**END SHEETS**

**ENDORSEMENT DOCUMENTATION**

**OF INTERVENTION WORKS**

(according to Government Decision no. 907 of 29 December 2016)

Project name: I INTERIOR RENOVATION WORKS, WITHOUT STRUCTURAL INTERVENTIONS, FOR THE REALISATION OF A SUSTAINABLE ARTS EDUCATION AND TRAINING CENTRE

**Phase:** DALI

**Beneficiary:** VARBASTYA BASTION ASSOCIATION

**Location**: Timișoara Bd. Revoluției din 1989 nr. 8

Timiş

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Submitted

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**DOCUMENTATION FOR THE APPROVAL OF INTERVENTION WORKS**

**(1). GENERAL INFORMATION ON THE INVESTMENT OBJECT**

**1. NAME OF THE INVESTMENT OBJECTIVE**

Training centre for young people and adults

**2. INVESTOR**

Association Bastion Varbastya

**3. BENEFICIARY OF THE INVESTMENT**

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**(2). EXISTING SITUATION AND THE NEED FOR INTERVENTION WORKS**

**1. ANALYSIS OF THE EXISTING SITUATION AND IDENTIFICATION OF NEEDS AND DEFICIENCIES**

Bastion Varbastya Association on the basis of the needs analysis conducted came to the conclusion that in the West Zone there are no training centers, which use as a tool in the field of folk arts and crafts.

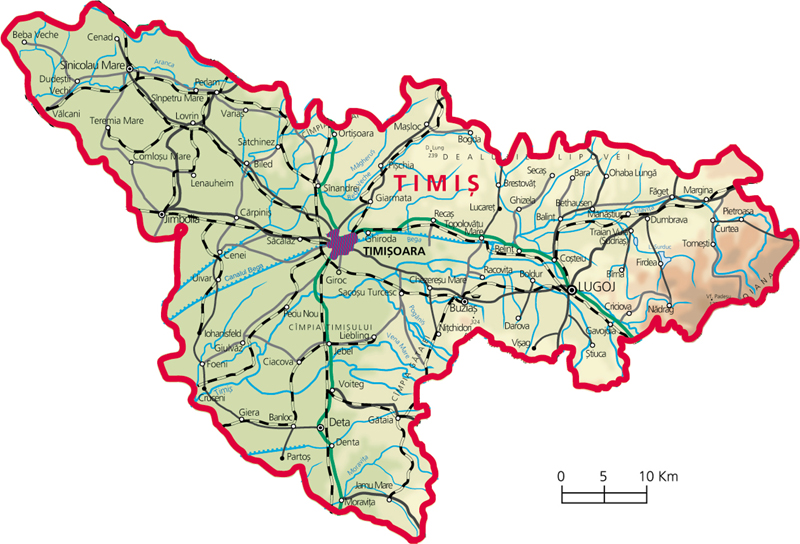
**2. OBJECTIVES TO BE ACHIEVED BY THE INVESTMENT**

Realisation of the Youth Training Centre. The rooms will be designed to provide a modern and attractive environment for young people. We will use efficient training methods, the whole room will be designed in such a way that the young generation will participate in activities with enthusiasm, with modern training equipment and techniques.

**(3). DESCRIPTION OF THE EXISTING BUILDING**

**1. SITE FEATURES**

**The objective designed in the present documentation is located in West Region - Timis County - Timisoara Municipality - 8 Revolution Boulevard 1989.**



**Timis County** is **located** in the west of the country, where Romania borders Yugoslavia and Hungary. To the east it borders Hunedoara county, to the southeast with Caras-Severin county and to the north with Arad county, the county's extreme points being between the coordinates 20º16' (Beba-Veche) and 22º33' (Poieni) east longitude, 45º11' (Latunas) and 46º11' (Cenad) north latitude. The commune of Beba Veche represents the extreme western point of Romania, being the point of the three borders (Triplex Confinium, Romania's border with Hungary and Serbia).

The geographical location of **Timis County** gives it a privileged location, being the westernmost county of Romania. It borders to the west with Csongrad County - Hungary and to the south-west with the province of Vojvodina - Serbia, the link between the two counties being ensured by the border crossing points at Cenad, respectively those at Stamora Moravita and Jimbolia. The Romanian counties neighbouring Timis county are Arad to the North, Hunedoara to the East and Caras - Severin to the South-East. Timis, the largest county in the country (8697 square km), benefits from a particularly varied relief: plains in the western and central part, hilly area continued with mountainous relief in the eastern part. The Timis and Bega rivers cross the county's territory and the climate is pleasant, temperate-continental with Mediterranean influences.

The Western Region is made up of four counties: Arad, Caras-Severin, Hunedoara and Timis. The West Region covers an area of 32,034 km2, representing 13.4% of the country's surface area. The region is comparable in terms of surface area to countries such as the Republic of Moldova or Belgium. The region is crossed by the parallels of 45° and 46° north latitude and the meridians of 21°, 22° and 23° east longitude.

Historically speaking, the Region comprises the province of Banat, a historical Romanian province with an early and stronger economic development compared to other provinces in the country.

The Western Region has a varied and harmonious relief distributed in plain, hill and mountain areas. The lowland areas are part of the Great Western Plain and predominate in Timiș County. The climate is continental-moderate, with sub-Mediterranean influences, along the Danube corridor and the Cerna Valley, with multiannual average temperatures ranging from 10-120C. Rainfall averages around 560-580 l/m2 per year, slightly higher in mountainous areas.

The region is linked to Hungary and Serbia and Montenegro by European main roads and railways. The cities of Arad and Timisoara have airports with modern capacity to handle air traffic.

The West Region is part of the Danube - Criș - Mureș - Tisa Euroregion (DCMT), which involves the four counties of the West Region, three counties in Hungary and the autonomous region of Vojvodina in Serbia. The Euroregion was established in 1997 on the basis of a cooperation protocol signed by representatives of the local authorities of the component regions.

The population of the Western Region is culturally diverse, with Romanian, Hungarian, German, Roma and Serbian communities living side by side. In 2002, national minorities accounted for 11.7% of the region's total population.

Since 1990, the population of the region has steadily decreased from 2,201,717 to 1,930,458 in 2005, due to a negative birth rate and external emigration of the region's population. The population density on 1 July 2005 was 61.1 places/km2 in 2005, considerably lower than the population density at national level (90.9 places/km2). The region is facing a process of demographic ageing, the effects of which on economic and social life will be felt after 2005, when the working-age population will be joined by the smaller generations born after 1990.

The degree of urbanisation of the Region (63.6% urban population) is higher than the national average (54.9%), and Hunedoara County has the highest urbanisation rate in the country, after the capital, i.e. 76.9% urban population.

The rural area is characterised by low population density, demographic decline due to migration and ageing, a relatively high mortality rate and a low capacity for demographic renewal.

The population of the county is 687,377 inhabitants, Timis is rightly considered a multi-ethnic county, where Romanians, Hungarians, Germans, Serbs and other minorities live together in harmony. The distribution of the population in rural and urban areas is about 400,000 inhabitants in urban areas, the remaining 300,000 being located in rural areas.

Historically, the continuity of life on these lands is attested since ancient times, Timis County belonging to the Dacian State (2nd century BC) and, later, to the Roman Empire (2nd-3rd century AD). The historical region of Banat, of which Timis County is a part, experienced an early feudalization phenomenon, in the 11th century, there was a Romanian Voivodeship ruled by Glad, with its capital at Morisena (today's Cenad). Two centuries later, the existence of the fortress "Castrum Timissiensis" - Timisoara is recorded. In 1552, the Banat was conquered by Ottoman hostiles led by Soliman Pasa and remained under Turkish rule for 164 years, until 1716, when Timisoara was liberated by the Austrian Imperial Army. After the conquest of Timisoara by the Austrian troops, the Banat became the domain of the Habsburg Crown, with massive colonisation by Germanic populations, which changed the ethnic profile of the region and gave a new dynamic to economic development. The 18th century is the period of great transformations, materialized in vast construction works, which makes Timis county to integrate the civilization area of Central Europe. After the First World War and the union with the Kingdom of Romania (1918), a prosperous period follows, during which the first higher education institutions are established and the number of cultural institutions increases. However, this positive development was brutally interrupted by the Second World War. Timis County was re-established in 1968, in the structure and on the territory it still occupies today. The contemporary history is signed by Timisoara in December 1989, when the Timisoara people, unable to bear the oppressions and deprivations of the communist regime, ignited the spark of revolution in Romania. Timisoara thus became a symbol of courage and human sacrifice, receiving the title of martyr city of Romania.

**Timisoara i**s the capital of the Western Region and the largest city of the macro-region.

In 2011 Timișoara had 319,279 inhabitants and was the third most populous city in Romania, one of the few cities to have grown since the 2002 census. The Timișoara metropolitan area has a population of 468,162 people, while the population of the functional urban area (ZUF) is 508,037.

The tourist resorts of Buziaș and Băile Călacea are located 30 and 27 km from the city, respectively, and have been mentioned since Roman times for the curative properties of the thermo-mineral waters in the area; and the Recaș and Silagiu wine regions are known nationally and internationally for the wines produced here[7].

***Economic activities*** - Timisoara is an important industrial, commercial, medical, cultural and university centre for Romania. It is home to the headquarters of many of Romania's largest companies: the airline Carpatair; the retailer Life Care; the IT&C company ETA2U; the lighting systems manufacturer ELBA; the paint manufacturer Azur; the footwear company Guban; the brewery Timișoreana; and the largest meat processing plant in south-eastern Europe, Comtim[3].

The **Timișoara University Centre** is the largest academic centre in the DKMT Euroregion, gathering approx. 50,000 students in four public universities: West University; Polytechnic University; University of Medicine and Pharmacy "Victor Babeș"; University of Agricultural Sciences and Veterinary Medicine of Banat.

**2. LEGAL REGIME**

The building is owned by the Bastion Varbastya Association.

The land on which the building is located is part of the private domain of the municipality of Timișoara, and has a surface of 1405 sqm.

**3. TECHNICAL CHARACTERISTICS AND SPECIFIC PARAMETERS**

The characteristics of the existing building are as follows:

- Height regime of the rear body P+1E ;

- Sc = 469 sq.m;

- Scd = 938 sqm.

The importance class of the construction is II (P100/1-2006), importance category C.

The current functions of the building are as follows:

GROUND FLOOR - MULTIFUNCTIONAL HALL AREA - COMPRISES THE FOLLOWING ROOMS

- multifunctional hall 132,50 sq.m;

- storage 35 sqm;

- hall 12 sqm;

- right hall 8,80 sqm;

- left hall 9,90 sqm;

The electrical installation is old and no longer complies with current standards and for this reason it is proposed to replace it.

The heating system is old and no longer complies with current standards and for this reason it is proposed to replace it in the area of the rooms studied.

The water supply is from the water supply network of Timisoara municipality and is executed.

The sewage disposal is made to the sewage network of Timisoara municipality.

Inventory value: RON 2,235,728.

**4. ANALYSIS OF THE STATE OF CONSTRUCTION**

The building has not been rehabilitated in decades, the heating system does not work, some of the rooms have no function.

The following deteriorations were found:

- degraded finishes

- dilapidated joinery

- non-functioning heating system

- obsolete electrical network

The causes of these deteriorations are age, inadequate maintenance due to lack of funds.

**(4). IDENTIFICATION OF TECHNO-ECONOMIC SCENARIOS/OPTIONS AND THEIR DETAILED ANALYSIS**

**1. THE TECHNICAL SOLUTION FROM A TECHNOLOGICAL, CONSTRUCTIONAL, TECHNICAL, FUNCTIONAL-ARCHITECTURAL AND ECONOMIC POINT OF VIEW**

**(a) DESCRIPTION OF THE BASIC WORK AND THE RESULTS REQUIRED TO BE CARRIED OUT AS A FOLLOW-UP TO THE BASIC WORK**

The functions of the rooms after renovation and refurbishment will be as follows:

- multifunctional hall (Youth educational Cnetre) 132,50 sq.m;

- storage 35 sqm;

- hall 12 sqm;

- right hall 8,80 sqm;

- left hall 9,90 sqm;

The existing building's resistance structure is as follows: insulated reinforced concrete cup foundations, 30 cm thick brick masonry structural walls, reinforced concrete floors, wooden roof.

Architecture

The following works will be carried out:

- plaster removal on all walls

- plastering, plastering and painting with washable paint of all walls and ceilings

- replacement of all windows with new P.V.C. double glazed windows.

- replacement of all wooden and metal doors with new doors

- finishing in the hallway - ceramic tiled floors

- construction of a non load-bearing wall in B.C.A.

- industrial carpet for the multipurpose hall floor

- sound-absorbing tiles on the walls in the hall

Electrical installations

The building is supplied with electricity from the existing low-voltage public distribution network via a three-phase electrical connection, which is not the subject of this project.

The electrical panels will be fitted with high-performance equipment and appliances of high operational safety, quality and reliability, and space will be left for further development.

The levels of lighting planned to be provided in the various rooms are established in accordance with the regulations in force.

Interior lighting circuits will be executed with CYY - F - 3x1.5 mm2, CYY - F - 3x2.5 mm2 cables mounted in protective tubing laid buried under the plaster up to the fittings.

For the lighting of interior spaces, luminaires with low-energy and high-efficiency lamps equipped with LED module shall be used, and for the lighting of sanitary groups and conventionally damp spaces, sealed luminaires with increased protection rating of minimum IP65 shall be used.

According to I7-2011, art. 3.0.3.7. electrical circuits that will be in direct contact with combustible materials shall be placed in metal protection tubes up to the fittings.

Lighting control is done locally from single, double 10A/250V circuit breakers with buried/apparent mounting as appropriate and protection degree specific to the environmental category of the space in which they are mounted. All circuit breakers shall be mounted a minimum of 1.10 m from the finished floor.

Given the specificity of the objective, security lighting has been provided for:

marking escape routes;

marking the position of hydrants;

panic lighting.

For safety lighting to mark escape routes and the position of hydrants, luminaires of the luminobloc type have been provided, marked with "EXIT" , "H" or pictograms and fitted with a battery, which in the event of a power failure will be supplied from the local batteries. These luminaires are intended to have an operating time of at least 2 hours. The safety lighting for evacuation and marking the position of the hydrants shall come into operation within 1 - 5 seconds according to the I7-2011 standard.

For panic lighting, luminaires are provided with battery operated lighting, which in the event of a mains power failure will be powered by local batteries. These luminaires will start up in maximum 5s and are expected to have an operating time of minimum 1 hour. The electrical installation of panic safety lighting has been foreseen on the ground floor of the building in rooms with a surface greater than 60 sqm.

The panic safety lighting is also provided with manual control from the BP buttons indicated on the plan, the lighting will be switched off from the stop button located on the door of the electrical panel for the floor in question.

The practical implementation of these circuits is similar to that of normal lighting installations, by means of flexible protection tubes mounted buried up to the mounting place of the fixtures, respecting the technical regulations in force.

The security lighting circuits (for evacuation, hydrant position marking) will be protected by automatic magnetothermal circuit breakers and 30mA differential protection, and will be made with NHXH E90 cable.

The circuits will be protected by two-pole circuit breakers with thermal magnetic protection and 30mA differential protection, mounted in the switchboards. Cables, protection tubes, lighting fittings and switchgear shall be of approved type in accordance with EC and ISO standards.

The existing **building's resistance** structure is as follows: insulated reinforced concrete cup foundations, 30 cm thick brick masonry structural walls, reinforced concrete floors, wooden roof.

The protective installations consist of earthing the installations, the electrical panels by means of the third and fifth conductors of the electrical columns, TN-S system.

The electrical panels of the objective will be connected to the foundation earthing socket by means of an Ol - Zn 40 x 4 mm flat conductor using a box equipped with separating pieces. The role of the separation pieces is to separate the electrical installation from the earth connection in order to be able to carry out the earth connection measurement.

The grounding earth electrode's dispersion resistance shall have a maximum of 4Ω.

All metal components and parts shall be equipotentiated and connected to the earth connection.

If the foundation earth connection does not meet the minimum resistance requirements, an artificial earth connection shall be installed parallel to the existing one until the value is corrected.

Plumbing

No plumbing work is required as part of the project.

Thermal installations

Static heaters (sheet steel radiators) were chosen for heating the rooms.

The radiators in the rooms were sized to ensure thermal comfort at temperatures of 70/50C per lap and return.

The heating system adopted is of the twin-tube type with static heating units (sheet steel radiators) which are supplied with thermal medium (hot water 7050C) via a distribution system consisting of copper connections between the radiators and the distribution network, followed by semi-hard copper distribution pipes laid apparently on the wall at skirting board level to the heating plant.

The installation to be provided has the following functions:

(a) in winter

- compensation of heat losses through external building elements until the design indoor temperatures are reached.

The calculation of the heat requirements of the rooms was carried out according to the Romanian standard SR-1907/1,2-14 .

All the installed power of the radiators is distributed from the existing own heating plant located in the technical room of the building, which is not the subject of this documentation.

The radiators will be made of sheet steel with a height of 600-900 mm with lengths between 400 and 2300 mm. They shall be equipped with turn tap, corner type with thermostatic head, return tap for separation and adjustment and manual vent tap and plug all of size 12".

Water supply

The water supply is executed.

Domestic sewerage

Domestic sewerage is executed.

Storm drainage

Storm water will be drained into the existing solution.

Courtyard landscaping

N/a

**2. THE RESULTING UTILITY REQUIREMENTS, INCLUDING ESTIMATES OF OVERRUN OF INITIAL UTILITY CONSUMPTION AND HOW ADDITIONAL CONSUMPTION WILL BE PROVIDED FOR**

**(a) the resulting utility requirements, where appropriate in the case of upgrading works**

The utility requirements are as follows:

- drinking water 0.2 m3/day;

- domestic sewage - 0,2 m3/day;

- electricity - installed power 8 KW;

- heat - 20 KW central heating.- heating - 31 KW central heating.

**b) Estimates of overrun of initial utility consumption**

Drinking water is supplied from the public network, consumption is approx. 0,5 m3/day.

The water is used only for hygienic-sanitary, social and administrative needs.

Domestic water is drained to the street sewerage system.

The building is connected to the low voltage electricity network in the area. Expected consumption is 12 kW, consumers being: PC units, video projectors, printers, hand dryers and lighting installations.

By installing a new heating system, thermal energy losses will be reduced, so the whole study area will have a primary energy consumption that will not exceed the existing consumption. The existing central heating system will remain unchanged, it is not the subject of this documentation.

**3. TIMETABLE AND MILESTONES CORRELATED WITH THE DATES SET OUT IN THE INDICATIVE TIMETABLE FOR COMPLETION OF THE INVESTMENT**

The works proposed by the project concern the rehabilitation of parts of the building by almost total restoration of installations and finishes, which are decades old and not suitable for the function proposed by the project.

1. The first stage of the project involves the removal of all old finishes and installations from those parts of the building that are to be rehabilitated. It is necessary to remove old plaster and flooring from the halls and corridors, remove existing fixtures, windows and doors.

The duration of this stage is one month (30 days). At the end of the stage the space should be clean and ready for the next stage.

2. Phase two of the work involves re-plastering all rooms, fitting all the installations foreseen by the project, fitting the proposed new windows and doors. The duration of this stage is one month (30 days).

3. The third stage of the work involves painting the main hall, the other halls and the corridors with washable paint and laying all the floors (parquet, ceramic tiles, etc.). In the main hall, sound-absorbing tiles will have to be laid, as the room has a very disturbing echo. The last installations necessary for proper operation will also be installed. The duration of this phase is one month (30 days).

**(5) APPROVALS AND AGREEMENTS, SPECIFIC STUDIES**

The building in question will not be affected or altered by the proposed modernisation works. An opinion has already been obtained from the Monuments Commission permitting modernization work that does not affect the building's structural integrity or character. It is intended to modernise all the fittings and to restore all the finishes, as these date from the date of construction of the building in 1930. The proposed work on the third floor of the building will not change the characteristics of the building, but will make it efficient and usable again.

As the works are interior finishing and installation works, it is not necessary to obtain approvals. No studies are required for the above finishes and installations.