the center and the most densely used part of the district * close to commercial axes of Ulus
2 LOCATION WITHIN LOT		
* has a large lot * has a large courtyard at the back	* there are 3 new building additions at the courtyard / the boundaries of the lot cannot be perceived * the new building additions harm the original building-lot relation * the new building additions cause unsanitary conditions	* there is no ownership problem * the courtyards is large (if returned to its original state)
3 CHARACTERISTICS OF THE BUILDING		
* the rooms are wide and bright in terms of natural lighting *rich in interior architectural elements (especially traditional cupboards) * has windows with pediments (seen in a small number of dwellings within the district)	* in time many divisions occurred for renting * there are many inserted service units due to divisions within * new functions are given to architectural elements / transformed in many ways / originality cannot be perceived	* in the original plan layout the spaces are wide and bright (without the current divisions) * "the conversion of architectural elements" process has been applied as service unit conversions such as bathroom into traditional cupboard or kitchen stall as the traditional cupboard

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TABLE 3.25 VALUES / PROBLEMS /POTENTIALS (2) OF ESKİCİOĞLU ST.NO: 8

ESKİCİOĞLU 8 / VALUES / PROBLEMS / POTENTIALS

VALUES	PROBLEMS	POTENTIALS
4 USER / USAGE		
* all the spaces are in use * the usage scheme can still be perceived * has a courtyard at the back * the cupboards are converted into service units by the users	* divided into six different units for renting purposes, there are 6 families within one dwelling * the divisions caused narrow, dark spaces for the tenants (especially in *taşlık* areas: room per tenant) * the divisions caused unsanitary conditions where four of the tenants share the same bathroom / WC in the courtyard	* the usage scheme of the building can still be perceived and can be carried further on to future generations * when the divisions are prevented the spaces offer wide and bright living areas
5 CURRENT STRUCTURAL SYSTEM & MATERIAL CONDITION		
* the building is structurally in a good condition * the original structural system and materials are conserved	* the building carries many division walls and technical equipment of service units' * there is a general dampness problem in service units / especially in bathroom areas since these are done arbitrarily	* the building is stable and with minor consolidation the building can carry technical loads of service unit conversions
6 FINISHING / SANITARY CONDITION		
* the architectural elements are conserved in their original material (doors, windows etc.) * the interior finishing materials have been newly renewed (in the first floor) * the technical equipments such as pipes, electric cables don't cause hindrance in the perception	* needs urgent maintenance in material and finishing (in ground floor) * the service units need change in materials (suitable for traditional dwelling) * the walls are plastered and painted in various colors	* the technical equipments are solved consciously such as electric cables, water pipes etc.
7 CHANGE		
* the original plan layout can be partly perceived * all spaces are in use * the architectural elements are used efficiently * service unit conversions of architectural elements (traditional cupboards) are creative and useful	* the functions of spaces have been through change * the taşlık area serves as an extension of the street * the courtyard no longer serves as the courtyard but as a site for new buildings * a second stair was added to the building after the first floor division * due to divisions service units are squeezed into various areas	* the original plan layout can still be read * the concept of "conversion of architectural elements" can be applied in this dwelling since the owners started the process themselves

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The courtyard of this building is one of the largest courtyards within the district which makes it more valuable form others. The characteristic properties of the building show similarities with the rest of the traditional residential buildings in the district, meaning there are 2 floors (ground and first), there is a courtyard at the back and the rooms are placed around the “taşlık” and “sofa”. The rooms are rich in natural lighting as the windows as architectural elements cover most of the facade. These windows are with pediments which is a characteristic property seen in a small number of dwellings within the district in various places. This building is also very rich in interior architectural elements as most of the rooms have traditional cupboards. The over usage within spaces prevented neglect. And although all the divisions the usage scheme can still be perceived. Another contribution to the building the users provided is the conversion of traditional cupboards into service spaces or equipments such as the kitchen stall. As for the current structural condition, the building is in a good condition even though all the divisions. The original structural system and the materials conserve their originality. The architectural elements are also conserved in their original materials. The finishing materials of the spaces (interiors) are lately renewed painted with oil paint in the first floor. The technical equipments are consciously placed as they cause no harm in the perception of the spaces. As for the change factor, the original plan layout can still be perceived although there are alterations. All the spaces are used either with or without change in their original functions. The architectural elements are efficiently used with conversions.

A historic building as a cultural heritage would have many problems as well as values due to neglect and inadaptability to a new century as mentioned previously for Birlik Street No: 3 Case. Eskicioğlu Street No: 8, as a traditional residential building existing in a contemporary city, also has these problems. One of the problems is that the building is at the very densely used part of the district which causes overuse within the building. The surroundings are also very crowded with other dwellings where the building doesn’t have vista. Due to the large size of the courtyard, in this century users searched profit in this and three new buildings are constructed within the courtyard where the boundaries of the original courtyard or the original courtyard wall can no longer be perceived. These new buildings also harm the original building lot relation in traditional residential buildings as well as causing unsanitary conditions where the infrastructure such

as water drainage for one building is now used for three. The buildings' characteristic property of being large in size in the horizontal scale caused many divisions of the plan layout such as the division in the "sofa" and the four room divisions in the ground floor. Due to these divisions there are many inserted service spaces for the divided households. Also the new functioning of architectural elements caused transformation where the originality of these elements cannot be perceived. The divisions harm the building in many ways such as the extra load of the division walls & extra service space installations, the narrow dark spaces formed by division of spaces and harm in the originality perception of spaces such as "sofa". The unsanitary conditions of service spaces due to their conversion spaces, conversion and insertion mistakes are another problem with the inadequacy of the one bathroom & W.C. usage in the courtyard which serves the four families in the ground floor. As for the structural system, it is in urgent need of analyses and maintenance as it carries extra load such as division walls and technical equipments of the service spaces. There is a general dampness problem in the service space conversions. In terms of finishing materials and sanitary condition of spaces the ground floor is totally neglected as the users are temporary tenants. The upper floors are in better condition as they are lately renewed however the renewal material is not suitable for the case. All of the service spaces need change in materials and general renewal & maintenance of the condition. The lately renewed walls of the first floor are oil painted and in various colors this is not suitable with the originality of the walls. Overall of the problems for this case; the plan layout has been through change in organization with the horizontal and vertical divisions. The spaces such as "taşlık", "sofa" and courtyard can no longer serve their original purpose as the courtyard is a site for new building construction, the "taşlık" is an extension of the street and the "sofa" is now partly a room and partly a circulation area. There also is a second stair addition for the second household division of the first floor (the division which faces the back courtyard). Due to all these divisions, service spaces for each household are squeezed into various areas.

A traditional residential building as a cultural heritage offers potentials to the future generations. In this thesis these potentials are analyzed in terms of the traditional residential building as continuing its residential function. Eskicioğlu Street No: 8 is in the center and the most densely used part of the district

meaning this area of the district will always attract users and visitors. It is very close to Hasırcılar Street a commercial axe, which is a potential for the user appeal. The lot is undivided and there is no ownership problem which makes negotiation with the owners easy in a possible restoration project. If the courtyard is cleaned from new building additions then the lot provides much potential for the possible users. In the original plan layout all the spaces offer wide and spacious areas which are rich in natural lighting. The usage scheme can still be perceived and the originality can be carried on to future generations. Structurally building is in good condition and can carry the loads of technical equipments (as can be seen from today's condition) however any new alteration needs structural analyses and consolidation of structural system if needed. The conscious solutions of the technical equipments are one of the biggest potentials as if solved unconsciously these can harm the perception of the spaces. Overall of the potentials; although the divisions and change in the usage scheme, the original plan layout can still be read. Also the concept of conversion of architectural elements such as traditional cupboards into architectural elements is tried on this building by the users (Tables 3.24 & 3.25).

As can be seen Eskicioğlu Street No: 8's values, problems and potentials as a cultural heritage are listed above. These are the needed to understand the building before any conservation project. The values, the problems and the potentials should be used as a base before any proposals as these will shape the functioning of the spaces.

3.2.4. Focusing on the Service Spaces: Understanding and Assessing their Current States

During the site survey, only one of the dwellings' service spaces could be studied, as the other users were unwilling to accept the surveyor into their dwellings. The building that could be studied is on the first floor and faces the street.

The Current Kitchen of Eskicioğlu Street No: 8 (Space NO. B-G5): The kitchen which is converted from a traditional room by the conversion of a traditional cupboard as a kitchen stall is in the first floor and faces the street (Figure 3.51). The size of the room is adequate and meets the requirements of

today and also serves as a living and dining room. The size of the kitchen is about 2.54 × 5.32 meters. There is a new window addition on the right side of the room which faces another lot (Figure 3.53). All the technical equipments are provided except the dish washer. The cupboard of this room is converted into the kitchen stall where there is the sink, the oven and the ventilation hood. The floor is timber and today covered with plastic-based covers, where carpets are placed above. The kitchen is not used as a wet space (Table 3.26).

Figure 3.51
Eskicioğlu Street No.8, the Kitchen
The Kitchen Stall Converted from a Traditional Cupboard

Figure 3.52

Figure 3.53

Figure 3.52 & Figure 3.53
Eskicioğlu Street No.8, the Kitchen
The Door and the Windows

TABLE 3.26 THE SPACE ANALYSES OF THE CURRENT KITCHEN IN ESKİCİOĞLU STREET NO: 8

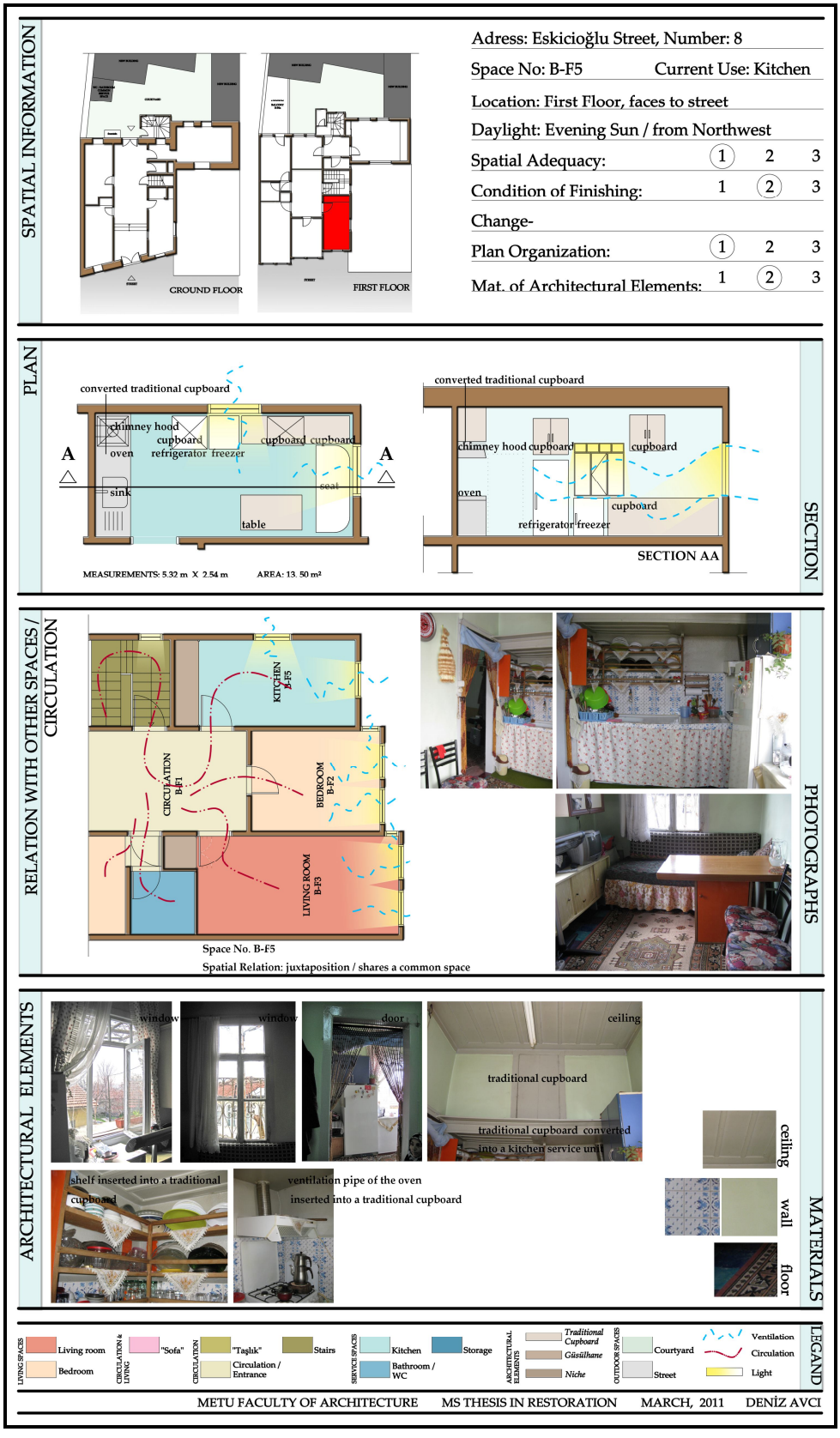
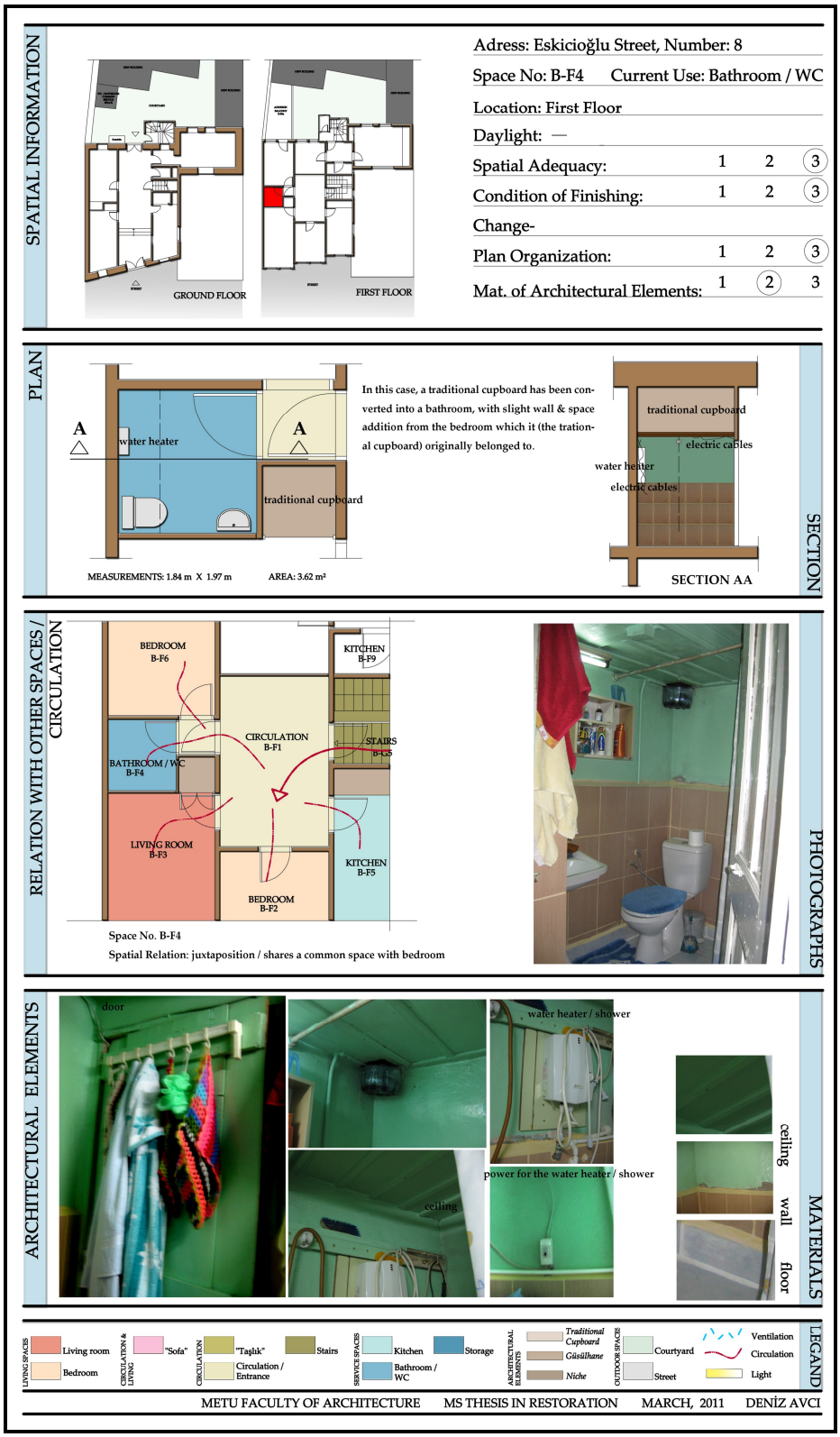


TABLE 3.27 THE SPACE ANALYSES OF THE CURRENT BATHROOM IN ESKİCİOĞLU STREET NO: 8



The Current Bathroom of Eskicioğlu Street No: 8 (Space NO. B-F4): The space is in the first floor. With an addition of a partition wall, a part of the room unified with the traditional cupboard space is used as the current bathroom. The bathroom is placed into the cupboard which might also be "güsülhane" but due to major alteration, it can no longer be perceived. The size of the bathroom is 1.83×1.92 meters. There is a European type closet, a ceramic sink and a water heater within the space (Figure 3.54). There is no shower cabin; instead a part of the space is used as the showering area and this area is divided with a curtain. The walls are covered with ceramic tiles up to about 1.30 meters (Figure 3.55), the rest is oil painted with green. The ventilation of the space is inadequate. The inefficiency of this ventilation and the dampness that occurred is visible (Figure 3.55). Also the ceiling is low as it is converted from a cupboard and the lighting is inadequate since there are no windows. The size of the space is partially adequate and can meet two of the requirements of a modern bathroom of today such as the sink and the closet. The new materials are not compatible with the original (Tablo 3.27).

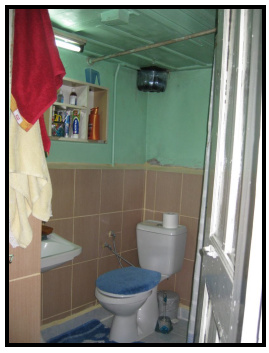


Figure 3.54
Eskicioğlu Street No.8, the Bathroom
Converted from a Traditional Cupboard

Overall Assessment of the Service Spaces:

The spatial adequacies of the service spaces are efficient where two or more of today's requirements can be met. However the spaces required for these

transitions are either provided by division walls or conversions of architectural elements which harm the originality of the spaces (Figure 3.57 & Figure 3.58). There are extra service space installations within this traditional residential building for each household so the extra technical load and infrastructure harm the original structural system and materials. The finishing materials of these service spaces especially for the bathroom are cement-based plasters and ceramic tiles. These new materials are not suitable for a traditional building and harm the original material (Figure 3.55 & Figure 3.56 - Figure 3.61). Due to conversions of traditional architectural elements; the authentic properties of these are lost (Figure 3.57 & Figure 3.60).

Figure 3.55 **Figure 3.56**

Figure 3.55 & Figure 3.56
Eskicioğlu Street No.8, the Bathroom
Dampness Problem and New Material Application
Cement Based Plaster and Ceramic Tiles
(These are not suitable for original materials)

The kitchen is spatially adequate however due to the current usage scheme and extra furniture, the usage becomes difficult. The kitchen is converted from a traditional cupboard as the kitchen stall (Figure 3.51 & Figure 3.57 & Figure 3.58). The refrigerator, the freezer, the oven are placed around the room. The current usage scheme must be changed within the kitchen so the technical equipments can be used without limitations. The original finishing materials of the traditional cupboards are replaced with ceramic tiles and plaster covered with oil paint. There is a later window addition which faces another lot (Figure 3.53).

Figure 3.57 **Figure 3.58**

Figure 3.57 & Figure 3.58
Eskicioğlu Street No.8, the Kitchen
The Loss of Traditional Architectural Elements: The Traditional Cupboard
The Ceramic Tiles and Oil Paint Application

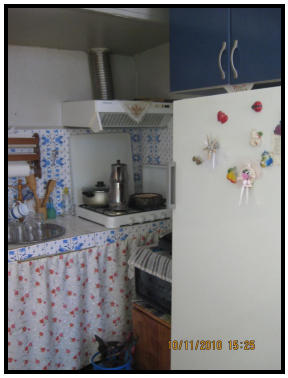


Figure 3.59
Eskicioğlu Street No.8, the Kitchen
The Loss of Traditional Architectural Elements: The Traditional Cupboard

The current bathroom is located in a traditional cupboard which is a unified space with a part of an original room (Figure 3.54). A partition wall has been added to divide the space from the bedroom. This is extra load to the building and it prevents the perception of the traditional room with its traditional cupboards. The bathroom has no showering cabin where there is only a water heater and the space provided with a curtain (Figure 3.61). The water is drained through the floor which is covered with ceramic tiles. The water drainage can barely serve its purpose since puddle of waters cannot be avoided in the space. There is no ventilation within the space and the dampness is the biggest problem of this

conversion (Figure 3.55). The ceiling is very low and the lighting is inadequate. The ceramic tiles in the bathroom harm the traditional materials (Figure 3.56).

Figure 3.60 **Figure 3.61**

Figure 3.60 & Figure 3.61
Eskicioğlu Street No.8, the Bathroom
The Use of New Materials over Original Materials
The Water Heater

Figure 3.62
Eskicioğlu Street No.8, the Bathroom
The Lighting within the Space

3.3. Case C: Kargı Street No: 29

This traditional residential building is located at Kargı Street No: 29 in İstiklal District, Ulus in Ankara. Although its exact construction date is unknown, it probably belongs to the late period of the district, when the demands for housing

in Ankara increased at the end of 19th and at the beginning of 20th century as it became the capital city. There are many examples such as this one in the neighborhood where these newer and smaller dwellings were constructed after lot divisions due to increase in the housing demands.

3.3.1. The Architectural Properties and the Current Functional Layout

The building is located at one of the most densely used streets of today's İstiklal District: Kargı Street where it intersects with Eskicioğlu and Birlik Streets (Figure 3.66 & Figure 3.67). This part of the district is overused which is the core of the district. The building is close to Anafartalar Street, a commercial axe of Ulus. The building has 2 floors. It covers the whole lot. Therefore, there is no courtyard. The facade organization with a projection shows similarities with the surrounding tissue. Although the plan organization and the architectural elements are like the earlier examples of the traditional residential buildings within the district, this building is smaller in size and the spaces are narrow (Figure 3.64 & 3.65) (Table 3.28).

Figure 3.63
Kargı Street No.29

Figure 3.64 **Figure 3.65**

Figure 3.64 & Figure 3.65
Kargı Street No.29, the Projection and the "Sofa"

Figure 3.66 **Figure 3.67**

Figure 3.66 Kargı Street intersecting with Birlik Street
Figure 3.67 Kargı Street intersecting with Eskicioğlu Street

The structural system of the building is timber frame built on a stone masonry at the ground level (see Figure 3.68). Brick is used as infill. The building is structurally in a good condition and the original structural system and materials are conserved. The building seems s to behold technical equipments and carry the loads of the service space conversions however this can only be decided after proper structural system and material analyses (Table 3.31).

Figure 3.68
Kargı Street No.29, the Structural System

Today the building is used by one family with two children as tenant. Four people live in the house; the parents and two children. However the spaces are not suitable for more than two adults as a couple which might or might not have one child.

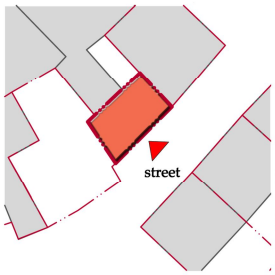
The entrance opens to the "taşlık" area in the ground floor which today serves as the entrance hall (Figure 3.69). On the left side, there is the current living room and the right side is the kitchen. At one side of the "taşlık", the bathroom is located with a division wall where the space consists of the sink and the water heater for the bathroom. The toilet has entrance from the bathroom and it is placed in the space under the stairs (Figure 3.80 to 3.86) (Table 3.29).

The first floor has the narrow "sofa" which is used as a living room and the circulation area for the two rooms: one for the parents and one for the children. The parents' bedroom is on the left side of the "sofa" where the children's bedroom is on the right side, exactly above the kitchen (Figure 3.70 & Figure 3.71). The children's bedroom is spatially inadequate and it can hardly meet one of today's requirements (Figure 3.71) (Table 3.30).

TABLE 3.28 THE GENERAL INFORMATION ON KARGI STREET NO: 29

GENERAL INFORMATION

BUILDING / LOT RELATION



Dwelling No: C

Adress: Kargı Street, Number: 29

Current Use: Residential

Number of Occupant Families: 1

Divisions: -

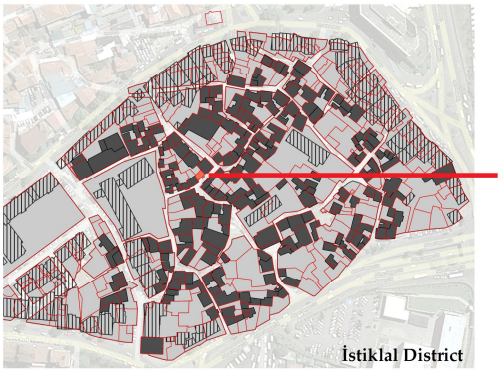
Ownership: Tenants

Structural System : Timber frame & brick

Number of Storey: 2

Condition: A (TABLE A.10)

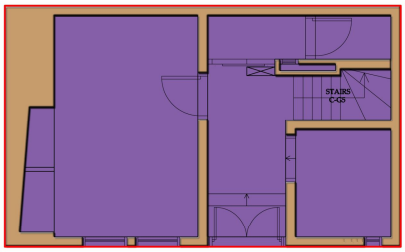
LOCATION WITHIN THE DISTRICT



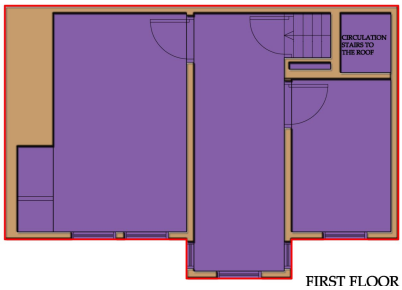
PHOTOS

Kargı Street

DIVISIONS



GROUND FLOOR



FIRST FLOOR

TENANT 1

LEGAND

LIVING SPACES: Living room, Bedroom

CIRCULATION & LIVING: "Sofa"

CIRCULATION: "Taşlık", Stairs, Circulation / Entrance

SERVICE SPACES: Kitchen, Storage, Bathroom / WC

ARCHITECTURAL ELEMENTS: Traditional Cupboard, Gösülhane, Niche

OUTDOOR SPACES: Courtyard, Street

Ventilation, Circulation, Light

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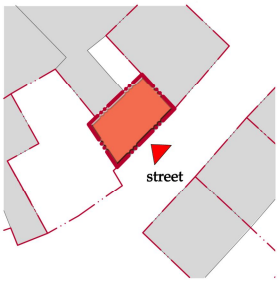
TABLE 3.29 THE CURRENT GROUND FLOOR OF KARGI STREET NO: 29

GENERAL INFORMATION

BUILDING / LOT RELATION



Adress: Kargı Street, Number: 29

Current Use: Residential

Number of Occupant Families: 1

Divisions: -

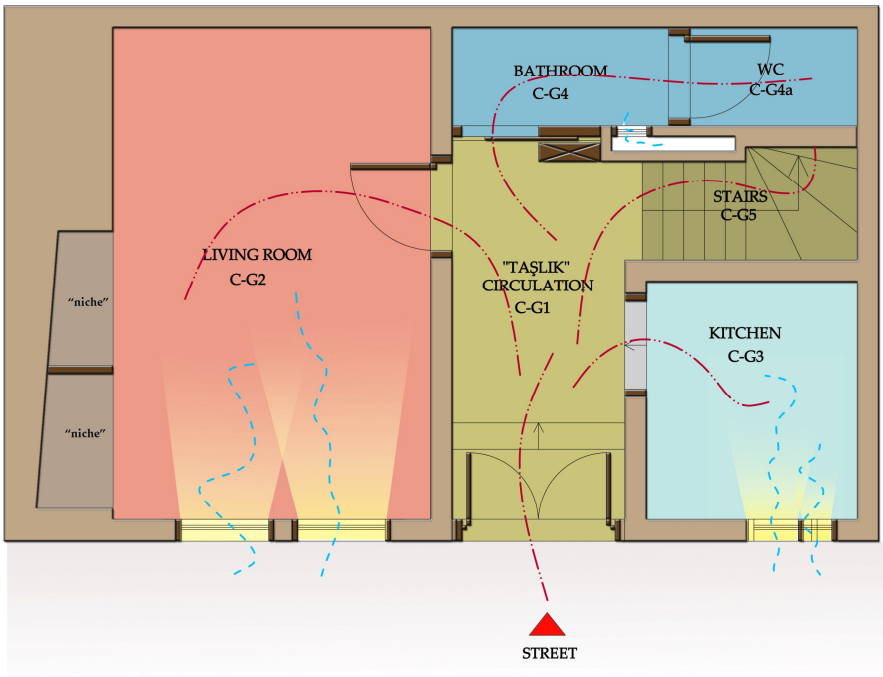
Ownership: Tenants

Structural System : Timber frame & brick

Number of Storey: 2

Condition: A (TABLE A.10)

SPATIAL INFORMATION / CURRENT USE



* The building is measured and drawn by the writer

KARGI NO:29 GROUND FLOOR

LEGAND

LIVING SPACES: Living room, Bedroom

CIRCULATION & LIVING: "Sofa"

CIRCULATION: "Taşlık", Circulation / Entrance, Stairs

SERVICE SPACES: Kitchen, Bathroom / WC, Storage

ARCHITECTURAL ELEMENTS: Traditional Cupboard, Güsülhane, Niche

OUTDOOR SPACES: Courtyard, Street

Ventilation, Circulation, Light

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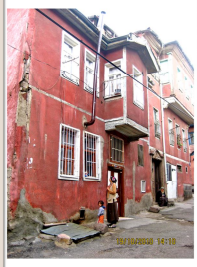
TABLE 3.30 THE CURRENT FIRST FLOOR OF KARGI STREET NO: 29

GENERAL INFORMATION



BUILDING / LOT RELATION

Dwelling No: C

Adress: Kargı Street, Number: 29

Current Use: Residential

Number of Occupant Families: 1

Divisions: -

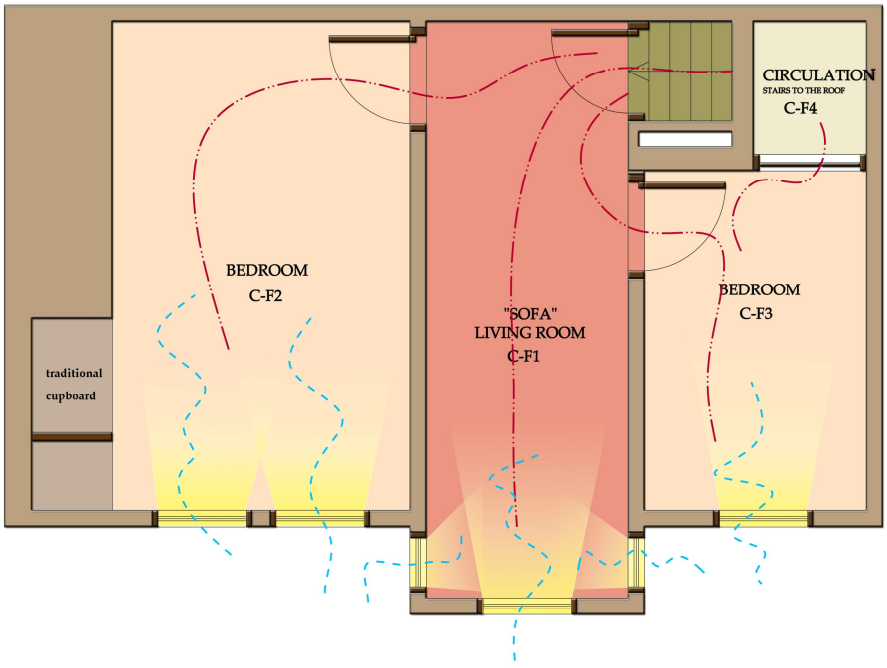
Ownership: Tenants

Structural System : Timber frame & brick

Number of Storey: 2

Condition: A (TABLE A.10)

SPATIAL INFORMATION / CURRENT USE



* The building is measured and drawn by the writer

KARGI NO:29 FIRST FLOOR

LEGAND

LIVING SPACES: Living room, Bedroom

CIRCULATION & LIVING: "Sofa"

CIRCULATION: "Taşlık", Stairs, Circulation / Entrance

SERVICE SPACES: Kitchen, Storage, Bathroom / WC

ARCHITECTURAL ELEMENTS: Traditional Cupboard, Gösülhane, Niche

OUTDOOR SPACES: Courtyard, Street

Ventilation, Circulation, Light

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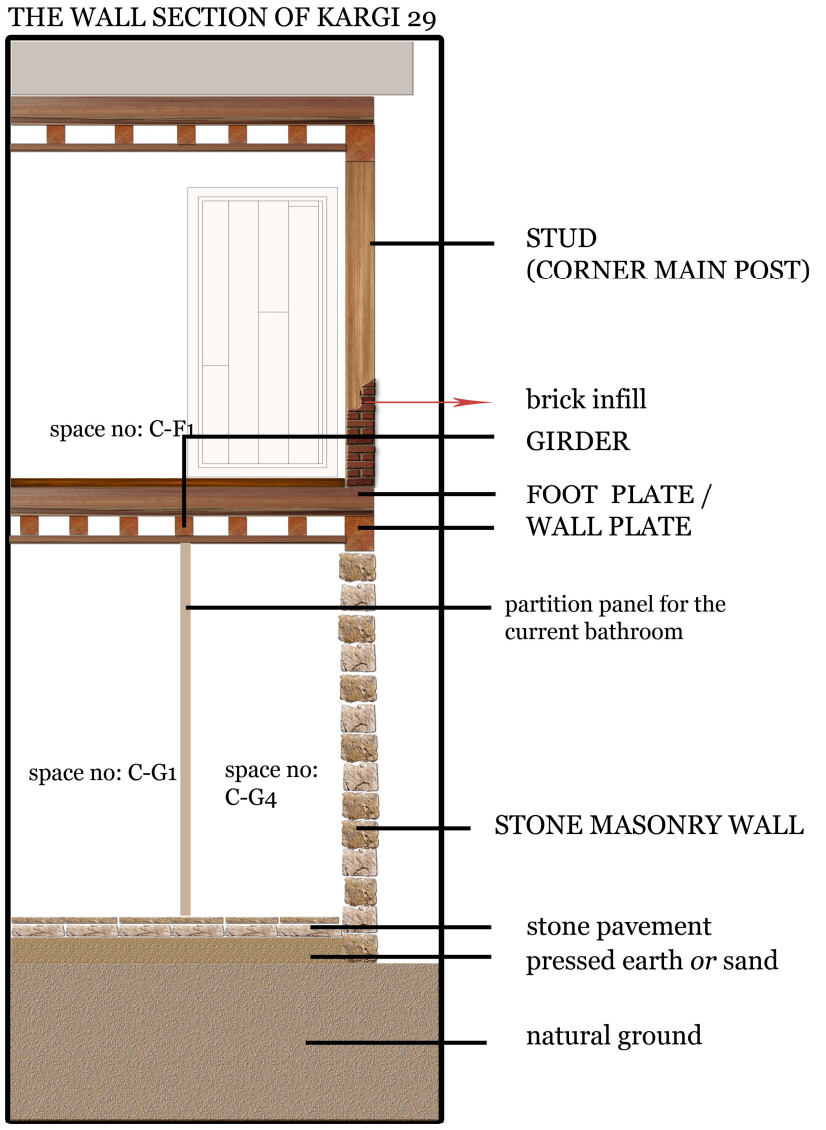
TABLE 3.31 THE WALL SECTION OF KARGI STREET NO: 29



* this schematic drawing of Kargı 29 in İstiklal District is based on the structure system described in "A Study on Conservation and Rehabilitation Problems of Historic Timber Houses in Ankara", the Ph.d. thesis by Neriman Şahin,1995 (pp.183 - 190).

* the terminology is taken from "A Study on Conservation and Rehabilitation Problems of Historic Timber Houses in Ankara", the Ph.d. thesis by Neriman Şahin,1995 (pp.183 - 190).

The service spaces of this building are inadequate to meet the requirements of contemporary life. They give harm to the traditional residential building physically and aesthetically. The finishing materials of these units cause

irreplaceable harm to the original materials. Also these spaces lack the hygienic atmosphere that is expected from contemporary service spaces[3]. In terms of finishing materials and architectural elements maintenance has been provided by the users. The current materials harm the traditional material of the building in terms of dampness, overload and incompatibility. The biggest problem of the building is that, the technical infrastructure is not solved consciously. The infrastructural equipments such as pipes, cables etc. cover the walls and these are hindrance in the perception of the spaces (Figure 3.74 & Figure 3.76 & Figure 3.78 & Figure 3.79 & Figure 3.84). The finishing of the architectural elements is lately renewed with white oil paint.

Figure 3.69
Kargı Street No.29, the Entrance to "Taşlık"

Though the building has some changes, the original plan layout can still be partially perceived as there are not many divisions. The original plan layout and the room functions are mostly conserved and the usage scheme has been partially changed. The locations of service spaces are adequate since they are placed in the ground floor in "taşlık" spaces. However the living spaces are not ideal to behold

[3] The sanitary conditions of the service spaces are analyzed in the "Focusing on the Service Spaces: Understanding and Assessing their Current States"

the typical modern furniture as massive fabricated furniture makes spaces even narrower (Figure 3.65 & Figure 3.71) (Table 3.32). Special designs must be offered which are prepared according to the building's spaces. The architectural elements are used efficiently such as the niches and traditional cupboards where these either continue their function or serve for a new purpose (the niche converted into a computer desk) (Figure 3.72 & 3.73).

Figure 3.70 **Figure 3.71**

Figure 3.70 Kargı Street No.29, the Parents' Bedroom

Figure 3.71 Kargı Street No.29, the Children's Bedroom

(The spaces are not ideal to behold the typical modern furniture)

As a result, it can be said that, this building needs careful approach while designing. The misuse of the furniture harms the perception of the traditional rooms. Again the user definition becomes very important as this building should not be rented to a large family, even to a family with more than one child.

TABLE 3.32 THE SPACE ANALYSES OF A BEDROOM IN KARGI STREET NO: 29

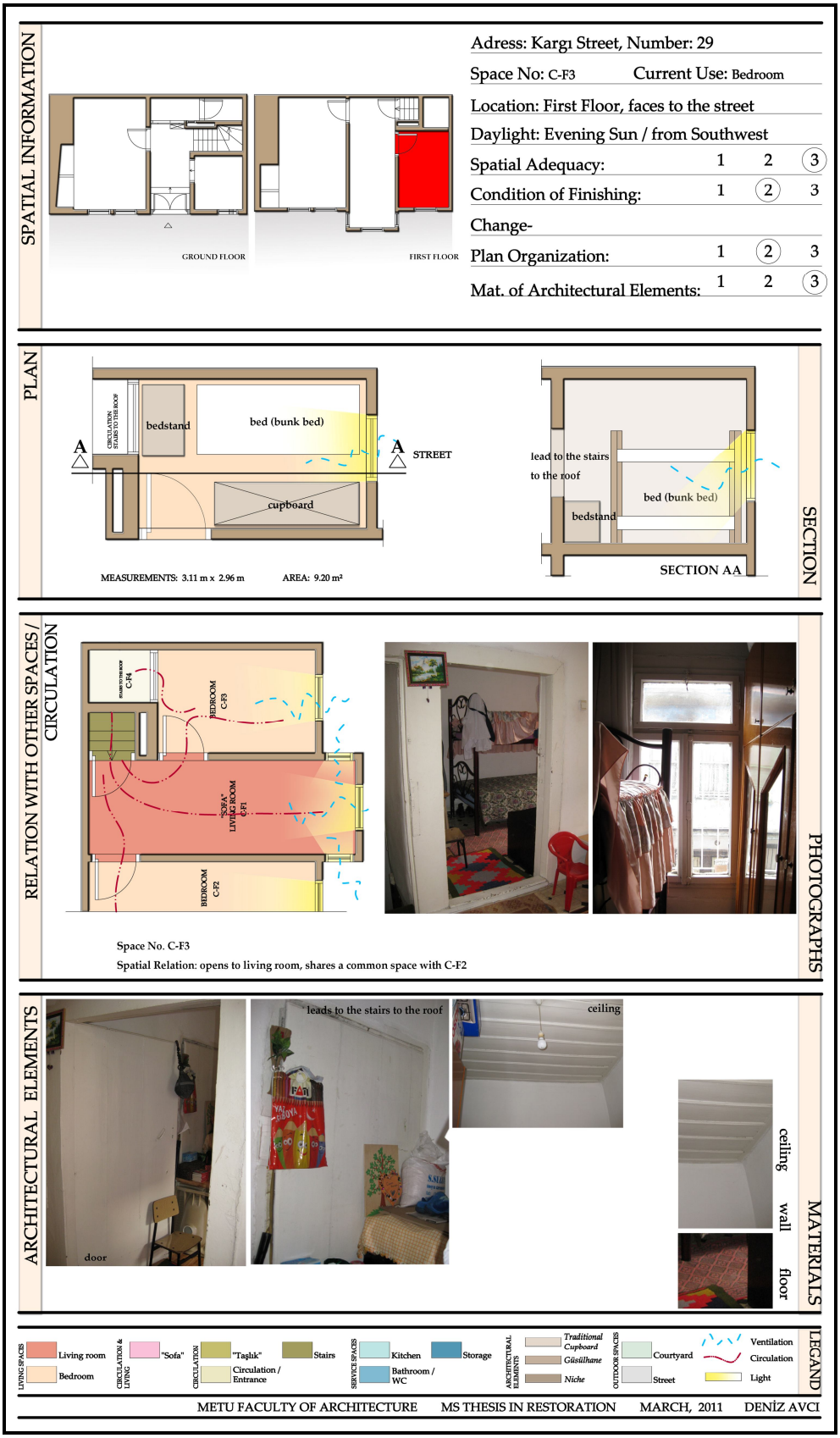


Figure 3.72 **Figure 3.73**

Figure 3.72 Kargı Street No.29,
the Niche in the Living Room Used as a Working Desk

Figure 3.73 Kargı Street No.29,
the "Yüklük" in the Bedroom Continuing its Original Function

3.3.2. The Probable Original Functional Layout

The following describes the probable original usage scheme of Kargı Street No: 29 based on the current usage scheme and the space characteristics in terms of size, circulation/ventilation/lighting properties and architectural elements & ornaments. Kargı Street No: 29 was originally built as a traditional residential building. The building is entered straight from the street into the "taşlık" in the ground floor. There is no courtyard at the back so the "taşlık" only opens to the street. On the left side of the "taşlık" there is the largest room which probably has been used as the main gathering and the living area. In this room there are two niches next to each other. This room can be called the main room of the building. On the right side of the "taşlık" area there is another smaller space which might have been used as a service space/storage or a room. This space might have served as an extension of "taşlık" as well since the current wall seems to be an altered wall as the upper parts of this wall are covered with plastic and glass panels. However more analyses are needed to be done to know exactly what purpose the area served. On the right back side in the plan layout when entered from the street is the stairs leading to the first floor (Table 3.33)

TABLE 3.33 KARGI STREET NO: 29

PROBABLE ORIGINAL FUNCTION / GROUND FLOOR

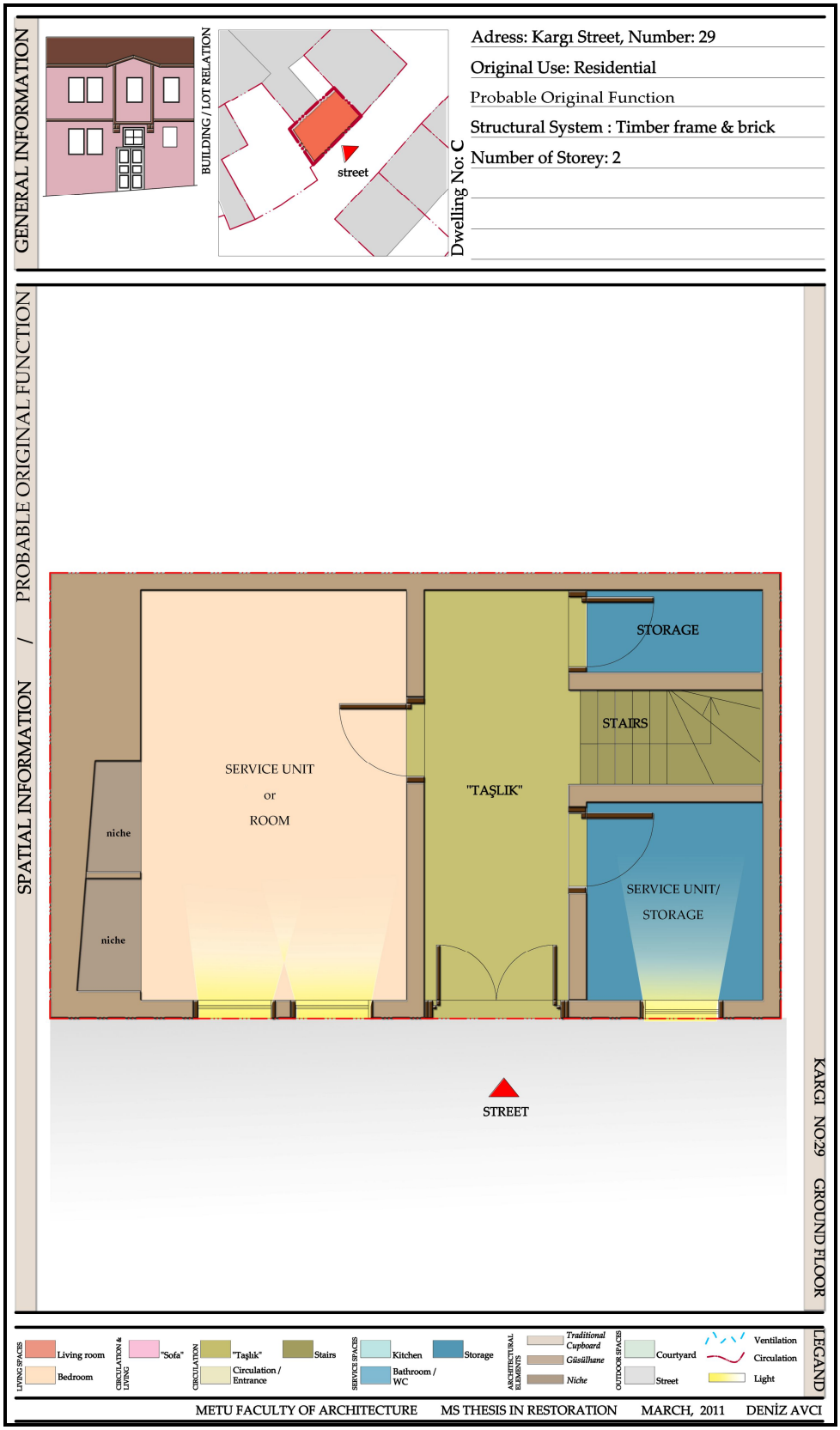
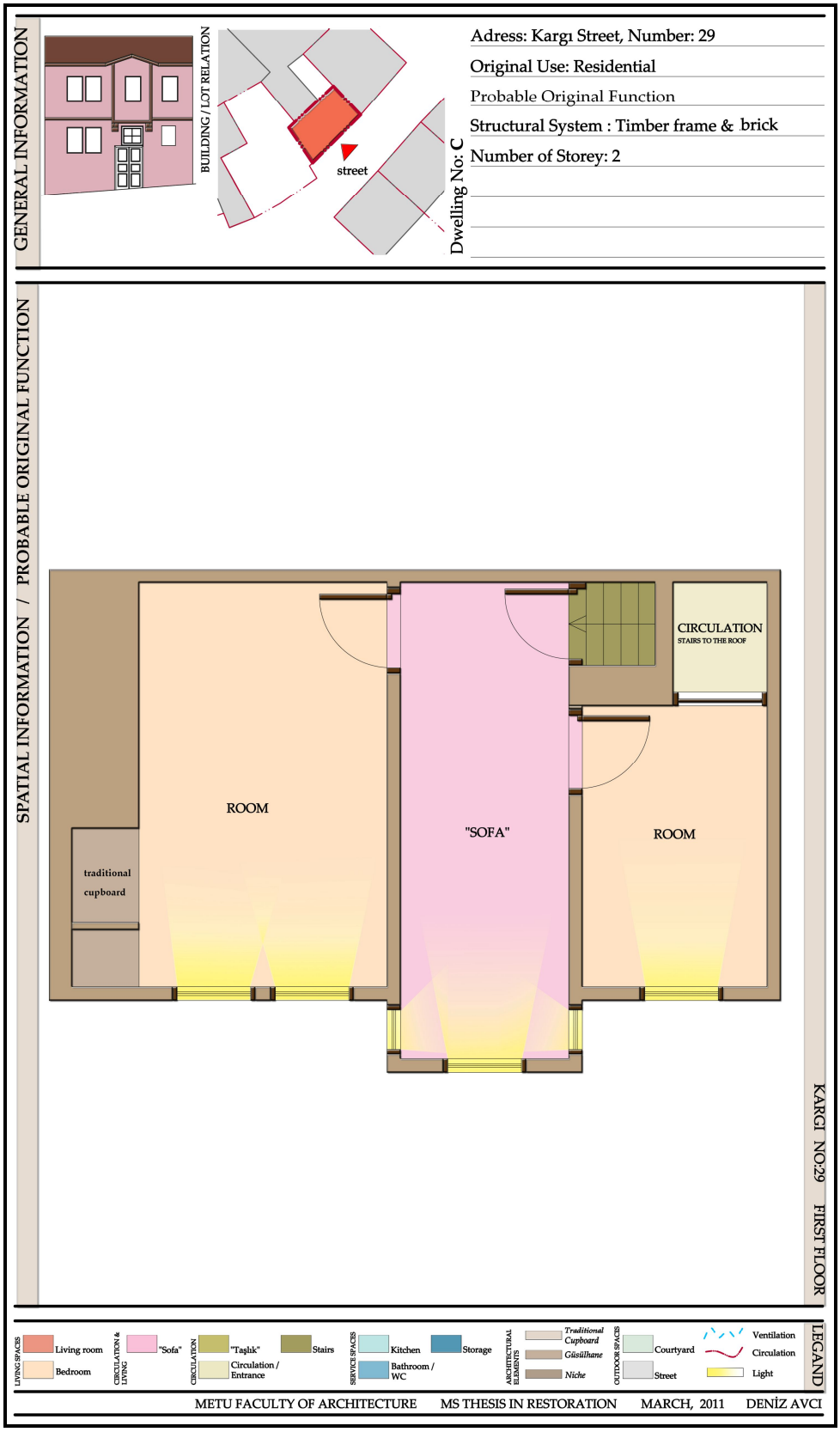


TABLE 3.34 KARGI STREET NO: 29

PROBABLE ORIGINAL FUNCTION / FIRST FLOOR



There is a space under the stairs which might have been used as the storage area or a W.C. The stairs lead to the “sofa” in the first floor. This “sofa” is very narrow and rather seems like an imitation of the plan layout of previous traditional residential buildings within the district and not for the purpose of the traditional “sofa” itself. On the left side of the “sofa” there is the larger room above the main room in the ground floor and on the right side there is a smaller room. These spaces were probably used as bedrooms. Through this small room there is a door/niche like gateway which leads to the roof (Table 3.34).

3.3.3. Values, Problems and Potentials of the Building

The values listed below are inputs from the building which should be considered in the proposal phase along with the problems and the potentials. Kargı Street No: 29, today, is located at the center and the densely part of the district, which resulted in the constant dweller occupation rather than neglect and accordingly maintenance on the dwellings on this street. The building is very close to Anafartalar Street which is a commercial axe of Ulus. It is on the intersection point of two most densely used streets of the district: Kargı Street and Eskicioğlu Street. The building is placed within one lot where there are no courtyards. There are no divisions within the lot and no ownership problem. In terms of characteristic properties this building represents the smaller traditional houses within the district which can be seen in various places within the district. These traditional houses are very narrow and small in scale however they are the replicas of their priories in terms of facade organization and plan layout. This traditional house has been occupied since its construction and accordingly the users kept it in good condition with constant maintenance. The original plan layout and the room functions are mostly conserved and the usage scheme has been partially changed where most of the spaces continue their original function and the rest are altered with minor change. Another value the building possesses is that the architectural elements are all in use and they are re-functioned efficiently by the users. For example a niche is converted into a study and a computer desk. As an architectural value, the building is structurally in a good condition where the original structural system and materials are conserved. Also the finishing materials are renewed and the materials of architectural elements are conserved. In terms of change, the original plan layout can still be perceived

except for the “taşlık” area where there is a division wall for the later divided bathroom/W.C. All spaces are in use so all spaces are provided with care and maintenance. The locations of service spaces’ insertions are adequate as the ground floor is constructed with stone masonry and the floor materials are stone. Again even though the functions of some of the architectural elements are changed, they are used efficiently.

A historic building as a cultural heritage would have many problems as well as values due to neglect and inadaptability to a new century as mentioned previously for the other two cases. Kargı Street No: 29 also as a traditional residential building existing in a contemporary city has these problems. One of the problems is that the building is at the very densely used part of the district which causes overuse within the building. The surroundings are also very crowded with other overused dwellings where the building doesn’t have vista. Due to being constructed after lot divisions the building spatially is very small. There is no courtyard or an entrance area where the building is entered directly from street into the “taşlık”. The characteristic properties of the building represent later period of traditional residential buildings within the district where these are constructed in small lots. There are small but in terms of facade organization and plan layout they represent earlier traditional houses of the district. The rooms especially in the ground floor are poor in natural lighting. In terms of user / usage, the building is suitable only for a small number of people, preferably a couple or a small family with only one child. Four people causes overuse. Some of the spaces are very narrow and cannot meet today’s requirements. For example the kitchen, the bathroom and one of the rooms in the first floor do not serve their purpose efficiently due to overload of modern furniture and equipment. In terms of structural problems, dampness has occurred in the ground floor in the kitchen and the bathroom area. Also the general infrastructure within the house is not solved consciously as the pipes and cable cover the walls, especially in service spaces. Also the architectural elements (windows, doors) need maintenance in finishing. In terms of change, this case’s adaptability to contemporary standards such as massive furniture harmed the perception of originality and authentic characteristics of the building not to mention the hindrance in use of these spaces. And even though the service space’s seem

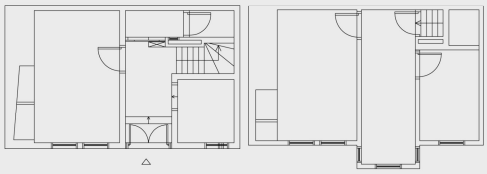
adequate for now they are unsanitary, difficult to use and will cause problems in long term where the dampness has already begun.

A traditional residential building as a cultural heritage offers potentials to the future generations. In this thesis these potentials are analyzed in terms of the traditional residential building as continuing its residential function. Kargı Street No: 29 is in the center and the most densely used part of the district meaning this area of the district will always attract users and visitors. It is very close to Anafartalar Street, a commercial axe, which is a potential for the user appeal. The lot is undivided and there is no ownership problem which makes negotiation with the owners easy in a possible restoration project. The building shows authentic characteristics for representing a later period of the district. The characteristics of the spaces for being small and narrow also give an interesting quality to the building. The building offers just the right amount of space for a couple, a couple of students or a nuclear family with one small child. The originality of the usage scheme can still be read and can be carried on the future generations. Structurally, the building is suitable and with minor consolidation (structural analyses are needed), it can carry technical loads such as of to be newly inserted service spaces'. This building provides potentials for the furniture designs which can be made especially for these traditional residential buildings (small and narrow) (Tables 3.35 & 3.36).

As can be seen; Kargı Street No: 29's values, problems and potentials as a cultural heritage are listed above. These are the needed to be evaluated before starting a conservation project. The values, the problems and the potentials should be used as a base before any proposals as these will shape the functioning of the spaces.

TABLE 3.35 VALUES / PROBLEMS /POTENTIALS (1) OF KARGI STREET NO: 29

SPATIAL INFORMATION



Adress: Kargı Street, Number: 29

Spatial Adequacy:	1	2	(3)
Condition of Finishing:	1	(2)	3
Change in Plan Organization:	1	(2)	3
Change in Mat. of Arch.Elmnts:	1	(2)	3

Dwelling No: C

VALUES / PROBLEMS / POTENTIALS

KARGI 29

	VALUES	PROBLEMS	POTENTIALS
1 LOCATION WITHIN DISTRICT	* located at one of the densely used streets of the district * close to Anafartalar Street (commercial axe)	* located at the overused center of the district * constructed in a small lot after a division from a larger lot (in the beginning of 19th century as the housing demands increased) * doesn't have vista	* in the center and the most densely used part of the district * close to commercial axes of Ulus
2 LOCATION WITHIN LOT	* the building is placed within one lot * there is no ownership problem	* the lot is probably a later period division from a bigger lot due to need for housing * the dwelling doesn't have a courtyard or an entrance area	* there is no ownership problem
3 CHARACTERISTICS OF THE BUILDING	* represents the smaller dwellings of the district which can be seen in various parts of the district (probably built after lot divisions due to need for housing in the later periods of the district's history) * spaces are small and narrow	* the spaces are very small and narrow * the ground floor is poor in natural lighting	* the dwelling represents the small dwellings of the district constructed in a later period * the characteristics of spaces (narrow, small) give an interesting quality to the dwelling

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TABLE 3.36 VALUES / PROBLEMS /POTENTIALS (2) OF KARGI STREET NO: 29

KARGI 29 VALUES / PROBLEMS / POTENTIALS

VALUES	PROBLEMS	POTENTIALS
4 USER / USAGE		
* the users kept the dwelling in good condition with constant maintenance * the original plan layout and the room functions are mostly conserved and the usage scheme has been partially changed * architectural elements are used efficiently	* suitable only for a small number of people, 2 maybe 3 occupants * the spaces are very narrow and can hardly meet the users' basic requirements	* the dwelling is very preferable for a couple *or* a small family with one child * the usage scheme of the building can still be perceived and can be carried on to the future generations
5 CURRENT STRUCTURAL SYSTEM & MATERIAL CONDITION		
* the building is structurally in a good condition * the original structural system and materials are conserved	* dampness may occur in ground floor since the service units are squeezed into *taşlık* spaces	* the building is stable and with minor consolidation the building can carry technical loads of service units
6 FINISHING / SANITARY CONDITION		
* the materials of architectural elements are mostly conserved	* needs change in finishing materials of the service units * the technical infrastructure such as pipes, cables cover the walls * the architectural elements need maintenance	* as renewal is needed in finishing materials, new methods which are more scientific in conserving a traditional house can be offered
7 CHANGE		
* original plan layout can still be partially perceived * all spaces are in use * the architectural elements are used efficiently * the location of service unit replacements do not harm the traditional house for now	* spaces are not ideal to behold the typical modern furniture / designs must be offered which are prepared according to the dwelling's spaces * even though service units are adequate they don't provide sanitary conditions	* the original plan layout can still be read/ the proposal can be shaped with respect to the originality * new furniture designs (suitable for a traditional dwelling) can be proposed

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3.3.4. Focusing on the Service Spaces: Understanding and Assessing their Current States

The Current Kitchen in Kargı Street No: 29 (Space NO. C-G3): The current kitchen (Figure 3.74) is located at the ground floor, in the "taşlık" area, on the right side of the entrance. The level of the kitchen is about 24 cm below the entrance level, where there is one step at the entrance (Figure 3.75). The size of the kitchen is about 1.93 × 2.17 meters. All the kitchen equipments of today's requirements are met within the building however these equipments leave a very limited space to work (Figure 3.76). Also due to lack of a proper infrastructure system for the technical equipments such as electronic cables and water pipes etc., the walls are covered with these and harm the perception of the spaces (Figures 3.74 & 3.76 & 3.77 & 3.78 &.79). The kitchen interior walls' might probably have been demolished from the ceiling for about 1 meters and replaced with glass and plastic materials to provide light into the kitchen (Figure 3.77). The windows at the kitchen might be new additions or altered from the original (Figures 3.77 & 3.79) (Table 3.37).

Figure 3.74

Figure 3.75

Figure 3.74 Kargı Street No.29, the Kitchen
Figure 3.75 Kargı Street No.29, the Kitchen
The Step at the Entrance of the Kitchen

Figure 3.76 **Figure 3.77**

Figure 3.76 Kargı Street No.29, the Kitchen, the Kitchen Stall

Figure 3.77 Kargı Street No.29, the Kitchen, the Door and the Panels

Figure 3.78 **Figure 3.79**

Figure 3.79 & Figure 3.78
Kargı Street No.29, the Kitchen,
The Windows

The Current Bathroom and W.C. in Kargı Street No: 29 (Space NO. C-G4 / C-G4a): The current bathroom & W.C. is located at the ground floor, in the "taşlık" area, exactly straight before the entrance (Figure 3.80). This space is formed by a division wall in the taşlık area. The divided space consists of two parts where the space under the stairs is converted into a W.C. with an alaturca toilet. A part of the taşlık now serves as the bathroom with a heater and a sink (Figures 3.80, 3.81, 3.82, 3.84, and 3.85). There is no shower cabin where the space is used as a bathroom itself (Figure 3.84 & Figure 3.87).

TABLE 3.37 THE SPACE ANALYSES OF THE CURRENT KITCHEN IN KARGI STREET NO: 29

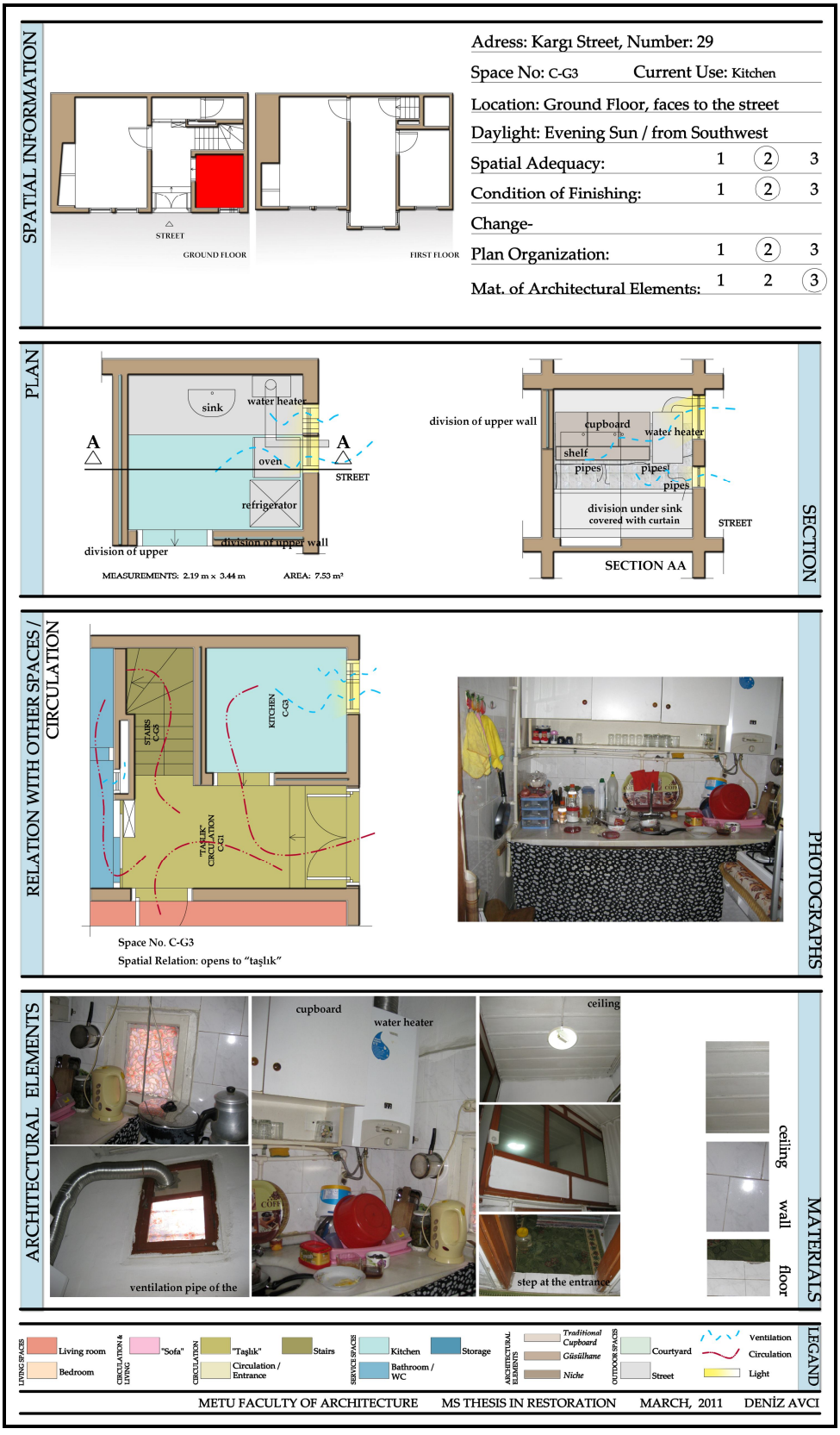


Figure 3.80

Figure 3.80 Kargı Street No.29, the Entrance to the Bathroom from "Taşlık"

The size of the bathroom is 90 cm ×1.98 meters where this space has the water heater and the sink. The space under the stairs for the toilet is 89 × 178 meters. These spaces may be suitable for installation of the service spaces as they are in the "taşlık" area where the traditional material is stone, which is a suitable material for service space installations. However the spaces are spatially inadequate and they can hardly meet today's basic requirements as a bathroom and W.C. The space can only be entered with plastic slippers to avoid the wet ground (Figure 3.82 & Figure 3.85). The window of the bathroom is not original and it is a new addition after the conversion of the "taşlık" area into the bathroom. The ventilation shaft in the middle of the building might be a later addition or the original might have been altered (Figure 3.86) (Table 3.38).

Figure 3.81 **Figure 3.82**

Figure 3.81 & Figure 3.82

Kargı Street No: 29, the Bathroom

The Plywood Panel Door, the Sink and the Ceramic Tiles

The Insufficiency of the Water Drainage

(As the space is entered with plastic slippers to avoid wet ground)

Figure 3.83

Kargı Street No: 29, the Bathroom

The Sink

The Exposed Water Pipes

TABLE 3.38 THE SPACE ANALYSES OF THE CURRENT BATHROOM IN KARGI STREET NO: 29

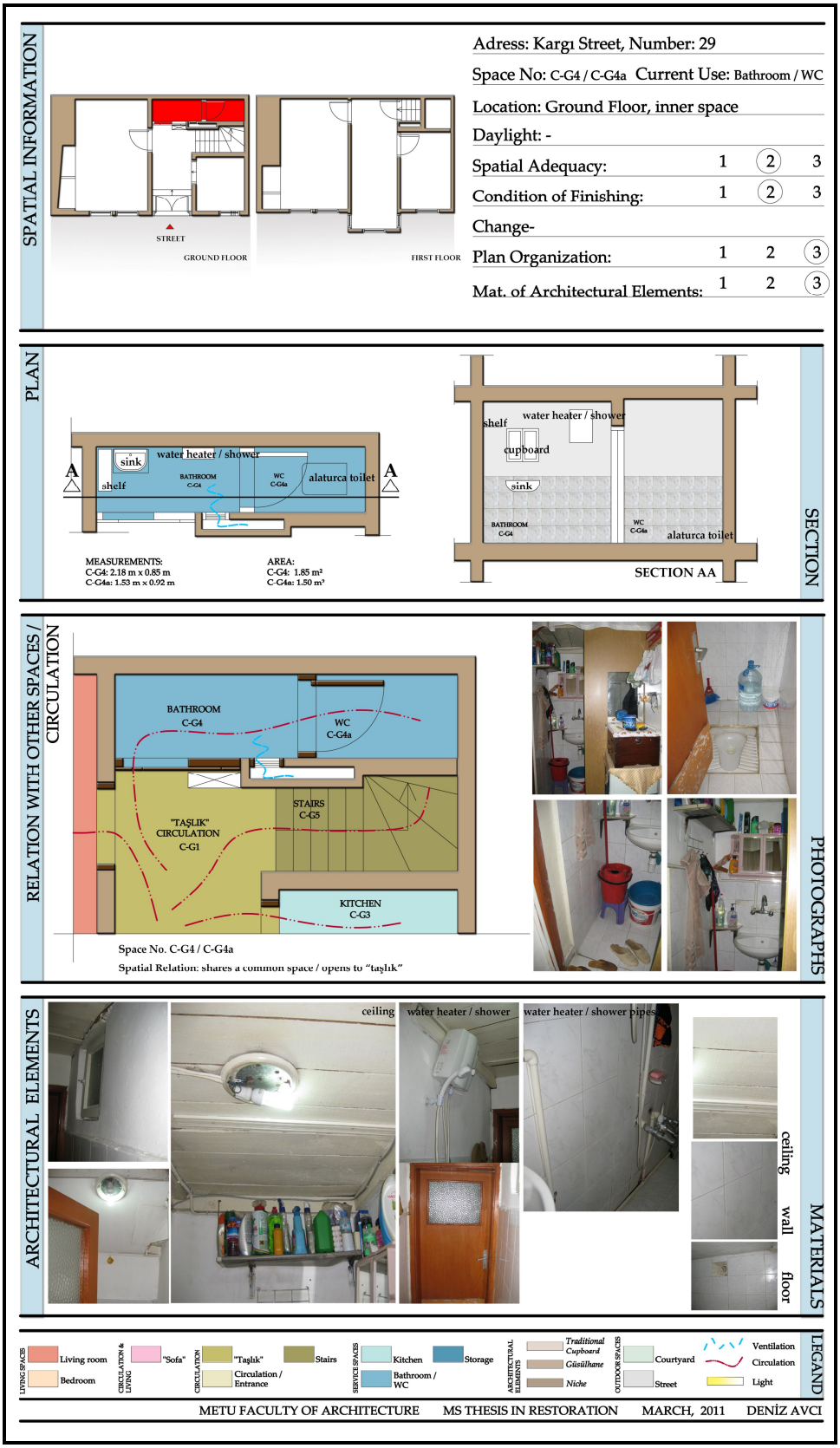


Figure 3.84 **Figure 3.85**

Figure 3.84 & Figure 3.85
Kargı Street No:29, the Bathroom
The Water Pipes, the Water Heater and the Alaturca Toilet

Overall Assessment of the Service Spaces:

As an assessment of the service spaces, it can be said that the location of the bathroom is not proper for the modern usage scheme since it is directly straight from the main entrance. The spatial adequacies of the service spaces are inefficient. Today's requirements are met in terms of technical equipments however these are not properly installed as the technical infrastructure is visible throughout the building (Figures 3.74, 3.76, 3.77, 3.78, 3.79). The installations are done without respect to the originality of the traditional residential building. The service space conversions are done as if to a new construction. The finishing materials of the service spaces harm the traditional materials since the materials used are not compatible with the traditional. These "new" materials are installed right over the traditional ones where the traditional materials can no longer breathe. The dampness problem occurs which will cause decay of the structure and materials of the traditional residential building in long terms (Figures 3.88 & 3.89).

The spatial adequacy of the kitchen is inadequate where one or two of today's requirements can hardly be met. The kitchen has all the technical equipments but there is a very limited space to work in. The kitchen walls are not traditional and

demolished to the door length and to the upper parts glass windows and plastic panels are added (Figure 3.77). The lighting is inadequate even with the two windows as later additions. The original finishing materials are replaced with ceramic tiles on the wall of the kitchen stall and to the rest of the walls cement based plaster is applied. A water heater is added with the pipes and the cables visible through the walls. The ventilation is inadequate and the application is poor where the ventilation pipe is connected through the glass window which is a later addition.

For the current bathroom a partition wall has been added into the “taşlık” for the required space. The entrance to the space is provided with a slide door made of plywood. The space division for the function of the bathroom by a division wall in the “taşlık” causes harm in the original perception of the spaces (Figure 3.80). The bathroom has no showering area where there is only a water heater so the space at the entrance of the W.C. is used for showering (Figure 3.87 & 3.88). The W.C. is placed under the stairs where the dampness might damage the timber stairs as well (Figure 3.85). The water drainage can barely serve its purpose since puddle of waters cannot be avoided in the bathroom and the toilet (Figure 3.88). The technical equipments such as water pipes are exposed. These equipments crowd the walls and harm the general appearance of the space.

Figure 3.86
Kargı Street No: 29, the Bathroom
The Window of the Bathroom

Figure 3.87 **Figure 3.88**

Figure 3.87 & Figure 3.88

Kargı Street No: 29, the Bathroom

The Water Heater and the Water Drainage

Figure 3.89

Kargı Street No: 29, the Bathroom

The Water Pipes

CHAPTER 4

THE PROPOSALS FOR RE-DEFINING THE FUNCTIONAL LAYOUTS AND UPGRADING THE SERVICE SPACES

This chapter focuses on the functional layouts and service spaces proposed for each case in order to 'upgrade' them for the contemporary life. The conservation and design criteria defined within the context of this thesis, has been the basis of the design process.

Accordingly, in this chapter first the alternative functioning of the spaces are studied, which is then followed by the proposals for improving the current functional layout for current users and an alternative new functional layout for a new possible user profile. The last part of the chapter focuses on the design of the service spaces including the materials and implementation details, as this is one of the major problems of traditional residential buildings during the upgrading process.

4.1. Re-defining the Functional Layout of Case A: Birlik Street No: 3

4.1.1. The Alternative Functioning of the Spaces

As can be seen from the chart “The Functional Layout: The Alternative Functioning of the Spaces of Traditional Houses”, the current situation of the plan layout is analyzed with the current functions, the size of the spaces and the original functions of the spaces. As can be seen from the chart; the spaces of Birlik Street No: 3 are given in codes which are determined by the author with their current functions. The measurements of the current plan layout are given as these measurements are clues for their probable original function (Table 4.1).

There are 3 spaces which are the main elements of the plan layout of Birlik Street No: 3 as a traditional residential building: two “sofa”s (A-G2 / A-G3, A-F2) and one “taşlık”(A-B2). There is also one traditional toilet (A-B8) in the private courtyard of the service spaces’ accessed by the basement floor. These spaces preferably should continue their original function and not be evaluated in any other functions. Logically, the staircase shaft (A-B1, A-G1, A-F1, and A-S1) cannot offer any other function than its original purpose. As can be seen from the chart other than these spaces, many spaces offer alternative functions other than their original and current one. So for example a room in the ground floor (as long as it is not the “başoda” [the main room]) can either be used as a living area or can be converted into a service space; bathroom or kitchen. The divisions (A-G7, A-F7, A-F10) that occurred within the building are not supported, since as can be seen from the chart, these limit the alternative functioning of the spaces as well as causing disturbance in the original plan layout. This chart determines the alternative use of the spaces in the new proposals to be offered which meet contemporary living for the users of today and the future users. As can be seen from the chart the divisions (A-F7 circulation, A-F9 kitchen, A-F10 W.C.) as later alterations are not suitable for contemporary living standards and limit the efficient use of spaces otherwise seen in the original plan layout.

However the rooms in every floor are suitable for different functions as living areas (living room, bedroom, study room, hobby room etc.) and for service space conversions (bathroom, kitchen). As reminder; the small sized spaces should be evaluated as W.C. s (if size of the space required exists) and the staircase should serve its only purpose where spaces such as “taşlık”, “sofa” and “başoda” should be evaluated in their original function.

As can be seen from the charts and from the data described above, Birlik Street No: 3, as a traditional residential building, provides flexibility in the functioning of the spaces which are suitable for the expectations of the habitants who seek for the comfort of a contemporary residence. The spaces can be converted to their needs where most of the spaces are suitable for service space implementations. The proposals offered in the following parts are based on these analyzed data and the charts.

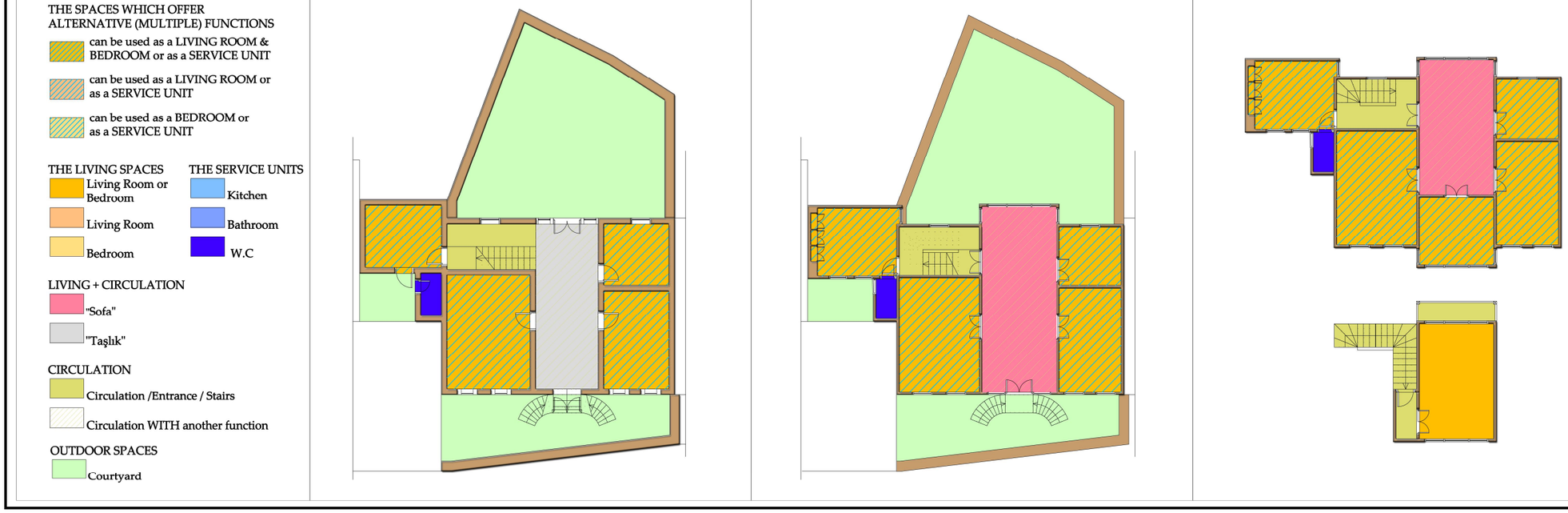
TABLE 4.1 BİRLİK STREET NO: 3 / THE FUNCTIONAL LAYOUT: THE ALTERNATIVE FUNCTIONING OF THE SPACES OF TRADITIONAL HOUSES

FLOOR / SPACE INFO	DWELLING NO. A / BİRLİK 3				THE FUNCTIONAL LAYOUT: THE ALTERNATIVE FUNCTIONING OF THE SPACES OF TRADITIONAL HOUSES								
					THE SERVICE SPACES			THE LIVING SPACES		LIVING + CIRCULATION		CIRCULATION	
	SPACE NO.	The Current Function	Measurements The Size of Spaces	The Probable Original Function	KITCHEN	BATHROOM	W.C.	BEDROOM	LIVING ROOM	SOFA	TAŞLIK	CIRCULATION	THE SPACE CAN BE USED AS:
BASEMENT FLOOR	A-B1	Stairs / Corridor	2.29 x 4.48 m	Stairs									
	A-B2	Taşlık	3.15 x 8.26 m	Taşlık									
	A-B3	Stairs / Entrance	1.21 x 1.40 m	Stairs / Entrance									
	A-B4	Storage	4.18 x 5.67 m	Service Unit / Room									
	A-B5	Storage	3.10 x 3.27 m	Service Unit / Room									
	A-B6	Storage	3.27 x 4.86 m	Service Unit / Room									
	A-B7	Storage	3.11 x 3.83 m	Service Unit / Room									
	A-B8	W.C.	1.03 x 2.12 m	W.C.									
GROUND FLOOR	A-G1	Stairs / Corridor	2.44 x 4.03 cm	Stairs									
	A-G2	Living Room / Sofa	3.75 x 7.90 m	Sofa									
	A-G3	Entrance (Divided from Sofa)	1.25 x 3.75 m	Sofa									
	A-G4	Bedroom	4.03 x 5.67 m	Room									
	A-G5	Storage	2.95 x 3.12 m	Room									
	A-G6	Bedroom	3.12 x 5.16 m	Room									
	A-G7	Bathroom	1.03 x 3.18 m	? a part of a room									
	A-G8	Kitchen	2.80 x 3.41 m 3.41 x 3.98 m	Room									
FIRST FLOOR	A-F1	Stairs / Corridor	2.44 x 4.03 m	Stairs									
	A-F2	Living Room / Sofa	3.75 x 4.03 m	Sofa									
	A-F3	Bedroom	3.36 x 3.75 m	Room									
	A-F4	Bedroom	4.03 x 5.67 m	Room									
	A-F5	Storage	2.95 x 3.12 m	Room									
	A-F6	Bedroom	3.12 x 5.16 m	Room									
	A-F7	Circulation	0.88 x 1.23 m	A part of a room									
	A-F8	Bathroom	2.00 x 2.62 m	A part of a Room									
	A-F9	Kitchen	1.26 x 2.95 m 1.36 x 3.41 m	A part of a Room									
	A-F10	W.C.	0.88 x 1.23 m	A part of a room									
CİHANNÜMA	A-S1	Stairs	1.18 x 3.24 m	Stairs									
	A-S2	Corridor	1.03 x 2.35 m	Circulation									
	A-S3	Bedroom	3.75 x 5.74 m	Room									
	A-S4	Balcony	0.92 x 3.90 m	Balcony									

TABLE 4.2 **BİRLİK STREET NO: 3 / THE SCHEMATIC DIAGRAM OF THE FUNCTIONAL LAYOUT**

BİRLİK 3

LEGAND \ FLOORS	BASEMENT FLOOR	GROUND FLOOR	FIRST FLOOR + *cihannüma*



4.1.2. Proposal for Improving the Current Functional Layout

This proposal is for the current users of today, while removing their unconscious alterations which harm the traditional residential building and offering a more comfortable usage with regard to conservation and design principles in adaptation of cultural heritage. The aim is to prevent overuse and under use of the spaces where the user / usage distribution is provided equally to every part of the traditional house to provide constant maintenance and care for the building. The current users are defined as the users for this proposal, as they are the long term users for the next decades and the aim is to provide their occupation in their building rather than abandoning their building for a contemporary residence in the newly built parts of the city. For their profit and comfort slight proposals are made in the number of occupants. The proposals' space definition and interior design schemes can be seen in the drawings. In this proposal there are 5 users; the current family living in the ground floor, the current family living in the first floor + *cihannüma* and 3 visitors / renters which will contribute for the care of the building as they will bring income to the owner. These three visitors are placed in three floors where the current service spaces are. The basement floor which is used as the storage area altogether is proposed as their common living space.

The courtyard again is entered from the street. This is the entrance courtyard. There are two entrances to the building, one main monumental entrance leading to the ground floor, one secondary entrance leading to the basement floor. The secondary entrance opens to the "taşlık" in the basement floor (Table 4.3). The "taşlık" is used as the common circulation area. On the left side of the "taşlık" the large space is proposed as the common living room of the renters. On the right side of the "taşlık" there are the common kitchen and the common bathroom for the renters. The "taşlık" covers the floor from one end to another where it opens to the large private courtyard at the back. There are three rooms for the renters on each floor; these spaces are the spaces which are outside the main living areas of the dwellers of the ground and the first floor (today users go out of their main living areas to use the service spaces where actually the spaces around the "sofa" are suitable for service space conversions). In this proposal the service spaces are carried to the rooms around the "sofa" into the living areas of the two families

(the dwellers of the ground and first floor) and the current service spaces are offered as rented rooms. In this building the service spaces are proposed at the same side of the plan layout so the water drainage and supply can be solved from the same point. In each rented room there is a private W.C. right above the traditional W.C. in the ground floor (the current W.C s are kept in their position). The users of the rented rooms enter from the basement floor and use the common spaces in the basement floor as the living/gathering room, kitchen and the bathroom. The staircase/circulation area in this plan layout now serves as the staircase of the apartments.

The owner (the current dweller in the ground floor) continues to dwell in the ground floor except now the bathroom and the kitchen are carried into the main living areas around the "sofa" (these spaces are used as storage area and an unused bedroom in the current plan layout). The owner enters the building from the main monumental entrance. The secondary entrance to this household is from the staircase shaft leading from the basement. The main entrance opens to the "sofa" which is the main living/gathering/circulation area as in its original function. On the right side of the "sofa" there is the kitchen facing the street and the bathroom facing the courtyard. On the left there is the master bedroom of the dwellers as in the current plan layout. The door on the left back side of the "sofa" as mentioned previously opens to the circulation/staircase shaft (Table 4.4).

The first floor+*cihannüma* are used by the family currently residing in the same area. The first floor is accessed from the basement floor and just like an apartment the staircase serves as the circulation shaft. The entrance to the first floor is from the circulation shaft into the "sofa". The "sofa" serves as the living / gathering / circulation area just like its original function. On the right side of the "sofa" from the entrance, exactly above the service spaces' of the lower floors there are the newly proposed service spaces (current bedroom and the storage area). There is the kitchen facing the street and the bathroom facing the courtyard. The room on the left is now the master bedroom of the parents (current extra living room + storage). There is one extra room facing the street over the main entrance slightly projected over it. This room continues its function as the bedroom of the child. The room in the *cihannüma* is used by the family in the first floor (as in today) reached by the staircase shaft from the first floor. This

space is proposed as the living room but can serve different purposes such as the living room, bedroom, hobby room or guestroom. Overall, due to the size of the building there are many alternatives for functioning. These are improvement tips for the current users to provide them more comfort, meet their requirements and provide occupation and usage and accordingly maintenance in the traditional residential building. This usage scheme provides more comfort to the current users where the service spaces are in their main living areas. The rented rooms offer historic atmosphere for tourists where the renting fees are income for the owners to provide constant maintenance and care for their property as a cultural heritage (Table 4.5).

4.1.3. Proposal of a New Functional Layout

The proposals for the future users are based on user definition defined by the author based on the size of the chosen traditional residential building as the case and its suitability of offering alternative living conditions for different family types. The proposed use for the future generations is for this traditional residential building to continue its original function as a residential without any divisions within the building. It is proposed for one family based on a family type defined by the designer. Since the building spatially offers many spaces and large spatial qualities, the proposal is based on an Extended Family (grandparents / parents (maybe 2 families)/ children).

TABLE 4.3 BİRLİK STREET NO: 3

PROPOSAL FOR THE CURRENT USERS / BASEMENT FLOOR

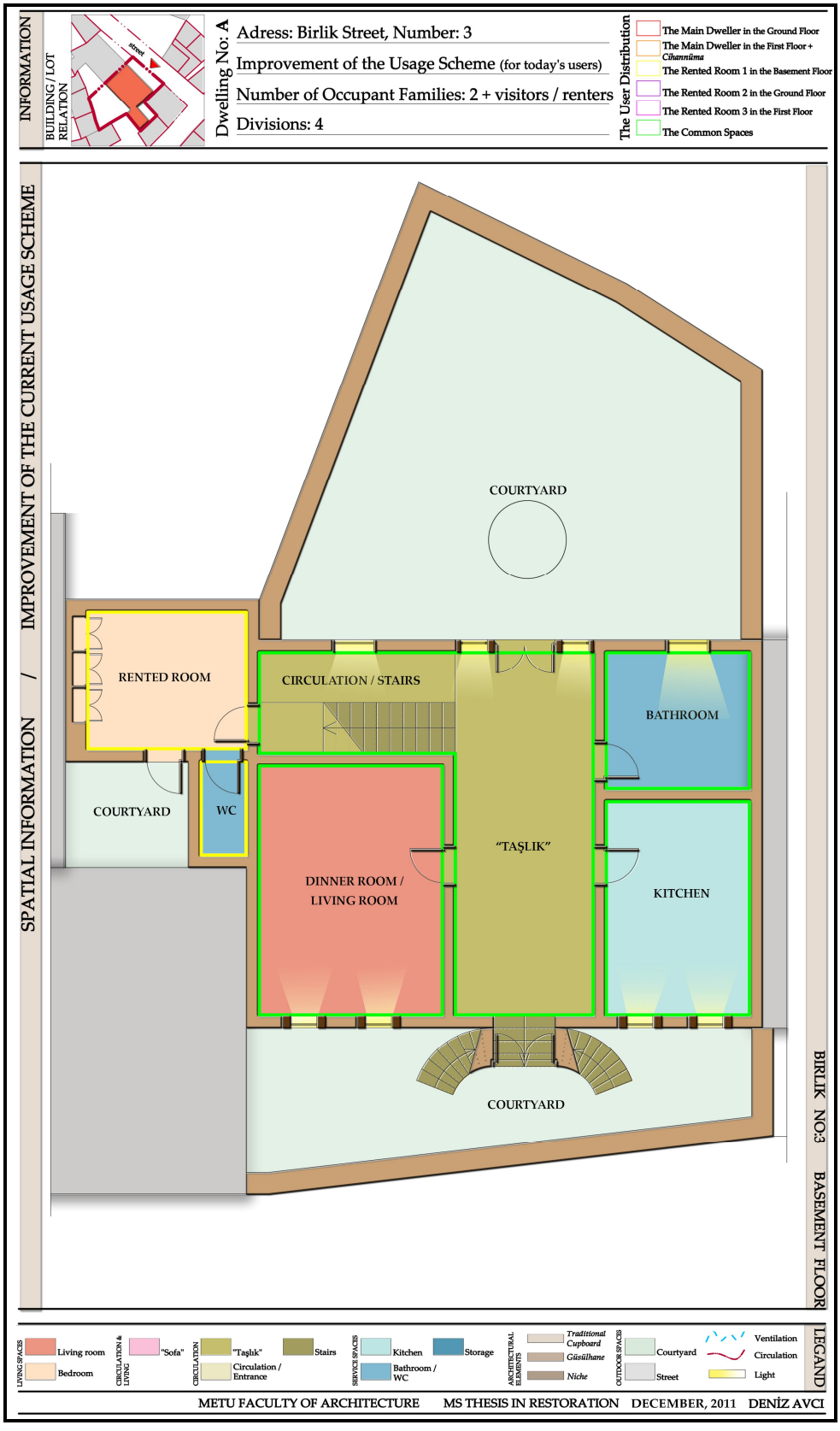


TABLE 4.4 BİRLİK STREET NO: 3

PROPOSAL FOR THE CURRENT USERS / GROUND FLOOR

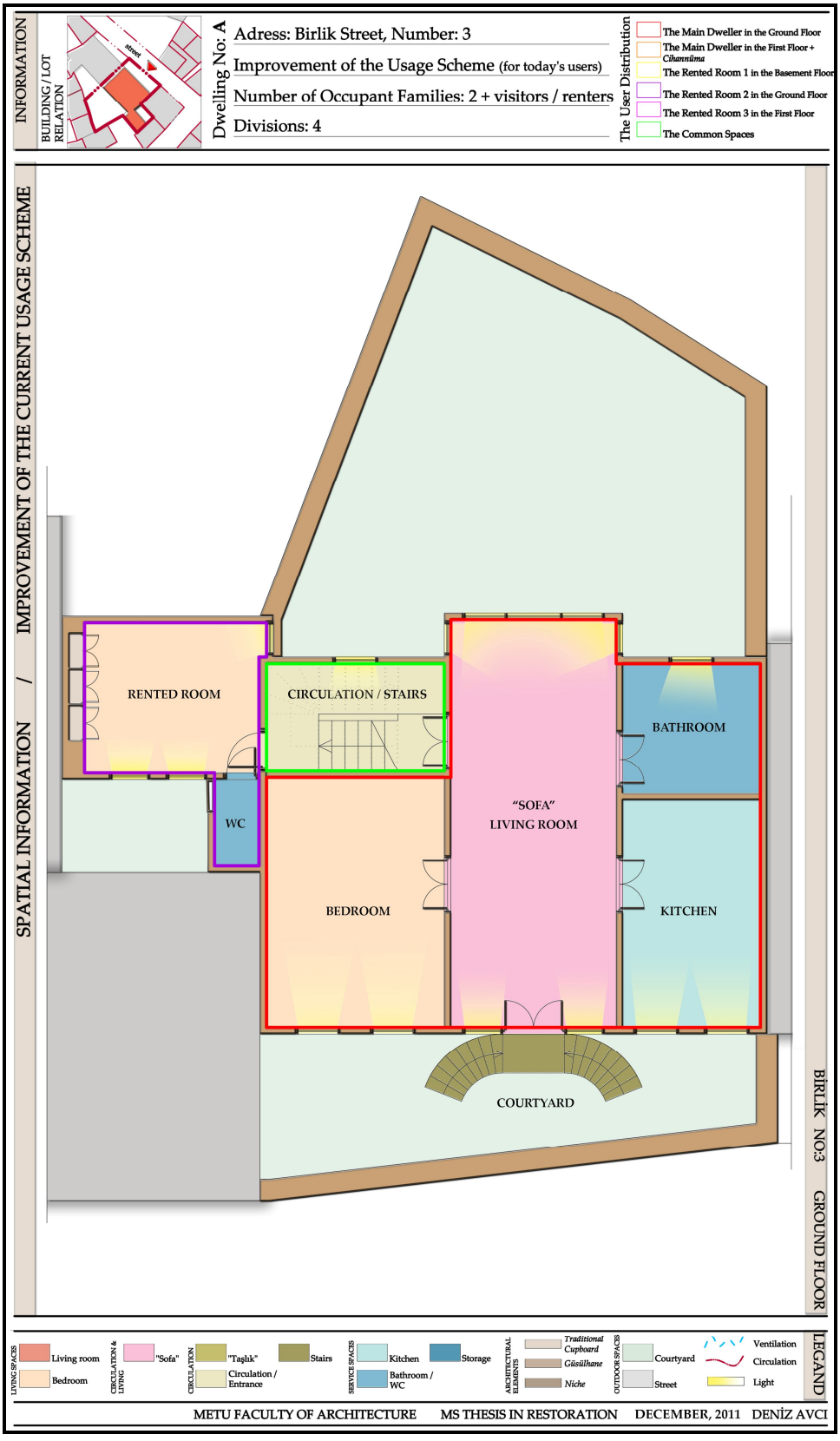
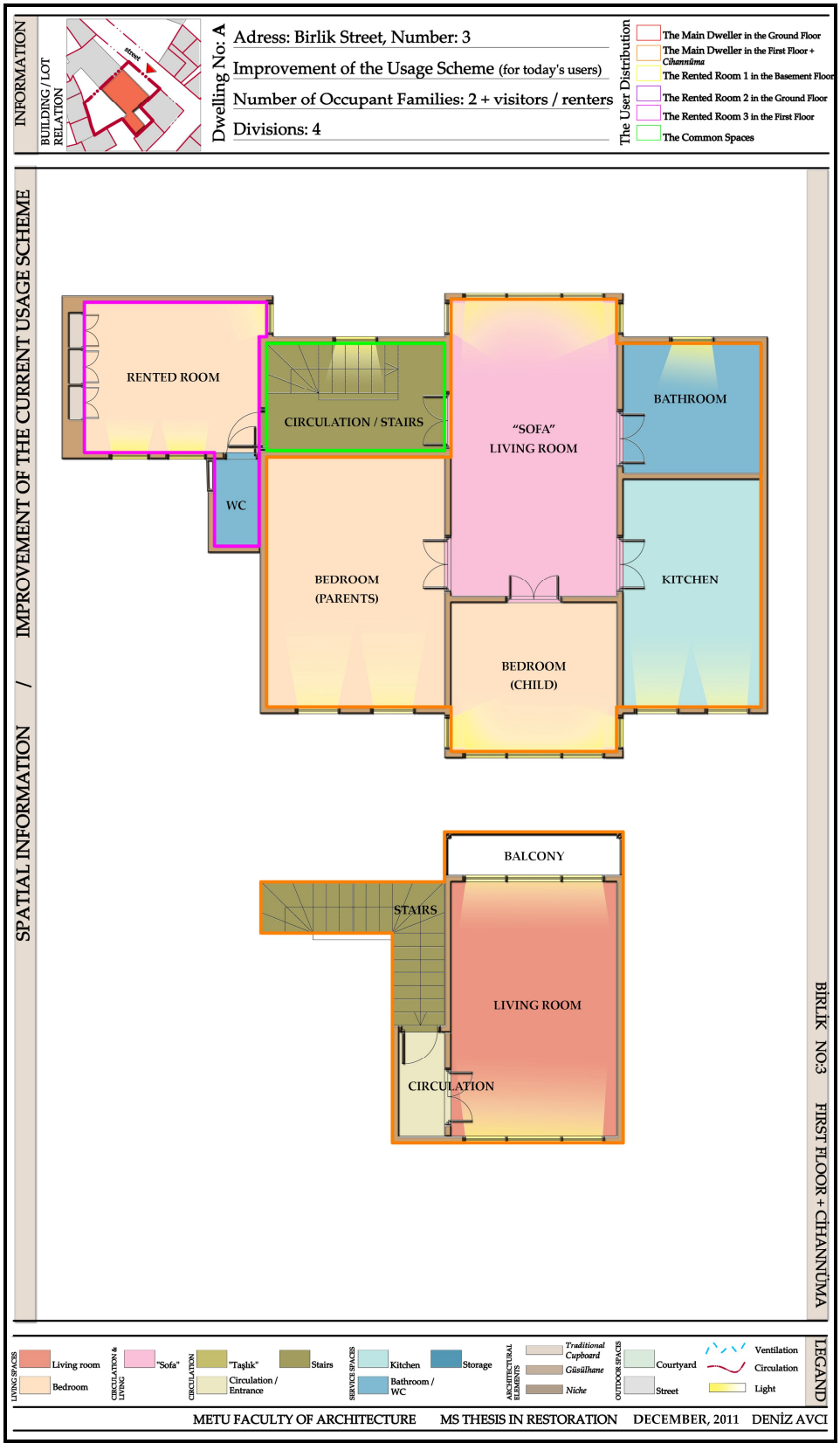


TABLE 4.5 BİRLİK STREET NO: 3

PROPOSAL FOR THE CURRENT USERS / FIRST FLOOR



This traditional residential building offers comfortable and optional choices suitable for many families looking to reside in historic environments. It must be stressed that the future aim of this district is not the gentrification of the neighborhood but rather to show that these buildings meet the requirements of different families and social groups. So the user type is defined as an extended family; grandparents, parents, two or three children and a guest. The building is used without any horizontal or vertical divisions as originally meant to be. There are 2 entrances (as in the original and the current usage); one of them is the main monumental entrance opening to the ground floor and one of them is the secondary entrance opening to "taşlık". The secondary entrance is located under the main monumental entrance.

The basement floor is entered with the secondary entrance which opens to the "taşlık". The "taşlık" serves its original purpose as the circulation/living area supporting the service spaces. The basement floor is offered as the service spaces. There is the kitchen on the right with the unification of the two rooms. The dining room is on the left (but this room can serve alternative functions according to the users' demands). On the back left side of the "taşlık" there is the staircase / circulation shaft. Through the circulation area there is a room at the back which opens to the smallest private courtyard. This space is proposed as the laundry room where the private courtyard can support this purpose. There is a traditional toilet continuing its original function in this courtyard. The "taşlık" opens to the back courtyard (the largest courtyard at the back of the building) which is straight before the entrance from the street. There is a original fountain and a soil or gardening in the back courtyard which both now efficiently used. Also the location of the kitchen is offered with consideration of the relation of the kitchen with the courtyard (Table 4.6).

The ground floor is entered with the main monumental entrance. Also it can be reached from the basement floor through the staircase. The entrances open to the "sofa" which is proposed as the living/gathering/circulation area with respect to its original function. This floor is used as the living area and rather a home office where there is the study room on the right front and the larger room serves as the library on the left. On the right back the space is proposed as the bathroom of this floor. Through the staircase/circulation shaft, there is one bedroom which is

proposed as the guest room or an alternative bedroom of a family member. This room has a private W.C. (Table 4.7).

The first floor is accessed through the stairs and the door straight from the circulation hall opens to the "sofa" which is proposed as a more private living room and gathering area of the family members where the bedrooms of the dwellers are around this "sofa". There are three bedrooms facing the street and the one at the right back is converted into a bathroom as in the ground floor. The room at the right front is the bedroom of one of the children (the teenager as the size of the space is more adequate), the room at the middle projected over the main entrance is proposed as the bedroom of the younger child. On the left of the "sofa" there is the master bedroom used by the parents. Through the "sofa" and through the staircase/circulation area there is another bedroom which is proposed for the grandparents where there is a private W.C., exactly above the W.C. in the ground floor and the traditional W.C. in the basement floor. The *cihannüma* (Table 4.6) is reached through the stairs from the first floor. It beholds one room space which opens to the balcony facing the largest courtyard at the back. This space offers many alternative functions such as the living room, bedroom, study room etc. According to users' demands it can be functioned in many ways. In this proposal it is named as the hobby room to show the flexibility of the space (Table 4.8).

Overall, there are seven proposed service spaces within the traditional building; there are two bathrooms (one in the ground and one in the first floor), a kitchen and a traditional toilet at the basement floor and two W.C.s accessed from the private rooms in each floor (one in the ground and one in the first floor at the left side of the staircase/circulation shaft), there is also a laundry room in the basement floor. As can be seen the building offers comfortable living standards for a family looking for a luxurious and a large residence and looking to reside in a historical zone.

TABLE 4.6 BİRLİK STREET NO: 3

PROPOSAL FOR THE FUTURE USERS / BASEMENT FLOOR

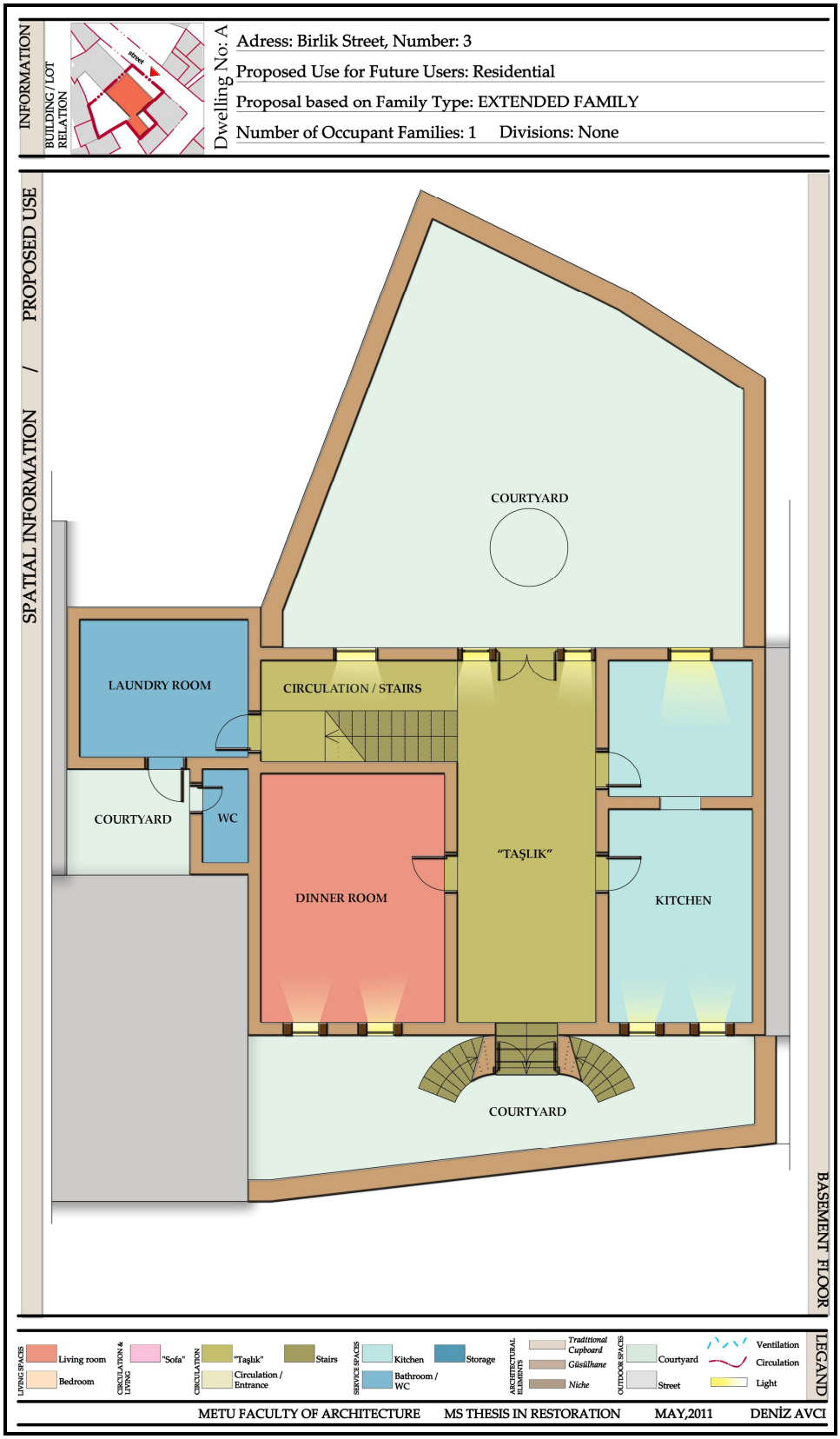


TABLE 4.7 BİRLİK STREET NO: 3

PROPOSAL FOR THE FUTURE USERS / GROUND FLOOR

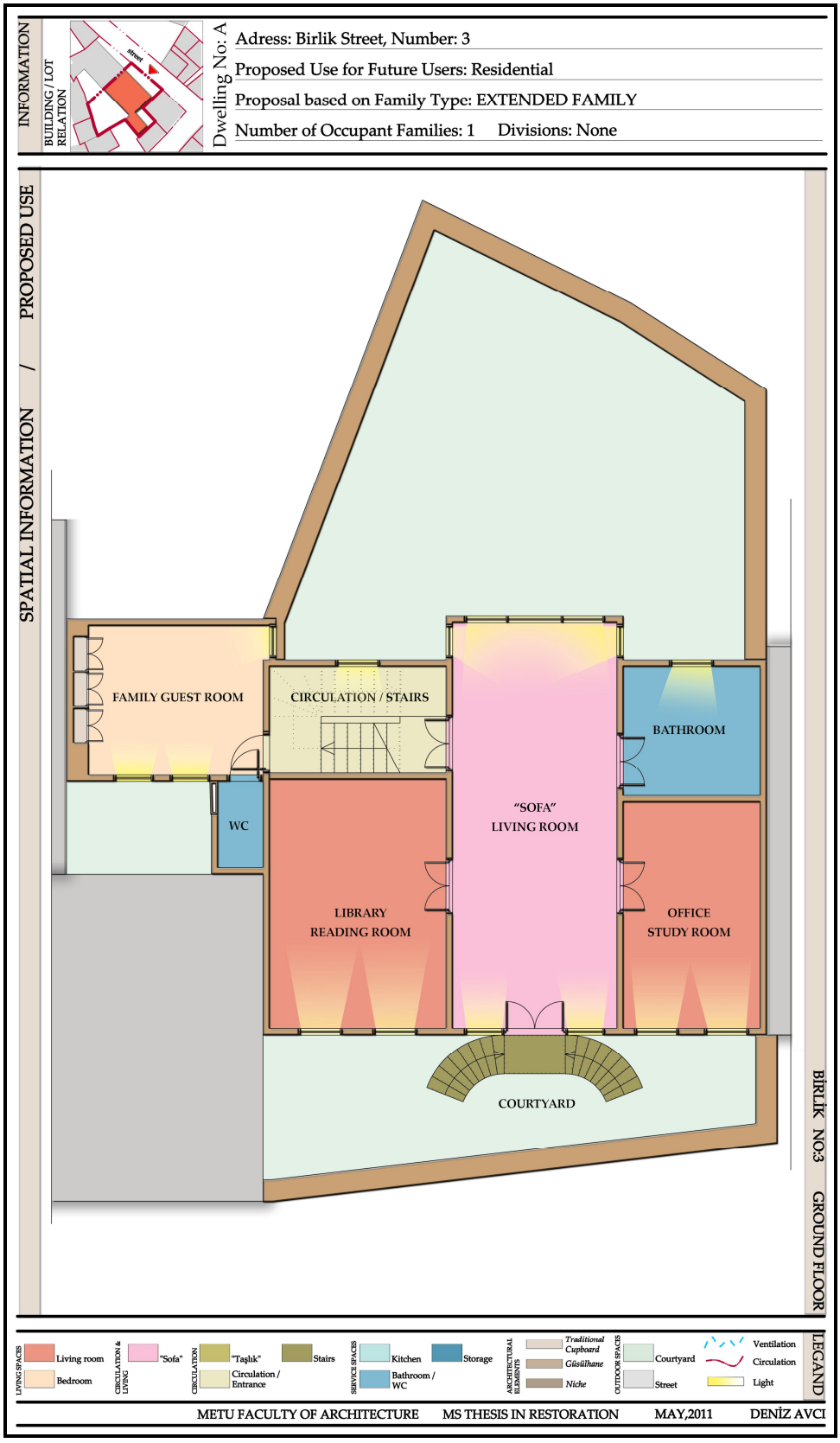
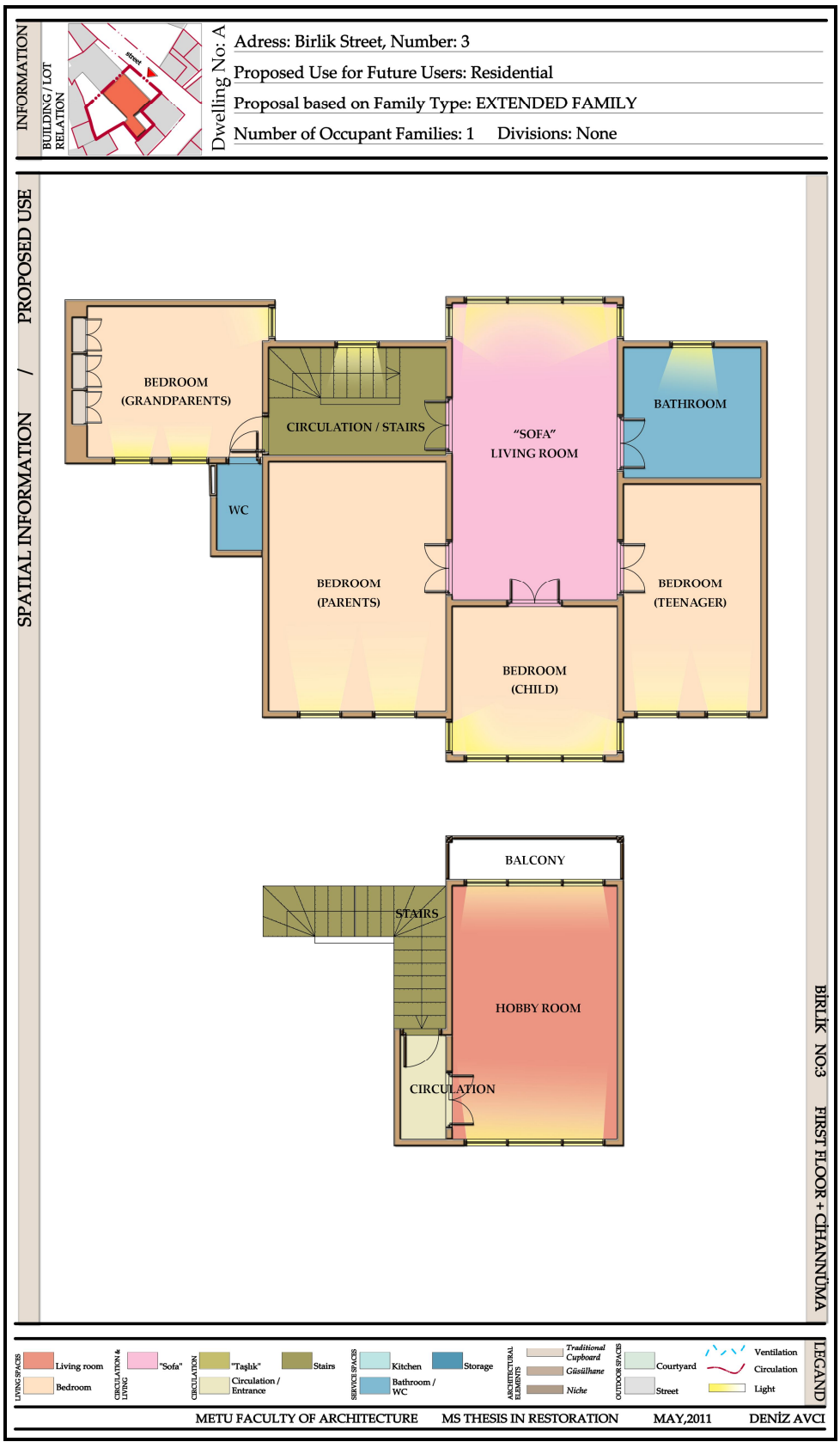


TABLE 4.8 BİRLİK STREET NO: 3

PROPOSAL FOR THE FUTURE USERS / FIRST FLOOR



4.2. Re-defining the Functional Layout of Case B: Eskicioğlu Street No: 8

4.2.1. The Alternative Functioning of the Spaces

As can be seen from the chart "The Functional Layout: The Alternative Functioning of the Spaces of Traditional Houses"; the current situation of the plan layout is analyzed with the original functions of the spaces. In this chart, the spaces of Eskicioğlu Street No: 8 are given in codes, determined by the author, in their current functions and their measurements to understand the size of the spaces in the current plan layout. These are analyzed with their probable original functions (Table 4.9).

As can be seen from this chart, there are two spaces such as "taşlık" (B-G1) and "sofa" (B-F1) as the divided part one and B-F10 as the divided part two) which are the main elements of the plan layout of traditional residential buildings. The divisions in these spaces harm the original plan layout and these divisions are not supported. These spaces preferably should be used in their original layout and continue their original function. The original staircase (B-G5) cannot be used other than its original function however the second staircase (B-G9) which is a later addition can be removed if preferred. Small spaces such as the storage in the ground floor (B-G6) can only serve either as storage or W.C. due to its small size. As can be seen from the chart, the divisions (B-F4, B-F8, B-F9) limit the usage of the space and form small spaces where these can serve for limited purposes, for example due to its size B-F4 can only either be used as a W.C. or a storage. So the divisions on the original plan layout limit the alternative functioning of the original spaces of the building and harm the original plan layout. However as can be seen from the chart undivided rooms, the spaces around the "taşlık" and the "sofa" offer alternative functions other than their original ones such as living areas and service spaces.

TABLE 4.9 ESKİCİOĞLU STREET NO: 8 / THE FUNCTIONAL LAYOUT: THE ALTERNATIVE FUNCTIONING OF THE SPACES OF TRADITIONAL HOUSES

FLOOR / SPACE INFO	SPACE NO.	The Current Function	Measurements The Size of Spaces	The Probable Original Function	THE FUNCTIONAL LAYOUT: THE ALTERNATIVE FUNCTIONING OF THE SPACES OF TRADITIONAL HOUSES									
	DWELLING NO. B / ESKİCİOĞLU 8				THE SERVICE SPACES			THE LIVING SPACES		LIVING + CIRCULATION		CIRCULATION		
					KITCHEN	BATHROOM	W.C.	BEDROOM	LIVING ROOM	SOFA	TAŞLIK	CIRCULATION		THE SPACE CAN BE USED AS:
GROUND FLOOR	B-G1	Taşlık	3.03 x 10.14 m 3.03 x 10.86 m	Taşlık										
	B-G2	Rented Room	2.25 x 5.17 m 2.25 x 5.79 m	Service Unit / Room										
	B-G3	Rented Room	2.25 x 4.85 m	Service Unit / Room										
	B-G4	Rented Room	2.30 x 4.74 m 2.30x 5.31 m	Service Unit / Room										
	B-G5	Stairs	2.31 x 2.54 m	Stairs										
	B-G6	Storage	0.97 x 1.64 m	Storage / W.C. ?										
	B-G7	Entrance Area / Circulation	1.39 x 1.96 m	Storage / Circulation after mass addition										
	B-G8	Rented Room	3.23 x 5.10 m	Service Unit / Room										
	B-G9	Stairs	1.96 x 2.83 m	- (stairs as a later addition)										
FIRST FLOOR	B-F1	A divided part of sofa / Circulation	2.94 x 4.63 m	Sofa										
	B-F2	Bedroom	2.94 x 3.79 m	Room										
	B-F3	Living Room	2.89 x 5.94 m	Room										
	B-F4	Bathroom	1.83 x 1.92 m	Traditional Cupboard + A part of a room										conversion to its original purpose
	B-F5	Kitchen	2.54 x 5.32 m	Room										
	B-F6	Bedroom	2.89 x 4.21 m	Room										
	B-F7	W.C.	0.96 x 1.55 m	- (W.C. as a later addition)										
	B-F8	Entrance	1.86 x 2.54 m	A part of a Room										division must be kept (provides circulation to mass addition)
	B-F9	Kitchen	1.06 x 2.54 m	A part of a Room										division must be kept (other part of the division provides circulation to mass addition)
	B-F10	A divided part of sofa / Bedroom	2.94 x 3.08 m	Sofa										
	B-F11	Living Room	3.86 x 5.47 m	Room										

TABLE 4.10 **ESKİCİOĞLU STREET NO: 8 / THE SCHEMATIC DIAGRAM OF THE FUNCTIONAL LAYOUT**

ESKİCİOĞLU 8

FLOORS / LEGAND

GROUND FLOOR

FIRST FLOOR

THE SPACES WHICH OFFER ALTERNATIVE (MULTIPLE) FUNCTIONS

- can be used as a LIVING ROOM & BEDROOM or as a SERVICE UNIT
- can be used as a LIVING ROOM or as a SERVICE UNIT
- can be used as a BEDROOM or as a SERVICE UNIT

THE LIVING SPACES

- Living Room or Bedroom
- Living Room
- Bedroom

THE SERVICE UNITS

- Kitchen
- Bathroom
- W.C

LIVING + CIRCULATION

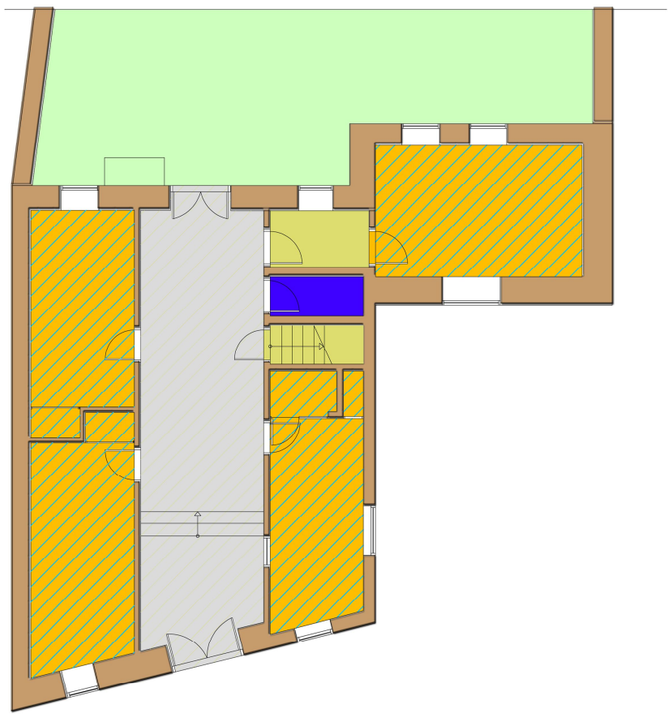
- "Sofa"
- "Taşlık"

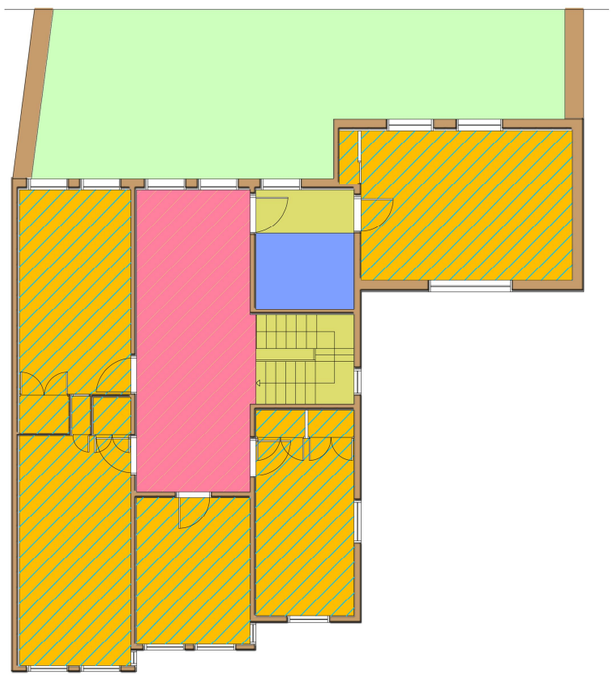
CIRCULATION

- Circulation /Entrance / Stairs
- Circulation WITH another function

OUTDOOR SPACES

- Courtyard





For example a room in the ground floor (B-G2, B-G3, B-G4, B-G8) or a room in the first floor (B-F2, B-F3, B-F6, B-F11) can easily be used as a living area (bedroom, living room) or can be converted into a service space (kitchen, bathroom) according to users' needs or the designer's choices as long as these are not spaces such as "başoda", "sofa" and "taşlık". It is important that the conversions don't harm the original plan layout and follow conservation & design principles.

This chart determines the alternative use of the spaces in the new proposals to be offered for the users of today and the future users. According to this chart of Eskicioğlu Street No: 8, the rented rooms in the ground floor (B-G2, B-G3, B-G4) can either be used as a service space (kitchen, bathroom) or a bedroom but not a living room. The storage space (B-G6) is suitable for a W.C. conversion. The rooms in the first floor (B-G2, B-F3, B-F6) offer many alternative function as living areas and service spaces. The current kitchen which is converted form a traditional room (B-F5) offers alternative usage as kitchen, bathroom and a living area. The current bathroom (which is a unified space of a traditional cupboard with a part of a room) due to the division limits the usage of both spaces; the traditional cupboard and the room. As can be seen the divisions limit the alternative functioning of these spaces so these are definitely not supported. The spaces B-F8 which is the current entrance area for the second household in the first floor and B-F9 which is the current kitchen of that household are divided from one space. If the division is removed this space offers alternative functioning either as a service space or a bedroom. However this division must be kept as the circulation area is needed to reach B-F11 which is the current living room of the second household. So the space B-F9, if the division is kept, can only serve as a bathroom due to spatial characteristics and size. B-F11 offer alternative functions due to its size and characteristics as there are windows on two sides so it is rich in natural lighting, it is a private room as it is a space formed after the mass addition built with traditional technique and there are 2 traditional cupboards within the space.

These analyzed data and the charts show that, Eskicioğlu Street No: 8, as traditional residential building shows flexibility in adapting new functions and service space implementations where the spaces offer comfortable and

contemporary standards looked for in contemporary residences. The following functional layout proposals are based on these analyzed data.

4.2.2. Proposal for Improving the Current Functional Layout

This proposal is for the current users while offering solutions to improve their living standards and proposing a more comfortable and sanitary conditions for the current users where the current usage scheme due to divisions do not offer these conditions. Currently, this building is used by six families who live in very unsanitary conditions. In this proposal where the demands of the owner will be considered such as keeping some of the divisions when necessary, the aim is to prevent the over usage. As the current owner demands, the ground floor is proposed as a renting area in this proposal as well. However the rooms will be rented to individuals not to crowded families. The current families in the ground floor share the common bathroom in the courtyard which is an unsanitary new building mass. This situation will be prevented where the rented rooms will be proposed with bathing areas within which are converted from traditional cupboards. For the W.C. function the renters will no longer have to go outside to the courtyard as the W.C. will be proposed in the ground floor (conversion of the current storage). The current renters don't have kitchen except they use part of their rooms as the cooking area so instead of four rented rooms, three will be proposed where one of them will be converted into a common kitchen for the renters. In this proposal there are four users instead of six; the ground floor has three rented rooms to individuals (maximum two people per room), one kitchen and one W.C. The bathing areas will be proposed inside the rooms. The first floor is either rented to one family or used by the owner (the current first floor is vertically divided into two where the second household facing the courtyard offers spatially inadequate spaces and this division harms the original plan layout).

So the plan layout as an improvement of the current usage scheme for today's users can be described as follows: the building is entered from the street into the "taşlık" area in the ground floor. The "taşlık" is used as the common circulation area of the dwellers. The "taşlık" connects the street and the private courtyard of Eskicioğlu Street No: 8. In the courtyard the current new constructions are removed in this proposal. On the left side of the "taşlık" there are the two rented

rooms and on the right side there is the other. Each rented room's usage is limited with two individuals. In each rented room there is bathing area converted from a traditional cupboard. On the right side of the plan layout, behind the rented room there is the staircase leading to the first floor. Behind the staircase there is the common W.C. of the renters (the current storage). On the right back behind the W.C., the door opens to a small circulation area leading to the common kitchen of the renters (kitchen converted from a traditional room which is a later period mass addition to the building) (Table 4.11).

In the proposed usage scheme of the first floor, the kitchen is converted from a traditional room above the newly proposed kitchen in the ground floor (this part of the building is a later period addition which is constructed with traditional technique). So in this plan layout, the stairs open to the "sofa", there are five spaces around it, one on the right front is proposed as the bedroom of the teenager's, the one in the middle front is proposed a the bedroom of the child's, one on the left front is the living room and one on the right back facing the courtyard is the bedroom of the parents'. The space behind the stairs is the pre-circulation area where in this circulation area bathroom is located which is revealed as a traditional cupboard. The room at the right back side is proposed as the kitchen exactly above the kitchen in the ground floor (this mass addition now serves as the service spaces altogether) (Table 4.12).

As can be seen from the improvement of the current usage scheme for the current users, the overuse of the building is prevented. All of the divisions are removed and the plan layout is converted into its original state where the rooms now offer more alternative functioning and more sanitary conditions. The traditional cupboards are converted to their original state as well where the architectural element and room relation can now be read. Overall, the numbers of the dwellers are decreased where the proposal provide spatially adequate spaces.

TABLE 4.11 ESKİCİOĞLU STREET NO: 8

PROPOSAL FOR THE CURRENT USERS / GROUND FLOOR

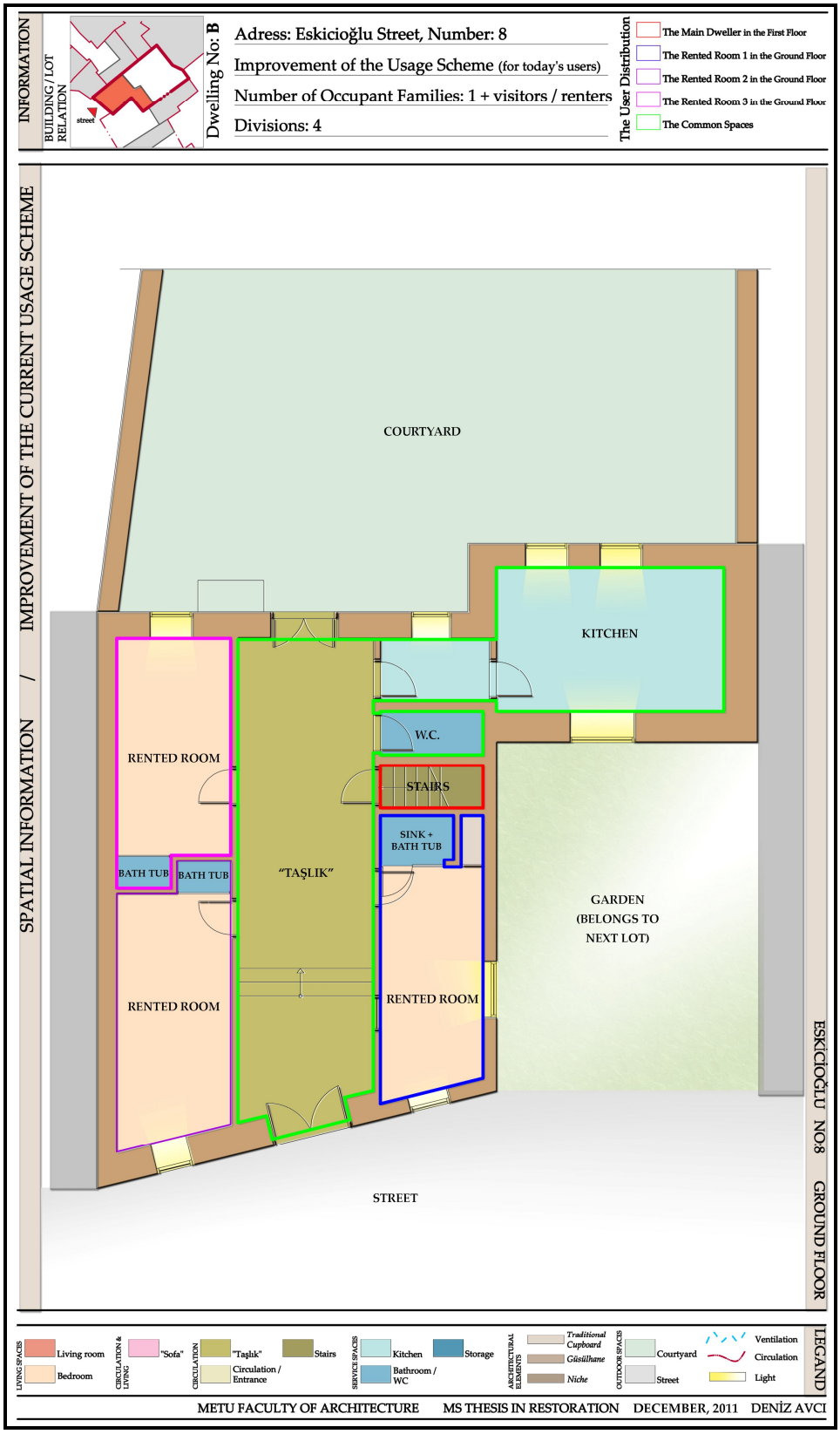
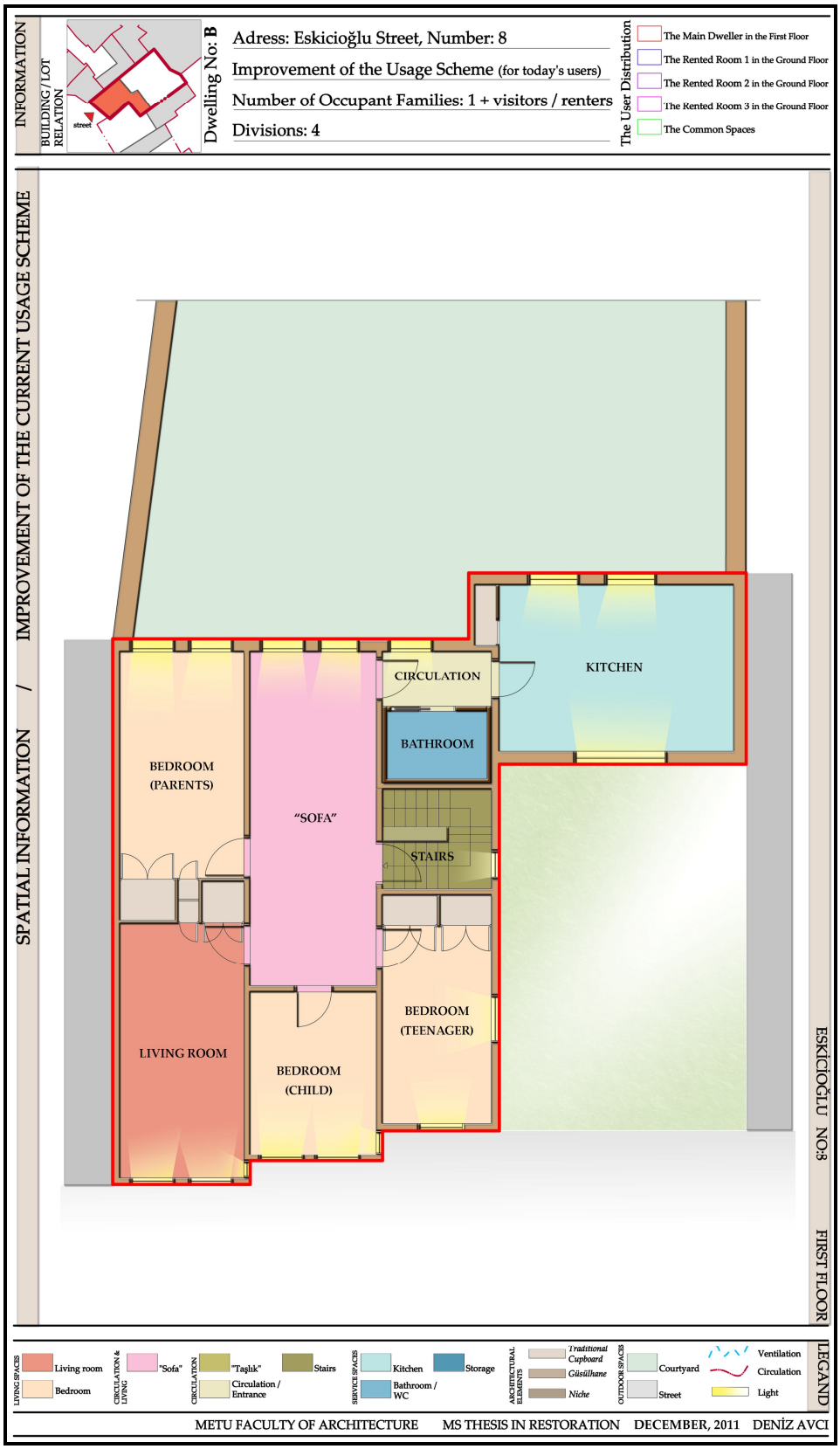


TABLE 4.12 ESKİCİOĞLU STREET NO: 8

PROPOSAL FOR THE CURRENT USERS / FIRST FLOOR



4.2.3. Proposal of a New Functional Layout

The proposals for the future users are based on user definition defined by the author based on the size of the chosen traditional residential building and its suitability of offering alternative living conditions for different family types. This proposal of Eskicioğlu Street No: 8 for the future users aims to continue the building's original function as a traditional residential building without any divisions within. Eskicioğlu Street No: 8 is proposed to a Middle Sized Family: a Nuclear Family with two or more children.

In this proposal the usage scheme can be described as follows; the building is directly entered from the street into the "taşlık" in the ground floor The "taşlık" is no longer only an extension of the street connecting the street and the courtyard but now it is the part of the building and the main element of the ground floor connecting the rooms. On the left side of the "taşlık" there are two rooms; one facing the street is proposed as the living room where the one facing the courtyard is proposed as the dining room. On the right side of the "taşlık" the room is proposed as the family guest room which can also serve as an alternative bedroom of a family member. This room has private W.C. converted from a traditional cupboard. Behind this room on the right side of the "taşlık" there is the staircase leading to the first floor. Next to the staircase there is a W.C. Behind the W.C., at the right back the space is a pre-circulation area leading to the kitchen of the building (this part of the building is a later period addition which is constructed with traditional technique) (Table 4.13).

Through the stairs the first floor is entered into the "sofa". The "sofa" is proposed in its original function as living/gathering/circulation area. There are five spaces around the "sofa". One on the right front facing the street is the bedroom of the teenager's, one in the middle front is the bedroom of the child's, one on the left front is the living room, one on the right back facing the courtyard is library/work room. On the right backside is the pre-circulation area to the master bedroom of the parents (this space is a later period mass addition) (Table 4.14).

TABLE 4.13 ESKİCİOĞLU STREET NO: 8

PROPOSAL FOR THE FUTURE USERS / GROUND FLOOR

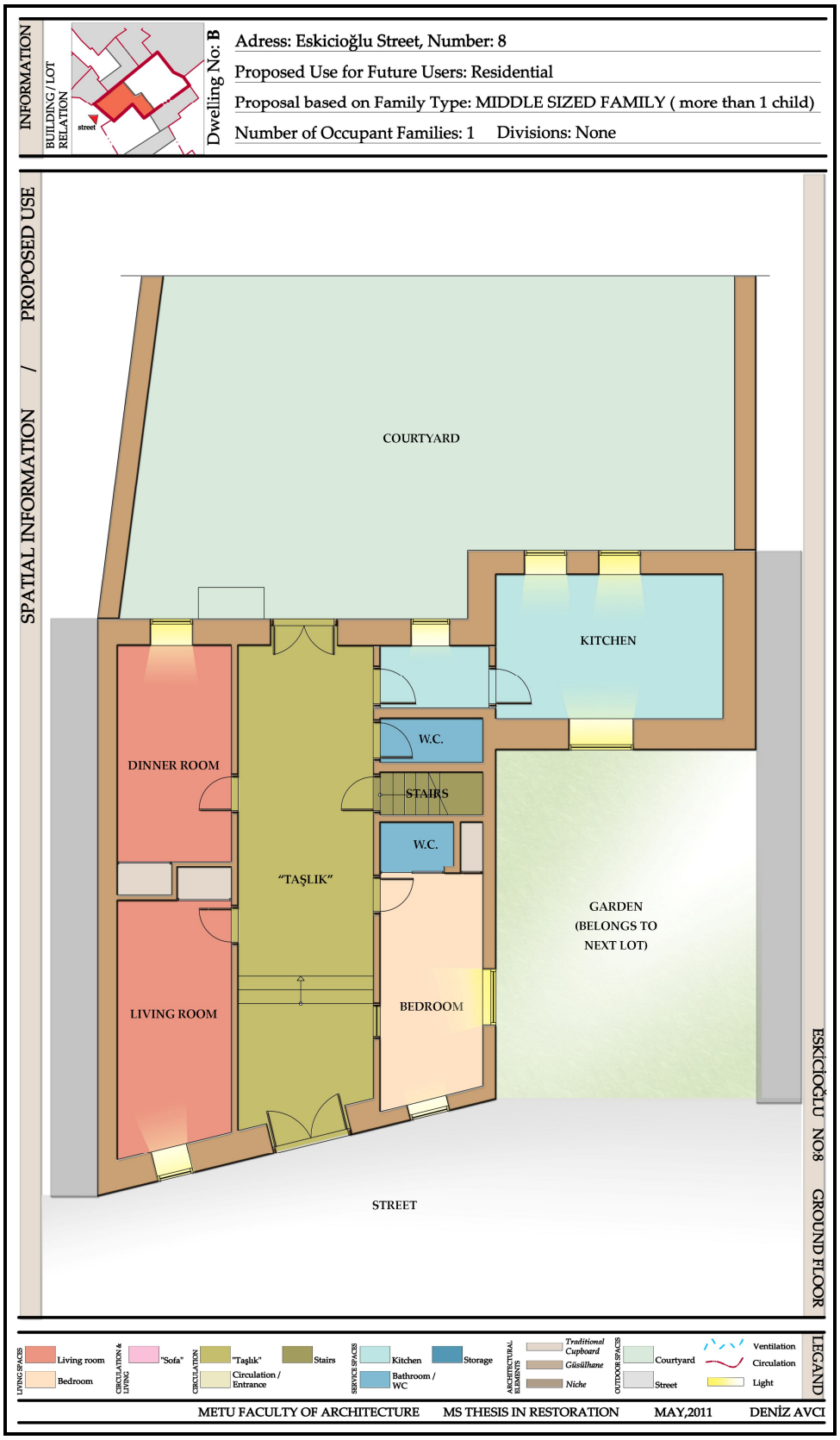
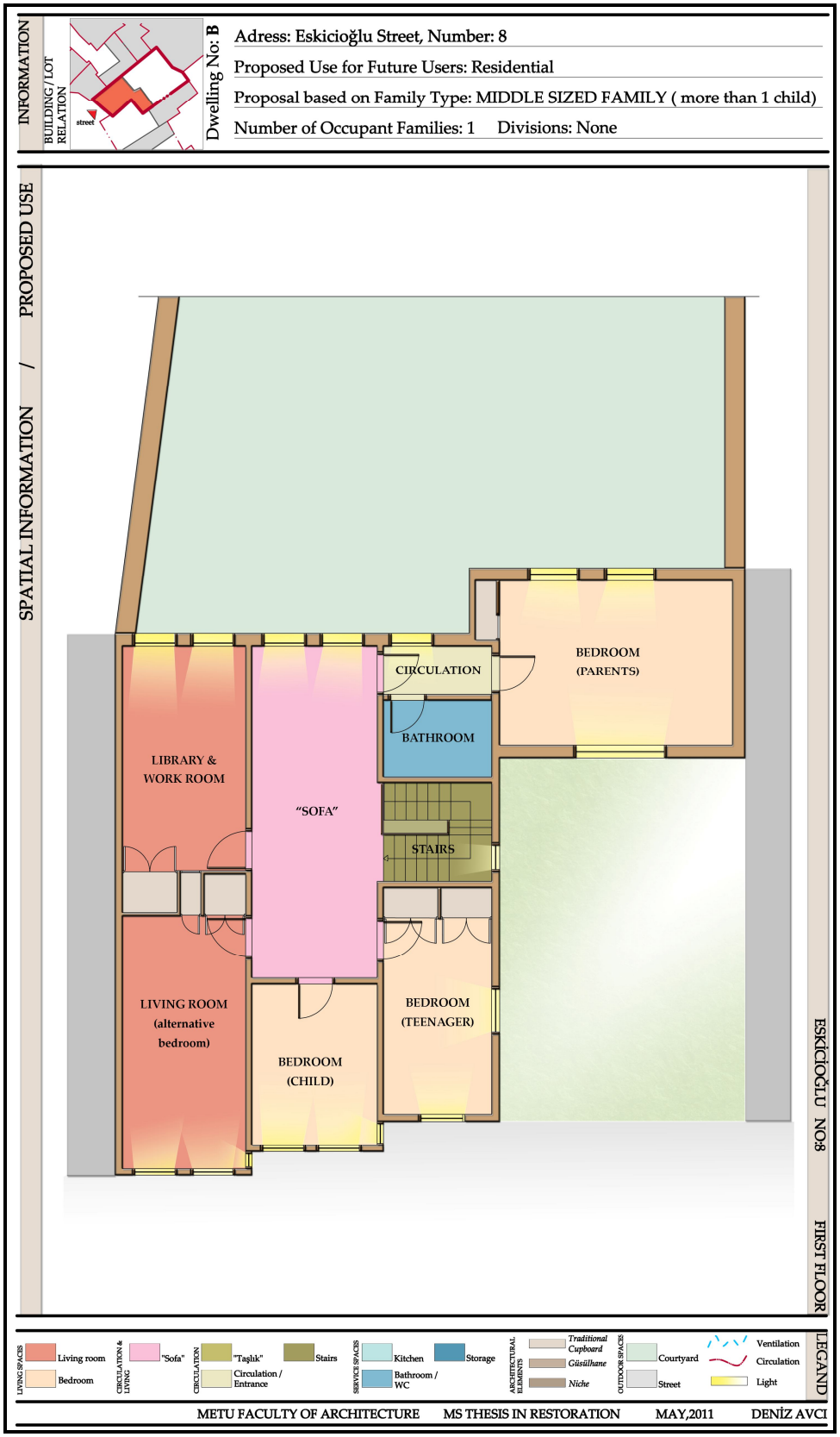


TABLE 4.14 ESKİCİOĞLU STREET NO: 8

PROPOSAL FOR THE FUTURE USERS / FIRST FLOOR



Overall, as can be seen from this proposal, this traditional residential building offers very comfortable living standards for a middle sized family in terms of modern housing standards. There is no need for any divisions since the spaces offer alternative functions without any divisions as well while conserving their originality. A bathroom, a kitchen and a W.C. are offered in this proposal but according to users' demands more rooms can be converted to service spaces.

4.3. Re-defining the Functional Layout of Case C: Kargı Street No: 29

4.3.1. The Alternative Functioning of the Spaces

As can be seen from the chart "The Functional Layout: The Alternative Functioning of the Spaces in Traditional Houses", the current situation of the plan layout is analyzed with the current functions, the size of the spaces and the original functions of the spaces. As can be seen from the chart, the spaces of Kargı Street No: 9, are given in codes, with their current functions. The measurements of the current plan layout are given as these measurements are clues for their probable original function. As can be seen from this chart of Kargı Street No: 9, in terms of the alternative functioning of the spaces, the current living areas such as the living room (C-G2) in the ground floor and two bedroom (C-F2, C-F3) in the first floor show flexibility in functioning either as a living area (living room, bedroom) or a service space (kitchen, bathroom) according to users' demands and the designers' choices. These spaces along with the current kitchen (C-G3) provide adequacy for different functions as they can either continue their original or current function as a living area or these can serve as service spaces (kitchen, bathroom) if demanded by the users (Table 4.15).

The division in the "taşlık" (C-G1) area for the current space for the bathroom (C-G4) harms the perception of the "taşlık" in its original form so this division is not supported. It is evaluated as an extension of the "taşlık" as in the original space characteristics. The conversion of the space under the stairs as the current W.C. (C-G4a) is evaluated in its current function as the space is very convenient for such conversion. The rooms in the first floor as can be used in different functions determined on the users' demands as a living or service space. Again it must be stressed that traditional spaces such as "taşlık" and "sofa" (C-F1) preferably

should not be used other than their original functions and the divisions within these spaces are not supported as these are the main members of the original usage scheme where the plan layout of the traditional houses are shaped around these.

This chart determines the alternative use of the spaces to be offered for the users of today and the future users in the new proposals. According to this chart of Kargı Street No: 9; other than “taşlık” (C-G1) and “sofa” (C-F1) which preferably should continue their original function, the other spaces can show variety in functioning as the spatial adequacies and space characteristics are suitable for alternative solutions. The living room (C-G2) is proper for any kind of functioning as a living area or a service space. The rooms (C-F2, C-F3) are also available for multiple functions such as a bedroom as the living area or a kitchen or a bathroom as the service space. The W.C. function is suitable for the small space (C-G4a) under the stairs.

Again as with the two cases, the spaces are suitable for re-functioning with the current, original or new functions. Also as a traditional residential building, the spaces offer comfortable life standards that are searched for contemporary residences, whereas the service space implementations become necessary as these are defined as the indispensable standards which traditional residential buildings lack.

4.3.2. Proposal for Improving the Functional Layout

Due to spatial qualities and characteristics of the building there are few alternative functioning of the spaces. As the living areas are few, the choices are limited for the kitchen and the bathroom purposes. Therefore this proposal is both the improvement of the current usage scheme and it also is the proposal for the future users. The proposals for the future users are based on user definition defined by the author based on the size of the chosen traditional residential building as the case and its suitability of offering alternative living conditions for different family types. Kargı Street No: 9 offers living conditions for a Nuclear Family: A small family of parents and one small child or it can be used by a couple.

TABLE 4.15 **KARGI STREET NO: 29 / THE FUNCTIONAL LAYOUT: THE ALTERNATIVE FUNCTIONING OF THE SPACES OF TRADITIONAL HOUSES**

FLOOR / SPACE INFO	DWELLING NO. C / KARGI 29 SPACE NO.	The Current Function	Measurements The Size of Spaces	The Probable Original Function	THE FUNCTIONAL LAYOUT: THE ALTERNATIVE FUNCTIONING OF THE SPACES OF TRADITIONAL HOUSES									
					THE SERVICE SPACES			THE LIVING SPACES		LIVING + CIRCULATION		CIRCULATION		
					KITCHEN	BATHROOM	W.C.	BEDROOM	LIVING ROOM	SOFA	TAŞLIK	CIRCULATION		THE SPACE CAN BE USED AS:
GROUND FLOOR	C-G1	Taşlık	1.58 x 3.50 m	Taşlık										
	C-G2	Living Room	2.91 x 4.50 m	Room										
	C-G3	Kitchen	1.93 x 2.17 m	Service Unit / Room										
	C-G4	A divided part of taşlık / Bathroom	0.90 x 1.98 m	Taşlık										
	C-G4a	W.C.	0.90 x 1.53 m	Storage / W.C.?										
	C-G5	Stairs	2.13 x 2.16 m	Stairs										
FIRST FLOOR	C-F1	Living Room / Sofa	1.83 x 5.22 m	Sofa										
	C-F2	Bedroom	2.70 x 4.43 m	Room										
	C-F3	Bedroom	2.01 x 3.08 m	Room										
	C-F4	Circulation to the roof	1.02 x 1.20 m	Circulation to the roof										

TABLE 4.16 **KARGI STREET NO: 29 / THE SCHEMATIC DIAGRAM OF THE FUNCTIONAL LAYOUT**

KARGI 29

LEGAND / FLOORS	GROUND FLOOR	FIRST FLOOR

THE SPACES WHICH OFFER ALTERNATIVE (MULTIPLE) FUNCTIONS

- can be used as a LIVING ROOM & BEDROOM or as a SERVICE UNIT
- can be used as a LIVING ROOM or as a SERVICE UNIT
- can be used as a BEDROOM or as a SERVICE UNIT

THE LIVING SPACES

- Living Room or Bedroom
- Living Room
- Bedroom

THE SERVICE UNITS

- Kitchen
- Bathroom
- W.C

LIVING + CIRCULATION

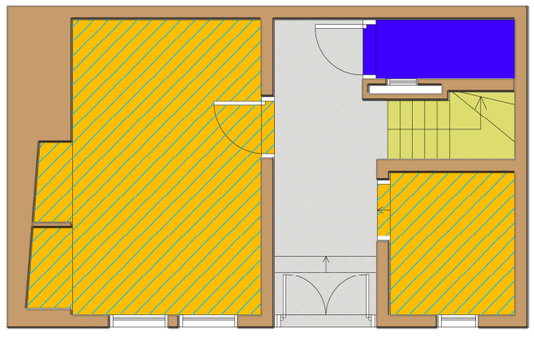
- "Sofa"
- "Taşlık"

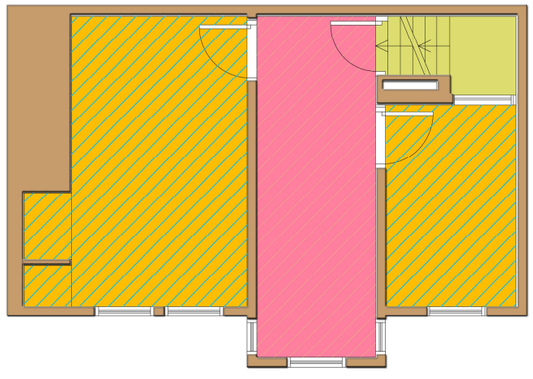
CIRCULATION

- Circulation /Entrance / Stairs
- Circulation WITH another function

OUTDOOR SPACES

- Courtyard





According to these inputs, the usage scheme can be defined as follows; the building is entered directly from the street into the “taşlık” in the ground floor. The “taşlık” covers the ground floor from the entrance to the end. On the left side of the “taşlık” there is the main room of the house which is currently used as the living/gathering area. In this proposal it continues this function as the living room. There are two niches within this room and one of them is currently converted into a study desk, this function also continues in this proposal as it is very creative. On the right side of the “taşlık” there is the kitchen (currently used as kitchen as well). Behind the kitchen there is the staircase leading to the first floor. Next to this stairs, at the right back, there is the W.C. (converted space under the staircase) (Table 4.17).

The first floor is accessed from the stairs which open to the “sofa”. The “sofa” is proposed with its original function as the living/gathering/circulation area. On the left side of the “sofa”, the space is divided for the bathroom function. On the corner of this space the bathroom is installed. So a pre-circulation area is entered from the door on the left side of the “sofa”. This circulation area opens to the bathroom and the bedroom of the parents. In the bedroom there is a traditional cupboard. On the right side of the “sofa” there is another room which is proposed as the bedroom of the child. In this room there is a niche like gate which opens to the circulation area leading to the roof. According to information above; in this proposal a bathroom, a kitchen and s W.C. are offered in these proposals which are enough to meet the requirements of the contemporary living in terms of service spaces. Overall, Kargı Street No: 9 offers comfortable living standards for its users as long as it is not overused. With the new location of the bathroom which offers a spatially more adequate space, this plan layout is suitable for the current and future families as it meets the requirements of contemporary life (Table 4.18).

TABLE 4.17 KARGI STREET NO: 29

PROPOSAL FOR THE CURRENT AND THE FUTURE USERS / GROUND FLOOR

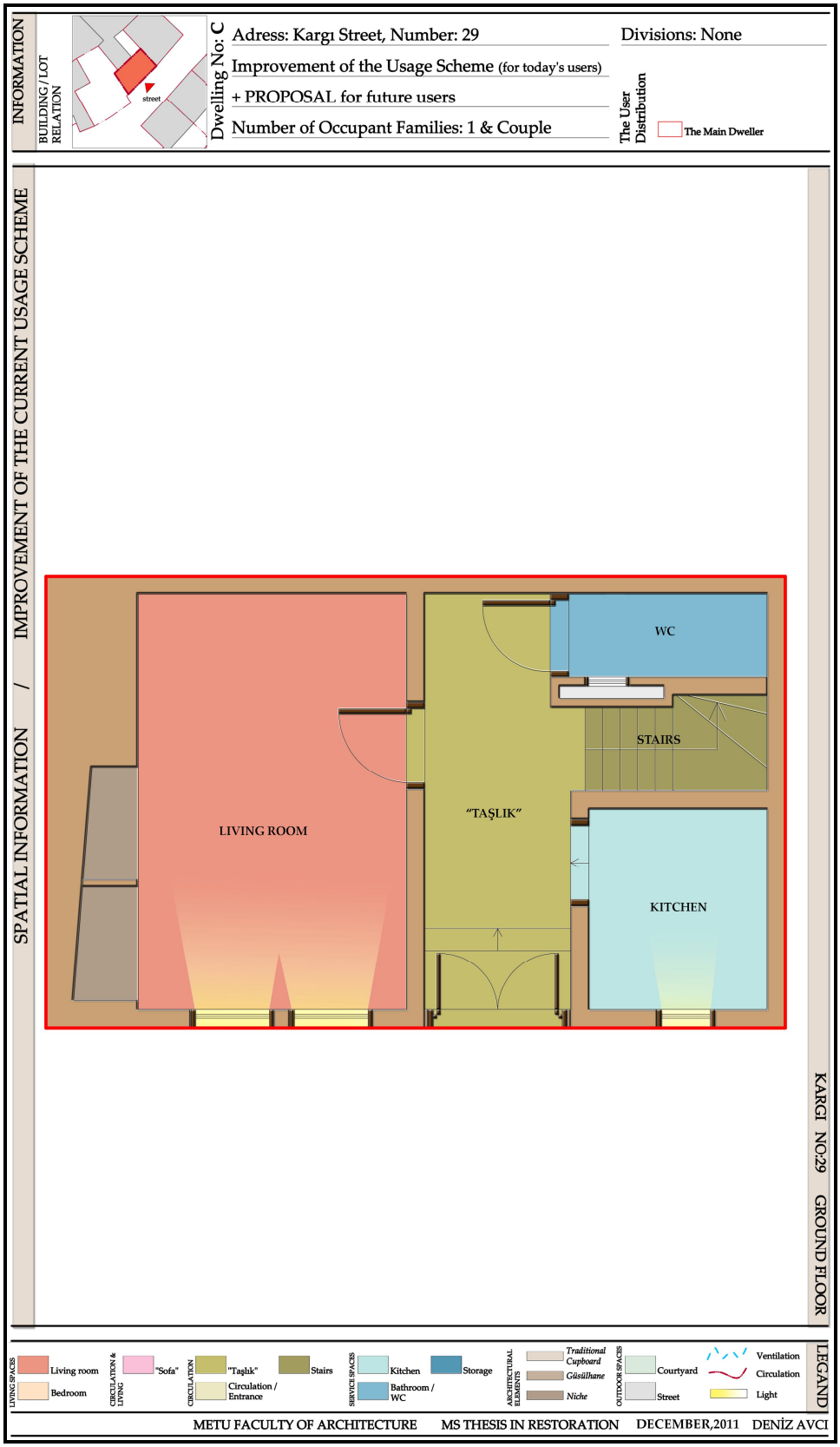
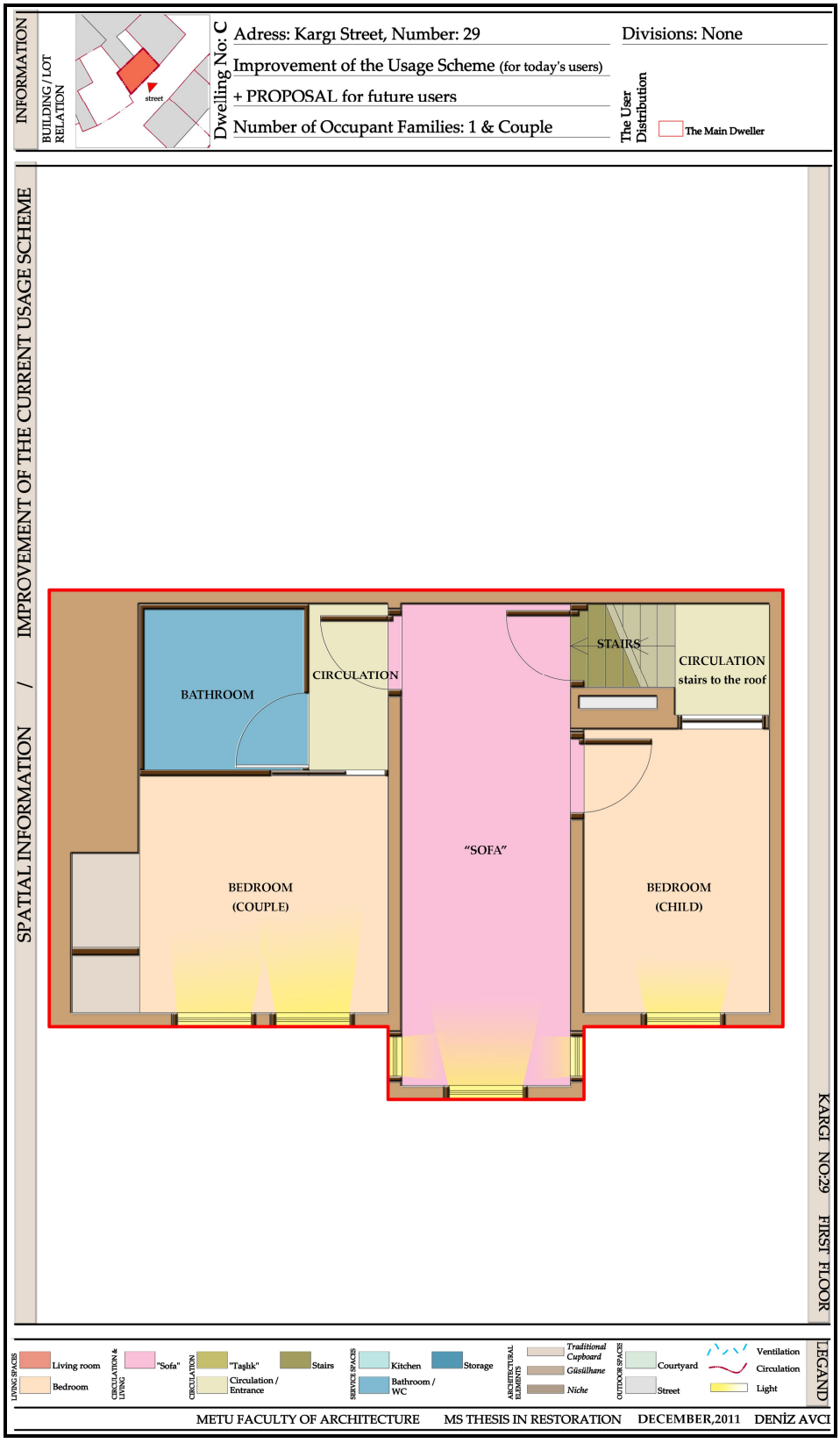


TABLE 4.18 KARGI STREET NO: 29

PROPOSAL FOR THE CURRENT AND THE FUTURE USERS / FIRST FLOOR



4.4. The Proposals for the Service Units and the Basic Infrastructure Solutions

This part includes the service space design and installation process defined in Chapter 2, in the adaptation of traditional residential buildings in terms of upgrading their service spaces or proposing new ones. The proposals are based on conservation & design and intervention principles defined in Chapter 2 with adaptation charts of bathroom & kitchen installations, defined by the writer especially for the traditional residential buildings.

4.4.1. The Service Unit Proposals for Case A: Birlik Street No: 3

The proposed bathrooms for Birlik Street No: 3 are located at the right back side of the "sofa" where these smallest rooms of the building are currently used as storages. They are located at the same part of the plan layout throughout the floors where this provides easier solution on the technical infrastructure. In the service space adaptation & bathroom insertion proposal charts, this proposal fits into the part YA (Table 2.6) where 3 / 4 walls and the traditional ceiling are conserved and the space is installed in the middle of the room, placed vertically at one side of the space, having contact at one point. The technical infrastructure such as water supply & water drainage are solved in an addition infrastructure shaft in the middle. This shaft is constructed with steel frame (steel girds) with plywood panels in between which is as a shaft plastered and painted over. This proposal can be used either with alternative timber platforms (raised decking) where the new timber platforms are (as new materials) actually suitable for traditional materials while being distinguishable from the traditional timber flooring. The raised timber platforms offer equal distribution of the newly added technical load to the upper floors and beneath these platforms. The technical infrastructure can also be placed beneath the lifted timber platforms as an alternative (rather than a infrastructure shaft). The timber platforms are not needed in the basement floor where the traditional materials (stone masonry and stone flooring) are suitable for service spaces. Ventilation is provided naturally as the chosen rooms have traditional windows (Table 4.19).

The technical infrastructure system of upper floors are connected to the ground with a steel shaft which is placed between the timber studs of the building (generally 5 cm x 10 cm or 10 cm x 10 cm studs there is 50 - 70 cm gaps in between). The other newly proposed materials for the bathroom equipments are ceramic sink and ceramic bath tub and ceramic European type closet.

The proposed kitchens for Birlik Street No: 3 are located at the right front side of the “sofa”, facing the street where these rooms are currently used as bedrooms. These spaces are located at the same part of the plan layout throughout the floors where this provides easier solution on the technical infrastructure. Also these spaces are next to the proposed bathrooms so it can be said that the infrastructure of Birlik Street No: 3 can be solved only at one side of the building: on the right side of the “sofa” when entered from the street. The basement floor is the recommended proposal for the kitchen conversion where as a result alteration can be minimal as the basement floor is ideal for service space insertions due to original materials’ suitability. In the service space adaptation & kitchen insertion proposal charts, this proposal fits into the part XA (Table 2.7) where 4 / 4 walls and the traditional ceiling are conserved where the unit is installed around room on the 4 walls however the technical equipments are placed only up to the required height of the kitchen stall. As a result the upper walls and the ceiling are conserved and untouched where also the perception of the room is undivided. In the basement floor, the technical infrastructure such as water supply & water drainage are solved beneath the kitchen stall as this space is in the basement floor and has direct contact with earth. The upper floors may also be suitable for kitchen conversions however the basement/ground floors are the best choices for minimum intervention. In the first floor the technical infrastructure is solved beneath the newly proposed timber platform (raised decking). The new timber platforms are (as new materials) suitable for traditional materials while being distinguishable from the traditional timber flooring. The raised timber platforms offer equal distribution of the newly added technical load to traditional structural system where overload at only certain parts are avoided. In the upper floors the most important factor to pat attention is the height of the lower window frame (Table 4.20).

TABLE 4.19 THE PROPOSED BATHROOM FOR BİRLİK STREET NO: 3

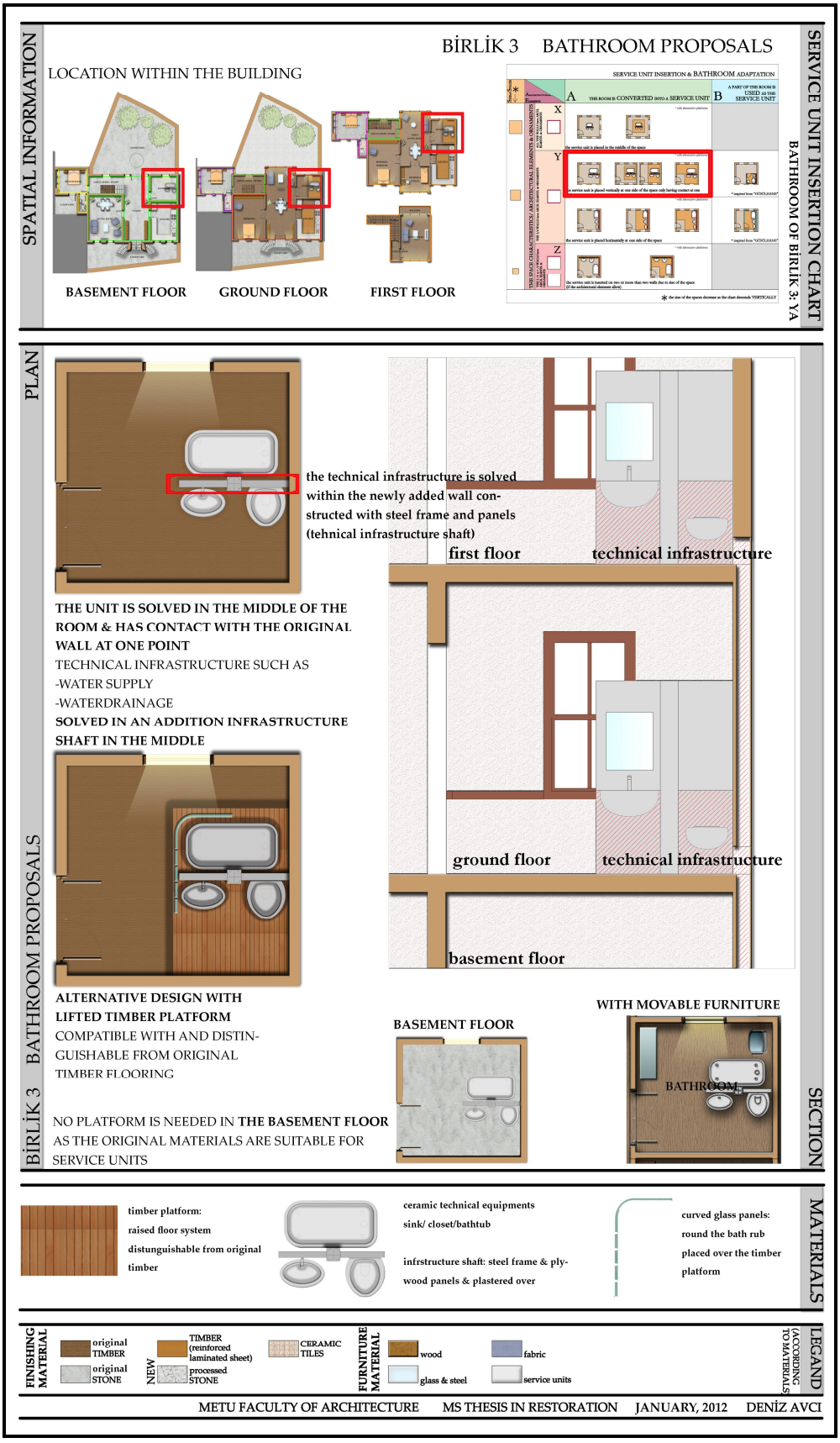
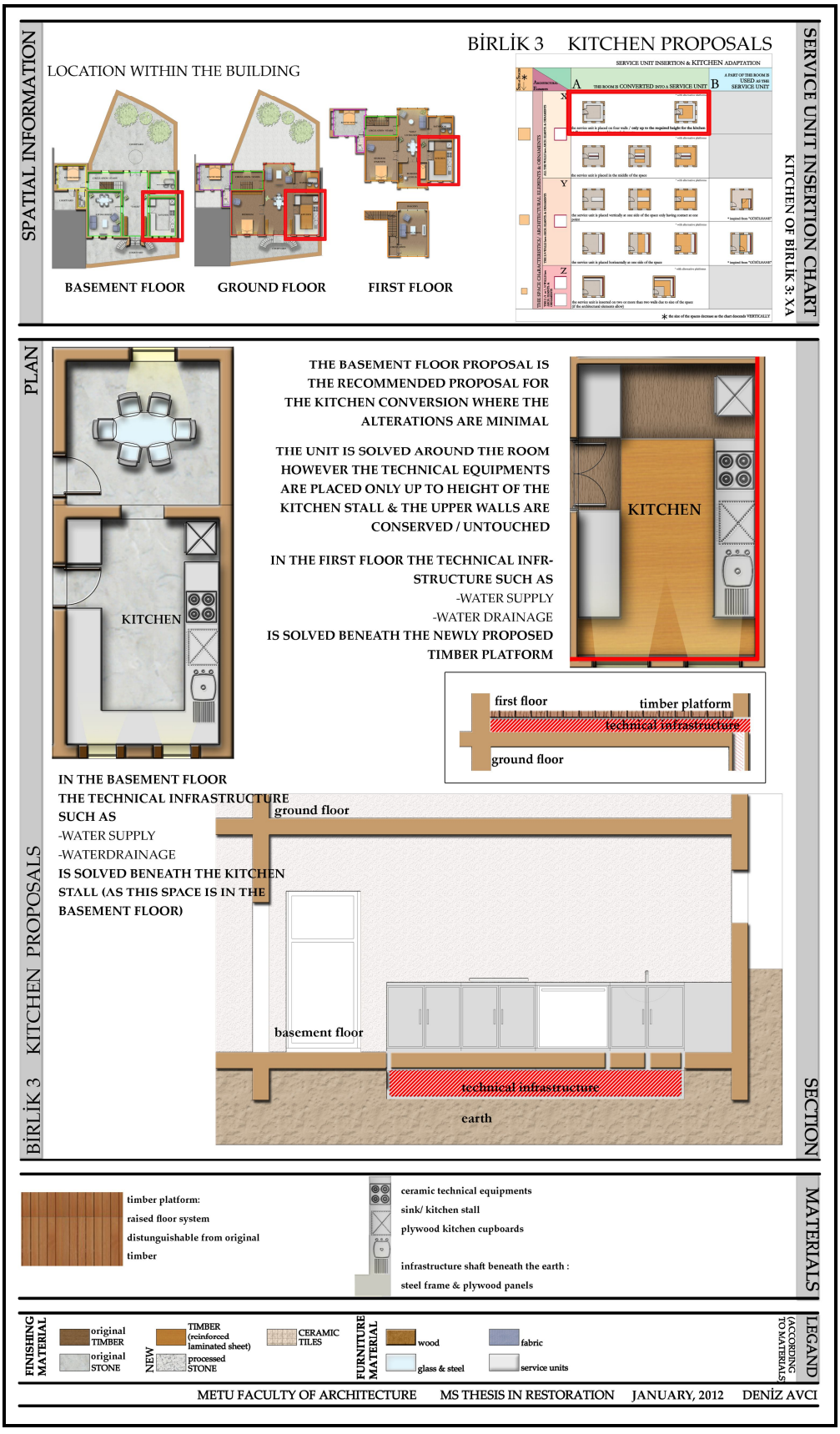


TABLE 4.20 THE PROPOSED KITCHEN FOR BİRLİK STREET NO: 3



The kitchen stall if placed at the side of the space with windows must be lower than the window sill or at that point the stall can, as a design factor, be cut or decreased at height or might be better if not installed at that wall at all. The technical infrastructure system of upper floors are connected to the ground with a steel shaft which is placed between the timber studs of the building (generally between 5 cm x 10 cm or 10 cm x 10 cm studs there are 50 - 70 cm gaps). The other newly proposed materials for the kitchen equipments are ceramic sink and ceramic countertop. The materials for the kitchen cupboards are proposed as water resistant plywood.

4.4.2. The Service Unit Proposals for Case B: Eskicioğlu Street No: 8

The proposed bathroom of Eskicioğlu Street No: 8 is located in the first floor. It is located in the already divided space to form a pre-entrance area to a later mass addition space at the right back side of the building which faces the courtyard. The newly proposed bathroom is within this divided space on the other part of the circulation area. In the service space adaptation & bathroom insertion proposal charts, this proposal fits into the part YB (Table 2.6) where the space has been already divided and there is no other solution than to convert the smaller part with a new function: as a bathroom. Instead of conversion of the whole space as a bathroom only a part of the room, in this case one side of the room, is used as the bathroom area. This partially conversions potentially provide a reference to traditional architectural elements: *güsülhane*. The proposal can be revealed as a traditional cupboard and in this proposal it is designed as a cupboard where the space is entered with a slide door. This traditional cupboard concept needs caution at not copying the traditional materials exactly and the newly proposed materials of the cupboard must be suitable for, compatible with and distinguishable from traditional materials and traditional cupboards. The technical infrastructure such as water supply & water drainage can either be solved beneath the lifted platform or extra shafts placed within the new walls (as the cupboards' walls where these can behold technical equipments of the bathroom). Ventilation is provided naturally as the room has one window which is opened by the users as a later alteration; this is kept as it provides light and ventilation to the divided space. The technical infrastructure system of this bathroom is connected to the ground with a steel shaft which is placed between

the timber studs of the building (generally between 5 cm x 10 cm or 10 cm x 10 cm studs of a traditional structural system there are 50 - 70 cm gaps). The other newly proposed materials for the bathroom equipments are water resistant timber bath tub and sink to offer an alternative usage referencing to the timber materials within the traditional residential building where the European type closet is ceramic as generally found in the market (Table 4.21).

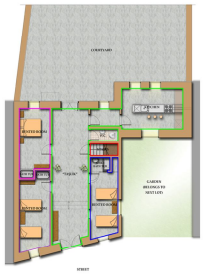
There are alternative proposals for the kitchens of Eskicioğlu Street No: 8. The recommended kitchen conversion is in the ground floor where the ground floors are suitable for such conversions due to original materials' compatibility and resistance to water and dampness at the ground levels as the materials are stone masonry and stone flooring. The proposed kitchen of the ground floor is in the later period mass addition which is constructed with traditional structural techniques. It is located at the right back side of the "taşlık", entered from the pre-circulation area of a divided space (due to mass addition). In the service space adaptation & kitchen insertion proposal charts, this proposal fits into the part YA (Table 2.7) where 3/ 4 walls and the traditional ceiling are conserved where the unit is installed in the middle of the room, placed vertically at one side of the space, having contact at one point. In the ground floor the technical infrastructure such as water supply & water drainage is solved beneath the kitchen stall as this space is in the ground floor. There are two alternative spaces in the first floor for the kitchen proposal where one of the space is the current location of the kitchen, the other is the newly proposed space over the proposed kitchen in the ground floor. In the first floor the design is proposed with the timber platform which provides the technical infrastructure solution beneath, with a quick accessibility to the technical equipments and equal distribution of the technical load to the traditional structural system. The new timber platforms are (as new materials) actually suitable for traditional materials while being distinguishable from the original timber flooring. The infrastructure of the first floor's service spaces are connected to the ground by a steel infrastructure shaft placed within the studs (a construction element of traditional structural system, generally between 5 cm x 10 cm or 10 cm x 10 cm studs there are 50 - 70 cm gaps). The other newly proposed materials for the kitchen equipments are plywood kitchen countertop with plywood cupboards beneath where the ventilation hood and the sink are proposed as galvanized steel (Table 4.22).

TABLE 4.21 THE PROPOSED BATHROOM FOR ESKİCİOĞLU STREET NO: 8

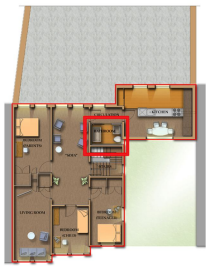
SPATIAL INFORMATION

LOCATION WITHIN THE BUILDING

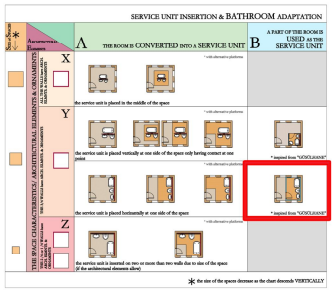
ESKİCİOĞLU 8 BATHROOM PROPOSALS



GROUND FLOOR



FIRST FLOOR



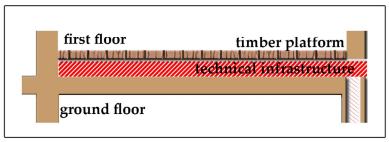
SERVICE UNIT INSERTION CHART

BATHROOM OF ESKİCİOĞLU 8: YB

PLAN

THE BATHROOM IS SOLVED AT ONE SIDE OF THE ROOM AS A CLOSED UNIT. THE UNIT IS PERCEIVED AS A CUP-BOARD WHEN CLOSED

TECHNICAL INFRASTRUCTURE SUCH AS
-WATER SUPPLY
-WATERDRAINAGE
CAN EITHER BE
SOLVED BENEATH THE LIFTED PLATFORM OR THE INFRA-STRUCTURE SHAFTS PLACED WITHIN ORIGINAL WALLS



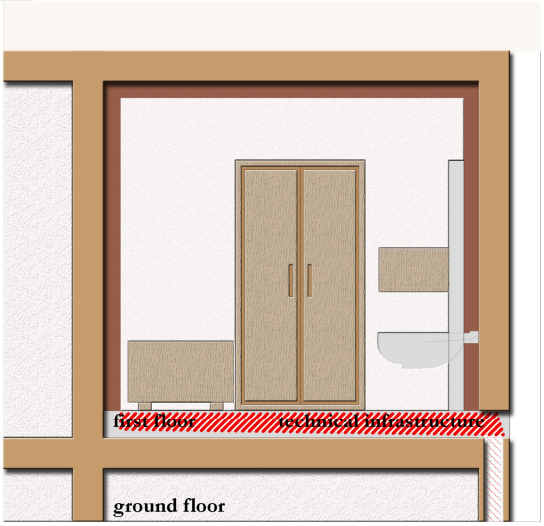
ESKİCİOĞLU 8 BATHROOM PROPOSALS

THIS CONCEPT IS INSPIRED FROM **TRADITIONAL ARCHITECTURAL ELEMENT: "GÜSÜLHANE"**

IN THE GROUND FLOOR, THE TRADI-TIONAL CUPBOARDS OF ROOMS CAN BE PROPOSED AS EITHER **BATHING AREA** OR **W.C.**

IN THE GROUND FLOOR, THE TECHNI-CAL INFRASTRUCTURE FOR THE BATH-ROOMS CAN BE SOLVED UNDER THE UNIT.

IN THE GROUND FLOOR, THE PLATFORM IS NOT NECESSARY SINCE TH IE ORIGINAL MATERIALS ARE STONE FLOORING AND STONE MASONRY WALLS WHICH ARE SUITABLE FOR WET SPACES



SECTION

MATERIALS

timber platform:
raised floor system
distunguishable from original timber

water resistant timber
technical equipments
sink / bathtub

ceramic technical equipments
european type closet

infrastructure shaft: steel frame & ply-wood panels & plastered over

FINISHING MATERIAL
original TIMBER
original STONE
NEW
TIMBER (reinforced laminated sheet)
processed STONE
CERAMIC TILES

FURNITURE MATERIAL
wood
glass & steel
fabric
service units

LEGAND (ACCORDING TO MATERIALS)

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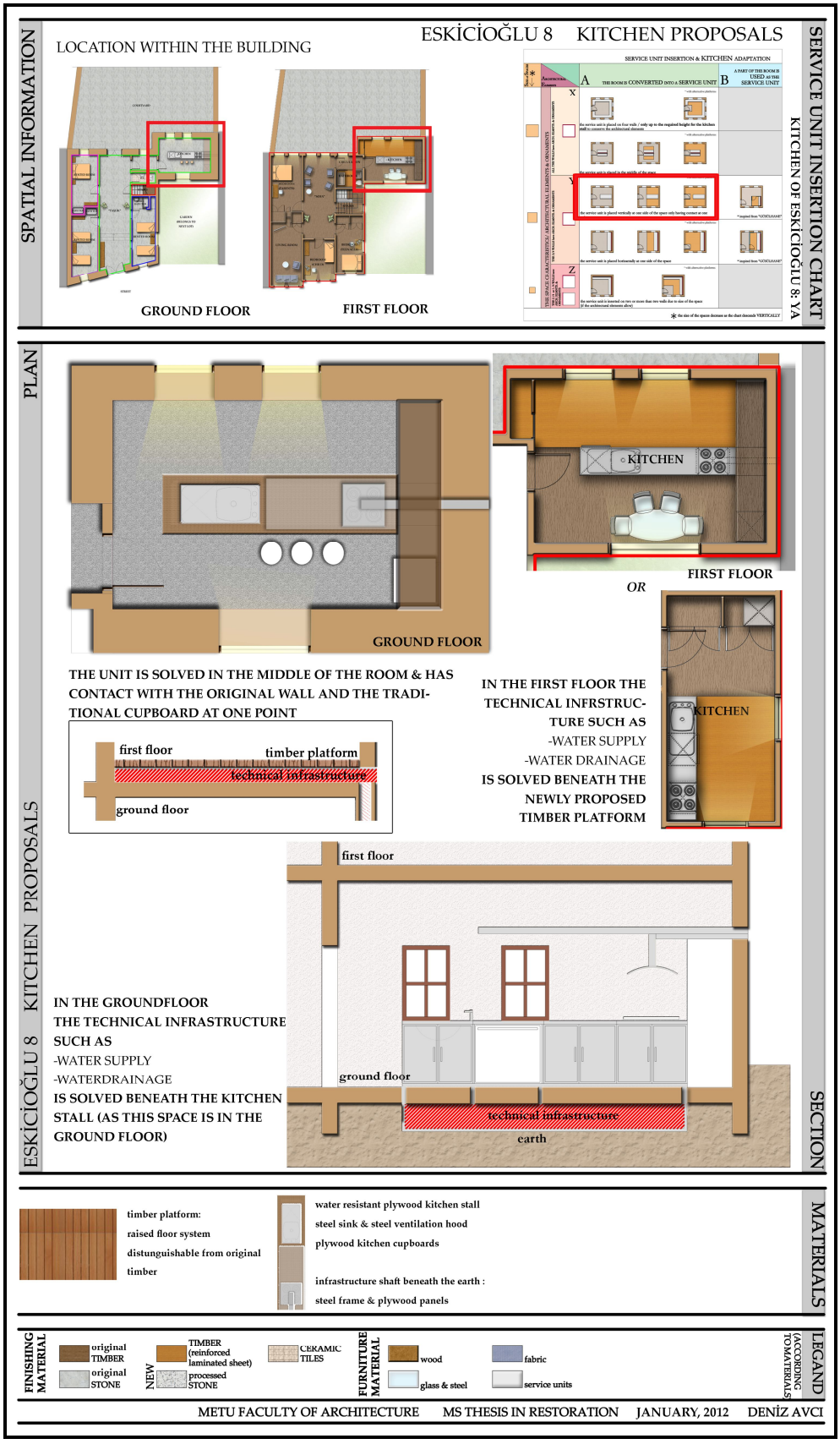
TABLE 4.22 THE PROPOSED KITCHEN FOR ESKİCİOĞLU STREET NO: 8



4.4.3. The Service Unit Proposals for Case C: Kargı Street No: 9

The only spatially suitable space for the proposed bathroom for Kargı Street No: 9 is in the first floor, proposed as a part of the room. The current divided "taşlık" space for the bathroom is spatially inadequate even though it would be better to have service space at the ground floor since the materials are more suitable. However with conscious approach upper floors are also suitable for service space conversions (Table 4.23).

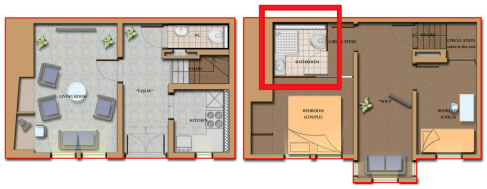
The proposed bathroom for Kargı Street No: 9 is on the left side of the "sofa", proposed as a divided part of the room where only the corner of the room is used for this conversion. In the service space adaptation & bathroom insertion proposal charts, this proposal fits into the part YB (Table 2.6) where the 3 / 4 wall can be perceived and the unit is installed to a part of the room. It is a closed unit and can be perceived as a cabin or a cupboard when closed. These conversions are inspired from the traditional architectural elements: *güsülhanes*. The newly proposed materials of the cupboard must be suitable for, compatible with and distinguishable from traditional materials and traditional cupboards. The technical infrastructure such as water supply & water drainage can either be solved beneath the lifted platform or extra shafts placed within walls (as the cupboards' walls where these can behold technical equipments of the bathroom). Ventilation is provided by ventilation pipe connected to the wall of the installed space (the wall at the back faces an empty area). This proposal can be used with alternative timber platforms (raised decking) where the new timber platforms are (as new materials) actually suitable for traditional materials while being distinguishable from the traditional timber flooring. Also as another concept the lifted platform can be covered with ceramic tiles. These raised platforms offer equal distribution of the newly added technical load to the lower floors and prevent overload on the traditional structural system. As proposed for the previous examples to the other cases, the infrastructure of the first floor's service spaces are connected to the ground by a steel infrastructure shaft placed within the studs of the traditional walls. The studs generally have 50 to 70 cm gaps between them. The proposed materials for the technical equipment are ceramic as in the modern day bathrooms; ceramic sink, shower cabin pool, ceramic European type closet and around the shower cabin glass panels.

TABLE 4.23 THE PROPOSED BATHROOM FOR KARGI STREET NO: 29

SPATIAL INFORMATION

KARGI 29 BATHROOM PROPOSALS

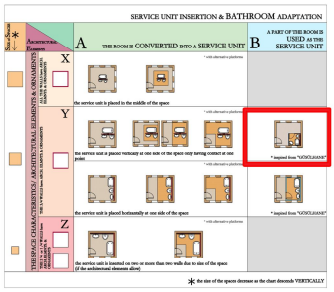
LOCATION WITHIN THE BUILDING



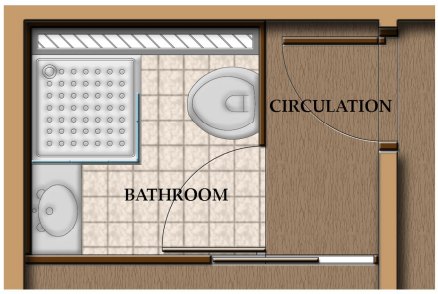
GROUND FLOOR FIRST FLOOR

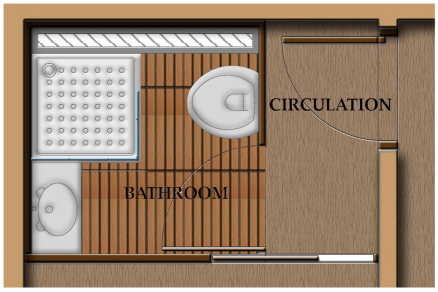
SERVICE UNIT INSERTION CHART

BATHROOM OF KARGI 29: YB



PLAN



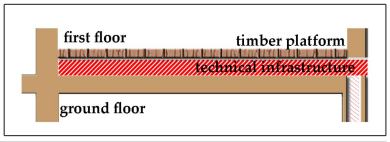


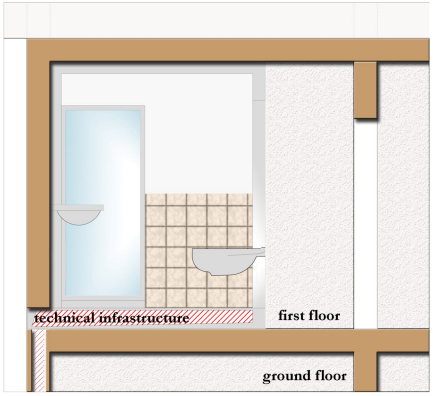
THE BATHROOM IS SOLVED AT THE CORNER OF THE ROOM AS A CLOSED UNIT

THE UNIT IS PERCEIVED AS A CUPBOARD WHEN CLOSED

TECHNICAL INFRASTRUCTURE SUCH AS
-WATER SUPPLY
-WATERDRAINAGE
CAN EITHER BE SOLVED BENEATH THE LIFTED PLATFORM OR THE INFRASTRUCTURE SHAFT PLACED WITHIN THE ORIGINAL WALLS

THE LIFTED PLATFORM CAN BE PAVED WITH CERAMIC TILES OR TIMBER PANELS CAN ALSO BE USED IN THIS EXAMPLE





KARGI 29 BATHROOM PROPOSALS

SECTION

MATERIALS

timber platform: raised floor system distunguishable from original timber

OR

ceramic tiles

ceramic technical equipments

sink / bath tub /european type closet & glass panels

infrastructure shaft: steel frame & ply-wood panels & plastered over

LEGAND (ACCORDING TO MATERIALS)

FINISHING MATERIAL

original TIMBER

original STONE

NEW

TIMBER (reinforced laminated sheet)

processed STONE

CERAMIC TILES

FURNITURE MATERIAL

wood

glass & steel

fabric

service units

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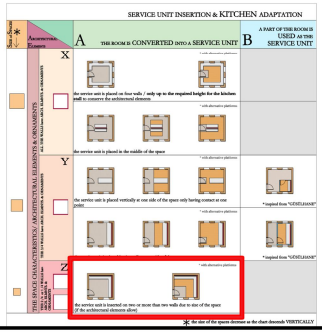
TABLE 4.24 THE PROPOSED KITCHEN FOR KARGI STREET NO: 29

SPATIAL INFORMATION

KARGI 29 KITCHEN PROPOSALS

LOCATION WITHIN THE BUILDING

GROUND FLOOR FIRST FLOOR



SERVICE UNIT INSERTION CHART

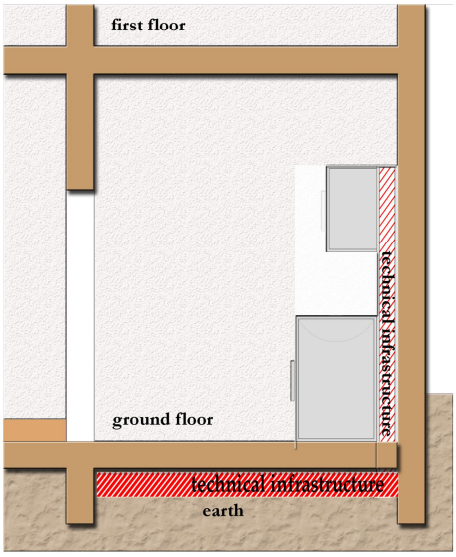
KITCHEN OF KARGI 29: ZA

PLAN

THE SPACE ITSELF IS CONVERTED INTO A SERVICE UNIT WHERE TWO OF THE WALLS ARE USED AS THE INSERTION AREA OF THE KITCHEN EQUIPMENT

TECHNICAL INFRASTRUCTURE SUCH AS
-WATER SUPPLY
-WATERDRAINAGE
ARE SOLVED IN THE ADDITION WALLS BEHIND THE KITCHEN STALL AS THE INFRASTRUCTURE SHAFT OR IT CAN ALSO BE SOLVED UNDER THE KITCHEN STALL (AS THIS SPACE IS IN THE GROUND FLOOR)

SECTION



KARGI 29 KITCHEN PROPOSALS

MATERIALS

ceramic technical equipments
sink/ kitchen stall
plywood kitchen cupboards

infrastructure shaft :
steel frame & plywood panels

LEGAND (ACCORDING TO MATERIALS)

FINISHING MATERIAL
original TIMBER
original STONE
NEW
TIMBER (reinforced laminated sheet)
processed STONE
CERAMIC TILES

FURNITURE MATERIAL
wood
glass & steel
fabric
service units

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The proposed kitchen for Kargı Street No: 9 is the currently used kitchen as this space is suitable for service space conversion as it is in the ground floor where traditional materials (stone masonry & stone flooring) are more resistant to water and dampness than timber. The space is also spatially adequate for a kitchen purpose. The kitchen is located in the ground floor at the right side of the "taşlık" (Table 4.24).

In the service space adaptation & kitchen insertion proposal charts, this proposal fits into the part ZA (Table 2.7) where 2 / 4 walls are used for the technical equipments of the kitchen due to spatial limitations. The service unit is inserted on two sides of the space due to the spatial adequacy but this can only be done if architectural elements allow. However the space characteristics of this space within Kargı Street No: 9 support this insertion where the walls lack architectural elements & ornaments. The technical infrastructure such as water supply & water drainage is solved in the addition walls behind the L-shaped kitchen which are proposed as the technical infrastructure shafts. The lifted timber platform is not needed as this space is in the ground. The other newly proposed materials for the kitchen equipments are ceramic sink and ceramic countertop. The materials for the kitchen cupboards are proposed as water resistant plywood.

4.4.4. The Design Details of the Service Unit Installations

In the installation of the service spaces' to the upper floors of the traditional residential buildings; the original materials might be in danger. To protect the traditional materials such as the flooring / ceiling / materials of the architectural elements; "Raised Floor Systems" are proposed while considering the conservation and design principles defined for traditional residential buildings.

These raised floor systems, in other words "platforms", are proposed to protect the traditional material from water and damp while providing contrast between the traditional part and the newly installed part within the space. The platforms also provide equal distribution of the technical load of the installed technical elements to the traditional structural system instead of loading the system at one point. These platform systems also prevent the technical equipments of the service spaces' from touching the traditional materials where the equipments are

now placed above these platforms. The materials of the platforms consist of galvanized steel for the carriers and the supporters (they are not perceived as a part of the system but they are the infrastructure of the platform) and timber panels which are plywood (light and durable to the load). The plywood panels are easily removable and renewable. The types of timber chosen for these panels are different than the original timber used within the space in terms of flooring, ceiling and traditional architectural elements' materials.

The platforms are needed in upper floors in order to protect the original timber but it must be stressed that the platform installations are according to preference in the basement or ground floors (the lowest floor constructed with stone masonry and stone flooring) where the original materials in these spaces (stone) are water and wear resistant and suitable for service spaces.

There are many benefits to platform installation and can be listed as follows:

1 provide the equal distribution of the technical load to the traditional structural system

2 provide contrast between the traditional and newly installed part

3 conserve and protect the traditional material from water and damp

4 conserve and protect the traditional material from direct contact with the technical equipment

These platforms are placed within traditional spaces within this order:

1 The supporters of the raised floor system are placed 50 cm - 70 cm (the average is taken for this proposal as 60 cm) exactly on the girders of the traditional structural system where these can be 50 cm - 70 cm apart (the gaps show variety in measurements in each traditional residential building). These supporters are produced from galvanized steel. Their height and measurements vary according to different fabricated productions. For the required height of 18 cm - 24 cm; the weight of these elements are the lightest.

It must be stressed that although it has been mentioned that the supporters are placed exactly above the girders, there are original floor boards between the girders and the steel elements (the supporters). The girders are taken as the foundation points (with the help of analyses to determine their exact location) for the installation of these elements. They are the main carriers of the structural system and if the load is not conveyed through them, the load distribution within the building would be disrupt and the carrying capacity of the building would be challenged.

2 The joists (U- PROFILE) of the raised floor system are placed to connect the supporters. The materials of these elements are also galvanized steel. The measurement change from 20 mm x 20 mm x 20 mm to 50 mm x 50 mm x 50 mm (in this proposal average sized joists are used as 30 mm x 30 mm x 30mm). These are used along with the supporters and they are the main margins carrying the panels to be placed.

3 After the installation of these steel elements and before the installation of the plywood panels, plastic seals are placed over the supporters and steel joists to provide sound insulation and any possible dislocation of the panels.

4 The panels of the raised floor system are placed on the steel elements of the raised floor systems. The sides of these panels are placed over the steel joists and the corners of the panels are placed over the supporters. The measurement of these panels vary and for the cases of traditional residential buildings, these must be produced specially rather than the mass-fabricated products, as the supporters will be placed on the timber traditional girders and the gaps between these girders range from case to case. The mass productions of these panels range from 30 cm x 30 cm to 80 cm x 80 cm where generally in most of the implementations, 60 cm x 60 cm panels are used. For the proposals of the implementations of the three cases of this thesis, the panels are used as 60 cm x 70 cm as the average of the timber gaps are taken as 60 cm (the actual gap sizes could not be perceived in the site survey). However again it must be stressed that the measurements can vary from case to case. These panels are produced with the thickness of 30 mm.

When installed the platforms are perceived as timber platforms within the space where these timber materials are different from the original materials in terms of color, type and production size. The timber provides compatibility with the original materials and as the timber materials show variety in shape, size, color and production; these can also be distinguishable from the traditional timber. The timber platforms are the basis of the installation of the service spaces where the technical equipments of the service spaces (kitchen & bathroom) are not placed over the original elements but they are placed on the platforms where they don't have contact with original materials. As the equipments do not have contact with traditional materials, the reversibility of the implementations and the sustainability of the design by the renewal of the equipments are much easier.

The following are the descriptions of one bathroom and one kitchen implementation proposed for the cases. For the bathroom implementation; Birlik Street No: 3 is taken as the example case. For the kitchen implementation; Eskicioğlu Street No: 8 is taken as the example case.

The bathroom installation of Birlik Street No: 3:

The bathroom installations for Birlik Street No: 3 are proposed both in basement and the upper floors. In the upper floors platform installations are needed however for the basement floor the platform implementation can be done according to preference. In this proposal the bathroom is proposed in the spaces A-B5 (basement), A-G5 (ground), and A-F5 (first). The design consists of the technical infrastructure wall placed on the installed platform (platform/measurements: 219 cm x 155 cm, height: 18 cm - 24 cm) at one side of the space. The technical infrastructure wall is constructed with steel posts which are produced in 20 mm thickness and plasterboards as panels. It is 180 cm high and there is 15 cm gap in between the panels of the shaft where the technical equipments are placed. It is placed in the middle of the room on the platform; vertically touching one of the traditional walls at one point. The technical equipments such as the sink (50 cm x 40 cm / installed to the infrastructure wall at 80 cm height), the closet (40 cm x 50 cm / installed to the infrastructure wall at 45 cm) with the concealed cistern (placed in the infrastructure wall and cover 120 mm space within the wall) and the bath tub (145 cm x 75 cm) are placed on

the two sides of the infrastructure wall where the technical equipments are solved within the shaft and occasionally under the raised platform (for the bath tub). The water supply pipes are installed in the infrastructure shaft. These work with pressure systems where the water is pumped to these pipes from the main. The pipes can be copper, galvanized steel or plastic. For this proposal plastic pipes are used as these are commonly produced in mass production and more commonly used in the modern constructions systems. They are also easier to replace and lighter in weight than the other two types. The water drainage pipes are wider than the water supply pipes. These are installed also in the infrastructure shaft and occasionally under the raised floor system. It is substantial to install water drainage pipes under the water supply pipes. The water drainage pipes can also be copper, steel or plastic. Plastic pipes are proposed for this implementation. For the exact measurements and the correct implementation of the water supply & water drainage systems with the implementation of the technical equipment; installation regulations and specialists on this subject must be consulted[1] (Table 4.25 - Table 4.29).

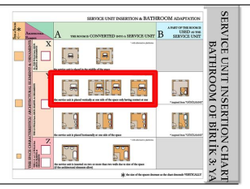
The implementation of the bathroom installations can be defined in 5 step process. In step 1, the galvanized steel supporters are placed 60 cm apart on and parallel to the original timber girders of the structural system of the traditional residential building. These are placed for the required space of the platform. In step 2, the galvanized steel supporters are connected with steel u-shaped joists (30 cm x 30 cm x 30 cm). The supporters and the joists are covered with plastic seals placed between the steel elements and the timber panels. In step 3, the plywood panels are placed over the steel units (with the ventilation panels for the breathing of the original timber). The panels are 30 mm high and the measurements are used as 60 cm x 70 cm for this implementation. In step 4, the technical infrastructure wall with the water supply and water drainage systems is placed over the platform, exactly over the steel supporters where the load of the wall is carried by these supporters as well. In step 5, the technical equipments for the bathroom are placed around the infrastructure wall where the infrastructure is solved inside this shaft and under the raised floor system if needed.

[1] The standard numerical data of technical & infrastructural equipment and the information on water suppy & water drainage installation are gathered from "Building Construction Illustrated" by Francis D.K. Ching and Cassandra Adams, parts 11.22 - 11.24, 2001.

TABLE 4.25 THE IMPLEMENTATION OF THE BATHROOM TO BİRLİK STREET NO: 3 SCHEMA 1

INFORMATION

LOCATION WITHIN THE BUILDING



SERVICE UNIT INSERTION CHART
BATHROOM OF BİRLİK STREET NO: 3

PLYWOOD PANELS OF THE RAISED FLOOR SYSTEM compatible with original material also distinguishable as the used timber is processed and different kind from the original

THE STEEL SUPPORTERS AND JOISTS OF THE RAISED FLOOR SYSTEM

ORIGINAL FLOOR BOARDS OF THE STRUCTURAL SYSTEM OF THE TRADITIONAL HOUSE (here they are shown transparent to show the relation of the supporters with original girders)

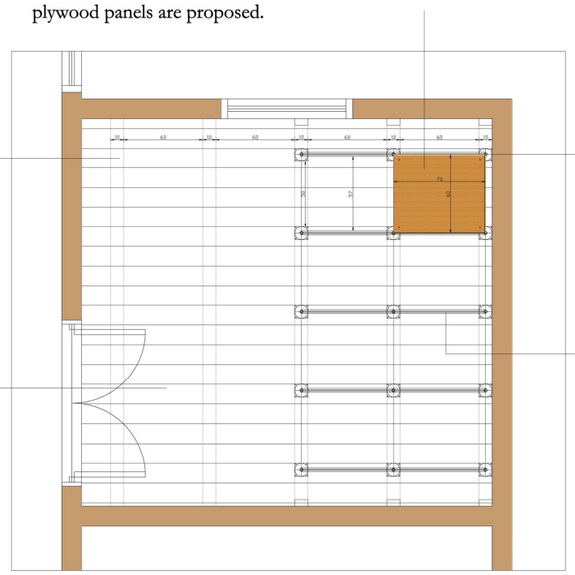
ORIGINAL GIRDERS OF THE STRUCTURAL SYSTEM OF THE TRADITIONAL HOUSE

THE PANELS OF THE RAISED FLOOR SYSTEM
MATERIAL: PLYWOOD
HEIGHT: Generally 3 cm
MEASUREMENTS: Ranges from 30 cm X 30 cm to 80 cm x 80 cm. The panel sizes must be produced according to the gaps between the original girders' of the structural system of traditional residential building. In this proposal 60 cm x 70 cm plywood panels are proposed.

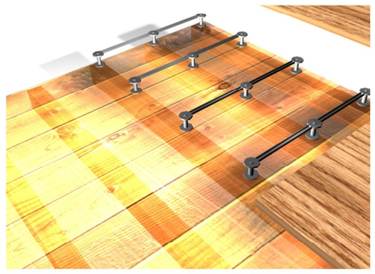
APPLICATION OF THE BATHROOM INSTALLATION TO BİRLİK 3

ORIGINAL GIRDERS
10 X 10 or 10 X 15
placed in every
minimum 50 cm
maximum 70 cm
in this drawing average
data is used as 60 cm

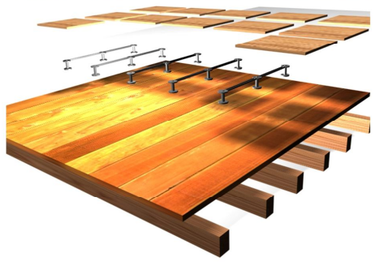
ORIGINAL FLOOR BOARDS

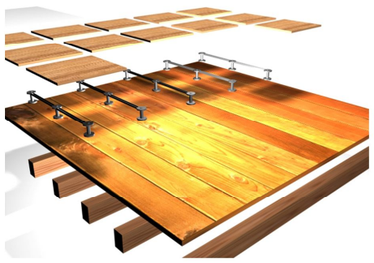


THE SUPPORTERS OF THE RAISED FLOOR SYSTEM
MATERIAL: galvanized steel
HEIGHT: ranges from 10 cm - 30 cm, in this proposal 18 cm high supporters are used



THE U-PROFILE JOISTS CONNECTING THE SUPPORTERS OF THE RAISED FLOOR SYSTEM
MATERIAL: galvanized steel
MEASUREMENTS: ranges from 2 to 5 cm generally produced in 25 x 26 x 25 mm. In this proposal 30 x 30 x 30 mm joists are proposed.





**between the steel elements and plywood panels plastic seals are placed as a sound insulation

MATERIALS / DETAILS

LEGAND

original materials
- original timber floors
- original stone floors

new materials
- steel supporters & joists
- timber panels of the platform

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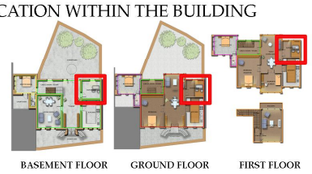
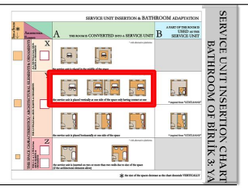
TABLE 4.26 THE IMPLEMENTATION OF THE BATHROOM TO BİRLİK STREET NO: 3 SCHEMA 2

INFORMATION

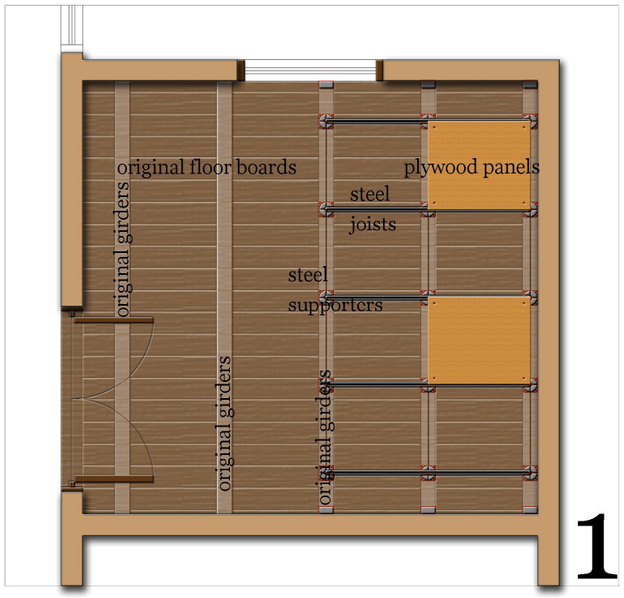
LOCATION WITHIN THE BUILDING





SERVICE UNIT INSERTION CHART
BATHROOM OF BİRLİK & X

BİRLİK 3 APPLICATION OF THE BATHROOM INSTALLATION



STEP 1

THE GALVANIZED STEEL SUPPORTERS ARE PLACED

(FOR THE REQUIRED SPACE OF THE PLATFORM)

60 CM APART ON TIIE

ORIGINAL TIMBER GIRDERS OF THE STRUCTURAL

SYSTEM OF TRADITIONAL RESIDENTIAL BUILDING

STEP 2

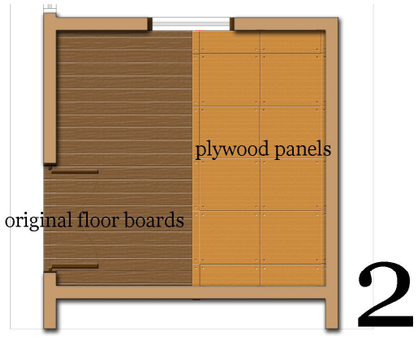
THE GALVANIZED STEEL SUPPORTERS ARE

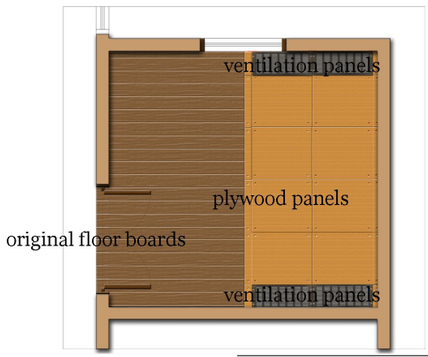
CONNECTED WITH STEEL U-SHAPED WIRES

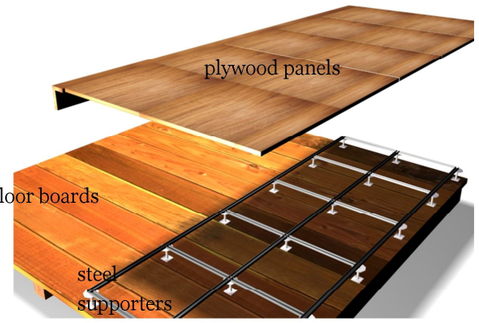
(30 mm x 30 mm x 30 mm)

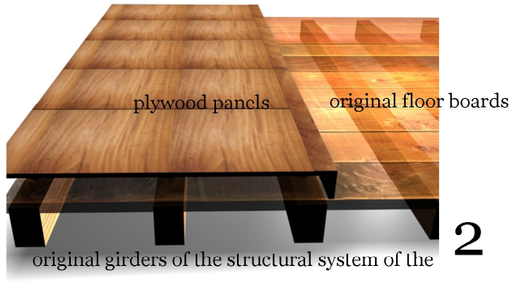
the wires are covered with plastic seals placed between

the platform and the steel elements









APPLICATION OF THE RAISED FLOOR SYSTEM:

THE PLATFORM FOR THE BATHROOM INSERTION

MATERIALS / DETAILS

LEGAND

original materials: original timber floors; original stone floors

new materials: steel supporters & joists; timber panels of the platform

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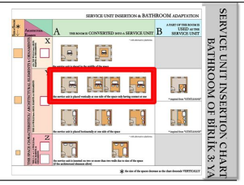
TABLE 4.27 THE IMPLEMENTATION OF THE BATHROOM TO BİRLİK STREET NO: 3 SCHEMA 3

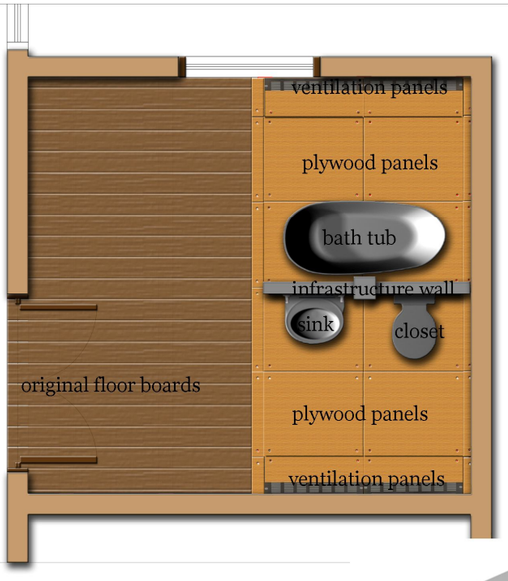
INFORMATION

LOCATION WITHIN THE BUILDING



SERVICE UNIT INSERTION CHART
BATHROOM OF BİRLİK 3

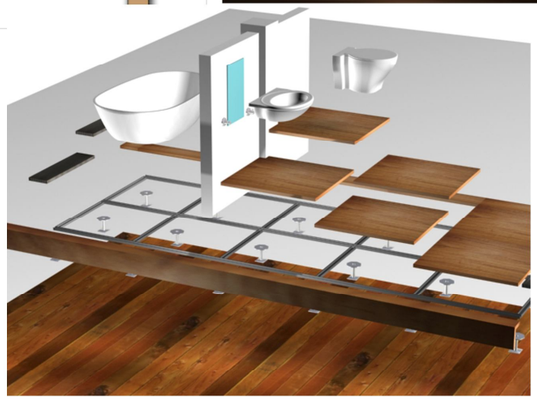
APPLICATION OF THE BATHROOM INSTALLATION

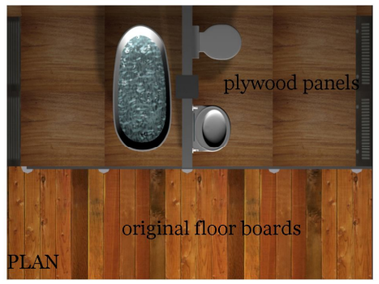


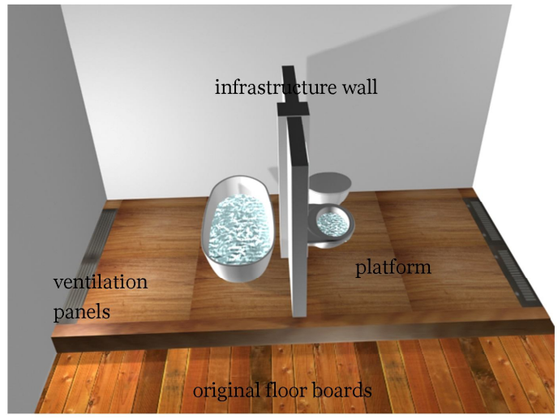
STEP 3

THE PLYWOOD PANELS ARE PLACED OVER THE STEEL UNITS EITHER WITH OR WITHOUT VENTILATION PANELS

The panels are 30 mm high and measurements range. For the proposal 60 mm x 70 mm panels are used.





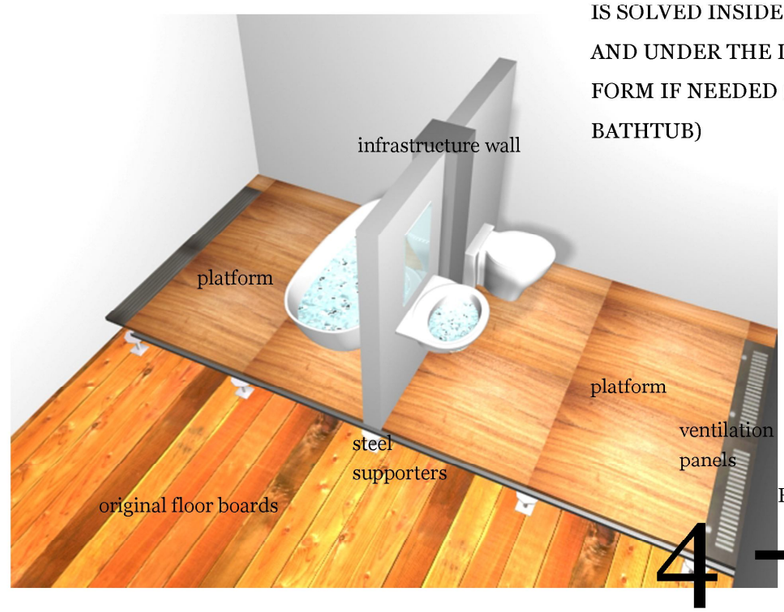


STEP 4

THE TECHNICAL INFRASTRUCTURE WALL IS PLACED IN THE MIDDLE OVER THE STEEL SUPPORTERS

STEP 5

THE TECHNICAL EQUIPMENT FOR THE BATHROOM ARE PLACED AROUND THE WALL WHERE THE INFRASTRUCTURE IS SOLVED INSIDE THE WALL AND UNDER THE LIFTED PLATFORM IF NEEDED (FOR THE BATHTUB)



3 APPLICATION

FINAL PRODUCT

4 - 5

MATERIALS / DETAILS

LEGAND

original materials: original timber floors; original stone floors

new materials: steel supporters & joists; timber panels of the platform

BİRLİK 3

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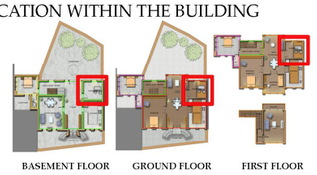
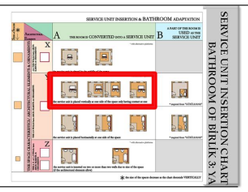
TABLE 4.28 THE IMPLEMENTATION OF THE BATHROOM TO BİRLİK STREET NO: 3 SCHEMA 4

INFORMATION

LOCATION WITHIN THE BUILDING

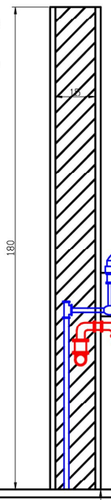




SERVICE UNIT INSERTION CHART BATHROOM OF BİRLİK 3: V.A

for the exact measurements and correct application of these water supply & water drainage systems and application of the technical equipment, installation regulations and specialist on this area must be consulted.

in this proposal the width of the wall as the infrastructure shaft is held maximum with 150 cm width the wall is constructed with plasterboards* or plywood panels between 20 mm steel posts*

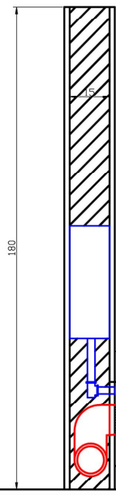


in this proposal the width of the wall as the infrastructure shaft is held maximum with 150 cm width

the water supply pipes work with pressure systems where the water is pumped up to these pipes from the main*

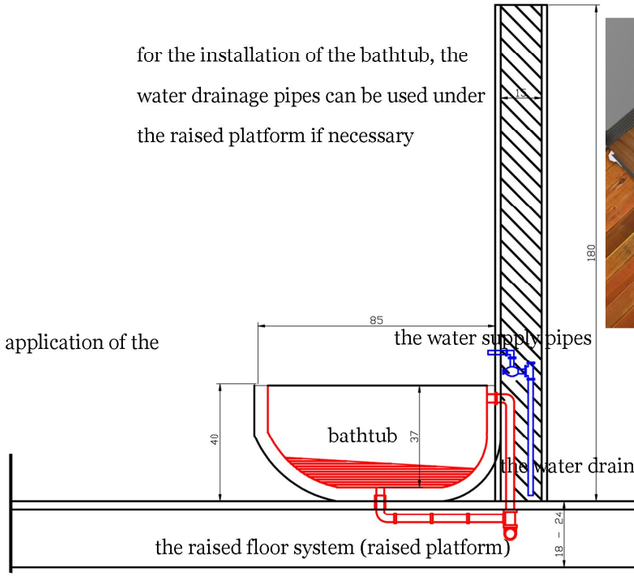
the water drainage pipes are wider than the water supply pipes*

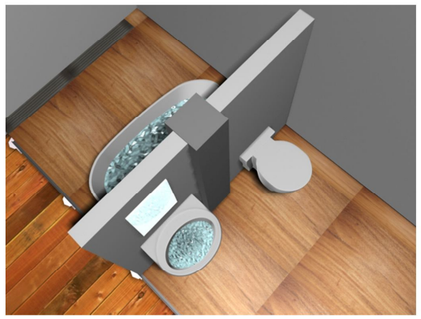
the pipes can be copper, galvanized steel or plastic* for this proposal plastic pipes are proposed

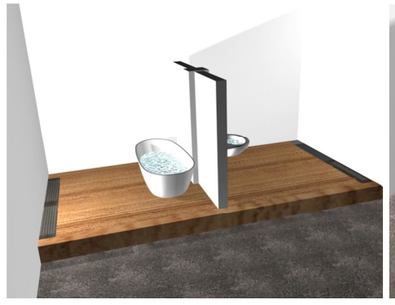


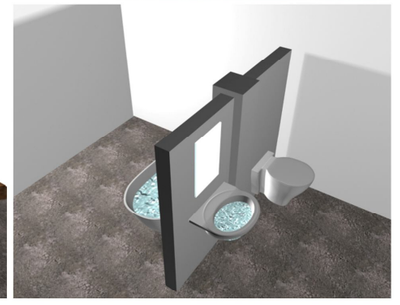
the concealed cistern is placed within the technical infrastructure wall (generally fitted into 120 cm gaps)**

for the installation of the bathtub, the water drainage pipes can be used under the raised platform if necessary









TECHNICAL INFRASTRUCTURE WALL:
steel posts 20 mm*
plasterboards* or
plwood panels plastered over
placed within these posts

for the basement floor where the space has direct contact with earth and the floor materials are stone; the installation can be done either with or without a raised platform

MATERIALS / DETAILS

BİRLİK 3 APPLICATION OF THE BATHROOM INSTALLATIO

* the standard numerical data of technical & infrastructural equipment and the information on water suppy & water drainage installation are gathered from 'Building Construction Illustrated" by Francis D.K. Ching and Cassandra Adams, parts 11.22 - 11.24, 2001

* * the numerical data of closet and concealed cistern (built in reservoir) application is gathered from *Vitra* Catalogue of July 2005

LEGAND

original materials: original timber floors; original stone floors

new materials: steel supporters & joists; timber panels of the platform

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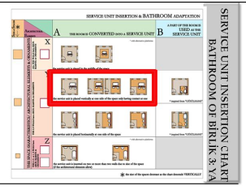
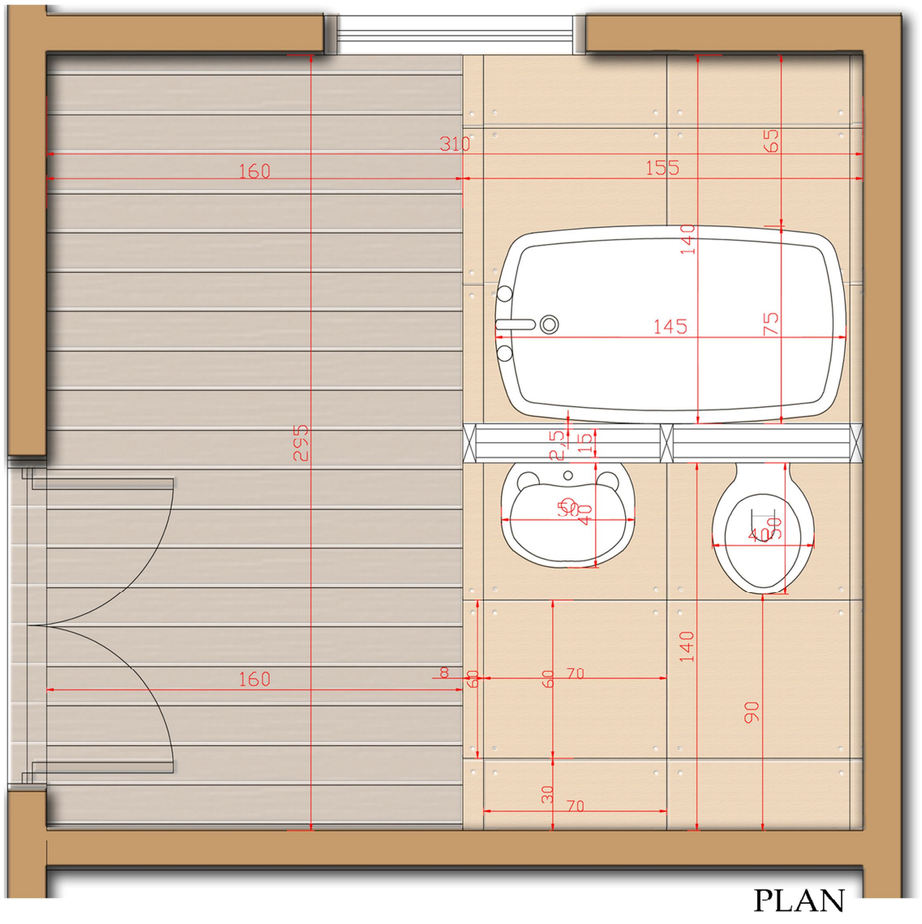
TABLE 4.29 THE IMPLEMENTATION OF THE BATHROOM TO BİRLİK STREET NO: 3 SCHEMA 5

INFORMATION

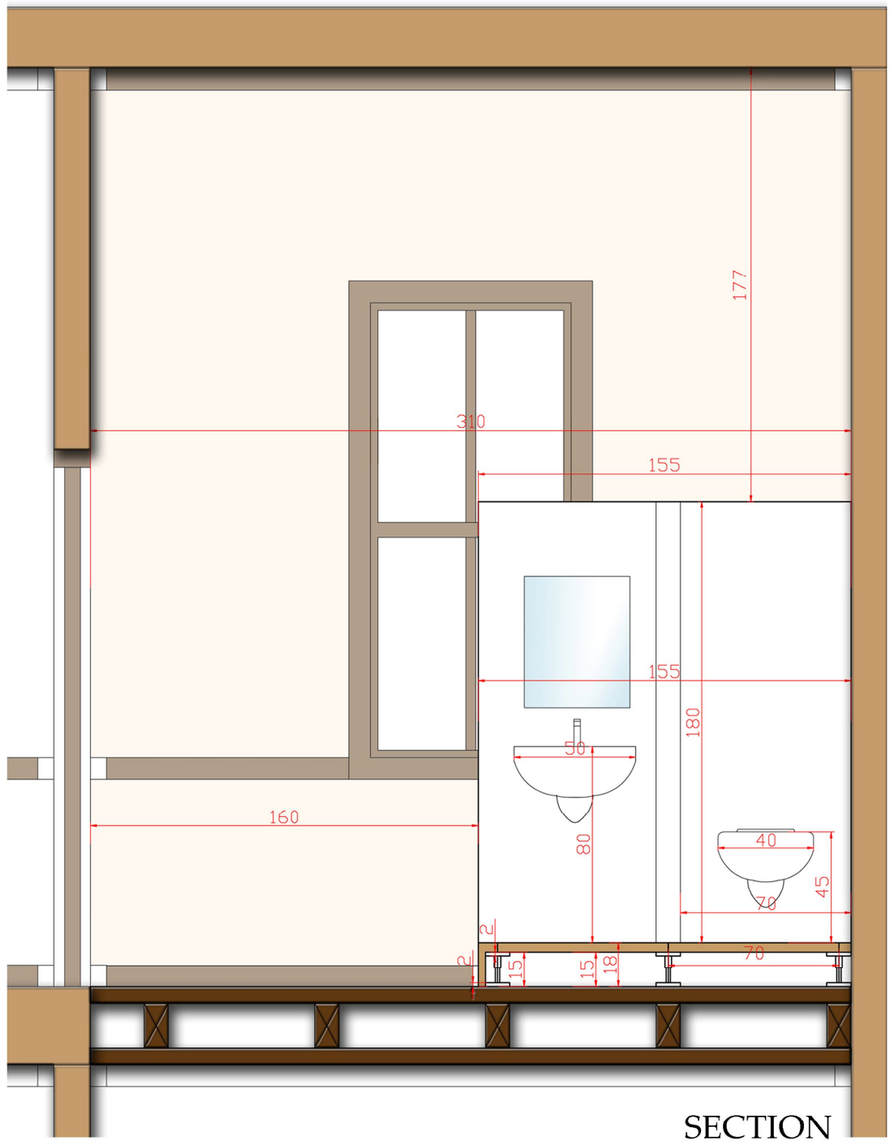
LOCATION WITHIN THE BUILDING



BİRLİK 3 APPLICATION OF THE BATHROOM INSTALLATION



PLAN



SECTION

MATERIALS / DETAILS

LEGAND

original materials

original timber floors

original stone floors

new materials

steel supporters & joists

timber panels of the platform

* the standard numerical data of technical & infrastructural equipment and the information on water suppy & water drainage installation are gathered from "Building Construction Illustrated" by Francis D.K. Ching and Cassandra Adams, parts 11.22 - 11.24, 2001

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The kitchen installation of Eskicioğlu Street No: 8:

The kitchens for Eskicioğlu Street No: 8 are proposed in both ground and the first floor however the installation which is in the ground floor where the traditional materials of the space are suitable for service spaces is supported. In this proposal the kitchen is proposed in the spaces B-G8 (ground) and B-F11 (first). In the upper floors platform installations are needed however for the basement floor the platform implementation can be done according to preference. The design divides the space in two where on one side the platform (measurements of the installed platform: 510 cm x 185 cm, height: 18 cm - 24 cm) is installed. The infrastructure wall is in the middle of the space having contact with the original wall at one point. The infrastructure wall (up to the height of the kitchen stall) is constructed with 20 mm thick steel posts where the plasterboard panels are placed in between these posts. There is 15 cm gap for the installation of the technical infrastructural equipment. The height is to the required length for the kitchen stall (90 cm from the platform and 108 cm from the traditional floor). The kitchen stall (80 cm x 135 cm) is placed in the middle of the room parallel to the infrastructure wall. The longer side of the stall covers the space horizontally in the middle where the narrow side is vertical to one side of the space. The sink (60 cm x 125 cm), the dishwasher (60 cm x 60 cm) and the oven (75 cm x 75 cm) are solved on the kitchen stall. The traditional cupboard holds the cooking equipments where extra new cupboards over the kitchen stall are not proposed except the ones under the kitchen stall. These cupboards are 60 cm x 55 cm with 75 cm height. There are 5 cupboards under the kitchen stall where there also is area for the installation of the dish washer (70 cm x 70 cm). There is a ventilation panel over the oven, where the ventilation pipe is connected to the wall through the traditional cupboard. The water drainage and water supply are installed in the infrastructure shaft. The water supply systems work with pressure systems where the water is pumped to these pipes from the main. The water drainage pipes must be wider than the water supply pipes. These are installed also in the infrastructure shaft and occasionally under the raised floor system if needed for the dishwasher. The water drainage pipes must be installed under the water supply pipes. The pipes can be copper, steel or plastic. Plastic pipes are proposed for this implementation.

It must be stressed that for the proper implementation of water system specialist on the subject must be consulted and installation regulations must be followed[2].

The kitchen stall does not harm the traditional cupboard except the connection of the ventilation system. And the intersection area of the kitchen stall and the architectural element (traditional cupboard)[3] can be difficult where wings of the cupboard have to be removed. However these can be safely removed and conserved where the area for the installation of the kitchen stall can serve as an extension of the kitchen stall or shelves for the kitchen equipment. Again it must be stressed the cupboard is not measured and a more proper proposal could be offered if measured properly when allowed by the users.

The implementation of the kitchen installation is a 5 step process like in the proposed bathroom implementation. The first 3 steps are similar to the first 3 steps of the bathroom implementation as these describe the installation of the platform. The 4th step is the installation of the infrastructure wall with the water supply & water drainage systems in the middle. The final step, the 5th step, is the installation of the kitchen stall with the technical equipments of the kitchen (Table 4.30 - Table 4.31).

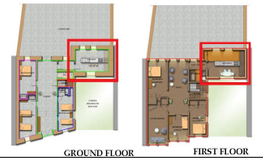
[2] The standard numerical data of technical & infrastructural equipment and the information on water suppy & water drainage installation are gathered from "Building Construction Illustrated" by Francis D.K. Ching and Cassandra Adams, parts 11.22 - 11.24, 2001.

[3] At this wall, there is a traditional cupboard which the author could not study due to permission of the owners as they did not allow access to the space. The existence of the cupboard also is not known today (2010-2011) where the only documentation is from "İstiklal Mahallesi Preservation and Rehabilitation Project" by the students of the Graduate Program of Restoration in the Faculty of Architecture, METU, 1983-1984, published in 1988.

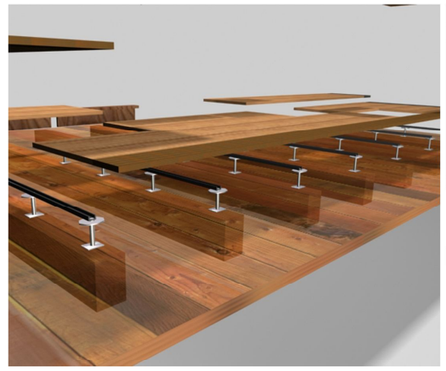
TABLE 4.30 THE IMPLEMENTATION OF THE KITCHEN TO ESKİCİOĞLU STREET NO: 8 SCHEMA 1

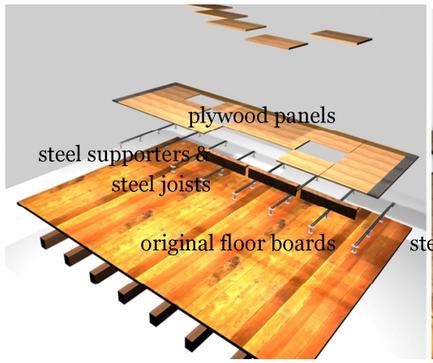
INFORMATION

LOCATION WITHIN THE BUILDING



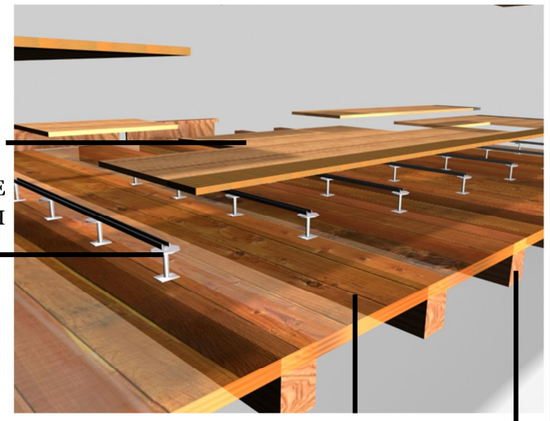
SERVICE UNIT INSERTION CHART
KITCHEN OF ESKİCİOĞLU 8/A





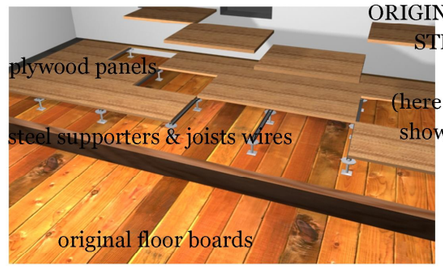
PLYWOOD PANELS OF THE RAISED FLOOR SYSTEM compatible with original material also distinguishable as the used timber is processed and different kind from the original

THE STEEL SUPPORTERS AND JOISTS OF THE RAISED FLOOR SYSTEM



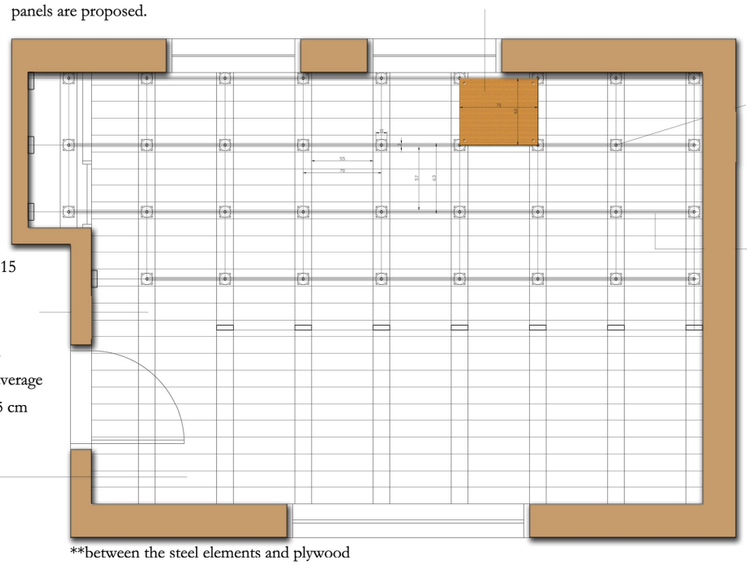
ORIGINAL FLOOR BOARDS OF THE STRUCTURAL SYSTEM OF THE TRADITIONAL HOUSE (here they are shown transparent to show the relation of the supporters with original girders)

ORIGINAL GIRDERS OF THE STRUCTURAL SYSTEM OF THE TRADITIONAL HOUSE



ESKİCİOĞLU 8 APPLICATION OF THE KITCHEN INSTALLATION

THE PANELS OF THE RAISED FLOOR SYSTEM
MATERIAL: PLYWOOD
HEIGHT: Generally 3 cm
MEASUREMENTS: Ranges from 30 cm X 30 cm to 80 cm x 80 cm. The panel sizes must be produced according to the gaps between the original girders of the structural system of traditional residential building. In this proposal 60 cm x 70 cm plywood panels are proposed.



ORIGINAL GIRDERS
10 X 10 or 10 X 15
placed in every
minimum 50 cm
maximum 70 cm
in this drawing average
data is used as 55 cm

ORIGINAL FLOOR BOARDS

**between the steel elements and plywood panels plastic seals are placed as a sound insulation

THE SUPPORTERS OF THE RAISED FLOOR SYSTEM
MATERIAL: galvanized steel
HEIGHT: ranges from 10 cm - 30 cm, in this proposal 18 cm high supporters are used

THE U- SHAPED JOISTS CONNECTING THE SUPPORTERS OF THE RAISED FLOOR SYSTEM
MATERIAL: galvanized steel
MEASUREMENTS: ranges from 2 to 5 cm generally produced in 25 x 26 x 25 mm. In this proposal 30 x 30 x 30 mm joists are proposed.

MATERIALS / DETAILS

LEGAND

original materials: original timber floors; original stone floors

new materials: steel supporters & joists; timber panels of the platform

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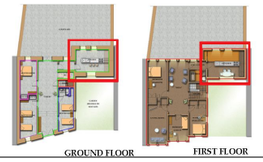
TABLE 4.31 THE IMPLEMENTATION OF THE KITCHEN TO ESKİCİOĞLU STREET NO: 8 SCHEMA 2

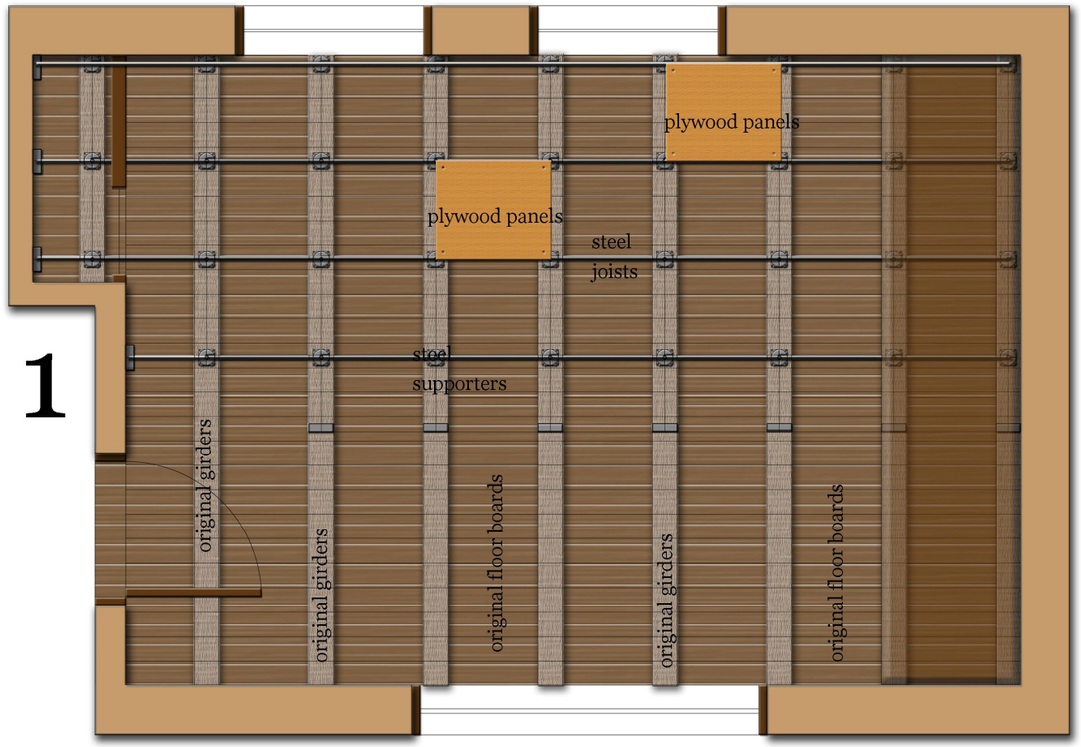
INFORMATION

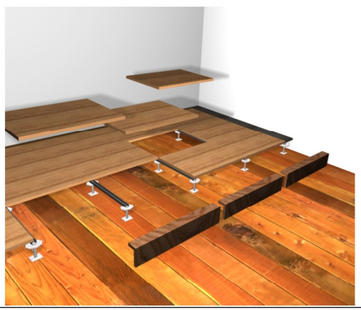
LOCATION WITHIN THE BUILDING

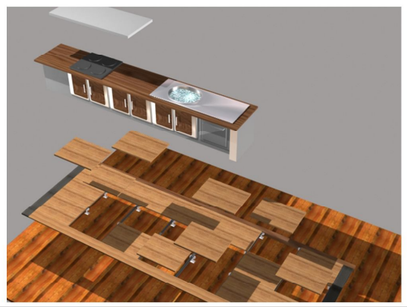


SERVICE UNIT INSERTION CHART KITCHEN OF ESKİCİOĞLU 8 YA

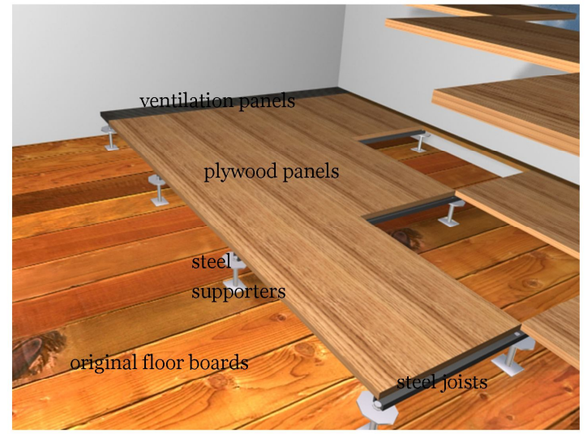
ESKİCİOĞLU 8 APPLICATION OF THE KITCHEN INSTALLATION



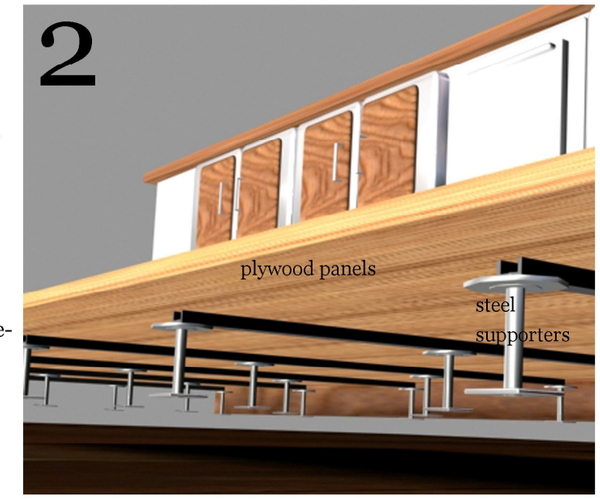




STEP 1
THE GALVANIZED STEEL SUPPORTERS ARE PLACED (FOR THE REQUIRED SPACE OF THE PLATFORM) 60 CM APART ON THE ORIGINAL TIMBER GIRDERS OF THE STRUCTURAL SYSTEM OF TRADITIONAL RESI-DENTIAL BUILDING



STEP 2
THE GALVANIZED STEEL SUPPORTERS ARE CONNECTED WITH STEEL U-SHAPED JOISTS (30 mm x 30 mm x 30 mm) the joists are covered with plastic seals placed between the platform and the steel ele-ments



APPLICATION OF THE RAISED FLOOR SYSTEM:
THE PLATFORM FOR THE KITCHEN INSERTION

MATERIALS / DETAILS

LEGAND

original materials: original timber floors; original stone floors

new materials: steel supporters & joists; timber panels of the platform

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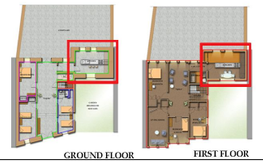
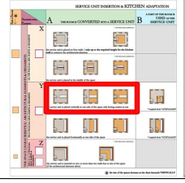
TABLE 4.32 THE IMPLEMENTATION OF THE KITCHEN TO ESKİCİOĞLU STREET NO: 8 SCHEMA 3

INFORMATION

LOCATION WITHIN THE BUILDING

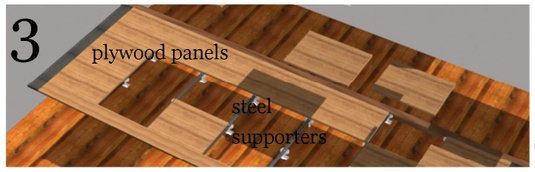




SERVICE UNIT INSERTION CHART
KITCHEN OF ESKİCİOĞLU 8 NA

INSTALLATION

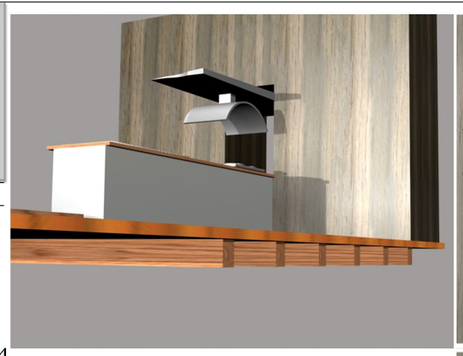
3



STEP 3

THE PLYWOOD PANELS ARE PLACED OVER THE STEEL UNITS EITHER WITH OR WITHOUT THE VENTILATION PANELS
The panels are 30 mm high and measurements range. For the proposal 60 mm x 70 mm panels are used.

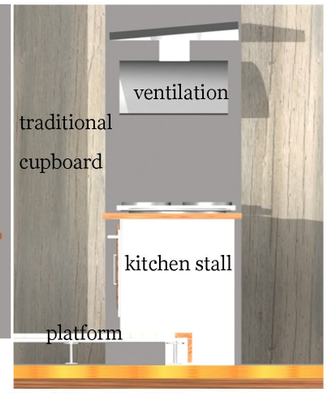
APPLICATION



STEP 4

THE TECHNICAL INFRASTRUCTURE WALL IS PLACED IN THE MIDDLE BETWEEN THE INTERSECTION POINT OF THE NEWLY CONSTUCTED PLATFPORM AND THE ORIGINAL FLOOR BOARDS (height: 90 cm/ it is revealed as a part of the kitchen stall)

THE TECHNICAL INFRASTRUCTURE WALL IS PLACED HORIZONTALLY AGAINST THE SIDE OF THE PLATFORM IN THE MIDDLE OF THE SPACE, HAVING CONTACT WITH TRADITIONAL ARCHITECTURAL ELEMENT (traditional cupboard) AT ONE POINT

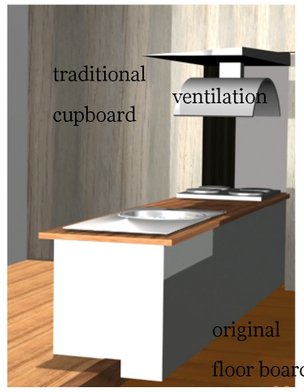


SECTION

STEP 5

THE TECHNICAL EQUIPMENT OF THE KITCHEN ARE PLACED ON THE KITCHEN STALL IN THE MIDDLE OF THE SPACE

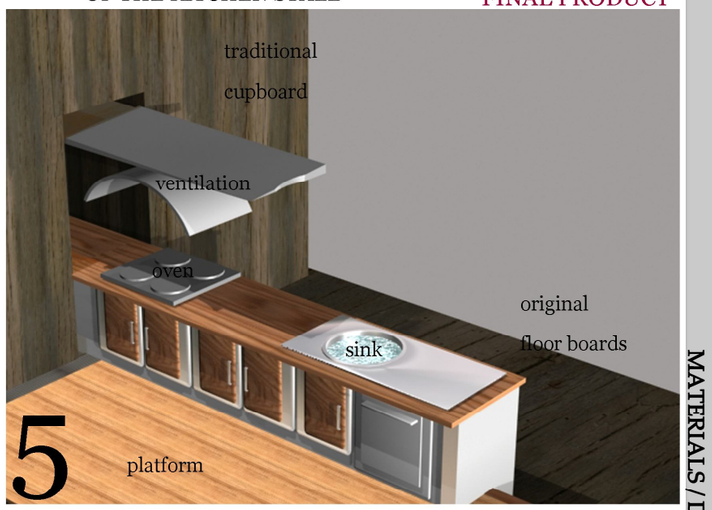
THE INFRASTRUCTURE IS SOLVED INSIDE THIS WALL AND UNDER THE LIFTED PLATFORM IF NEEDED (FOR THE DISH WASHER)



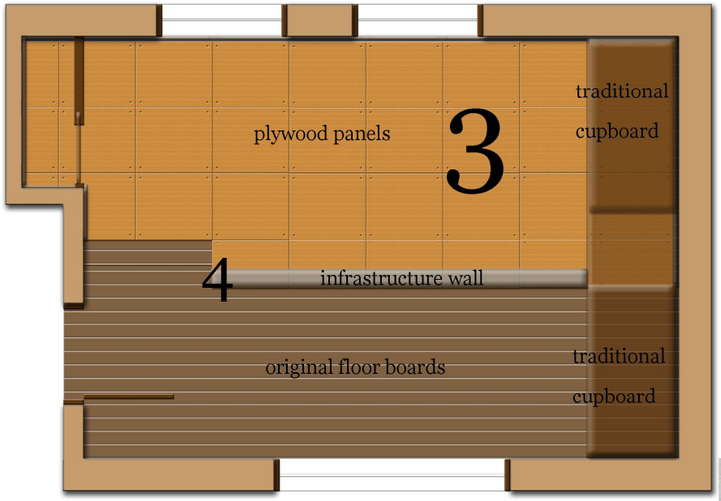
THE INFRASTRUCTURE WALL IS HIDDEN AND IT IS REVEALED AS A PART OF THE KITCHEN STALL

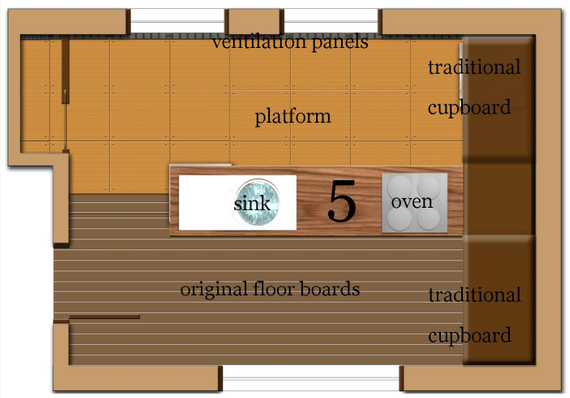
4

FINAL PRODUCT



ESKİCİOĞLU 8 APPLICATION OF THE KITCHEN INSTALLATION





PLAN

* with movable furniture

MATERIALS / DETAILS

LEGAND

original materials: original timber floors; original stone floors

new materials: steel supporters & joists; timber panels of the platform

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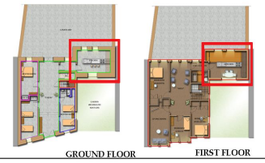
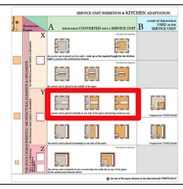
TABLE 4.33 THE IMPLEMENTATION OF THE KITCHEN TO ESKİCİOĞLU STREET NO: 8 SCHEMA 4

INFORMATION

LOCATION WITHIN THE BUILDING





SERVICE UNIT INSERTION CHART
KITCHEN OF ESKİCİOĞLU 8 & YA

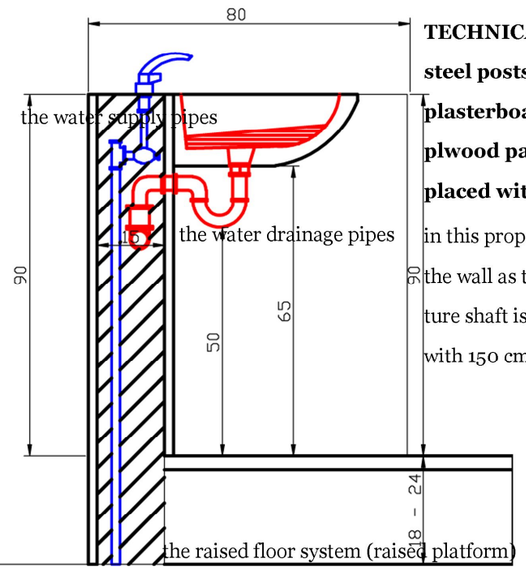
APPLICATION OF THE KITCHEN INSTALLATION

ESKİCİOĞLU 8

for the exact measurements and correct application of these water supply & water drainage systems and application of the technical equipment,installation regulations and specialist on this area must be consulted.

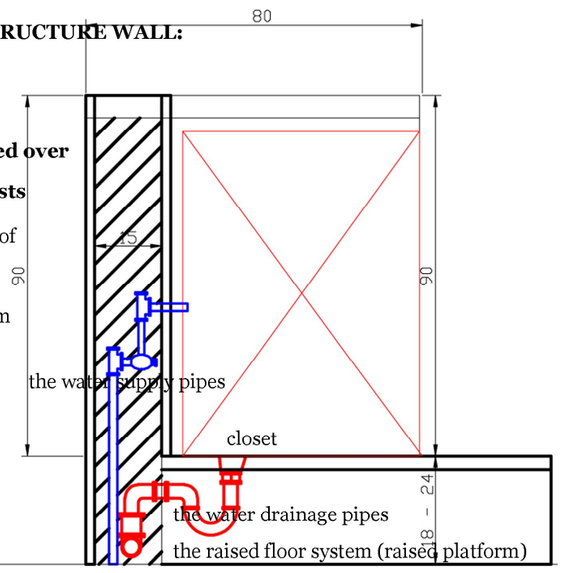
in this proposal the width of the wall as the infrastructure shaft is held maximum with 150 cm width

the wall is constructed with plasterboards* or plywood panels between 20 mm steel posts*



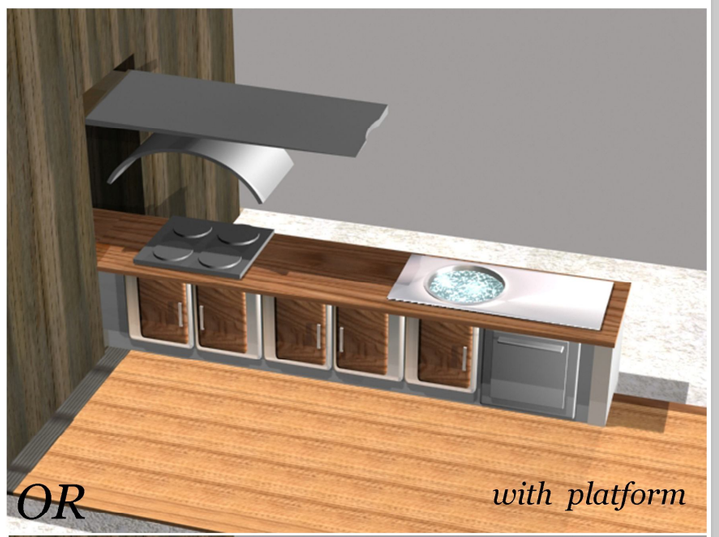
TECHNICAL INFRASTRUCTURE WALL:
steel posts 20 mm*
plasterboards* or
plwood panels plastered over
placed within these posts

in this proposal the width of the wall as the infrastructure shaft is held maximum with 150 cm width



the water drainage pipes are wider than the water supply pipes*
the pipes can be copper,
galvanized steel or plastic*
for this proposal plastic pipes are proposed as plastic

for the installation of the dish washer, the water drainage pipes can be used under the raised platform if necessary



for the basement floor where the space has direct contact with earth and the floor materials are stone; the installation can be done either with or without a raised platform

without platform

MATERIALS / DETAILS

* the standard numerical data of technical & infrastructural equipment and the information on water suppy & water drainage installation are gathered from "Building Construction Illustrated" by Francis D.K. Ching and Cassandra Adams, parts 11.22 - 11.24, 2001

LEGAND

original materials
original timber floors
original stone floors
new materials
steel supporters & joists
timber panels of the platform

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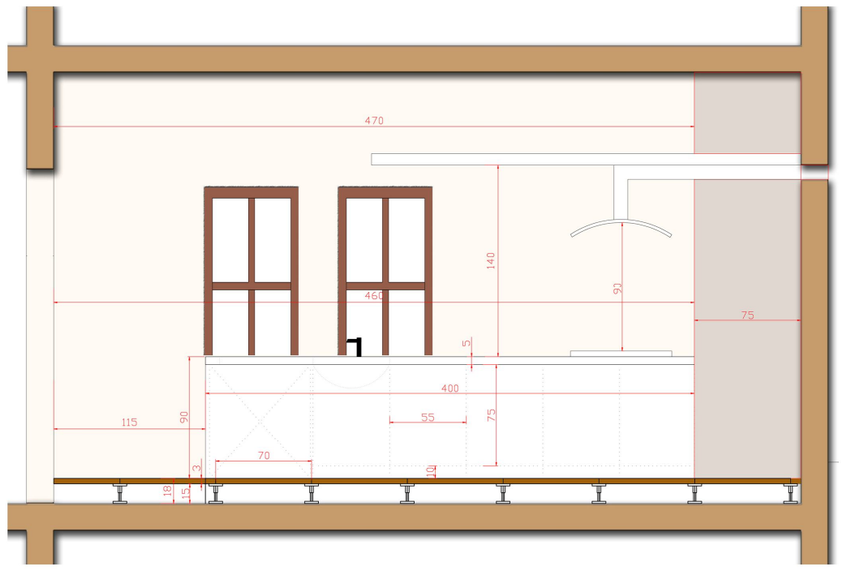
TABLE 4.34 THE IMPLEMENTATION OF THE KITCHEN TO ESKİCİOĞLU STREET NO: 8 SCHEMA 5

INFORMATION

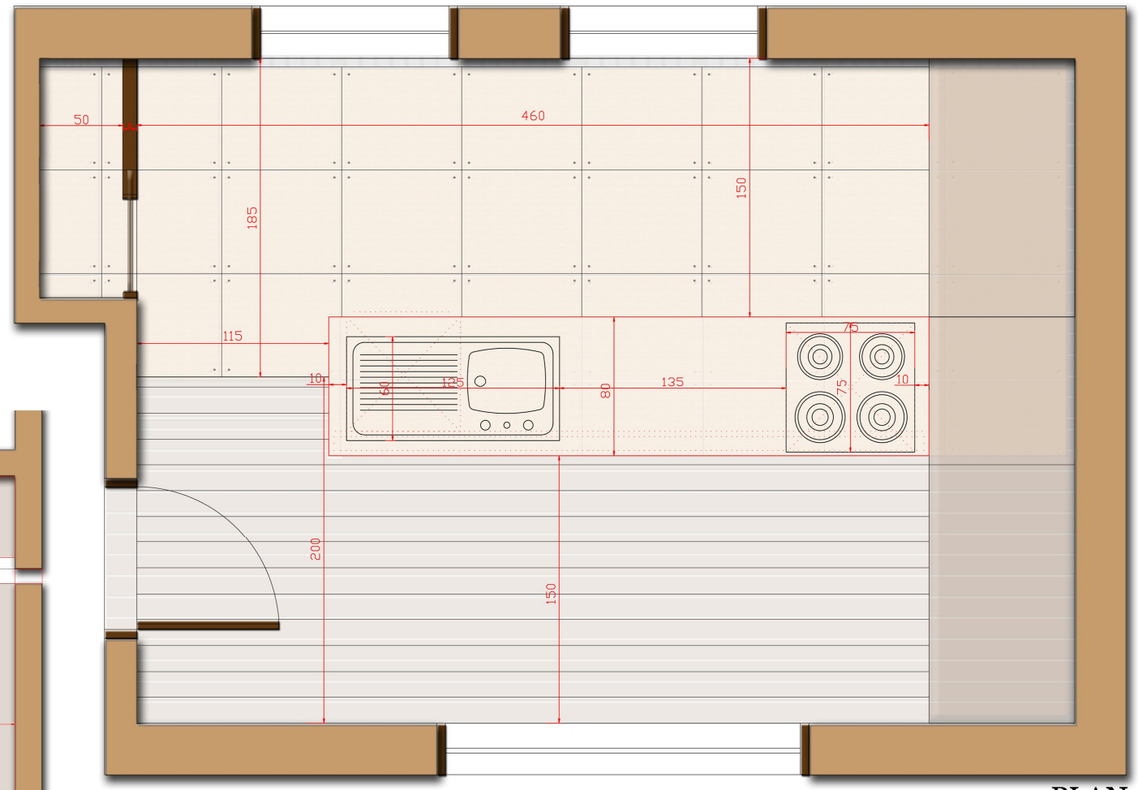
LOCATION WITHIN THE BUILDING

SERVICE UNIT INSERTION CHART
KITCHEN OF ESKİCİOĞLU 8 YA

ESKİCİOĞLU 8 APPLICATION OF THE KITCHEN INSTALLATION



SECTION



PLAN

MATERIALS / DETAILS

* the standard numerical data of technical & infrastructural equipment and the information on water suppy & water drainage installation are gathered from "Building Construction Illustrated" by Francis D.K. Ching and Cassandra Adams, parts 11.22 - 11.24, 2001

LEGAND

original materials: original timber floors; original stone floors

new materials: steel supporters & joists; timber panels of the platform

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CHAPTER 5

CONCLUSION

The buildings are built for a purpose. When they can no longer fulfill their purpose, they face abandonment and neglect. Eventually they are demolished and perished if they are no longer in use.

Traditional residential buildings compose the major part of the cultural heritage in Turkey. However, especially in big cities, they are left as 'outdated' due to urban and architectural problems of the traditional residential zones and buildings. Eventually the users look for newly built contemporary residences fulfilling their expectations from a contemporary residential area. As a consequence, one by one, these buildings are abandoned. When the buildings are still in use, in most of the cases, the users are tenants of low income, who do not appreciate the values of these traditional residential buildings. Indeed, they also aim to move from these buildings as soon as their economic condition allows.

In order to hinder this process, the solution starts with keeping them in use by their current users. The foremost way the historic buildings can sustain their spirit is to continue their original function. The continuation of the traditional residential buildings' original function, despite the general opinion, is not a complicated process. The only subject to consider is to adapt them to the requirements of contemporary life by offering contemporary standards of the century, in other words 'upgrading'.

'Upgrading' is to adapt to a higher standard while conserving the original function and properties. 'Upgrading' the traditional residential buildings is indispensable, so as to save them from demolition and eventually loss. 'Upgrading' is acceptable, if the historic buildings are conserved in terms of their urban, historical, structural, architectural and spiritual characteristics. That is, 'updating' the

traditional residential buildings necessitates providing the requirements of contemporary life by finding contemporary solutions, while considering and conserving the values of these buildings.

Therefore 'upgrading' process needs a conscientious approach to prevent loss in the values of the buildings. This approach includes definition of conservation and design principles prior to any 'upgrading' intervention. Conservation principles include constant rehabilitation and maintenance, conserving and sustaining values, preventing loss, minimum and sustainable intervention, and when necessary, removal of the new intervention without damaging the heritage, that is reversibility. Conservation principles are complemented with the design principles, which include meeting the requirements of the given function, fulfilling the requirements of the contemporary life, following the technological developments, efficient use of materials without harming the original structural system and materials.

The case studies, carried on by following the proposed process, method and criteria within this thesis, reveal that 'upgrading' the traditional residential buildings to contemporary life requires minor alterations, as long as the spatial properties, potentials and values of these buildings are comprehended well and considered prior to any intervention. The spatial properties of these buildings can offer flexible options for a functional layout that can meet the expectations of different users. Another important issue, in 'upgrading' the traditional residential buildings is, providing service spaces with contemporary standards.

The case studies also revealed that it is also possible to introduce service spaces with contemporary standards with a conscientious approach and study. The service spaces can be solved with contemporary products and technical equipments. These products can be used in these buildings with proper implementation, following the conservation and design criteria described in this thesis. These new materials and equipments should not be in direct contact with traditional structural system and materials. They rather should be solved either in a technical infrastructure shaft addition or a lifted platform within the space where the infrastructure is conveyed into the building infrastructure of water drainage beneath the buildings.

As can be seen in the implementation charts of the service spaces and the proposals; the implementations of the service spaces are based on three inputs. The first input is the size of the space. The second is the characteristics of the space in terms of architectural elements, ornaments and the main function of the room and the third input is the efficient use of materials where the implementations must follow the design principles described above. The rest becomes optional designing process for the designer with inputs from the users.

It can be said that the chosen traditional residential buildings for the case study are representatives of different typologies of traditional residential buildings existing in İstiklal District, Ulus, Ankara. They also show common properties values, problems and potentials with many of the traditional residential buildings in Anatolia. Thereupon, the proposals developed in this thesis can be seen as an example for the traditional residential buildings within the district since they have similar characteristics and face similar problems. Studies on more of the different cases in time, will surely lead to the development of the proposed 'upgrading' process, method, content, criteria and options proposed in this thesis and can eventually develop models for the other traditional residential buildings in Turkey which share the similar problems. However, it should always be kept in mind that, each case has its own problems, values, potentials. Thus, architectural, structural and spatial analyses must be done and the proposals must be designed specifically and individually for each case.

Following its aim and scope, this thesis focused on the functional layout and service spaces in the 'upgrading' of the traditional residential buildings. However the ‘upgrading’ process is a complex problem which necessitates further interdisciplinary studies considering various aspects including urban, sociological, architectural, structural and material issues.

REFERENCES

Akçura, N. et al., 1996. Tarihi çevrede konut-yapı ilişkileri: Ulucanlar örneği. Ankara: T.C.Başbakanlık Toplu Konut İdaresi Başkanlığı.

Aktüre, S. et al., 2000. Tarih içinde Ankara : Eylül 1981 seminer bildirileri. 2nd ed. Ankara : T.B.M.M. Basımevi.

Aktüre, S. et al., 2001. Tarih içinde Ankara II : Aralık 1998 seminer bildirileri. Ankara: Orta Doğu Teknik Üniversitesi.

Asatekin, G., 1994. The role of the inhabitant in conservation a proposal for the evaluation of traditional residential architecture in Anatolia. Supervisor Prof. Dr.Ömür Bakırer. Ankara: METU.

Cantacuzino, S., 1989. Re-architecture: old buildings/new uses. London: Thames and Hudson.

Casal, S.M., n.d. Adaptive Re-use of the buildings: remembrance or oblivion. Argentine/ Argantina.

Chandler, R., 2010. Building type basics for housing. Hoboken, N.J. : John Wiley & Sons.

Ching, F.D.K. and Adams, C., 2001. Çizimlerle bina yapım rehberi (Building Construction Illustrated). İstanbul: Yapı Yayın.

Davies, B. and Begg, N., 2004. Converting new buildings into new homes. Wiltshire: The Crowood Press Ltd.

Douglas, J., 2006. Building adaptation. Amsterdam ; Boston ; London : Butterworth-Heinemann.

Erdem, E., 2007. Intervention principles in wet spaces for contemporary residential use, in Eski Foça traditional dwellings [Electronic resource]. Supervisor Inst. Dr. Nimet Özgönül. Ankara : METU.

ENGLISH HERITAGE, The conversion of traditional farm buildings: A guide to good practice, 2006. University of Gloucestershire in association with English Heritage and the Countryside Agency. Available through: www.helm.org.uk/ruraldevelopment

Google Earth., last visited in November 2010. Available through: http://www.google.com/earth/index.html

ICOMOS, CHARTER ON THE BUILT VERNACULAR HERITAGE, 1999. Ratified by the ICOMOS 12th General Assembly, in Mexico, October 1999.

İmamoğlu,O. and İmamoğlu V., 1996. İnsan, evi ve çevresi: Ankara'da bir toplu konut araştırması. Ankara: T.C. Başbakanlık Toplu Konut İdaresi Başkanlığı.

Karaburun, N., 2009. Urban transformation projects in Ankara: Challenge for a holistic urban planning system [Electronic resource]. Supervisor: Assoc.Prof.Dr.C.Nil.Uzun. Ankara: METU.

Kuban, D., 2007. "Konut mimarisi" in Osmanlı mimarisi. İstanbul : YEM Yayınları.

Küçükerman, Ö., 1996. Turkish house in search of spatial identity = Kendi mekanının arayışı içinde Türk evi. İstanbul : Türkiye Turing ve Otomobil Kurumu.

Larkham,P.J., 1996. Conservation and the city. London: Routledge.

Lee,V.,2000. Recycled spaces: converting buildings into new homes. San Francisco: Soma, Bay Books and Tapes.

Riegl, A. et al., 1996. Historical and philosophical issues in the conservation of cultural heritage. Los Angeles: The Getty Conservation Institute.

Rooney, E.A., 2004. Old barns - new homes: a showcase of architectural conversions. United States: Schiffer Publishing Ltd. & Design.

Schleifer, S. ed., 2006. Converted spaces. Koln: Evergreen.

Sey, Y., 1999. Tarihten günümüze Anadolu'da konut ve yerleşme = Housing and settlement in Anatolia : a historical perspective. İstanbul : Tepe Mimarlık Kültürü Merkezi.

Sezer, M., 2009. Housing as a sustainable architecture in Turkey: a research on toki housing [Electronic resource]. Supervisor Assoc. Prof. Dr. Abdi Güzer. Ankara : METU.

Sözen, M. and Sönmez, Z., 1982. "Anadolu Türk Mimarisinde Konut" in Anadolu Uygarlıkları, Görsel Anadolu Tarihi Ansiklopedisi (vol.5). İstanbul: Görsel Yayınlar.

Şahin, N., ed, et al, 1988. İstiklal mahallesi preservation and rehabilitation project. Ankara: METU

Şahin, N.,1995. A study on conservation and rehabilitation problems of historic timber houses in Ankara. Ankara: METU

Thiebaut, P., 2007. Old buildings looking for new use: 64 Examples from Europe, Kustantaja: National Book Network.

Velthuis, K. and Spennemann, D.H.R., 2007. The future of defunct religious buildings: Dutch approaches to their adaptive re-use. Cultural Trends, Vol. 16, No.1, March 2007, pp. 43–66.

Vinas, S.M., 2005. Contemporary theory of conservation. UK: Elsevier Ltd.

**The photos are taken by Deniz Avcı unless cited otherwise.

**The drawings and the charts are prepared by Deniz Avcı unless cited otherwise.

APPENDIX A

URBAN ANALYSES

TABLE A.1
1936 CADASTRAL MAP OF İSTİKLAL DISTRICT

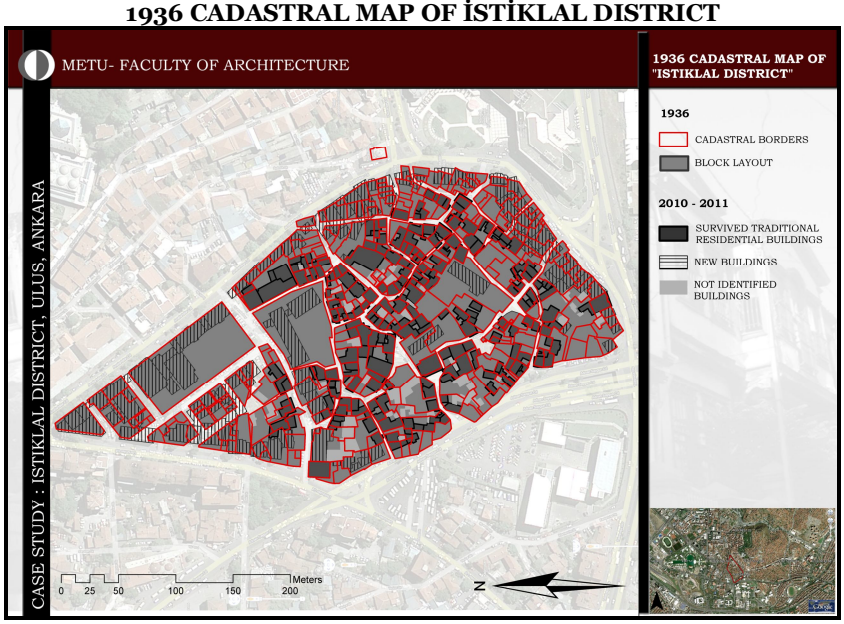


TABLE A.2
THE CURRENT CADASTRAL MAP OF İSTİKLAL DISTRICT (2010)

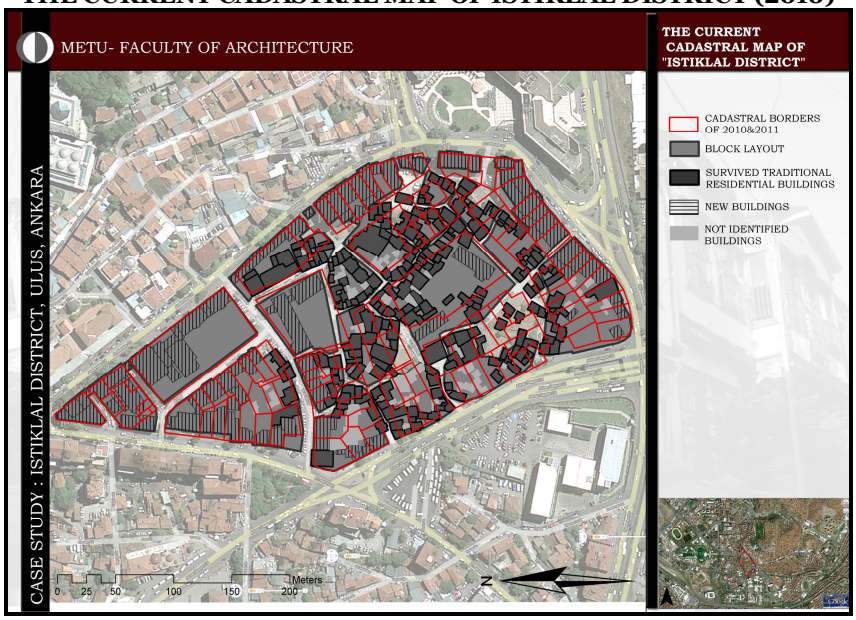


TABLE A.3
THE VEHICULAR AND PEDESTRIAN DENSITY IN İSTİKLAL DISTRICT

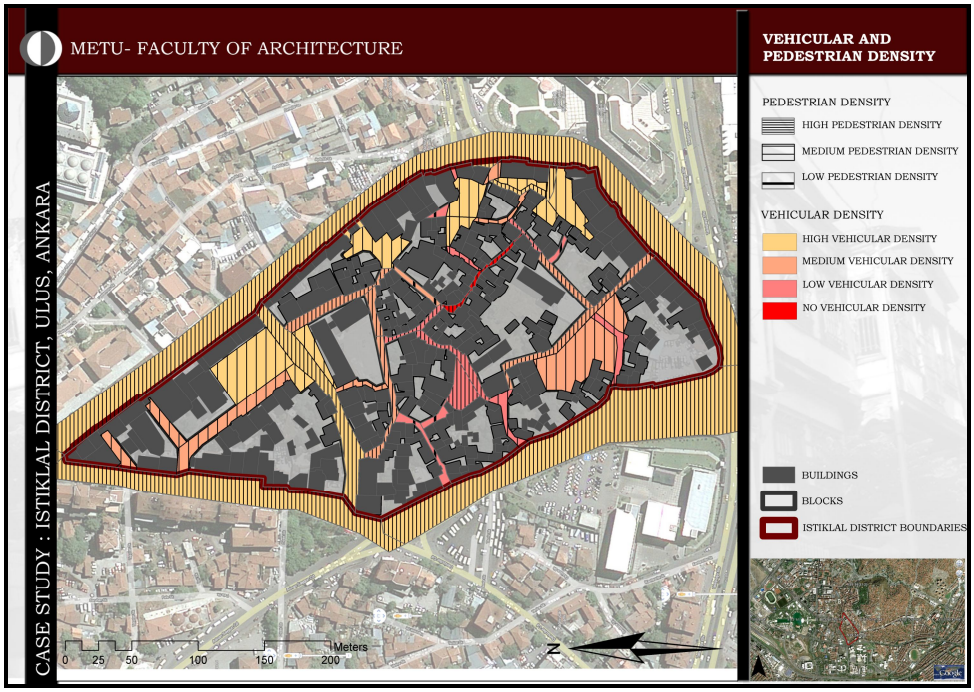


TABLE A.4
NEW BUILDING & TRADITIONAL RESIDENTIAL BUILDING DISTRUBITION WITHIN İSTİKLAL DISTRICT

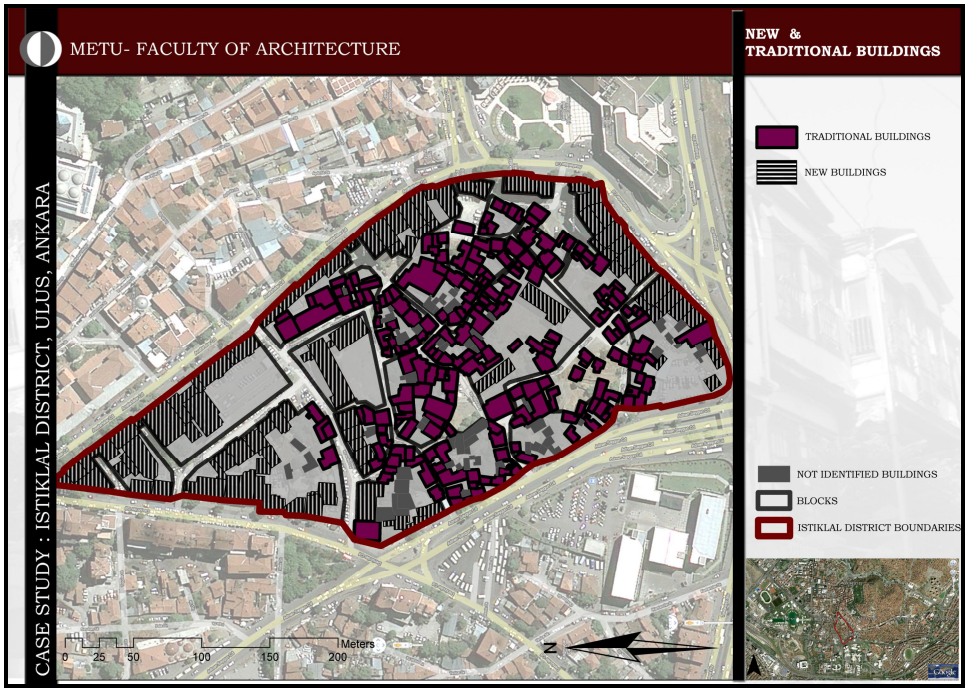


TABLE A.5
THE CATEGORIES OF EDIFICES IN İSTİKLAL DISTRICT

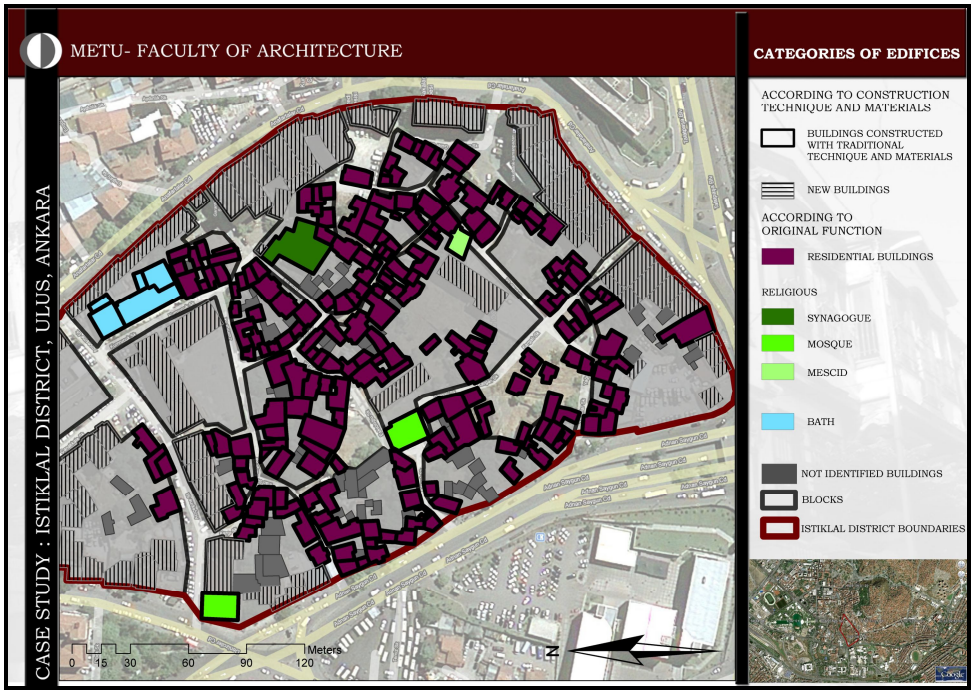


TABLE A.6
THE CURRENT USE OF EDIFICES IN İSTİKLAL DISTRICT

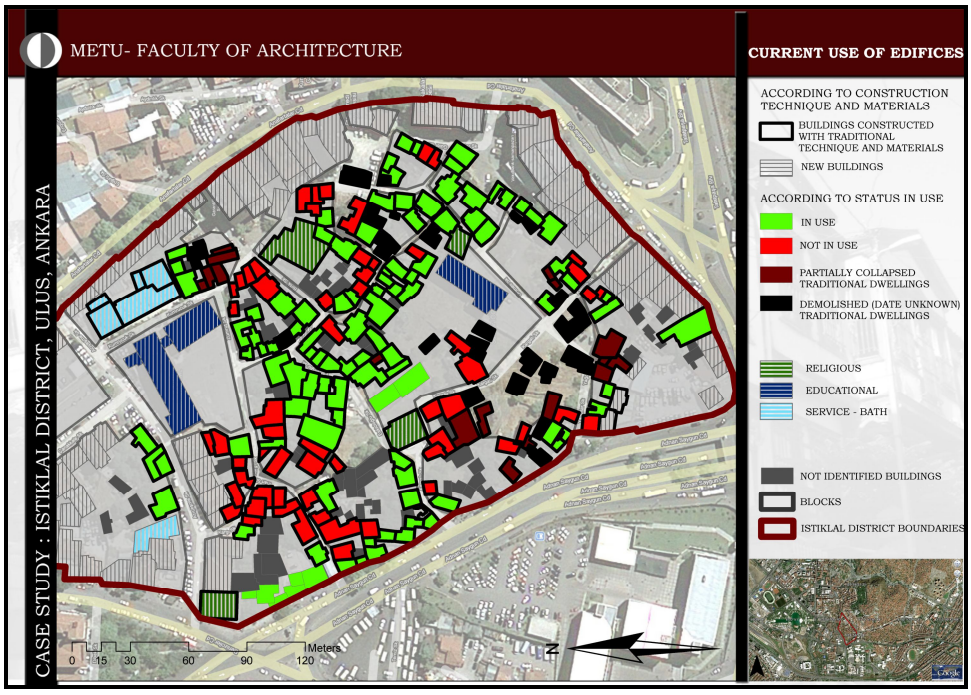


TABLE A.7
THE CURRENT USE OF EDIFICES IN İSTİKLAL DISTRICT

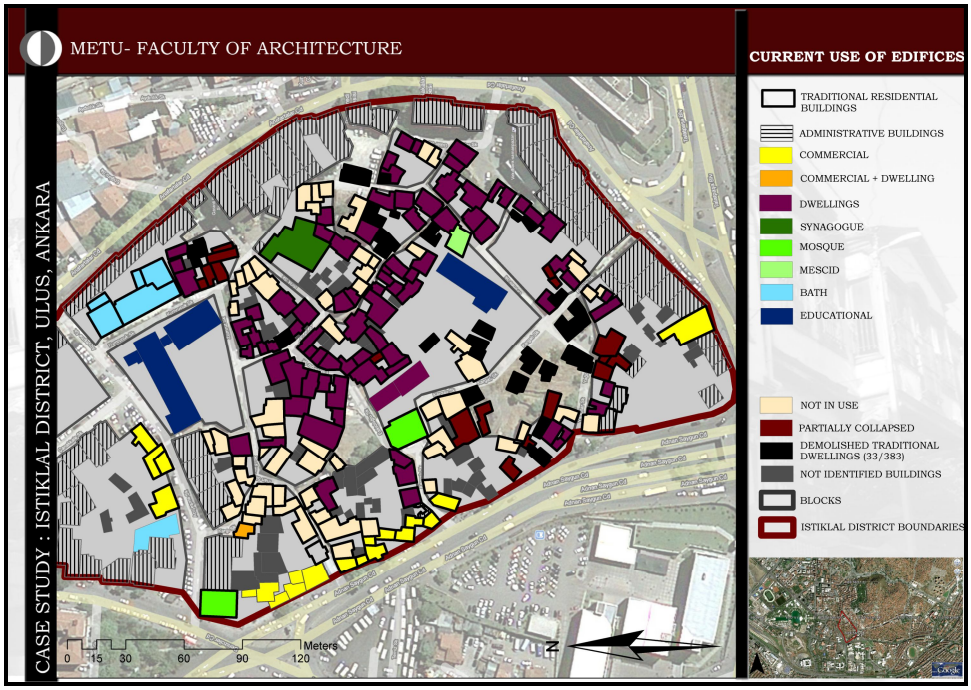


TABLE A.8
THE STRUCTURAL SYSTEM AND CONSTRUCTION SYSTEM OF TRADITIONAL RESIDENTIAL BUILDINGS IN İSTİKLAL DISTRICT

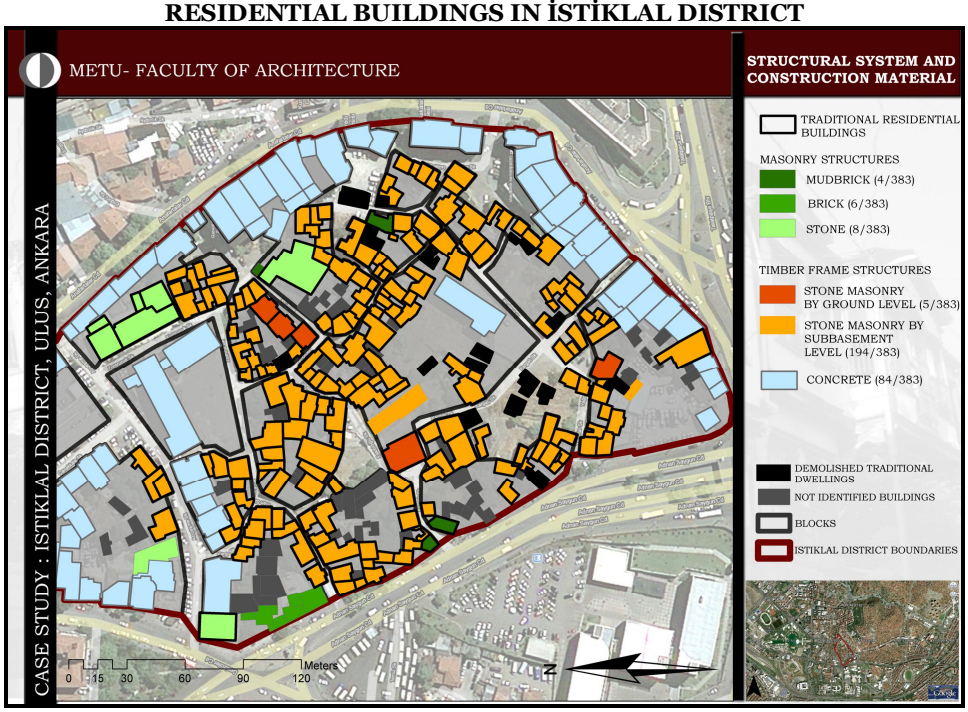


TABLE A.9
THE NUMBER OF STOREY OF TRADITIONAL RESIDENTIAL BUILDINGS IN İSTİKLAL DISTRICT

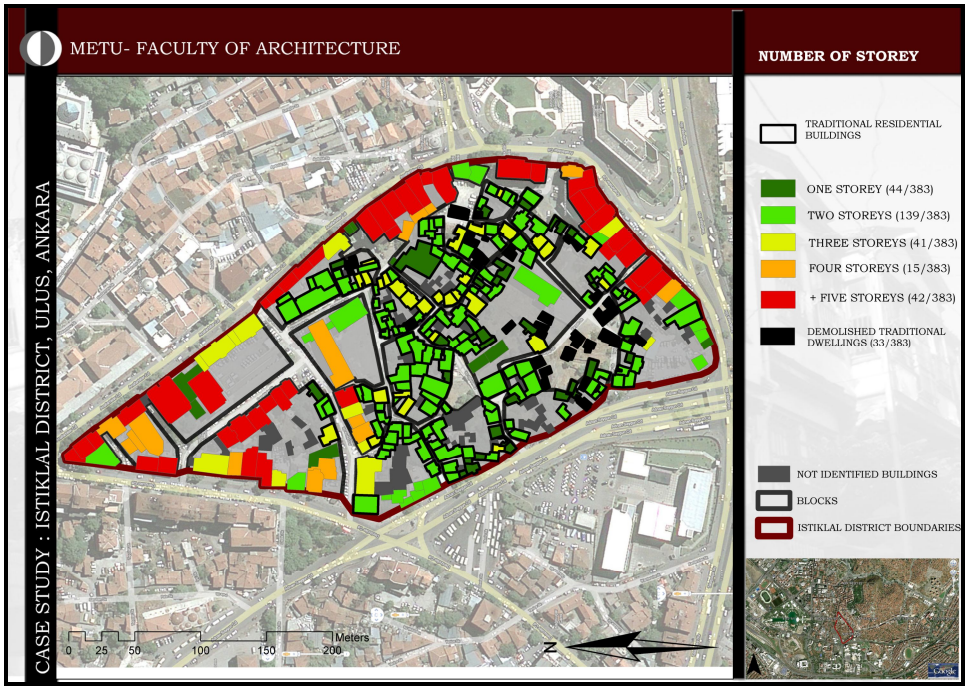
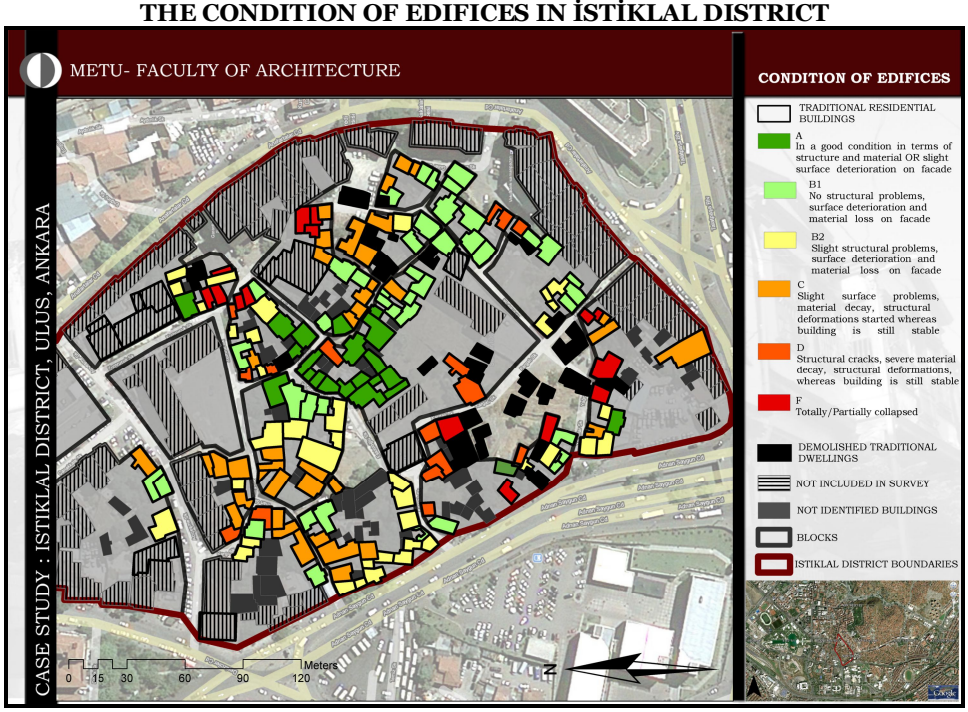


TABLE A.10
THE CONDITION OF EDIFICES IN İSTİKLAL DISTRICT



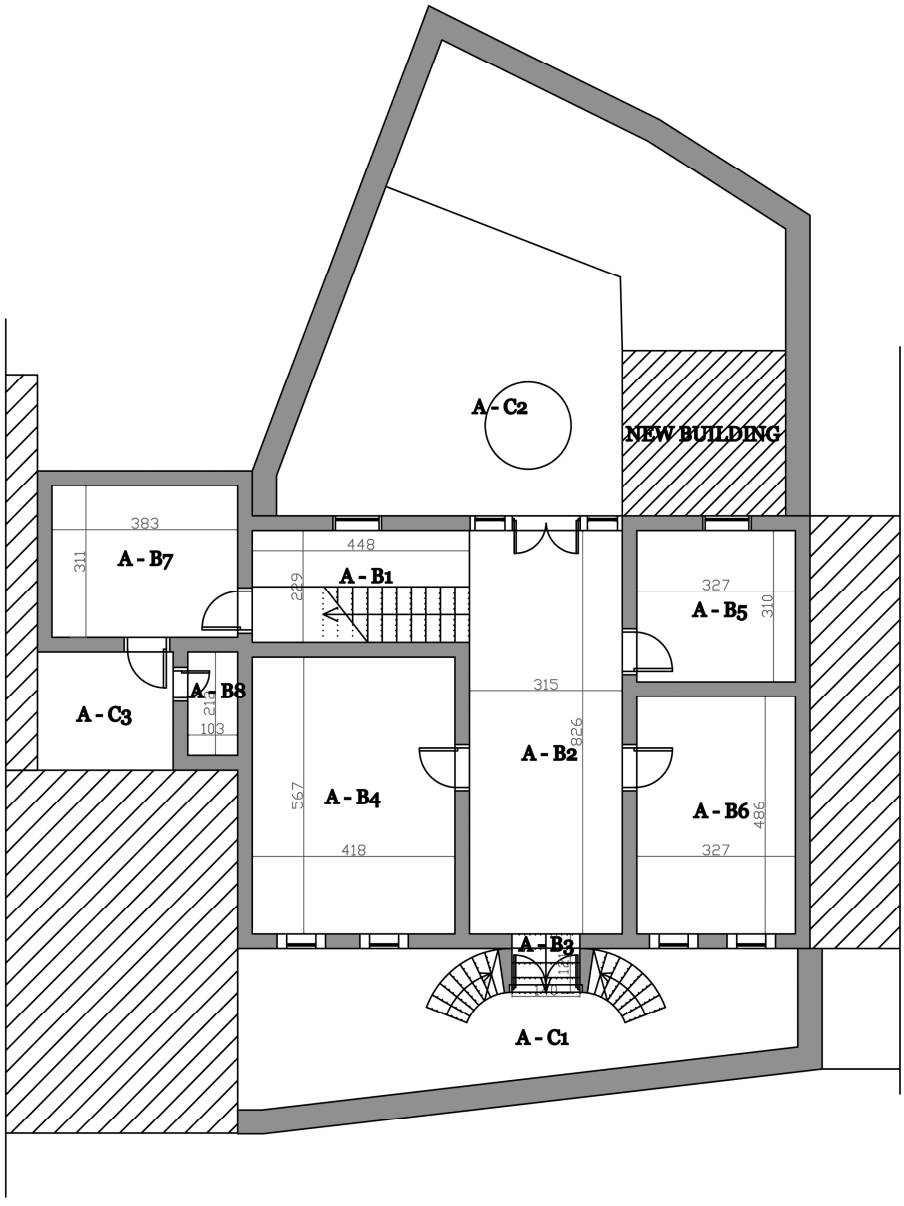
APPENDIX B

MEASURED SKETCHES OF THE CASES

The spaces are measured with laser meter where the data should not be considered as a typical survey phase of a restoration project. The data gathered can be considered as sketched measurements of the spaces which are done in order to gather information on the spatial characteristics of the spaces.

TABLE B.1 BİRLİK STREET NO: 3, BASEMENT FLOOR

BİRLİK STREET NUMBER 3

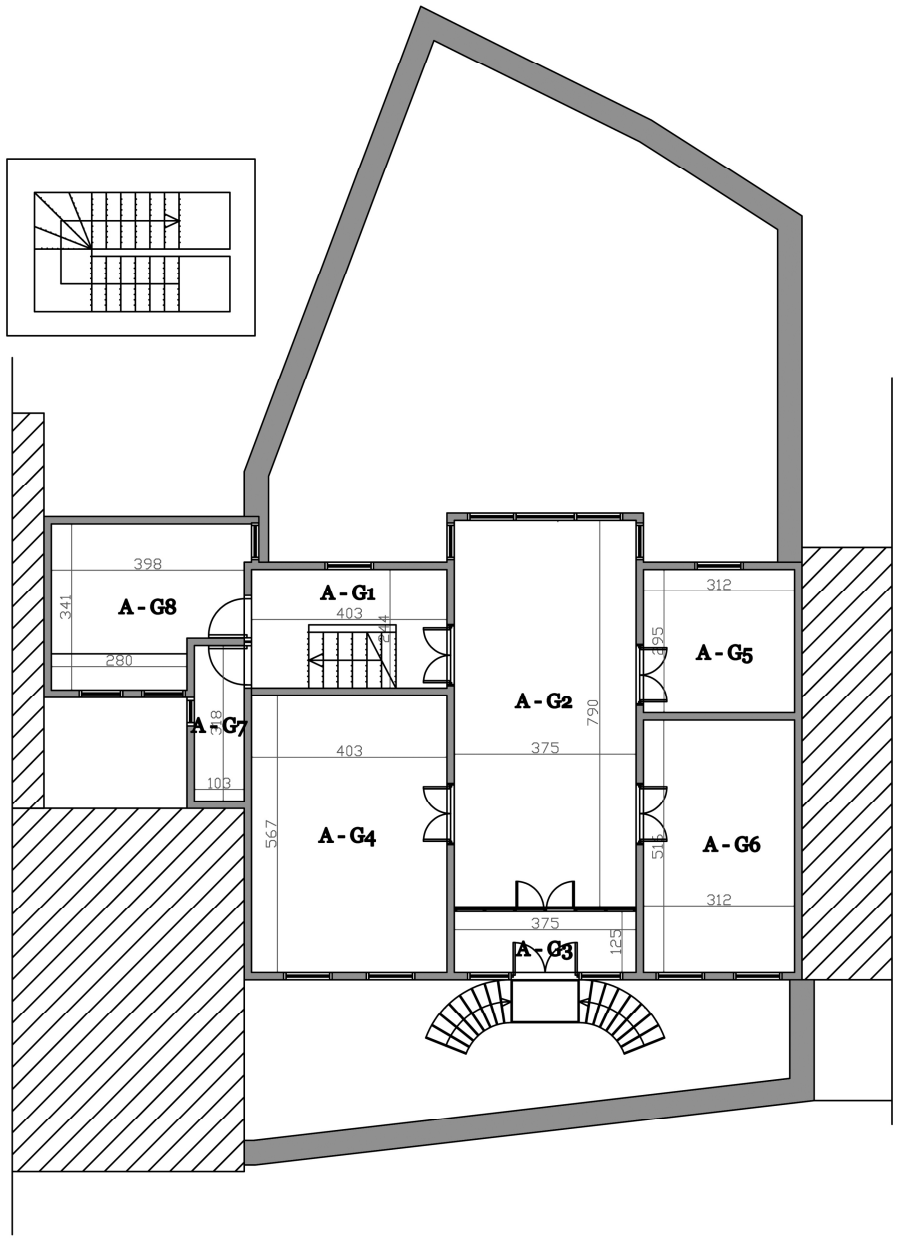


BASEMENT FLOOR

*** the building is measured and drawn by the writer**

TABLE B.2 BİRLİK STREET NO: 3, GROUND FLOOR

BİRLİK STREET NUMBER 3

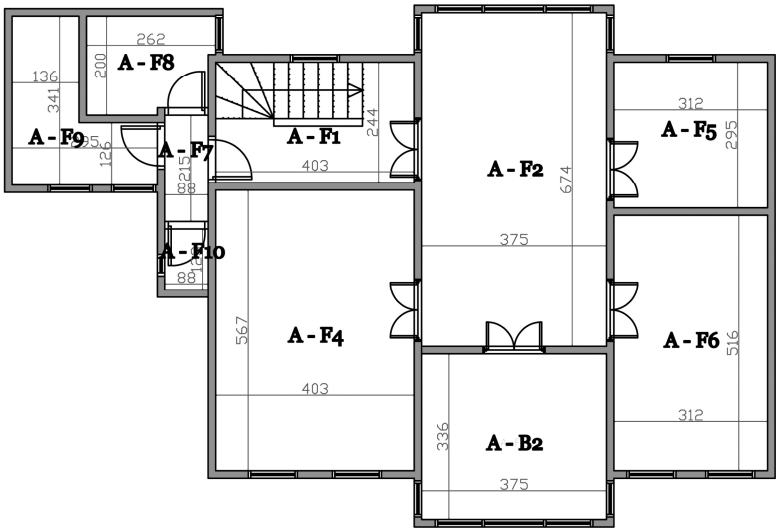


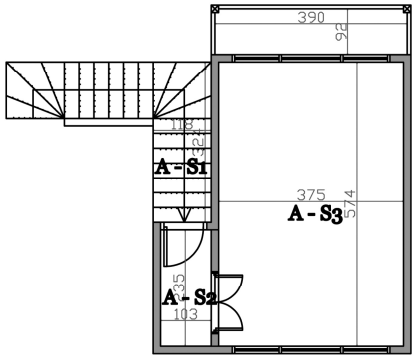
GROUND FLOOR

*** the building is measured and drawn by the writer**

TABLE B.3 BİRLİK STREET NO: 3, FIRST FLOOR

BİRLİK STREET NUMBER 3

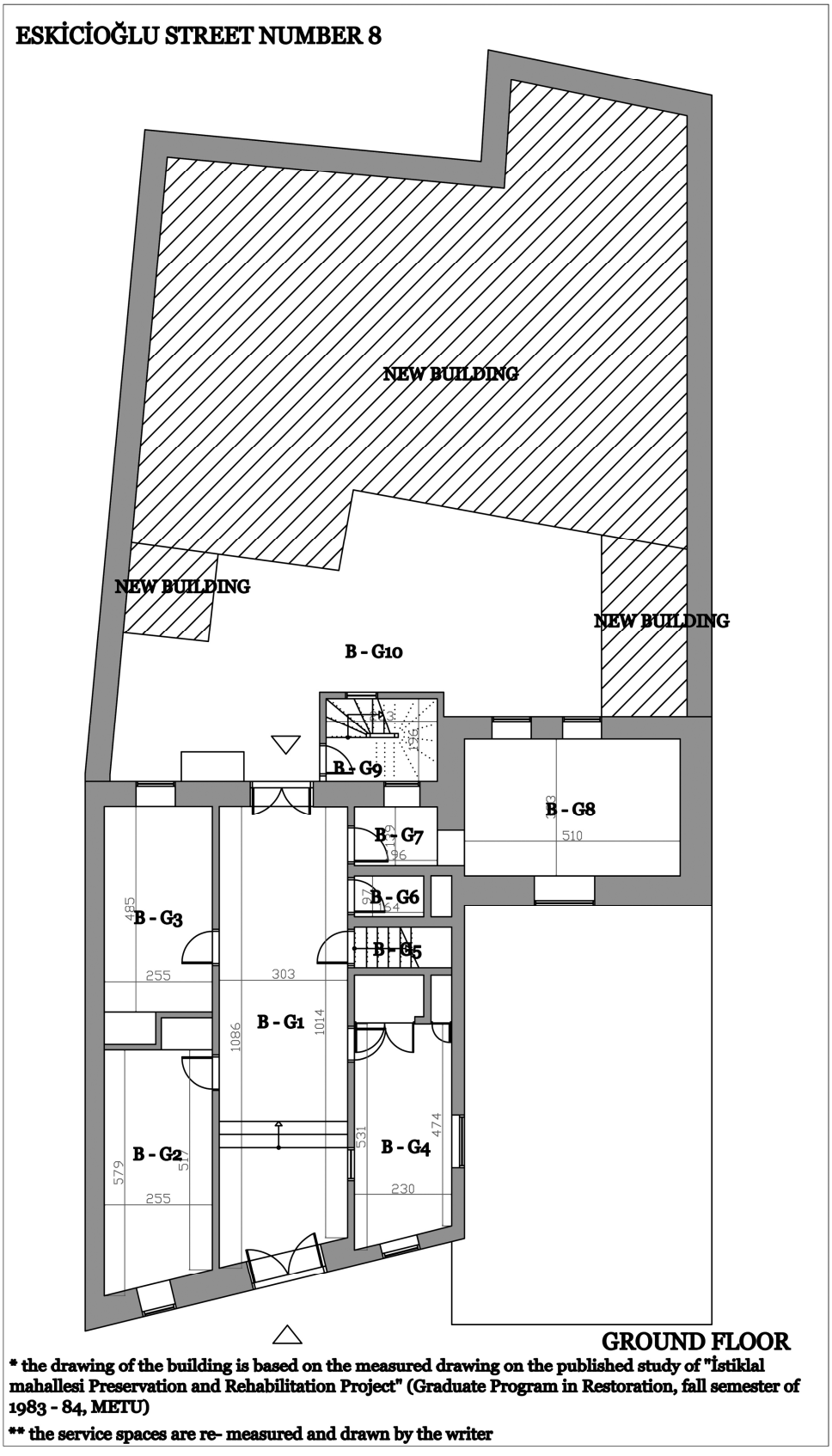




FIRST FLOOR + *CİHANNÜMA*

*** the building is measured and drawn by the writer**

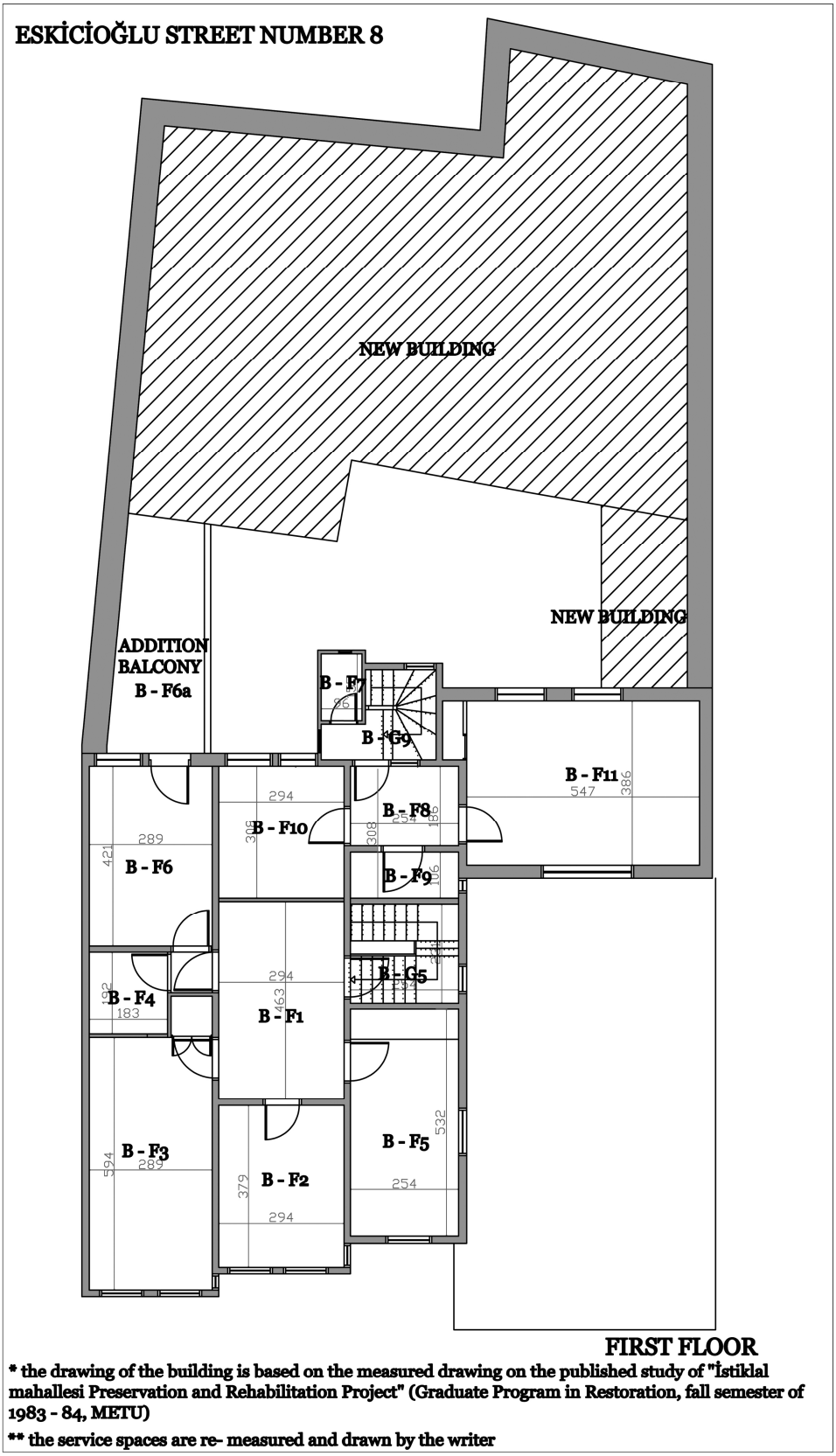
TABLE B.4 ESKİCİOĞLU STREET NO: 8, GROUND FLOOR



*** the drawing of the building is based on the measured drawing on the published study of "İstiklal mahallesi Preservation and Rehabilitation Project" (Graduate Program in Restoration, fall semester of 1983 - 84, METU)**

**** the service spaces are re- measured and drawn by the writer**

TABLE B.5 ESKİCİOĞLU STREET NO: 8, FIRST FLOOR

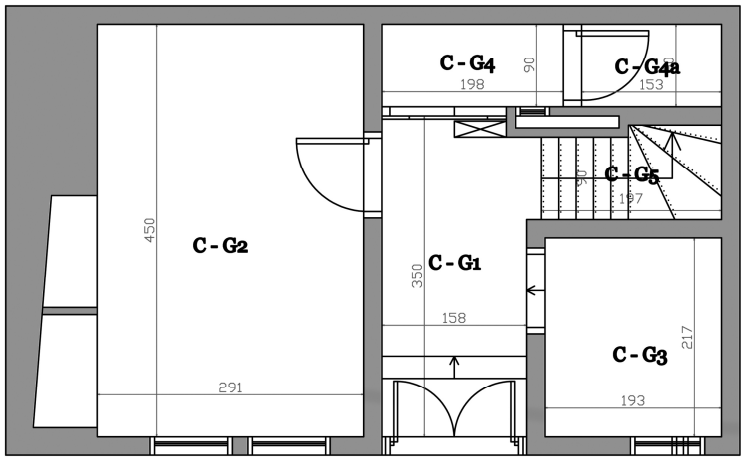


*** the drawing of the building is based on the measured drawing on the published study of "İstiklal mahallesi Preservation and Rehabilitation Project" (Graduate Program in Restoration, fall semester of 1983 - 84, METU)**

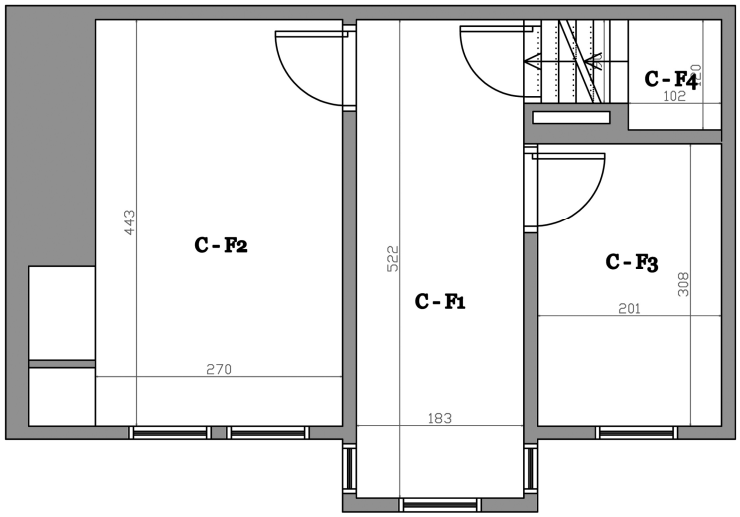
**** the service spaces are re- measured and drawn by the writer**

TABLE B.6 KARGI STREET NO: 29, GROUND AND FIRST FLOORS

KARGI STREET NUMBER 29



GROUND FLOOR



FIRST FLOOR

*** the building is measured and drawn by the writer**