

2021

O1 INTELLECTUAL OUTPUT  
Output type: Studies / analysis –  
Best practice guidelines / report

# REVIEW



## BEST PRACTICES

In Educating Sustainability  
and Heritage

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**Enhancing of Heritage Awareness and  
Sustainability of Built Environment in  
Architectural and Urban Design Higher Education**



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TITLE

Review: Best Practices In Educating  
Sustainability and Heritage

PUBLISHER

University of Belgrade,  
Faculty of Architecture

DESIGN LAYOUT

Aleksandra Đorđević, Aleksandra  
Milovanović, Mladen Pešić

ISBN-978-86-7924-244-0

2021



Co-funded by the  
Erasmus+ Programme  
of the European Union

## REVIEW: Best Practices In Educating Sustainability and Heritage

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This result has been produced as a part of O1 INTELLECTUAL OUTPUT within HERSUS project within Erasmus + Strategic Partnerships for higher education. The creation of these resources has been co-funded under grant no. 2020-1-RS01-KA203-065407 (funding period 2020-2023; total grant 246.922,00 €). This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



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**CREHAR**  
UNESCO Chair

SPAIN

X

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\* Information, text, images, drawings  
and plans provided by  
Francisco Reina Fernández-Trujillo

project

01

# Casa Diáñez (Diáñez House)

## Rehabilitation of Casa Diáñez. Alcalá de los Gazules

### IDENTIFICATION

#### Designations

✕ Casa Familia Estrada

#### Information about the location

✕ Historic centre

#### Address

✕ Plaza San Jorge, 4. Alcalá de los Gazules

#### Country / Region

✕ España / Cádiz

#### Coordinates

(GIS: ETRS89 / Google Maps: WGS84)

✕ 255938.08, 4038743.70  
36°27'46.50"N, 5°43'25.19"W

#### City size

✕ 5226 hab. (2020)

#### Website

✕ <https://www.reina-asociados.com/work/casa-dianez/>  
<http://www.fernandoalda.com/es/trabajos/arquitectura/444/rehabilitacion-de-la-casa-dianez>

#### Accessibility

✕ Public

#### Public visits:

✕ Yes

#### Category

Architectural project  
✕ Reuse (Adaptive)



Figure 1. Location map and panoramic view of Alcalá de los Gazules

Author: Elaborated on © Google Maps image by Francisco Reina Fernández-Trujillo.

Source: Document provided for the restricted proposal competition by Consejería de Obras Públicas y Transportes, Junta de Andalucía, 2005



Figure 2. Casa Diáñez (Diáñez House), Plaza San Jorge

Author: © Fernando Alda, 2009.

Source: Francisco Reina Fernández-Trujillo.

### Deliberative and participatory planning

✗ Yes

First prize in the restricted proposal competition (2005):

> Title of the proposal: "Mírala" by Francisco Reina Fernández-Trujillo, María Jesús Carmona Salas and José Vázquez Mora.

### Current use:

✗ Administrative building.

It was the Technical Office of the Area de Rehabilitación Concertada (Concerted Rehabilitation Area) of the Historic Center of Alcalá de los Gazules and the Historical and Ethnographic Interpretation Centre for the city of Alcalá de los Gazules and its territorial surroundings. The town council is considering using it as a museum.

### Year (period) of the project renovation / restoration

✗ 2005/2006: Project and Public Competition  
2006/2009: Execution

### Area of the building (m<sup>2</sup>)

✗ 508,85 m<sup>2</sup>

### Current owner

✗ Public: Junta de Andalucía

### Architects

✗ Francisco Reina Fernández-Trujillo

### Other designers / engineers

✗ Collaborators:  
María Jesús Carmona Salas, José Vázquez Mora, Amanda Martín Mariscal, Mercedes Sánchez González, Olga Valderas Grisalvo, José Allona Rosendo (Architects).  
✗ Structure:  
Pedro Lobato Vida (Architect).  
✗ Building Services:  
ASTER Consultores.

### Other agents

✗ Direction of execution: Francisco Alcoba González (Quantity Surveyor)

### Developer

✗ Empresa Pública de Suelo de Andalucía (EPSA).  
Oficina Técnica del Área de Rehabilitación Concertada del Centro Histórico de Alcalá de los Gazules.  
Dirección General de Rehabilitación y Arquitectura, Consejería de Obras Públicas y Vivienda, Junta de Andalucía.

### Building contractor

✗ BEYFLOR, S.L.

### Cost of the project / execution time

✗ 652.121,66 €

## KEY FEATURES



### Remarkable attributes / Singularities / Specific Values

Its powerful tectonics and spatial simplicity: four bays built with thick masonry walls and slabs with tight spans delimit a courtyard of reduced dimensions; on the smaller sides of the courtyard, a system of galleries supported by double arcades intermeddle in the relationship between the void and the rooms, blurring the massive and closed character of the interior space.

### Scope of application / necessity of the project:

The façade bay, protected by urban planning policy, and the load-bearing walls of the rest of the building, consolidated and freed of additions or actions lack of value, have been preserved. The adaptation of the new spaces is entrusted to light and unitary structure that is introduced into the building, transforming its section and intertwining naturally with the pre-existing.



Previous studies (Ex. Archaeological, historical, structural, materials, etc.)

- ✗ Historical: The historical study was included in the restricted ideas competition.
- Archaeological: Provincial Delegation of Culture.

### HISTORY OF THE BUILDING/SITE



#### Original use

- ✗ House
- ✗ Religious

### HISTORIC USES

Pre-existing conditions: Manor house (15th-16th century) / Cloistered Convent and Episcopal Palace (16th/17th century) Estrada family house / Inn / multi-family housing

### CONSTRUCTION PERIOD

17th century

### SUMMARY OF MAJOR FUNCTIONAL AND STRUCTURAL CHANGES / YEAR OF INTERVENTION

18th century: remodeling of the façade. Adaptation of the single-family housing into a multi-family housing. Alterations from different periods can be recognised in the original configuration of the house. These include contemporary modifications to the left lateral bay - rebuilt with concrete slabs - and the insertion of a third gallery on the first floor parallel to the rear bay, supported by two square-section pilasters.

### ARCHITECTS / AGENTS

Unknown

### PHYSICAL CONDITION BEFORE RESTORATION / RENOVATION

The building was in a poor state of general repair and underwent shoring and structural consolidation work in 2005. The most significant damages affected roofs and floor slabs, mainly due to the poor condition of the wooden load-bearing elements - both beams and boards - which led to the fall of entire sections in some areas of the building, the appearance of deformations and the loss of tile pieces in the gables with the consequent general lack of water tightness of the roofing system. However, the load-bearing structure of the masonry walls remained solid and showed no significant damage, except for occasional pathologies due to the absence of cladding material.



Figure 3. Exterior view before the intervention. Source: Document provided for the restricted proposal competition by Consejería de Obras Públicas y Transportes, Junta de Andalucía, 2005.



Figure 4. View of the arcades before the intervention and Figure 5. Interior view before the intervention. Source: Document provided for the restricted proposal competition by Consejería de Obras Públicas y Transportes, Junta de Andalucía, 2005.

## STATUS OF PROTECTION

The house is included in the Revision of the Normas Subsidiarias Municipales de planeamiento (Municipal Urban Planning Subsidiary Rules) of Alcalá de los Gazules. Specifically, it is included in the Catálogo de Bienes Inmuebles Protegidos (Catalogue of Protected Immovable assets) numbered as T-2 with a typological degree of protection. The Plan Especial de Protección para el Centro Histórico (Special Plan for the Protection of the Historic Centre) of Alcalá de los Gazules protects the first bay of the building, facing the Plaza de San Jorge.

## GENERAL DESCRIPTION OF THE BUILDING BEFORE ITS RENOVATION / RESTORATION

The house stands on a plot with a geometry similar to a rectangle of 15x12 m, structured around a central courtyard of 5.5 x 4.5 m with four perimeter bays. The clear interior spans are approximately 3 m in the outer bays and 2.50 m in the inner bays. On the two smaller fronts of the courtyard, arcades are built to support galleries at the first-floor level. The arcades are made up of a double carpanel arch with a brick masonry column as an intermediate support. Functionally, the manor house was structured by levels; ground floor for service activities, offices, storerooms, or stables; first floor for housing and second floor for storing foodstuffs or household goods.



Figure 6. Ground floor before restoration  
Author: Francisco Reina Fernández-Trujillo.

## PROJECT DESCRIPTION

### DESIGN PROJECT IDEA FOR THE RENOVATION / RESTORATION

The project works under the following premise: to highlight the essential aspects of the original house once it has been consolidated and freed from additions or previous actions. To conserve the values of the domestic/palatial architecture and make them compatible with the new administrative use, giving it a public and institutional character.

The adaptation of the new spaces is entrusted to light and unitary structure that is introduced into the building, transforming its section and intertwining naturally with the pre-existing. The courtyard, the new axis of routes and circulations, becomes the backbone of the house. Its treatment with wooden lattices combined with glass elements nuances the relationship between the void, the rooms, and the circulation spaces, diluting its limits to make the house lighter as we ascend. Transparencies, glazing, permeability, brightness and reflections give the building a public and institutional character, compatible with the more domestic image of the original house.

### DESCRIPTION OF THE CHANGES AND ADDITIONS

Recovery of the typology through the consolidation of the structure and the potential character of the courtyard.  
Elimination of the stairs to relocate them next to the rear party wall.  
Suppression of internal partitions in certain bays.  
Replacement of the contemporary sloping roofs with terraces.

### BUILDING MATERIALS

The building is built with thick load-bearing walls made of masonry clad with lime mortar. The original floor slabs were made up of wooden beams or timber beams with a

continuous wooden board. The floor was laid directly with a layer of bonding mortar on top of the board. The roofs are pitched tile roofs, with a wooden structure made up of pairs supported by stirrups embedded in the walls and upper row.

The adaptation of the new spaces is entrusted to light and unitary structure that is introduced into the building, transforming its section and intertwining naturally with the pre-existence, eliminating additions and other inappropriate reforms.

## PROJECT IN RELATION TO THE SUSTAINABILITY

### Social aspect:

The proposal values the powerful tectonics and the spatial and material simplicity of the original house, preserving its protected elements: the main doorway towards the Plaza de San Jorge (as the main place where the main activities of the population took place: economic, political and religious), the courtyard galleries and the façades.

The intervention aims to convert the house into a significant building in the historic centre of Alcalá with the idea of serving as a stimulus for the urban fabric in which it is inserted.

### Economic aspect:

Public funding



Figure 7. Longitudinal section

Author: Francisco Reina Fernández-Trujillo.



Figure 8. View through wooden lattices after the intervention.

Author: © Fernando Alda, 2009.

Source: Francisco Reina Fernández-Trujillo.

### Environmental aspect:

The proposal transcends the conservation of the building that is the object of the intervention to “recover the urban and natural (cultural) landscape” in which it is inserted. In this way, the intervention in the courtyard, in addition to “capturing the light”, seeks to establish visual relations with other heritage elements in the surroundings, such as the tower of the church of San Jorge (to the east), the tower of the convent of Santa Clara (to the west) and the castle tower of tribute from the north terrace.

We understand that the typological recovery based on the recognition of the cultural values of the pre-existences, the recycling of spaces, the incorporation of the courtyard into the interior space (capturing the light and connecting with the heritage of the place and with the landscape through new visuals) as well as the use of traditional materials, especially in the façades that remain, show a sustainable attitude in the heritage action. But above all, we are interested in the intervention in the heritage as an intervention that recognises the value of the building, beyond the immediate urban environment, emphasising the capacity of these objects as transmitters of knowledge, in this case of the municipality of Alcalá de los Gazules, and their necessary relationship with the territory through the establishment of relationships with other elements that coexist in the landscape.

## SPECIAL METHODS OR TECHNIQUES USED IN THE PROJECT WHICH REFLECT THE SUSTAINABLE DESIGN

On the technical side, energy efficiency interventions are proposed through passive actions (such as the treatment of light through the courtyard or the control of orientations). A decentralised air-conditioning system was incorporated to make each floor independent. Finally, photovoltaic solar energy panels were not installed due to the use of the building. From a functional point of view, it is proposed to flexibly adapt the uses demanded, allowing for other future occupancy alternatives.

## DIGITAL DATA EMPLOYED FOR THE DOCUMENTATION (3D SCANNING, PHOTOGRAMMETRY, ETC.)

No digital data was used.



Figure 9. a) View of the interpretation room and b) View of the courtyard from second floor.

Author: © Fernando Alda, 2009.

Source: Francisco Reina Fernández-Trujillo.



Figure 10. View of the courtyard after the intervention.

Author: © Fernando Alda, 2009.

Source: Francisco Reina Fernández-Trujillo.

## TOOLS/TECHNOLOGIES USED FOR THE IMPLEMENTATION OF THE NEW USE

No tools/technologies were used.

## DISSEMINATION / PROMOTION ACTIVITIES (WORKSHOPS, CONGRESS, PUBLICATIONS, PRIZES)

Prizes:

- > Finalist. Spanish Architectural Heritage Intervention Award 2009 Consejo Superior de Arquitectos de España.
- > Finalist Work. I Architecture Awards 2006-2010. Official College of Architects of Seville. 2015.

Publications and websites:

- > "Concursos de arquitectura con participación de jurado 2002/2006". Edited by Consejería de Obras Públicas y Transportes. ISBN 978-84-8095-537-9. 2008.

> <https://www.metalocus.es/es/noticias/luz-y-ligereza-en-la-rehabilitacion-de-casa-dianez-por-reina-asociados>

> [www.divisare.com/projects/307047-francisco-reina-fernando-alda-www-fernando-alda-com-dianez-house](http://www.divisare.com/projects/307047-francisco-reina-fernando-alda-www-fernando-alda-com-dianez-house)  
> [www.archilovers.com/projects/168130/dianez-house-restoration.html](http://www.archilovers.com/projects/168130/dianez-house-restoration.html)  
> <https://morewithlessdesign.com/casa-dianez/>  
> <http://www.fernandoalda.com/es/trabajos/arquitectura/444/rehabilitacion-de-la-casa-dianez>

#### Conferences:

> "Rehabilitación de dos casas en Cádiz". XV Edición Jornadas REhabilita. Colegio Oficial de Arquitectos de Extremadura, Ayuntamiento de Plasencia y Fundación Pymecon. Plasencia, 8 de octubre de 2020.  
> "Construir entre las cosas". Ciclo: "NOON. Miércoles mediodía. Conferencias sobre arquitectura contemporánea". Escuela Técnica Superior de Arquitectura, Universidad de Sevilla. Sevilla, 2 de junio 2010.

## REFERENCES

Almagro Montes de Oca, Gabriel (2001). Alcalá de los Gazules en el fondo documental Sánchez del Arco. Cádiz: Excma. Diputación Provincial de Cádiz.

Almagro Montes de Oca, G. y Guerra Martínez, J. (1991) Alcalá de los Gazules: el medio físico y humano. Alcalá de los Gazules: Ayuntamiento de Alcalá de los Gazules. Cuaderno de Temas Alcalaínos.

Navarro Ariza, María Rosa (1998). El conjunto urbano de Alcalá de los Gazules en apuntes históricos y de nuestro patrimonio, 1997-98. Alcalá de los Gazules: Edición Municipal, pp. 63 y ss.

Navarro Ariza, María Rosa (Inédita). Caracterización, definición y delimitación del conjunto histórico de Alcalá de los Gazules para la Consejería de Cultura.

Ramos Romero, Marcos (1983). Alcalá de los Gazules. Jerez: Diputación de Cádiz. Historia de los Pueblos de la Provincia de Cádiz. Toscano de Puelles, Fernando (1990). Iglesia parroquial de San Jorge en Alcalá de los Gazules. Guía breve. Cádiz: Ayuntamiento de Alcalá de los Gazules. Cuaderno de Temas Alcalaínos.

Toscano de Puelles, Fernando (1988). Historia de la congregación beaterio de Jesús, María y José. Cádiz: Diputación Provincial.

Toscano de Puelles, Fernando (1985). Las escuelas profesionales de la Sagrada Familia en Alcalá de los Gazules. Chiclana: Asociación de AA. AA. SAFA.

Toscano de Puelles, Fernando (1987). Sainz de Andino el Hacedor de Leyes. Cádiz: Diputación de Cádiz.

VV.AA. (1988-2003). Apuntes históricos y de nuestro patrimonio. Cuaderno de Temas Alcalaínos, varios números. Alcalá de los Gazules: Ayuntamiento de Alcalá de los Gazules.

## ACADEMIC WORKS / STUDENTS RELATED PROJECTS / PUBLICATIONS

Other proposals in the restricted competition (2005):

"Nueva Vida" by Francisco Javier Terrados Cepeda

"Jerash" by José Ignacio Fernández-Pujol Cabrera

"No es lo mismo" by Ignacio Rubiño Chacón, Pura García Márquez and Luis Rubiño Chacón

"Pathio3" by José Manuel Morales, Andrés Pérez Sánchez-Romate and Eva Escribano Montero

## OTHER SIMILAR PROJECTS AS A REFERENCE

- Dwellings in Vírgenes street, Sevilla by Francisco Reina Fernández-Trujillo (2007-2011)  
- Pinillos House, extension of the Museum of Cádiz by Francisco Reina Fernández-Trujillo (2009-2011)

## REFERENCE TO WORLDWIDE EXAMPLES

✕ N/A



HERSUS