

LIVING DANUBE LIMES

PHYSICAL RECONSTRUCTION

&

VISIBILITY MEASURES

UAUIM



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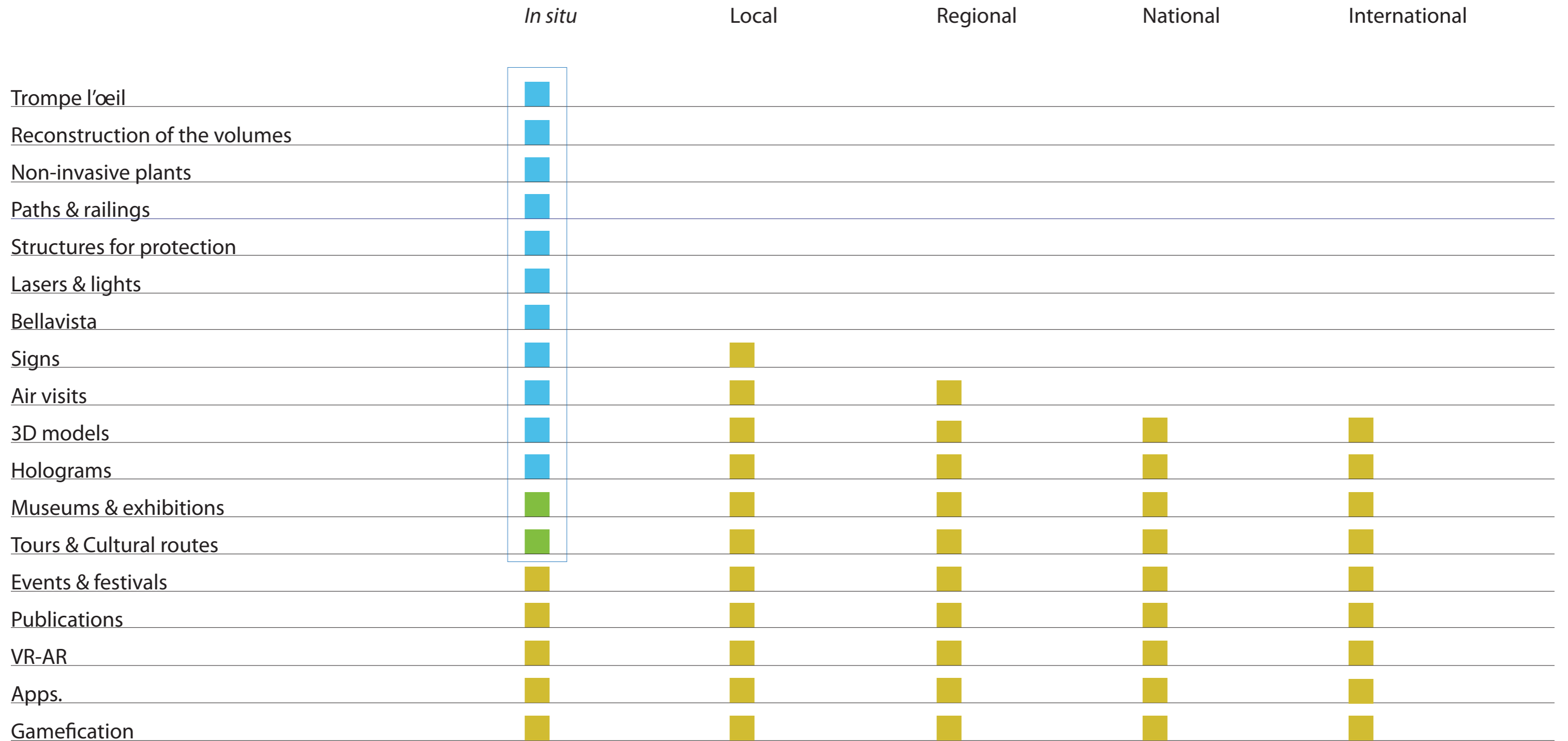
cover image: Sacidava archaeological site, © Dragoş Dordea 2021

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INDEX

INTRODUCTION	1
IMPACT	2
1 Trompe l'œil	5
2 Reconstruction of the volumes	6
3 Non-invasive plants	7
4 Paths & railings	10
5 Structures for protection	13
6 Lasers & lights	16
7 Bellavista	17
8 Signs	18
9 Air visits	20
10 3D models	22
11 Holograms	23
12 Museums & Exhibitions	24
13 Tours & Cultural routes	27
14 Events & festivals	
15 Publications	
16 VR-AR	
17 Apps.	
18 Gamification	

IMPACT



Level of impact for each measure & focus on suitable *in situ* measures

INTRODUCTION



Sacidava archaeological site
© Dragoş Dordea 2021

The desire of producing visibility measures and physical reconstructions on archaeological sites implies working on a very sensitive territory. The most appropriate interventions should take in consideration several criteria, studied and developed during time by professionals in the field of archaeology and monument protection*.

Any intervention should be preliminary based on the analysis of the context and the identification of all valuable elements: natural features, traditions, sights, etc. Landscape or towns-capes are the backgrounds that enhance the authenticity of ancient atmosphere. Following the concept of *living history*, the preservation of all elements that provide historical information for the visitors should be taken in consideration. Such analysis should be developed on different scales. The Danube Limes is a territorial strategic frontier and its spatial and geostrategical quality could be made visible through specific interventions.

The visibility measures can be implemented in situ, but also in the surroundings and on regional, national and transnational level. The current project will focus on visibility measures on site. Nevertheless their impact can cross over the local limits.

An important step in implementing a project is to identify the most appropriate measures following four main directions: **preservation of the authenticity and local identity, enhancing the visibility, non-invasive and reversible interventions and sustainable touristic scenarios.**

The catalogue offers a selection of proposals developed in the design studios of the University of Architecture and Urbanism "Ion Mincu" for the pilot site of Sacidava or for other archaeological sites: Dinogetia and Giurgiu, both on the Danube. The research brings also best practice examples inspired from relevant art and architectural installations. The collection of ideas aims to become a source of inspiration for visibility measures that could be adapted and developed following the characteristics of each site.

*<https://www.icomoc.org/en/resources/charters-and-texts>



1 Trompe l'œil

The *trompe l'œil* technique, used by Romans and Greeks, is based on perspective drawings, in order to create the impression of larger spaces. It had developed intensively during Renaissance. As a visibility measure, one of the best practice examples can be found for the Heidentor in Carnuntum. From a precise point of view, the shape of the original construction can be visualized, overlapped on the ruins.

Currently, the *trompe l'œil* technique has been used by many artists by painting on the streets or on buildings large scale perspectives, creating new imaginary and allegorical environments.

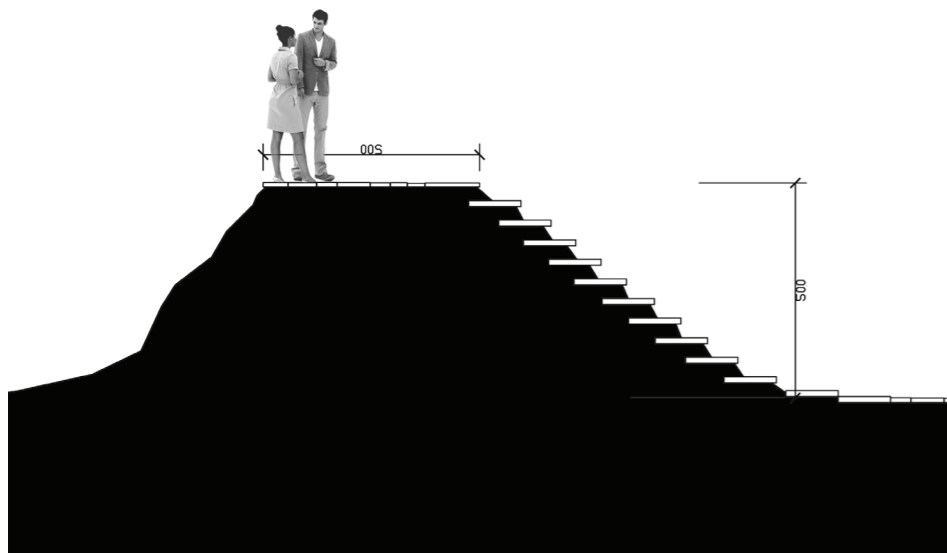
An interesting approach that could be used on undisclosed archaeological sites are the *trompe l'œil* on the pavement, that suggest diggings and reveal the underneath world. A relevant example is the large scale *trompe l'œil* created in Paris, around the Louvre pyramid, to celebrate its 30 years, created by the artist JR. From an anamorphosis point on the Louvre roof, it reveals the pyramid underneath the ground level.

<https://jr-art.net/projects/jr-au-louvre>
<https://jr-art.net/projects/jr-au-louvre--le-secret-de-la-grande-pyramide>

In the same direction is developed the work of art of the artist Kurt Werner who creates street art that discloses an allegorical world hidden underneath the streets.

<https://kurtwerner.com/3d-street-art/>

Analogically, archaeological sites could be covered with large prints that show, from a specific point of view, the underneath secrets of the site. This could be a very efficient non-invasive visibility measure, based on site scans, revealing the Roman world also in the sense of the *living history* concept.



The archaeological site of Dinogetia - inspired from Heidentor Carnuntum, students Cristina Ionescu & Radu Caradim, UAUIM 2014

2 Reconstruction of the volumes

There are several non-invasive techniques that enable the physical reconstruction of the constructed volumes on an archaeological site. Generally light prefabricated and modulated materials have been used, easy to fix on site and also easy to remove for a complete reversibility of the intervention.

One of the most common techniques used in architecture in order to recreate the volume of a future building has been used in the Swiss legislation for building permits. Every building is fixed on the plot by marking the edges with light metal standardized structures that can be reused on every building plot (upper left figure). Such elements could be placed on archaeological sites to recreate the heights of the ancient buildings and towers.

<https://planerwissen2go.com/2017/01/21/baugespann/>

On a more sophisticated level, but with a much greater visual and aesthetic impact, are the art works of the Italian artist Edoardo Tresoldi. He uses wire meshes to recreate ancient, disappeared buildings. The transparency obtained through light wires compose a new surrealistic world. He operated in cities, but also on archaeological sites: the Early Christian basilica of Siponto, a synthesis between art, architecture and archaeology that was rewarded the Gold Medal for Italian Architecture. Extrapolating his techniques to the need of visibility measures on archaeological sites, wires and strings are materials that can retrace the ancient shapes of ruins.

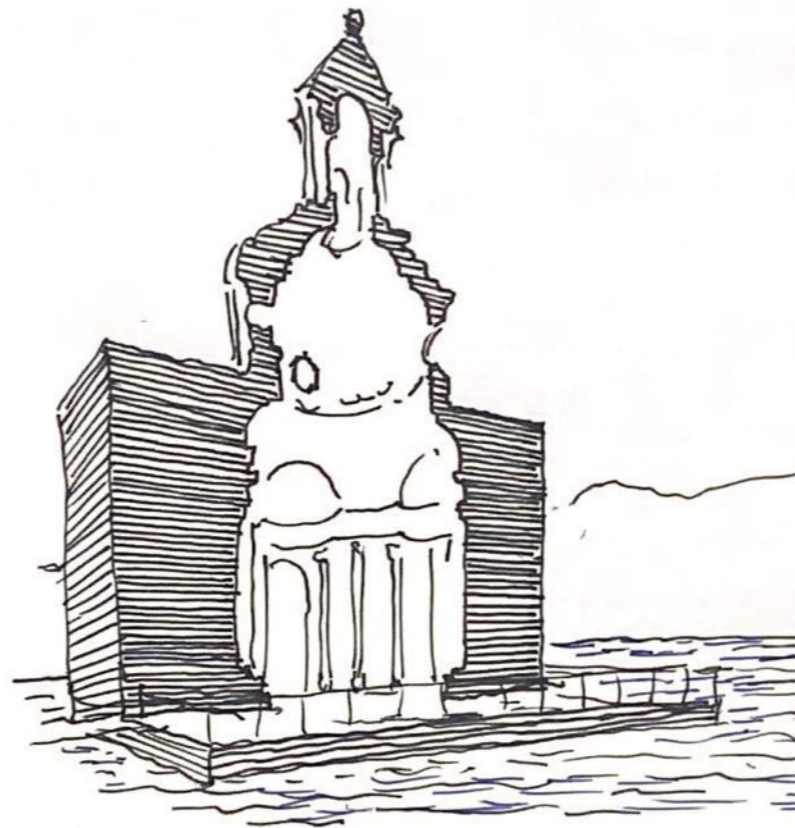
<https://www.edoardotresoldi.com>

An experimental light steel structure to be used as inspiration for recreating transparent volumes on archaeological sites could be considered the 2013 Serpentine pavilion in London by the Japanese architect Sou Fujimoto.

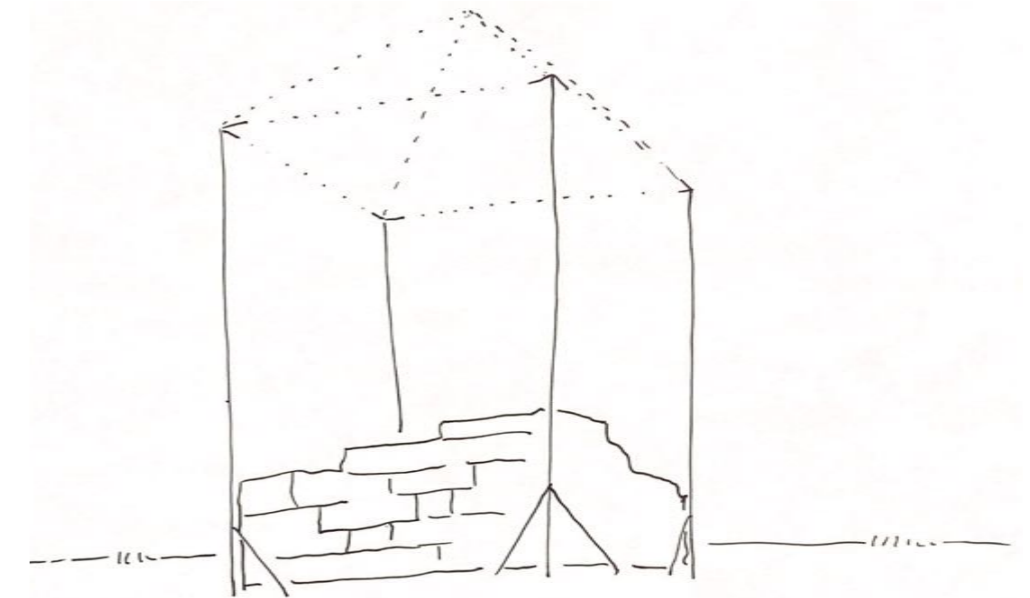
<https://www.serpentinegalleries.org/whats-on/serpentine-gallery-pavilion-2013-sou-fujimoto/>

An iconic reconstruction and synthesis example is the project of the Swiss architect Mario Botta, who recreated on the Lake of Lugano, the sectioned church of San Carlino, from wooden stripes, floating on the water.

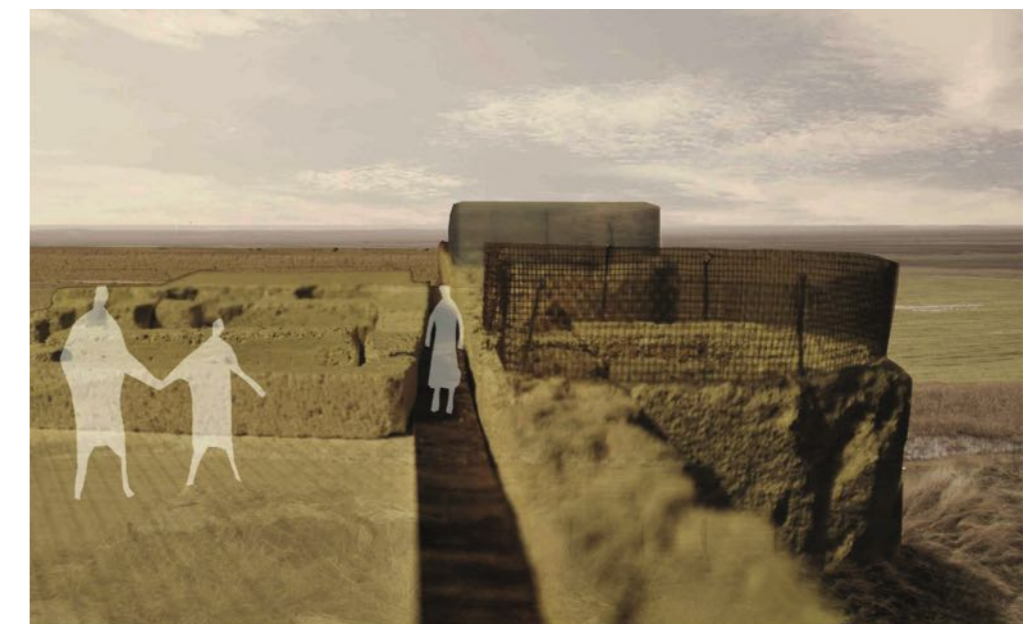
<http://www.botta.ch/en/SPAZIO%20DEL%20SACRO?idx=3>



San Carlino reconstruction on the Lake of Lugano, Architect Mario Botta
drawing Dragoş Dordea 2021



Marking the edges, with light metal structures,
drawing Dragoş Dordea 2021



The archaeological site of Dinogetia - reconstruction of the volumes with wires
students Andra Sarmiş & Iulia Popescu, UAUIM 2014

3 Non-invasive plants

One of the most poetic visibility measures on an archaeological site consists in cultivating different species of plants in order to mark the ruins hidden underneath the ground. Such measure implies the selection of plants that are suitable for different types of soils, in a continental temperate climate as the dominant climate along the Danube Limes. The most important criteria of selection are the roots of the plants that should have surface roots and avoid any interaction with the grabbed ruins.

From the architectural practice experience, non-invasive plants have already been used in European countries as green, ecological solutions for covering houses: the green roofs or green terraces. There is already a large selection of perennial and evergreen plants that have been tested for surviving in very thin soils, without watering, and, most important, do not have impact on the construction beneath.

The most appropriate non-invasive perennial plants belong mostly to the plant genus of *Sedun* from the order of *Saxifraga*. They mostly grow on dry, stony or sandy soils and are very resistant to different types of weather. Another interesting proposal for planting on an archeological site and creating a poetic atmosphere are the aromatic plants from the genus of *Thymus*. Evergreen perennial plants, the *Thymus* can cover large surfaces without requiring special care. Plants with bulbs are also appropriate for non-invasive solutions. Small tulips, Iris or Crocus flourish intensively, but for short periods of time, early in spring or late in autumn.

The most frequently used plants suitable for archaeological sites are identified in 2 tables that indicate their Latin names, the colour of their leaves and flowers and the period of the year when they are visible. There are also included short descriptions on the density of required plant on the surface, and the suitable types of soils depending on each site.



Contrasting wild vegetation layers on Dinogetia archaeological site
© Ana Maria Machedon , 2014

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
<i>Lithodora difusa</i>	■	■	■	■	■	■	■	■	■	■	■	■	15-20 cm, 7-9 plants/m ² , dry, sunny, acid soils
<i>Phuopsis stylosa</i>			■	■	■	■	■	■	■	■	■	■	20 cm, 6 plants/m ² , sunny/semi-shadow, drained soils
<i>Potentilla neumanniana</i>			■	■	■	■	■	■	■	■	■	■	5 cm, 8 plants/m ² , sunny, dry, acid, drained soils
<i>Thymus praecox var. pseudolanuginosus</i>	■	■	■	■	■	■	■	■	■	■	■	■	5 cm, 10 plants/m ² , sunny, sandy drained, lean soils
<i>Thymus serpyllum 'Albus'</i>	■	■	■	■	■	■	■	■	■	■	■	■	5 cm, 10 plants/m ² , sunny, sandy drained, lean soils
<i>Thymus doerfleri</i>	■	■	■	■	■	■	■	■	■	■	■	■	8 cm, 10 plants/m ² , sunny, sandy drained, lean soils
<i>Alchemilla erythropoda</i>	■	■	■	■	■	■	■	■	■	■	■	■	10-15 cm, 7-10 plants/m ² , sunny to shady soils
<i>Delosperma cooperi</i>			■	■	■	■	■	■	■	■	■	■	5-10cm, 15 plants/m ² , sunny, sheltered, drained soils
<i>Saxifraga Arendsii</i>	■	■	■	■	■	■	■	■	■	■	■	■	5-10cm, 9 plants/m ² , sunny to shady soils, stone walls
<i>Saxifraga Arendsii-Hybride 'Pixie'</i>	■	■	■	■	■	■	■	■	■	■	■	■	5-10cm, 9 plants/m ² , sunny to shady soils, stone walls
<i>Saxifraga Arendsii-Hybride White</i>	■	■	■	■	■	■	■	■	■	■	■	■	5-10cm, 9 plants/m ² , sunny to shady soils, stone walls
<i>Saxifraga x urbium</i>	■	■	■	■	■	■	■	■	■	■	■	■	10-25cm, 8 plants/m ² , sunny soils with stones
<i>Sedum acre 'Minor'</i>	■	■	■	■	■	■	■	■	■	■	■	■	5cm, 10 plants/m ² , stones and dry walls
<i>Sedum album 'Murale'</i>	■	■	■	■	■	■	■	■	■	■	■	■	10cm, 10 plants/m ² , stones and dry walls
<i>Sedum cauticola</i>	■	■	■	■	■	■	■	■	■	■	■	■	10cm, 8 plants/m ² , stones and dry walls
<i>Sedum floriferum</i>	■	■	■	■	■	■	■	■	■	■	■	■	15cm, 10 plants/m ² , stones and dry walls
<i>Sedum spathulifolium 'Purpureum'</i>	■	■	■	■	■	■	■	■	■	■	■	■	5-10cm, 10 plants/m ² , sunny drained soils
<i>Sedum hybridum</i>	■	■	■	■	■	■	■	■	■	■	■	■	15cm, 10 plants/m ² , stones and dry walls
<i>Sedum spurium</i>	■	■	■	■	■	■	■	■	■	■	■	■	5-10cm, 10 plants/m ² , stones and dry walls
<i>Jovibarba globiferum ssp. globiferum</i>	■	■	■	■	■	■	■	■	■	■	■	■	5cm, 15-20 plants/m ² , stones and dry walls
<i>Thymus x citrodorus</i>	■	■	■	■	■	■	■	■	■	■	■	■	15cm, 10 plants/m ² , sandy, drained and lean soils
<i>Sedum Telephium-Hybride</i>	■	■	■	■	■	■	■	■	■	■	■	■	50cm, 4-5 plants/m ² , sunny soils

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
<i>Thymus serpyllum</i>	■	■	■	■	■	■	■	■	■	■	■	■	10cm, 10 plants/m ² , rocks, stones and walls
<i>Petrorhagia saxifraga</i>	■	■	■	■	■	■	■	■	■	■	■	■	15cm, 12-15 plants/m ² , drained and sandy soils
<i>Festuca cinerea</i>	■	■	■	■	■	■	■	■	■	■	■	■	20cm, 9-12 plants/m ² , sunny, dry and drained soils
<i>Geranium cinereum</i>			■	■	■	■	■	■	■	■	■		15cm, 8 plants/m ² , sunny, half shady soils
<i>Sagina subulata</i>	■	■	■	■	■	■	■	■	■	■	■	■	5cm, 12-15 plants/m ² , humic soils
<i>Saponaria ocymoides</i>			■	■	■	■	■	■	■	■	■		20cm, 7-12 plants/m ² , sunny, drained soils
<i>Sempervivum Arachn.-Hybr.</i>	■	■	■	■	■	■	■	■	■	■	■	■	5cm, 15-20 plants/m ² , sunny soils with stones
<i>Sempervivum Hybride 'Granat'</i>	■	■	■	■	■	■	■	■	■	■	■	■	15cm, 15-20 plants/m ² , sunny soils with pebbels
<i>Sempervivum x fimbriatum</i>	■	■	■	■	■	■	■	■	■	■	■	■	10cm, 15-20 plants/m ² , lean soils with pebbels
<i>Delosperma congestum</i>	■	■	■	■	■	■	■	■	■	■	■	■	5-8cm, 16 plants/m ² , sunny and dry soils
<i>Festuca gautieri</i>	■	■	■	■	■	■	■	■	■	■	■	■	15-25cm, 25 plants/m ² , sunny, dry soils with stones
<i>Tarda tulipe</i>				■	■								10-15cm, 30 plants/m ² , lawns
<i>Pulchella tulipe</i>			■	■									10cm, 30 plants/m ² , drained sunny soils
<i>Muscari armeniacum</i>	■	■	■	■	■	■	■	■	■	■	■	■	25cm, 20 plants/m ² , sunny, half shady drained soils
<i>Muscari botryoides 'Alba'</i>	■	■	■	■	■	■	■	■	■	■	■	■	25cm, 20 plants/m ² , sunny half shady drained soils
<i>Iris danfordiae</i>			■	■									10cm, 20 plants/m ² , sunny, drained, humic, stony soils
<i>Iris reticulata</i>			■	■									10cm, 20 plants/m ² , sunny, drained, humic, stony soils
<i>Crocus sativus</i>										■	■	■	10cm, 30 plants/m ² , sunny to shady soils
<i>Jasione laevis</i>			■	■	■	■	■	■	■	■	■	■	20-40cm, 8-12 plants/m ² , sandy, dry, sunny soils
<i>Origanum laevigatum</i>			■	■	■	■	■	■	■	■	■	■	20-40cm, 5-9 plants/m ² , sandy, dry, alcalyne, sunny soils
<i>Pennisetum alopecuroides</i>	■	■	■	■	■	■	■	■	■	■	■	■	15-30cm, 8 plants/m ² , sunny, wartery soils
<i>Campanula rotundifolia</i>	■	■	■	■	■	■	■	■	■	■	■	■	15-30cm, 11 plants/m ² , sunny, drained soils
<i>Koeleria glauca</i>	■	■	■	■	■	■	■	■	■	■	■	■	15-20cm, 16 plants/m ² , sunny, dry and drained soils

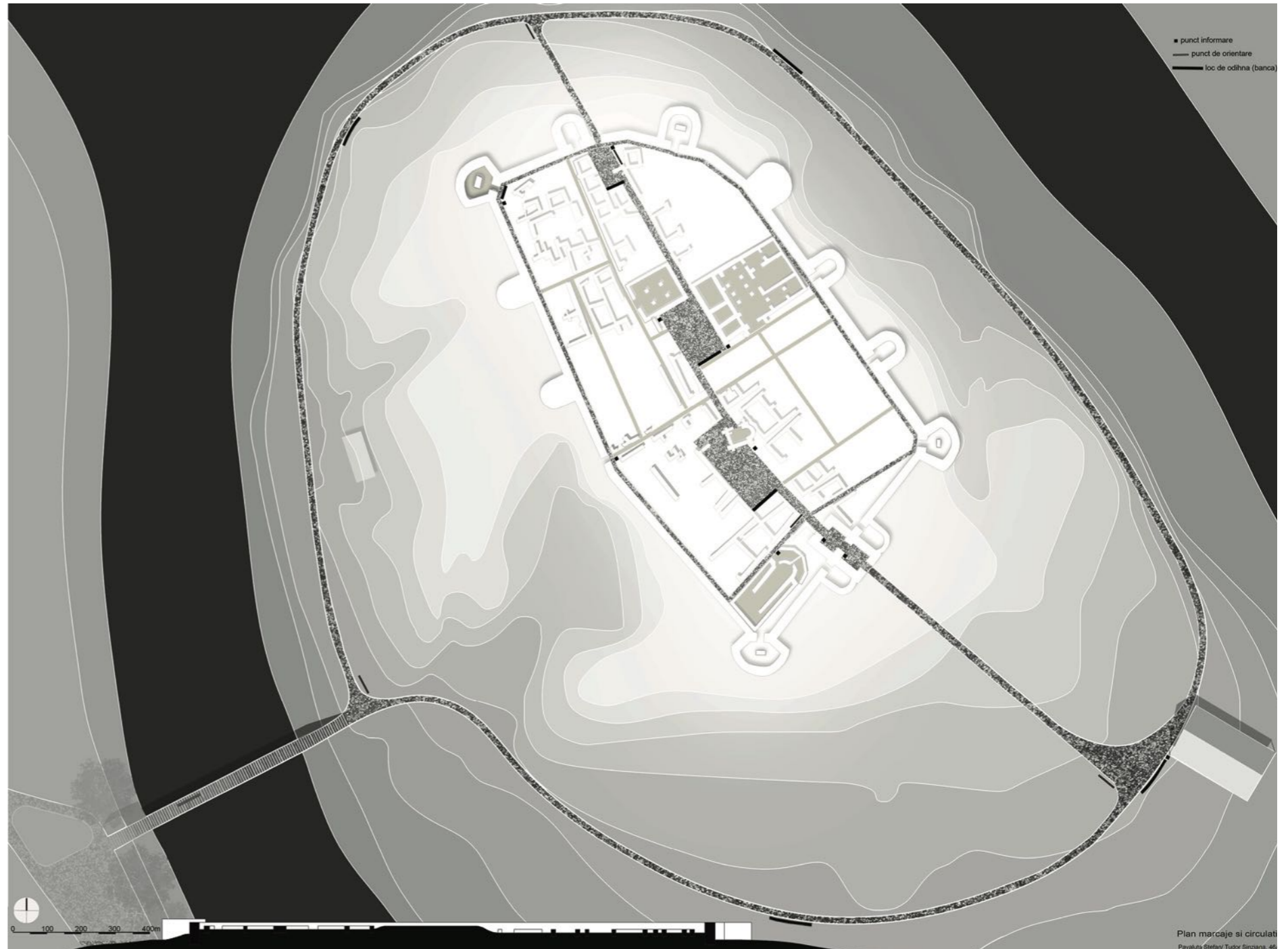
4 Paths & railings

Most of the unexplored archaeological sites need a visiting itinerary. The concept of walking through an ancient site has to take in consideration both the need to protect and avoid sensitive areas and to create a story to visitors. It is also essential to insure safety for visitors, especially on difficult terrains. Such paths can also go beyond the archaeological site and create walks through special natural features surrounding the interest area, including ancient Roman Roads.

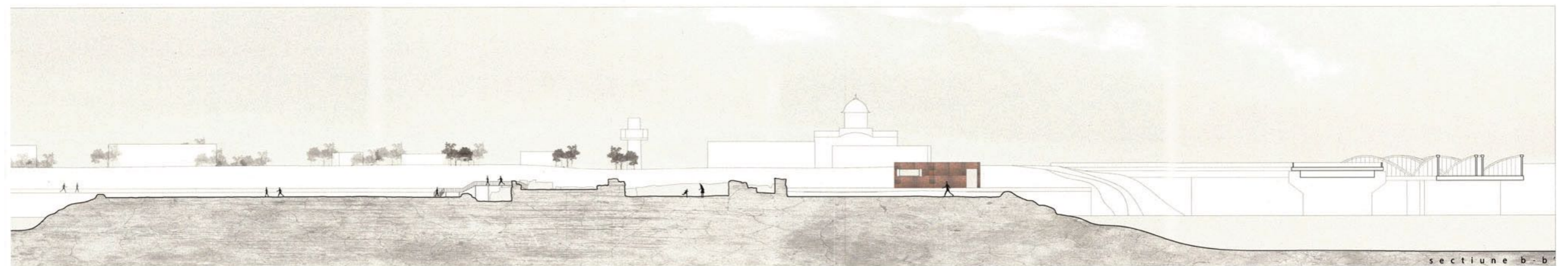
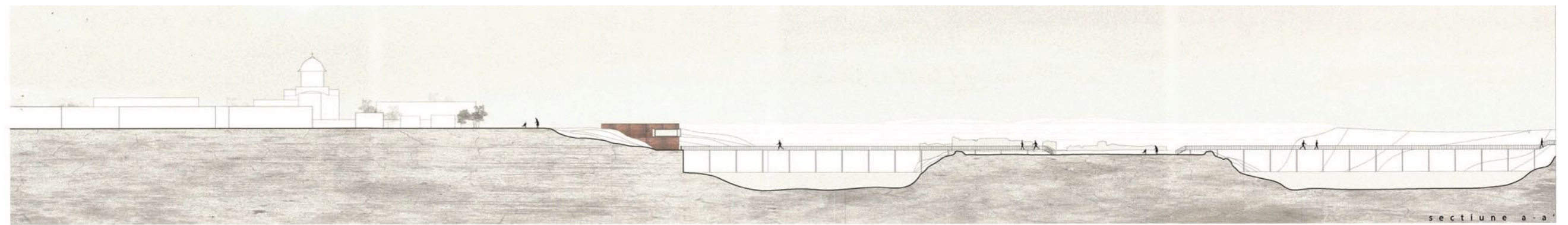
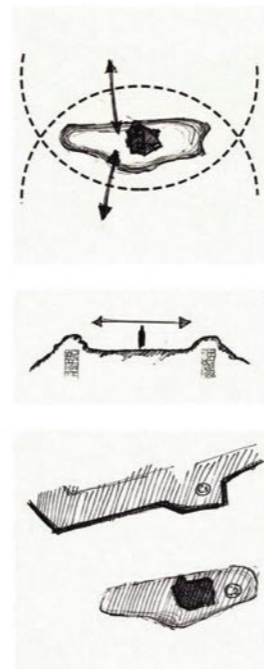
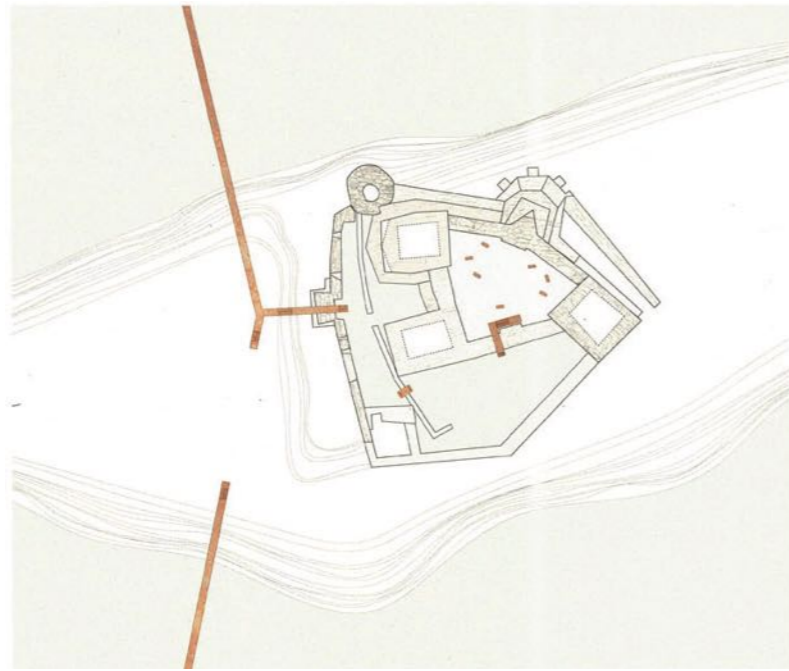
On each archaeological site there are multiple choices of paths. The first step into identifying the itinerary is to create a hierarchy of interests and sensitive areas. A visiting scenario could include a fast way or a longer and more detailed variant. It could be an exterior circuit, an interior visit, a fast crossing path, etc. In order to create a story, these paths can be enriched with signs, view points, *tromp l'oeil*, banks, generally a combination of more visibility measures.

The design and materials used for paths and railings should take in consideration the local identity, the original elements and natural features to enable the preservation of an authentic atmosphere. They should also be completely reversible and non-invasive. A preliminary analysis should identify, beyond valuable elements on the archaeological site, other surrounding elements that could bring the visitor into the ancient times following the concept of *living history*. Local or traditional materials could be used, making carefully the distinction between ancient elements and contemporary interventions.

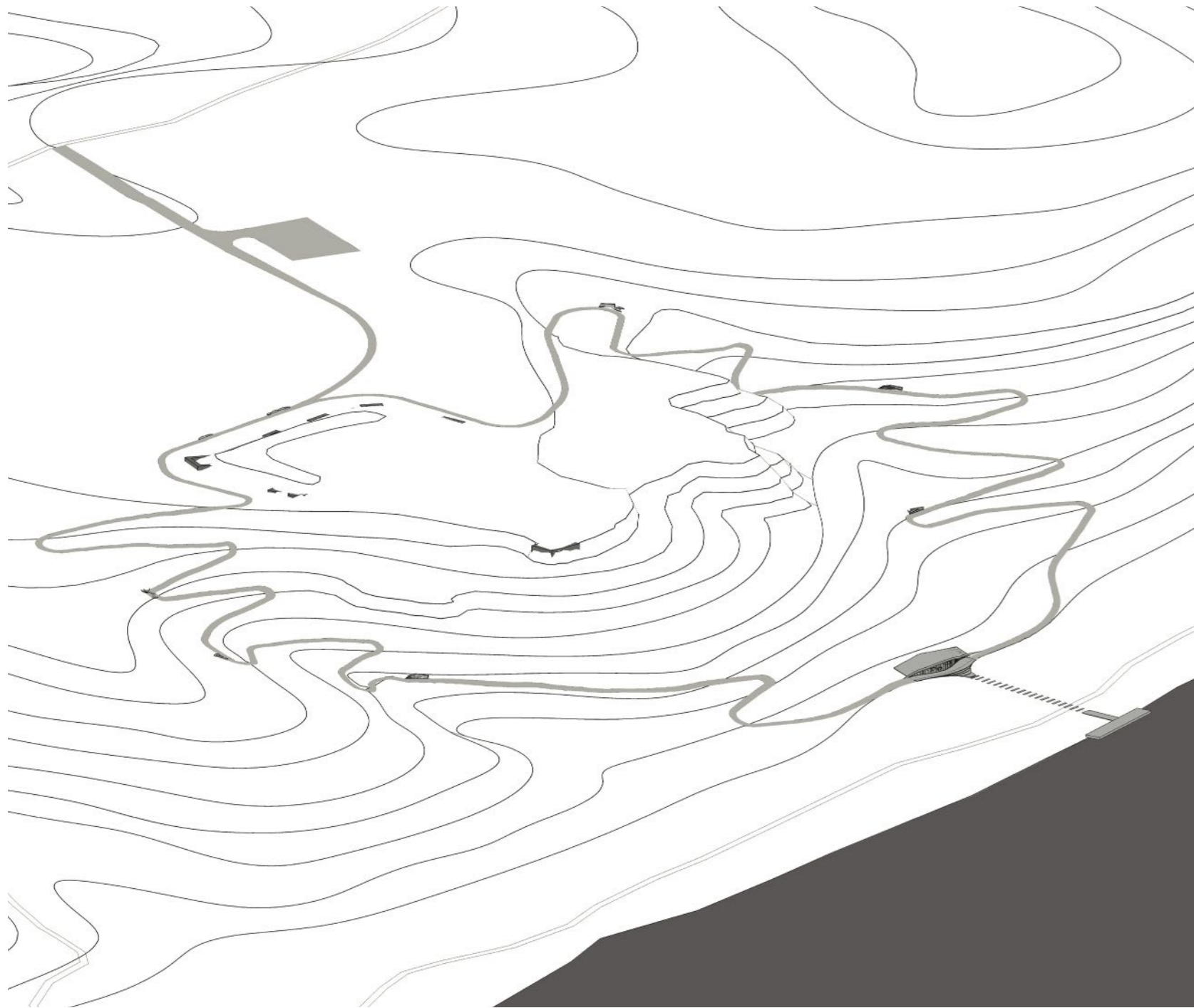
Many terrains lack accessibility. Paths and railings are also a very useful tool in offering access to the large public, insuring protection and avoiding the involuntary access into dangerous or protected areas. All projects should follow the building local rules for accessibility and safety, including for people with special needs.



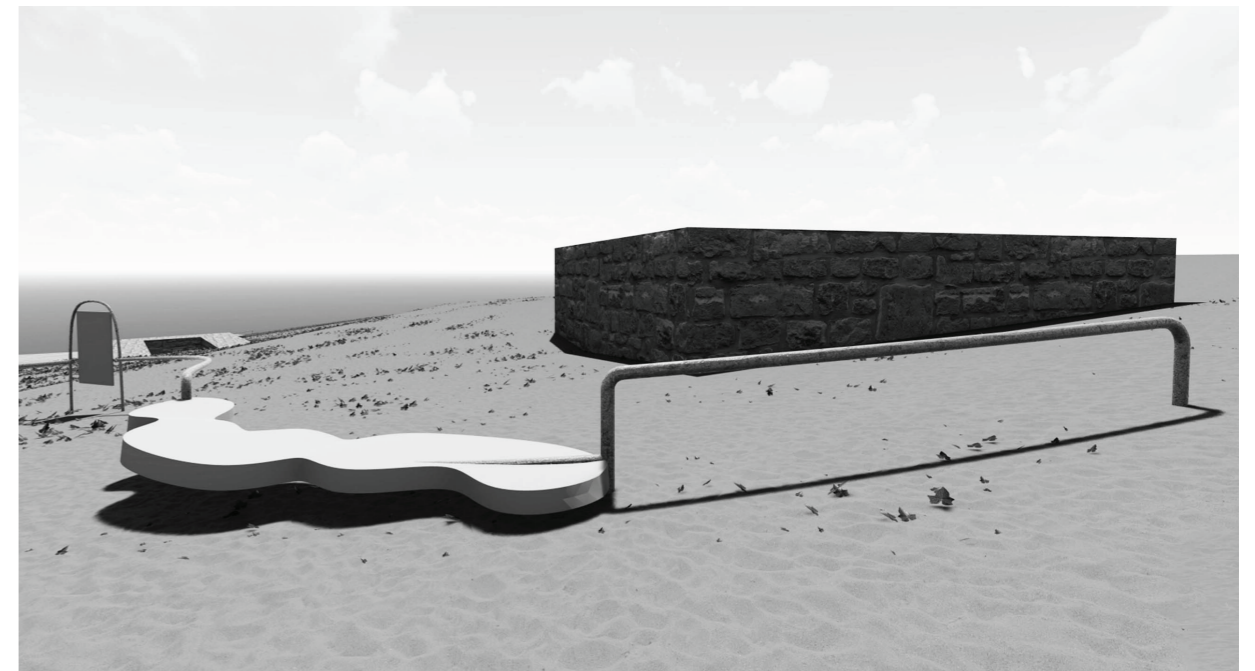
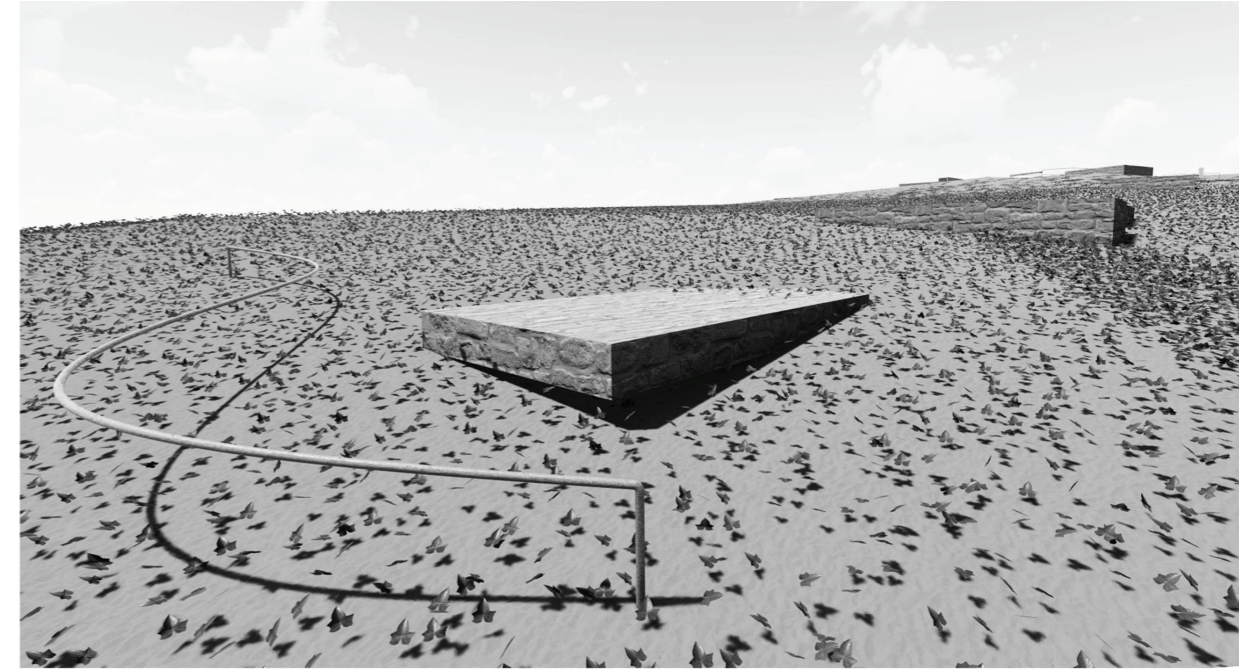
The archaeological site of Dinogetia - project for visiting paths
students Ștefan Păvăluță & Ștefania Tudor, UAUIM 2014



The archaeological site of Giurgiu - project for visiting paths
students Claudia Pipoş & Sînziana Tudor, UAUM 2015



The archaeological site of Sacidava - project for visiting paths
students Mara Andreescu & Ștefan Năstasă UAUIM 2021



The archaeological site of Sacidava - project for visiting paths & rails
students ALa'a Alkich & Miruna Parasca UAUIM 2021

5 Structures for protection



The archaeological site of Sacidava - structure for protection
student Sergiu Tudoran, UAUIM 2021

The archaeological sites, depending on their conditions and research level, could need structures for protection from rain, snow or water. Such structures are very often temporary, should be easy to build and to remove without affecting the area, but in the same time should resist to extreme weather phenomena, depending on geographical the position, like strong winds or heavy snow.

UAUIM has lead a research on special structures adapted to archaeological sites, special designed for the pilot site of Sacidava. All proposals are based on prefabricated and modular elements that could be put together without the need of cranes or special tools, by only a few people. The structures can be moved or removed, following the needs of the archaeologists and could be also used for visitors, as Sacidava is in the middle of fields and there is no possibility for shelter.

The projects explore different types of standing, ballasting or anchoring on the terrain, without digging in depth. They are covered with different translucent or opaque membranes that would permit a certain degree of lightening for archeological works, but also shadow in summer days. Certain structures have a flexible principle, they can adapt the shape and dimensions following the necessities.

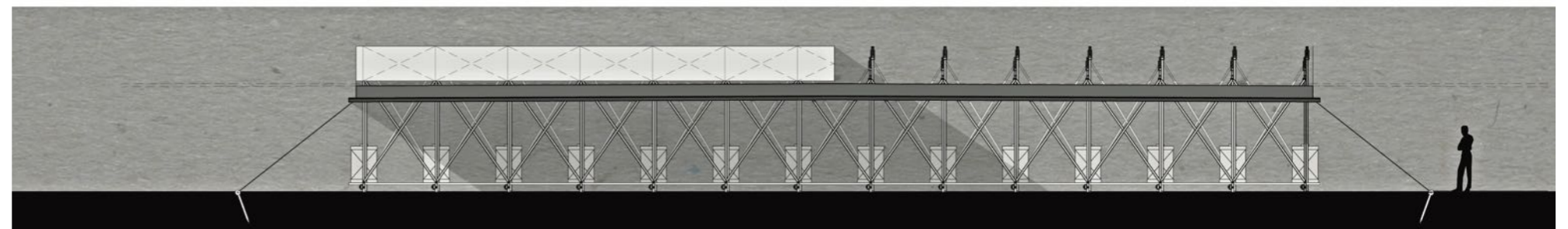
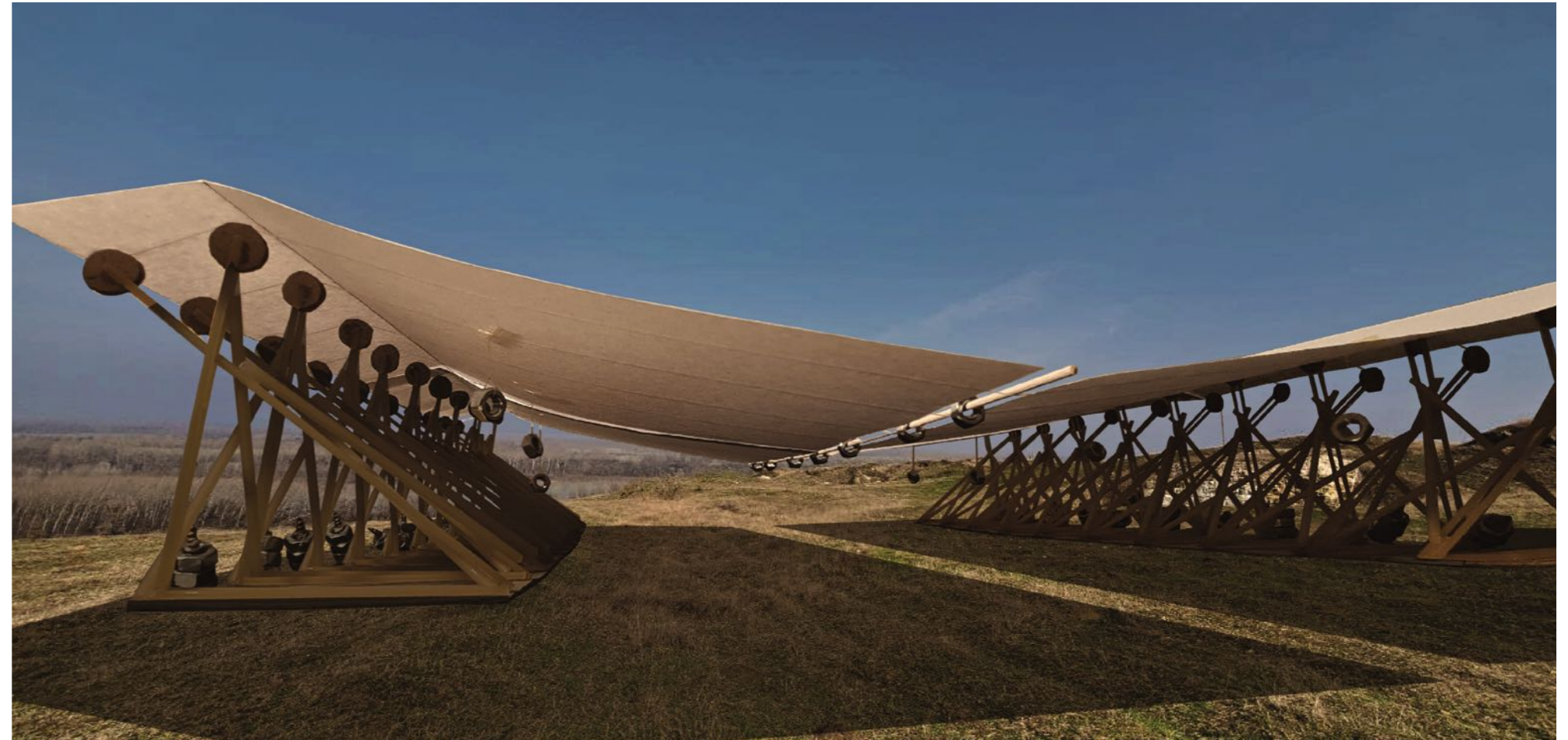
The provisory light structures are a useful tool for working on an archaeological site and can become a visibility measure as they mark the presence of the ruins with a provisory contemporary element. They can also become part of the visiting itinerary and could transform into outdoor exhibition spaces or event tents. The aesthetic choice of such structures could also lead into the direction of structures inspired from Roman times such as roman tents or roman war machines following the concept of *living history*.



The archaeological site of Sacidava - project for protection structures
student Andreea Roman, UAUIM 2021



The archaeological site of Sacidava - projects for protection structures
students Anisia Tătaru Abagiu, Andreea Graur, Dana Morărița , UAUIM 2021



The archaeological site of Sacidava - projects for -protection structures
students Simona Rujan, Larisa Gabor, Ismail Bilen, UAUIM 2021

The archaeological site of Sacidava - project for protection structures
student Andrei Coşa, UAUIM 2021

6 Lasers and lights

Laser and light are one of the less invasive visibility measures for archaeological sites, having the inconvenience that their presence can be observed only in the dark. Nevertheless, the visual impact is very strong and it provides a large scale virtual reconstruction of the volumes. (Such interventions might not be appropriate in natural parks, or protected areas for different rare species).

Laser technology is very accessible: it has been already intensively used in topometry. Architects and artist have also used lasers for installations. The main goals are to recreate space and perspectives or to mark, on constructed element important axis and lines.

As inspiration source, several visual artists created fictive spaces by using the intensive laser beams:

<https://www.margareta-hesse.de/laser.htm>

<https://www.matthewschreiber.com/laser-catalog/gate>

<https://www.uva.co.uk/features/vanishing-point-2019>

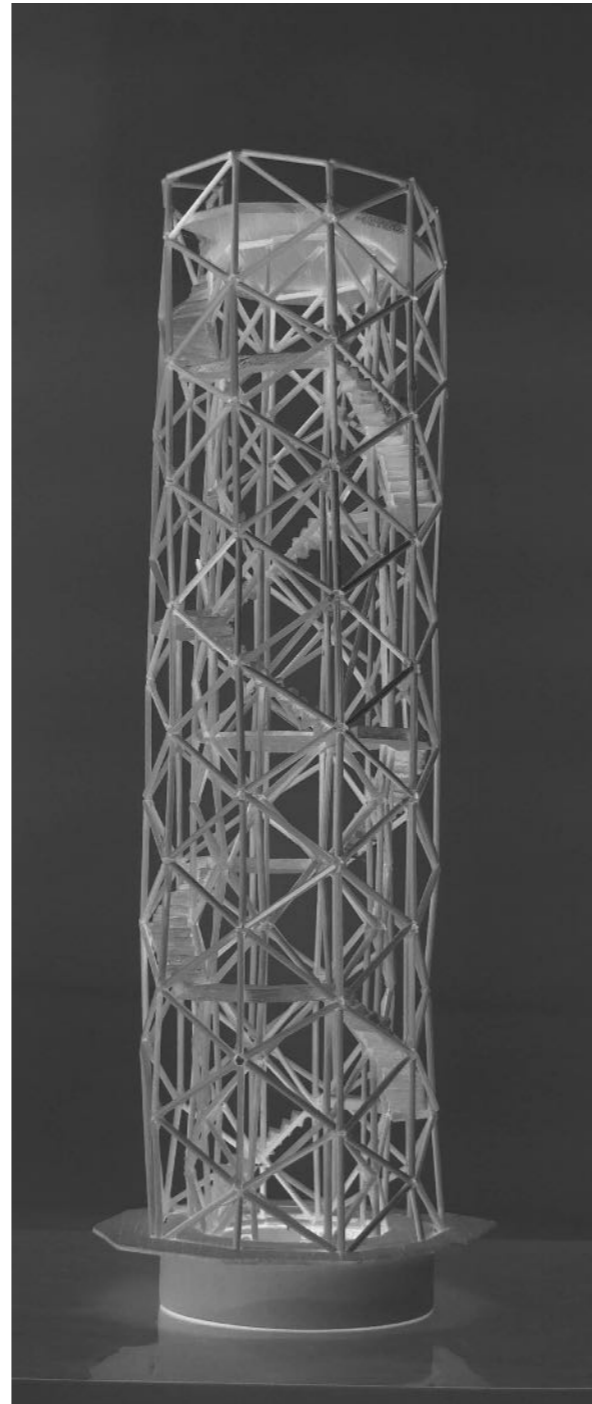
An interesting architectural approach for using lasers is the installation Geometry of light, by Luftwerk. Through laser lines the famous German Pavilion by the architect Mies van der Rohe in Barcelona has been analysed, highlighted and redefined. The same laser installation was applied on the Farnsworth House.

luftwerk.net/projects/geometry-of-light/



The archaeological site of Sacidava - project for laser reconstruction of the edges
© Ana Maria Machedon 2022

7 Bellavista



A general view of an archaeological site could facilitate the comprehension of the entire organization and functioning. Observation towers or observation points, in case the terrain offers such possibilities, could give the possibility of areal views.

The concept of *bellavista* can be put in connection with other visibility measures. The viewpoint could be associated to the anamorphosis point of a *trompe l'oeil*, to laser or light shows or to schemes that describe the different elements of the archaeological site.

Despite being more complex constructions, observation platforms or even towers could be placed outside the ruins, having little or no impact to the site, but offering impressive views.

The inclusion of such an element in the surroundings of an archaeological site should be based on a previous analysis of the natural features, in order to reduce the impact into the landscape and to preserve the authentic atmosphere. Local materials and traditional techniques could be used for the towers or platforms.

Observation towers are also an important element of *story telling* as all fortresses along the Danube Limes were once also observation points. Observing the territory and the Danube from a height recreates the military strategy of controlling and protecting the conquered territory and stresses the idea of a frontier fortress. Indications on possible visual connections between different archaeological sites could also include the construction to enhance the concept of *living history*.

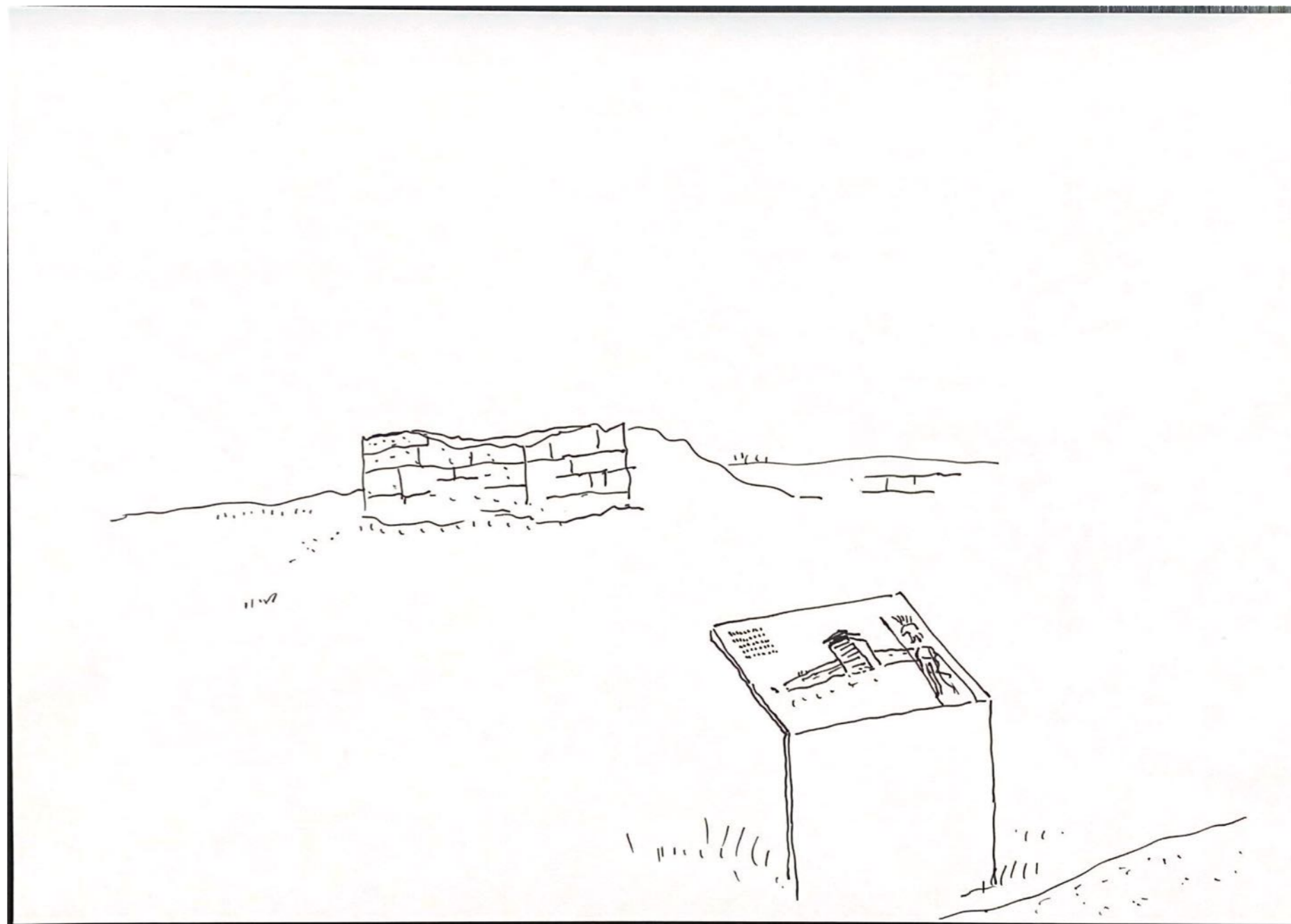
8 Signs

A wide range of sign typologies can be designed for the archaeological sites. Signs are important at different levels, from regional to local, in order to advertise or to lead the visitor without difficulty to the site, especially in cases when the ruins are in far, remote locations, with poor accessibility. Signs could also define touristic circuits and itineraries that extend beyond the limits of the site.

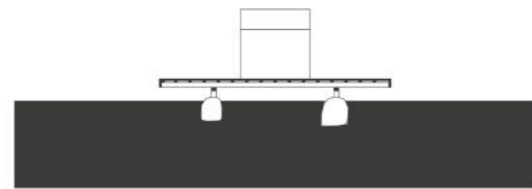
The design of signs and panels should take in consideration the definition of visual identity elements for the archaeological site. They should also work with the local typologies and character, in order to integrate into the landscape and recreate walking scenarios.

The interpretation signage inside the archaeological site is very important for the comprehension of the historical elements. They should be designed to be visible and understandable to any type of visitor. The relationship between signs and ruins has to be carefully studied to avoid an aggressive visual impact in the context of preserving the authentic atmosphere and the feeling of *living history*. The number, density and precise locations of the signs are essential in establishing a coherent visiting scenario.

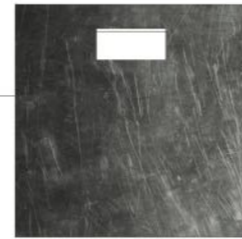
Generally, signs should be design in connection with other elements created for the public, such as furniture, paths and rails, parking, *bellvues*, *trompe l'oeils*, etc.



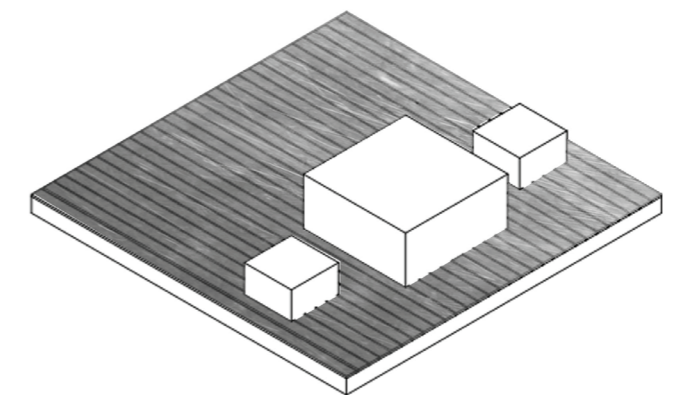
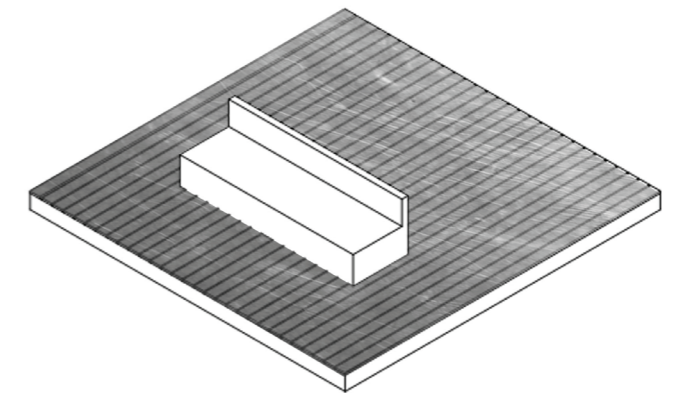
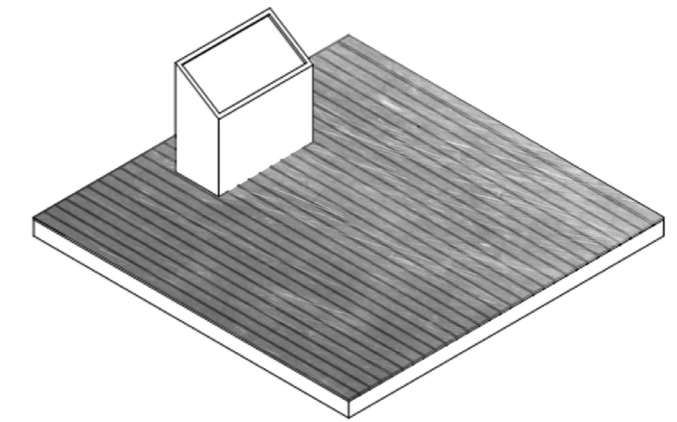
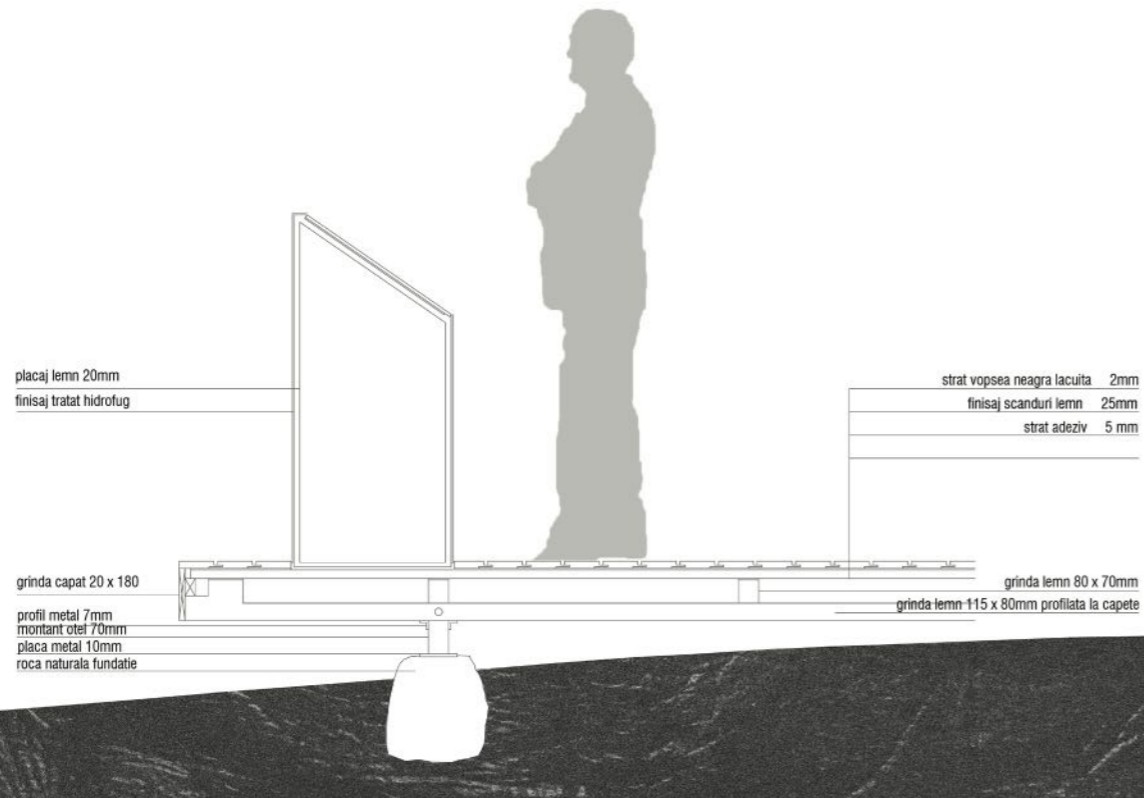
Interpretation signage - project for the archaeological site of Sacidava
drawing © Dragoş Dordea, 2021



SECTIUNE PLATFORMA 1:50



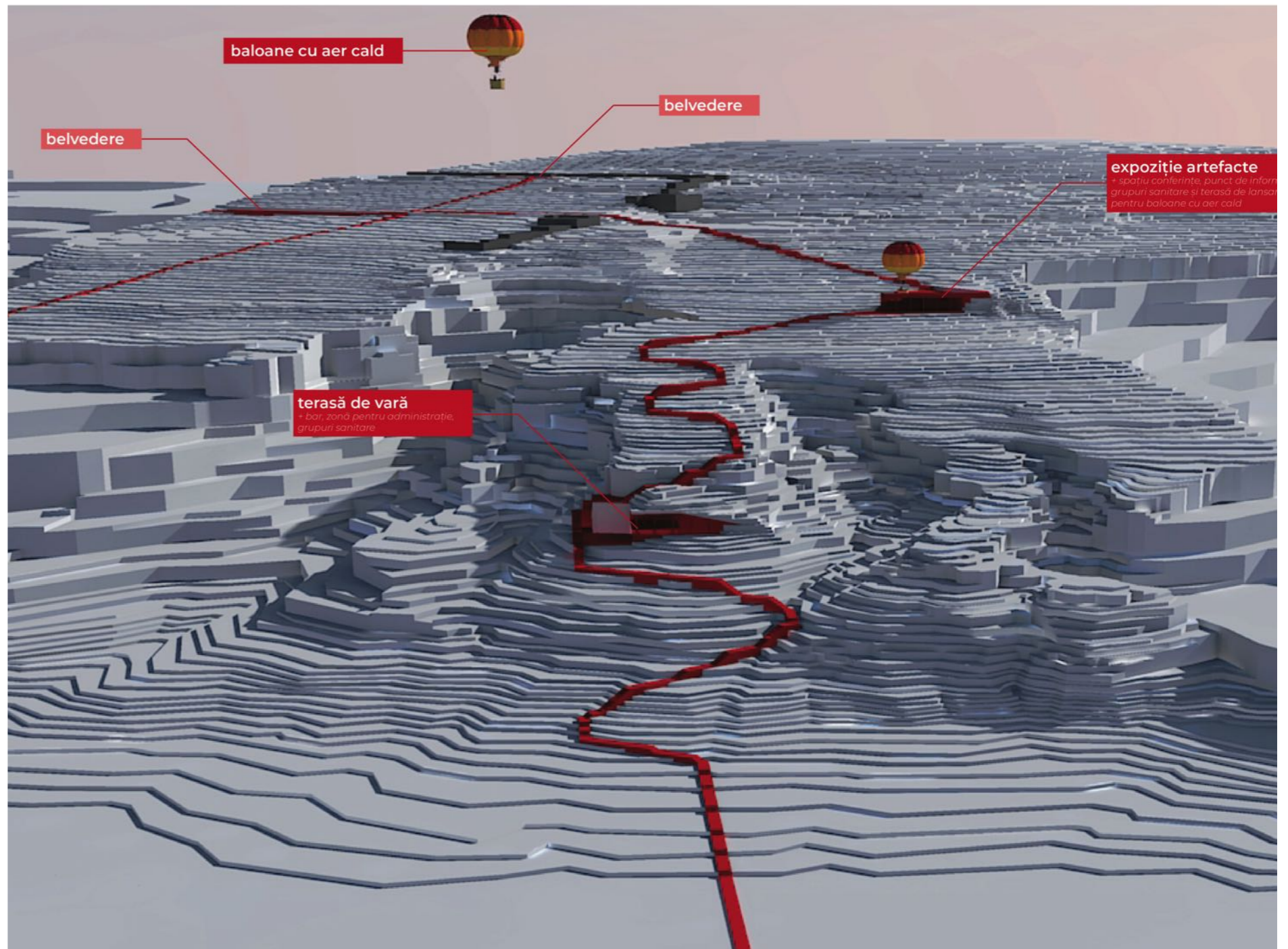
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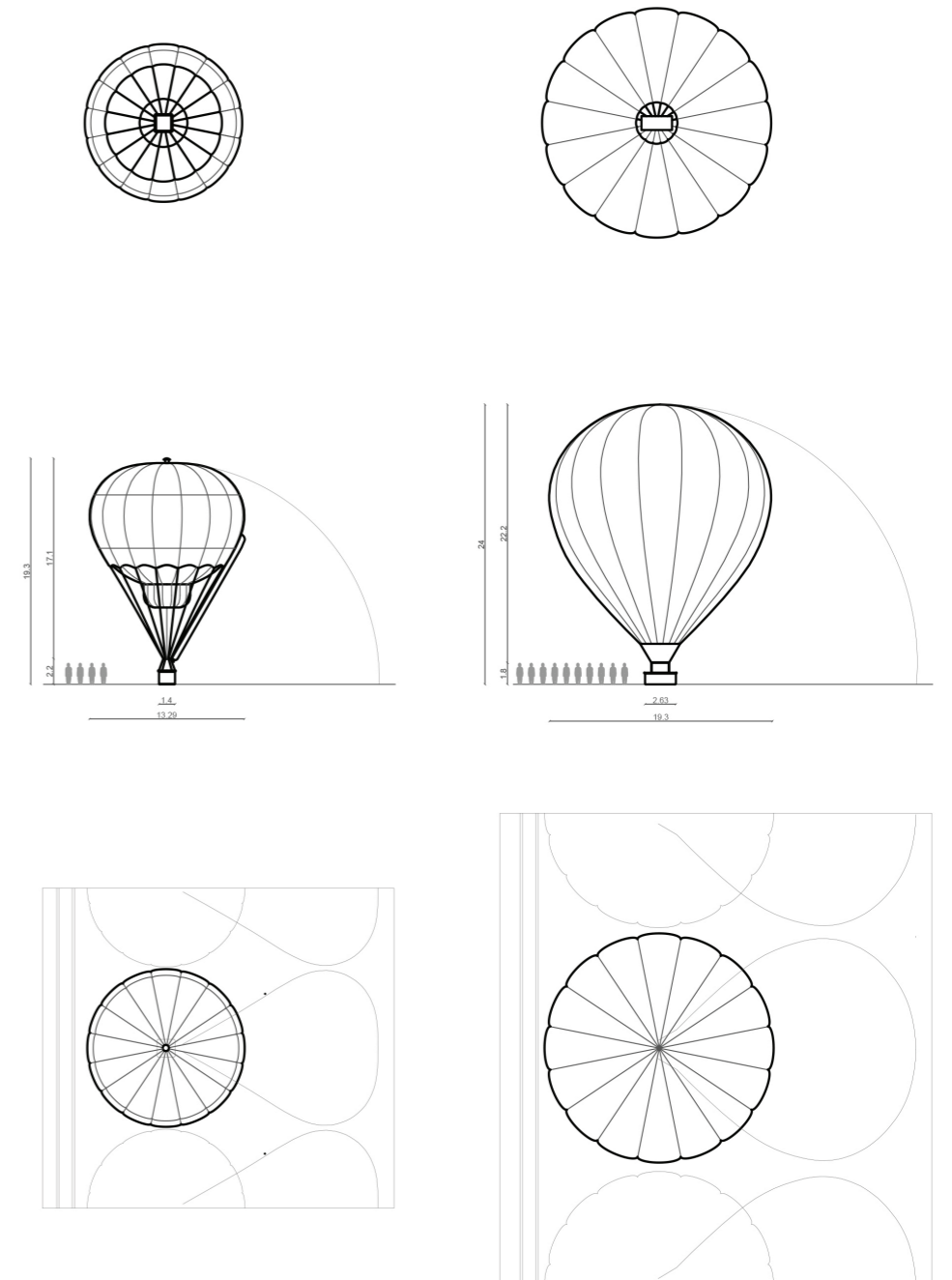
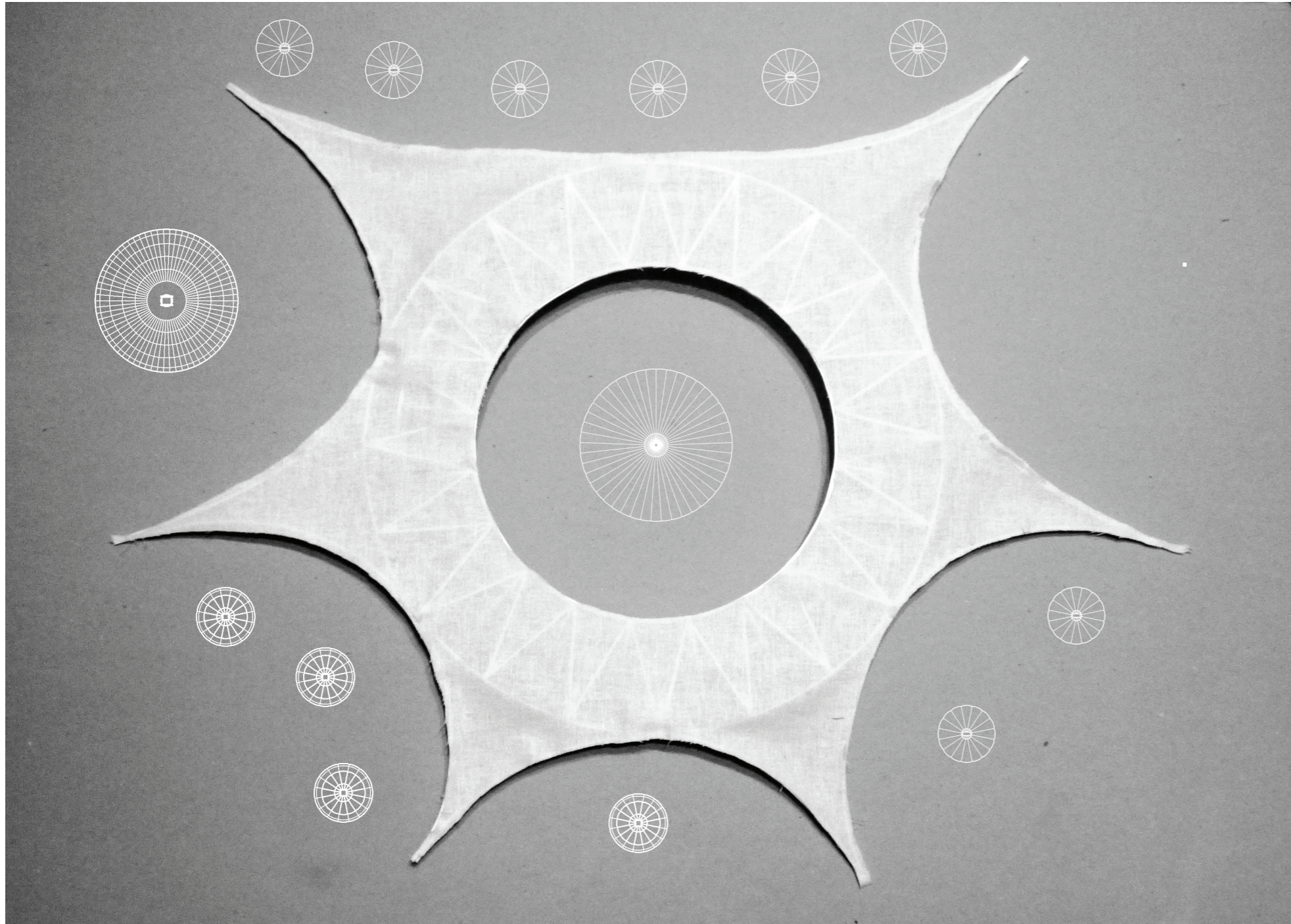


9 Air visits

In the context of sustainable tourism solution, balloon air visits are a very provocative solution for an areal view of the site. There is no impact at the level of the archaeological site, but the overview offers a complete understanding of the archaeological structures. Combined with other visibility measures such as non-invasive plants of light physical reconstructions, air visits are a touristic alternative that has the advantage of avoiding intensive traffic on the site or large parkings.

The take off and landing facilities can be detached from the site and linked to other circuits or points of interest. Guided air tours could reach several archaeological sites. They give the opportunity to understand the Danube Limes fortified frontier complex system functioning, the connections between fortresses and the historical territorial strategies.





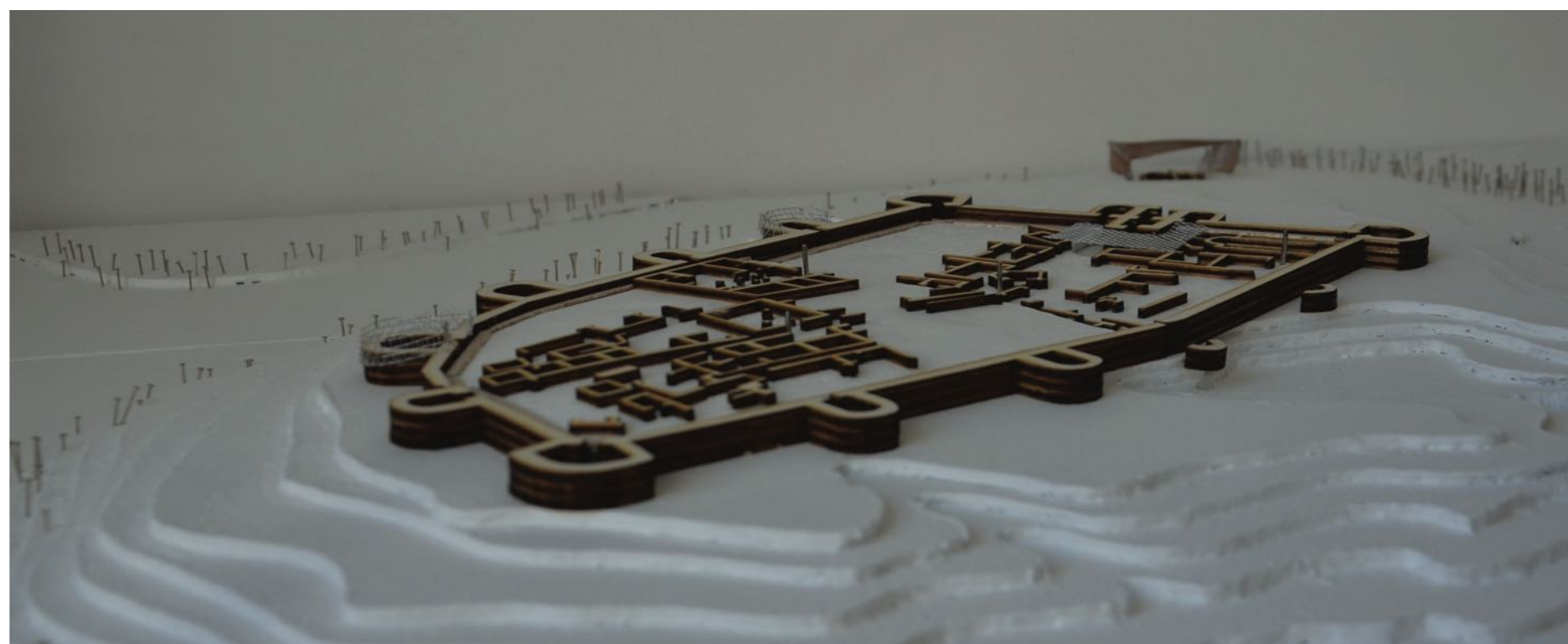
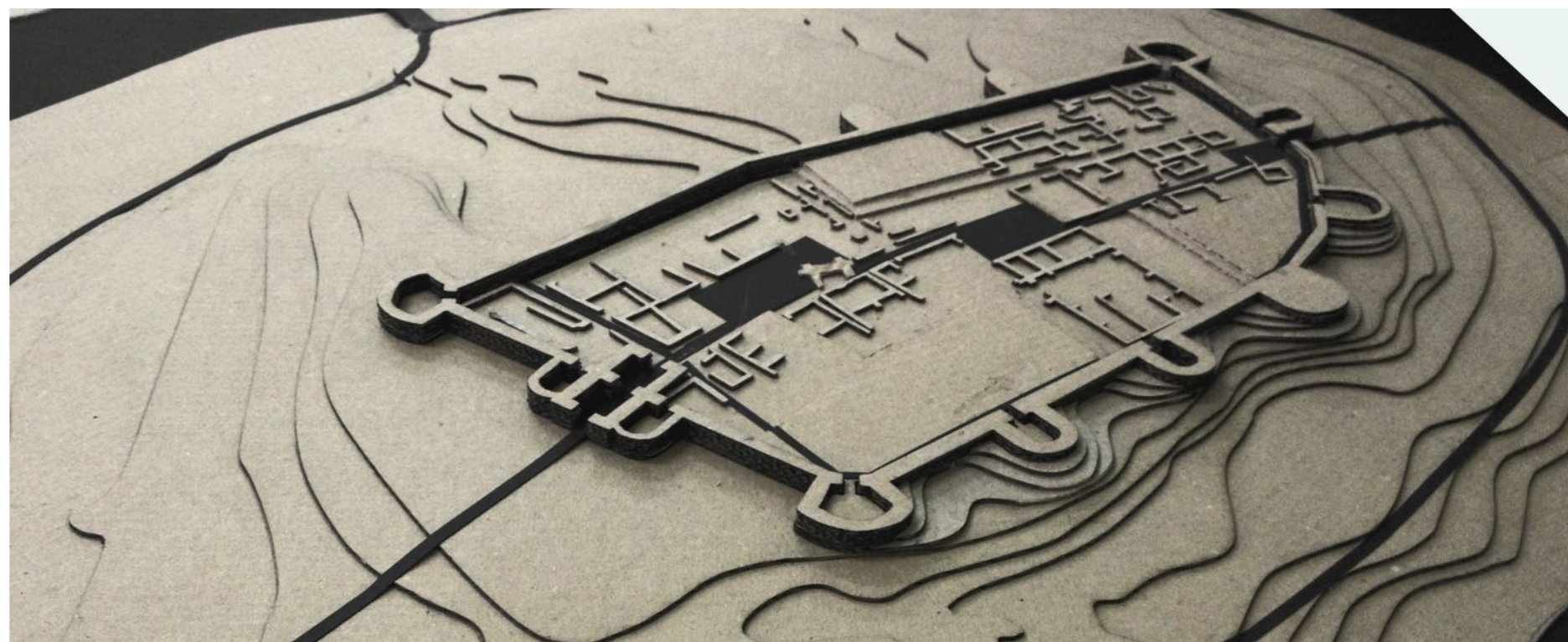
Project for a balloon airport
student Ștefania Ciubuc, UAUIM 2015

10 3D models

When air visits are not possible, a very accessible alternative are the physical models of the sites. Based on scans and surveys, models of the entire site can be showed to the public. From very small scale models to very large installations, such visibility measure provides the overview of the entire archaeological site that could sustain the visit on site.

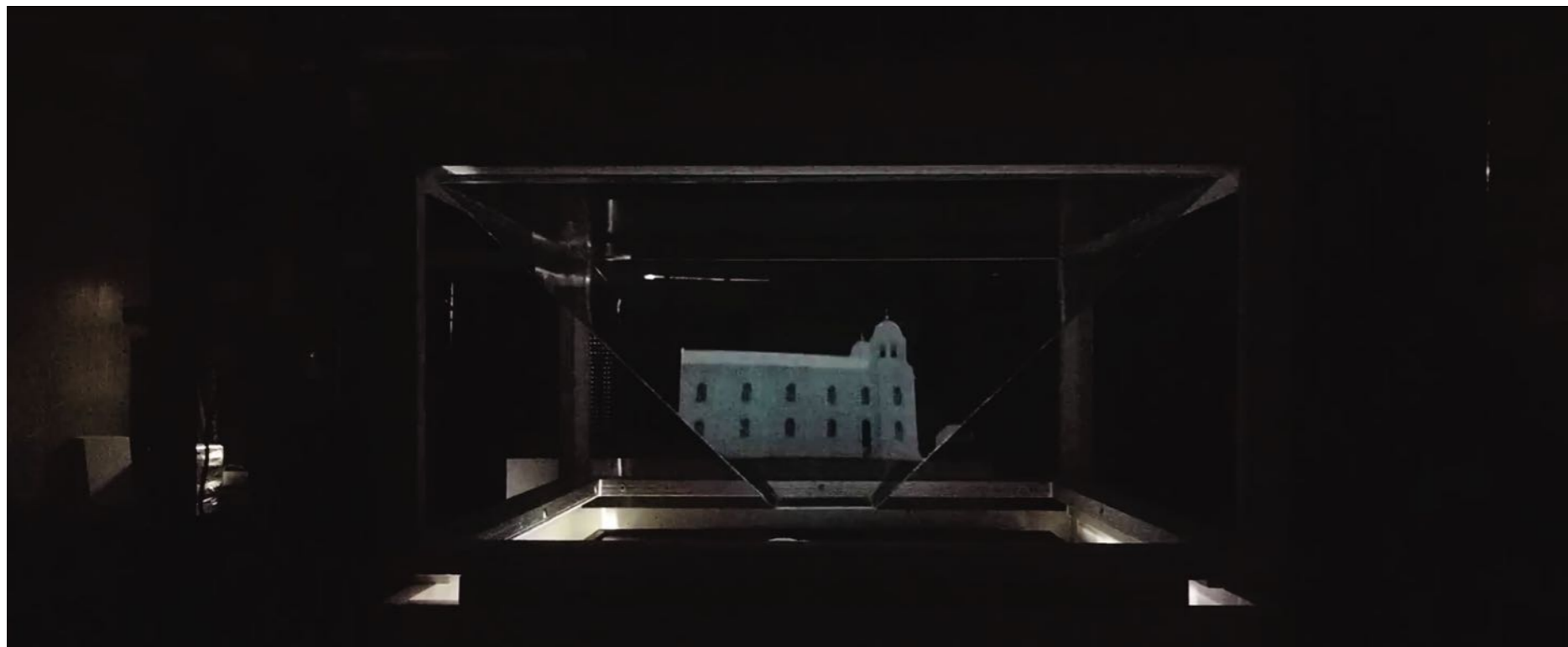
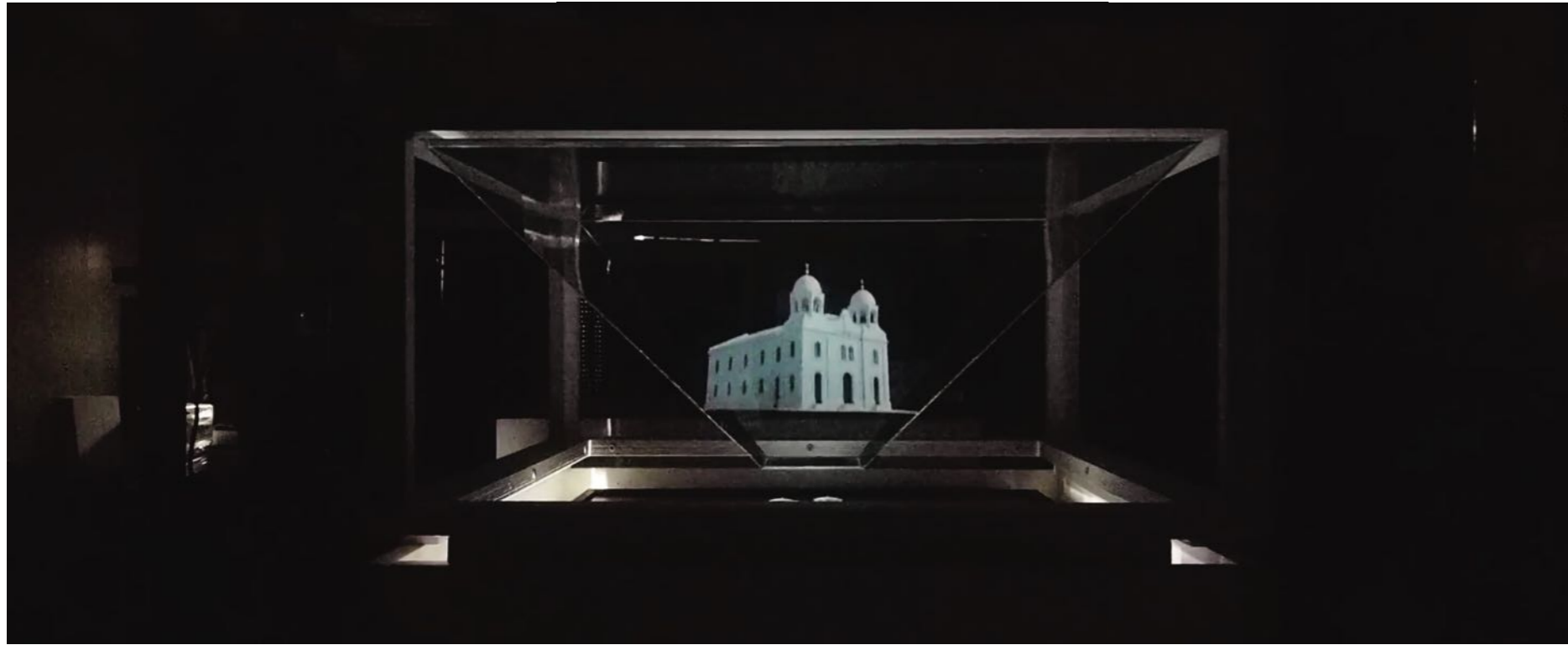
Although virtual technologies are available, 3D physical models are still precious objects, independent from devices. 3D models can be produced with advanced technologies like 3D printing or laser cutting, but they can also be created by hand, using classical, traditional or local craft techniques. Materials used for such models could recreate poetic atmosphere. Material could vary from wood, stone, clay, cardboard to bronze, concrete or synthetic compounds.

The production of 3D site models could be the theme of workshops, and a challenging and efficient educational method.



3D models of the archaeological site of Dinogetia
students Ștefan Păvăluță, Sînziana Tudor & Iulia Popescu, Andra Sarmîă, UAUIM 2014

11. Holograms



Current technologies permit the reconstruction of archaeological sites through holograms. From very small holograms to large scale installation, this visibility measure has a high impact on the visualization of the reconstructed site. Once all 3D data are available through scanning or surveys, the virtual 3D model can be transformed into a hologram.

Large scale holograms can reproduce very close to reality architectural spaces but also historical characters.

<https://www.archdaily.com/963011/holography-how-it-could-change-architectural-space>

More accessible, small holograms can be placed in exhibition or museums and even directly on site. The necessary software are generally 3D modeling programs (Rhino, Revit, etc.) and a video editing software (After Effects, Final Cut, etc.). Once the images or animations have been prepared, a glass or plexiglas pyramid should be produced and placed on a screen where the animation or images will play from a computer or smartphone.

Once a hologram installation is produced, the content can be changed, enriched with any further discoveries or virtual reconstruction information or ideas.

Hologram of the reconstruction of the Great Synagogue in Bucharest
Bogdan Ispas 2019

12. Museums & exhibitions

Museums are the classical exposing typology for archaeological discoveries. Large museums generally collect objects and information from different sources and can become a very complex source of information.

Besides large specialized museums of history and archaeology, small museums, close to the archaeological sites and dedicated to the site they are liked to, represent a visibility measure especially for sites that do not have appropriate accessibility. Small museums could be built in the surroundings for the archaeological sites. The design of such objects has to take into consideration preservation concepts such as following the local identity and protecting the natural environment. The presence of small museums should not affect the character of historical sites.

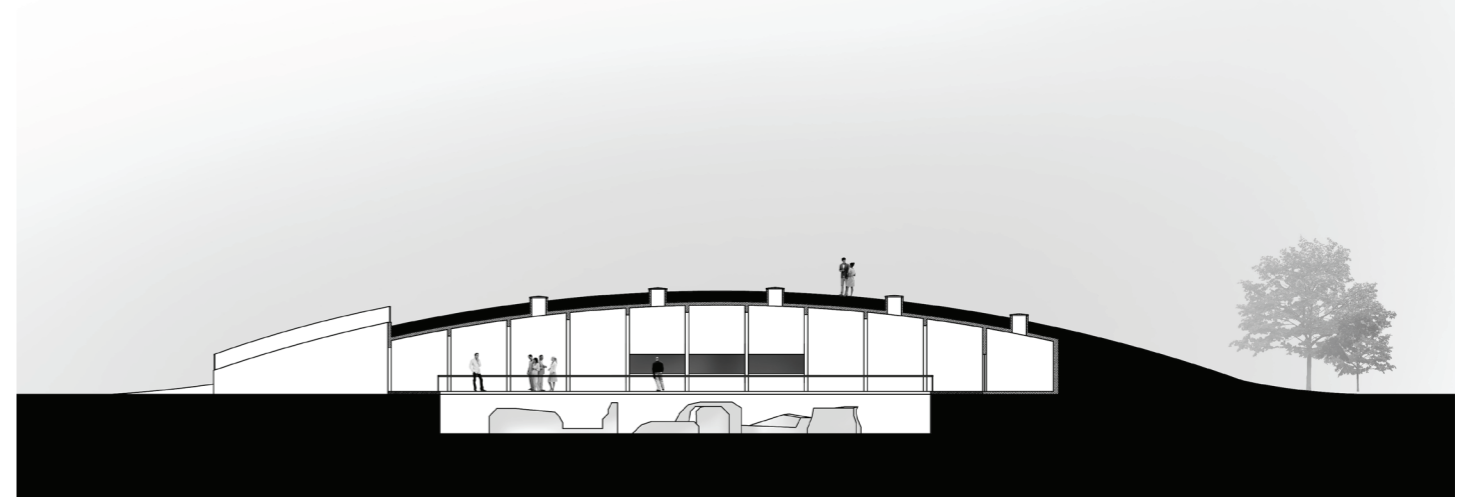
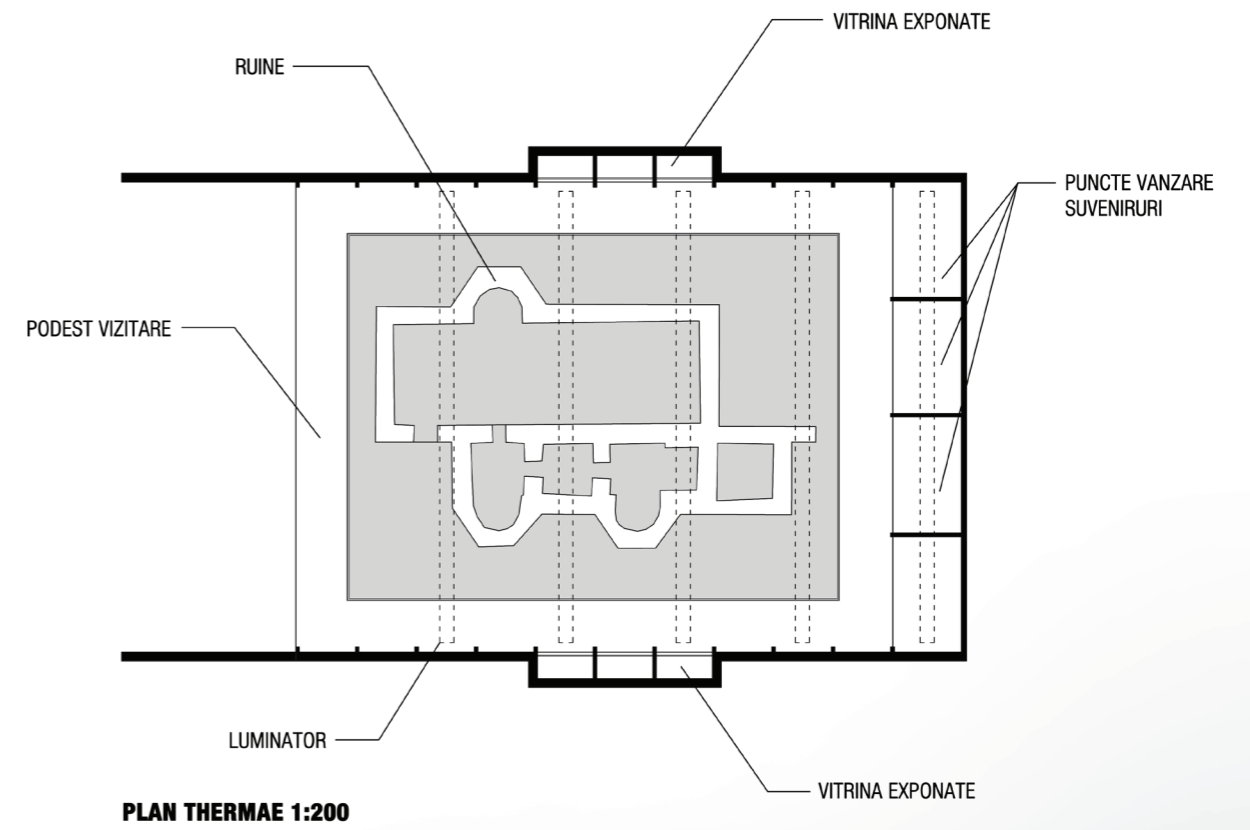
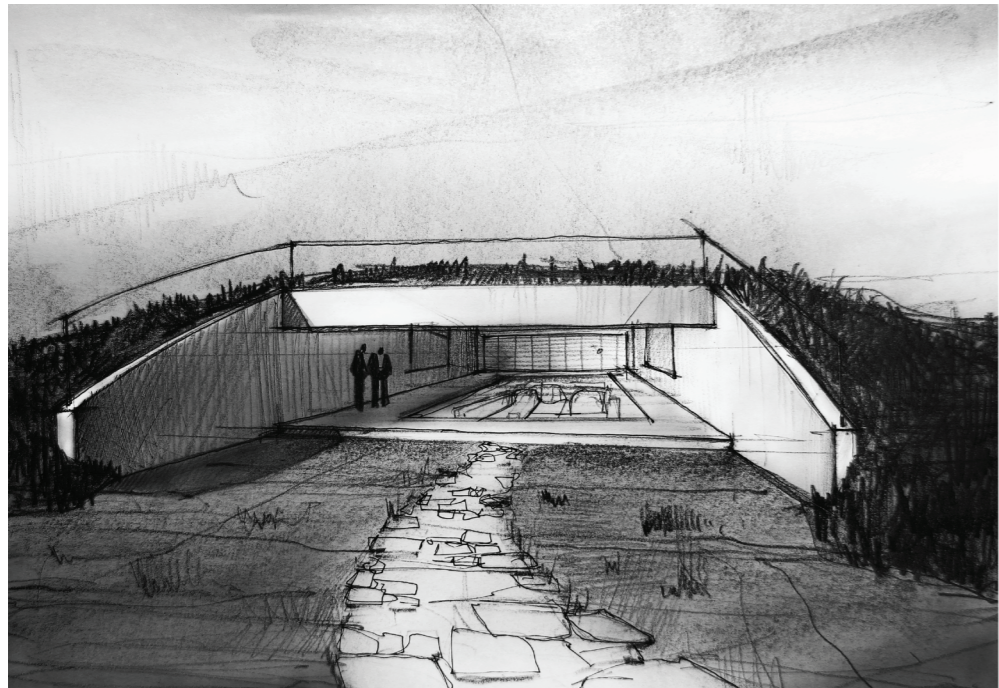
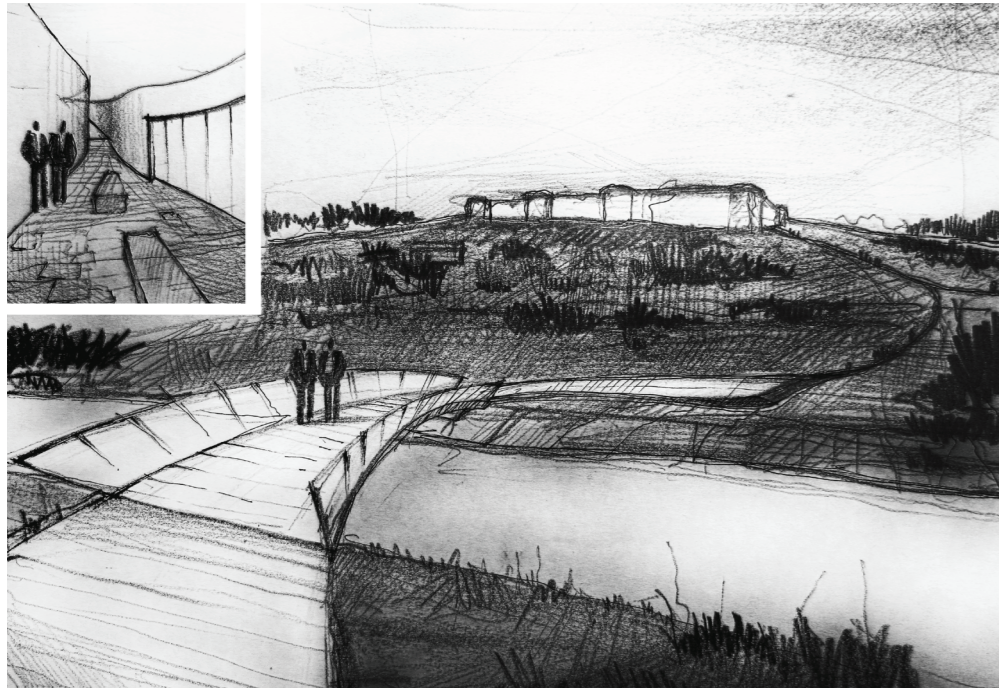
One other possibility is to identify locally places and spaces that could be converted into small museums. This option has a sustainable background, by reusing abandoned buildings, and implies less invasive interventions.

As case study, the kindergarten from Rasova lost its use and has been converted into a small museum for the archaeological site of Sacidava. The conversion project has been developed by the Living Danube Limes team from UAUIM, during the current Living Danube Limes Project. Exteriors and interiors follow roman ambiance and colours, recreating the atmosphere of roman buildings. Such museums can also host temporary exhibitions.



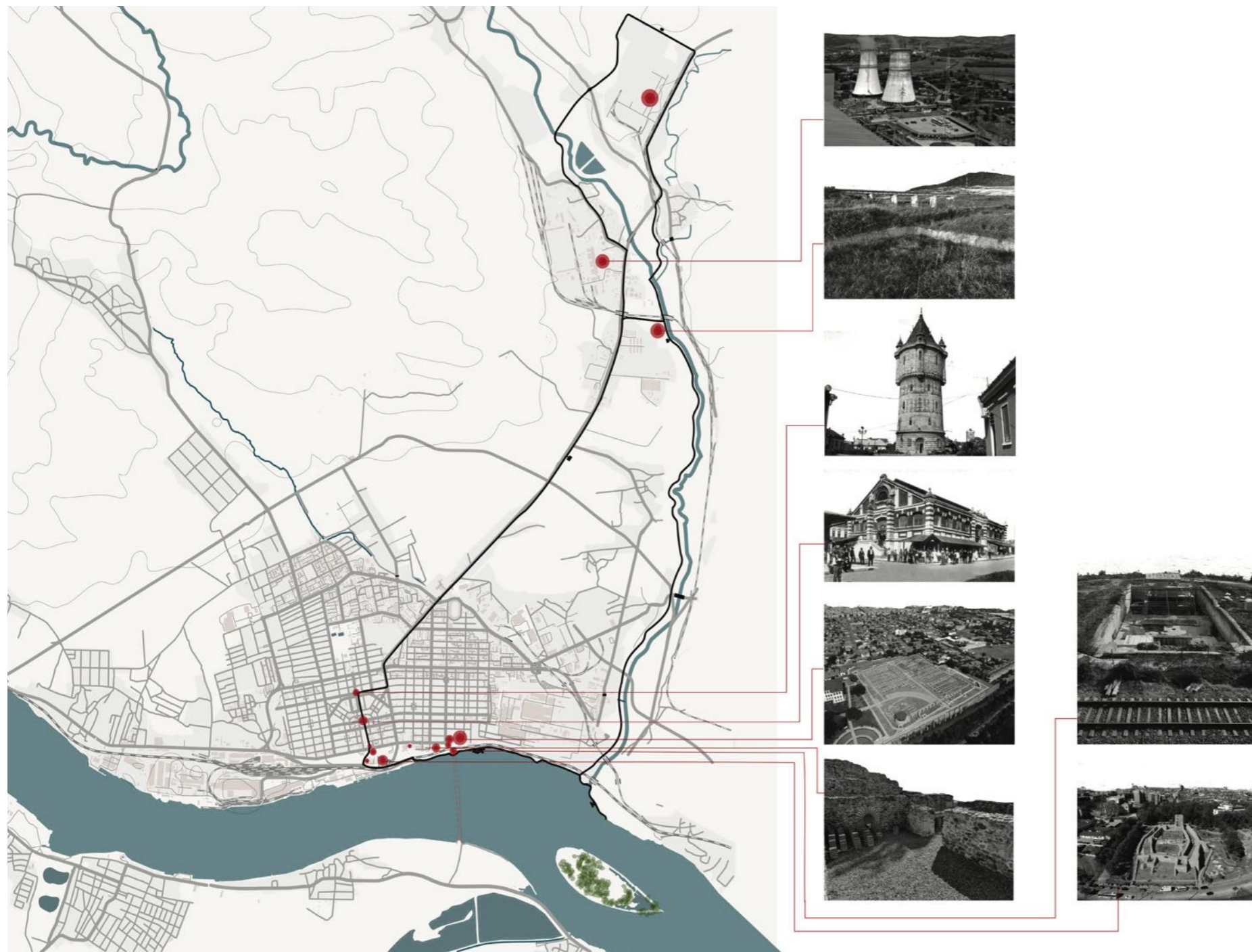


M V Z E U
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R A S O V A



Museum covering the thermes in the archaeological site of Dinogetia
Students Cristina Ionescu, Radu Caradim, UAUM 2014

13 Tours & Cultural Routes



Project for cycling circuit connecting the archaeological sites Drobeta and Putinei,
Student Andreea Roman UAUIM 2021

The Living Danube Limes project proposes the creation of a transnational Cultural Route, connecting all archaeological sites of the Danube Limes through a cruise on a Roman boat. Analogically, at different scales, from national to regional and local, other touristic circuits can be developed in order to include the archaeological sites on interest Routes. Such circuits could enhance the visibility of single sites, mostly of those far from major cities, transportation infrastructure or other touristic facilities

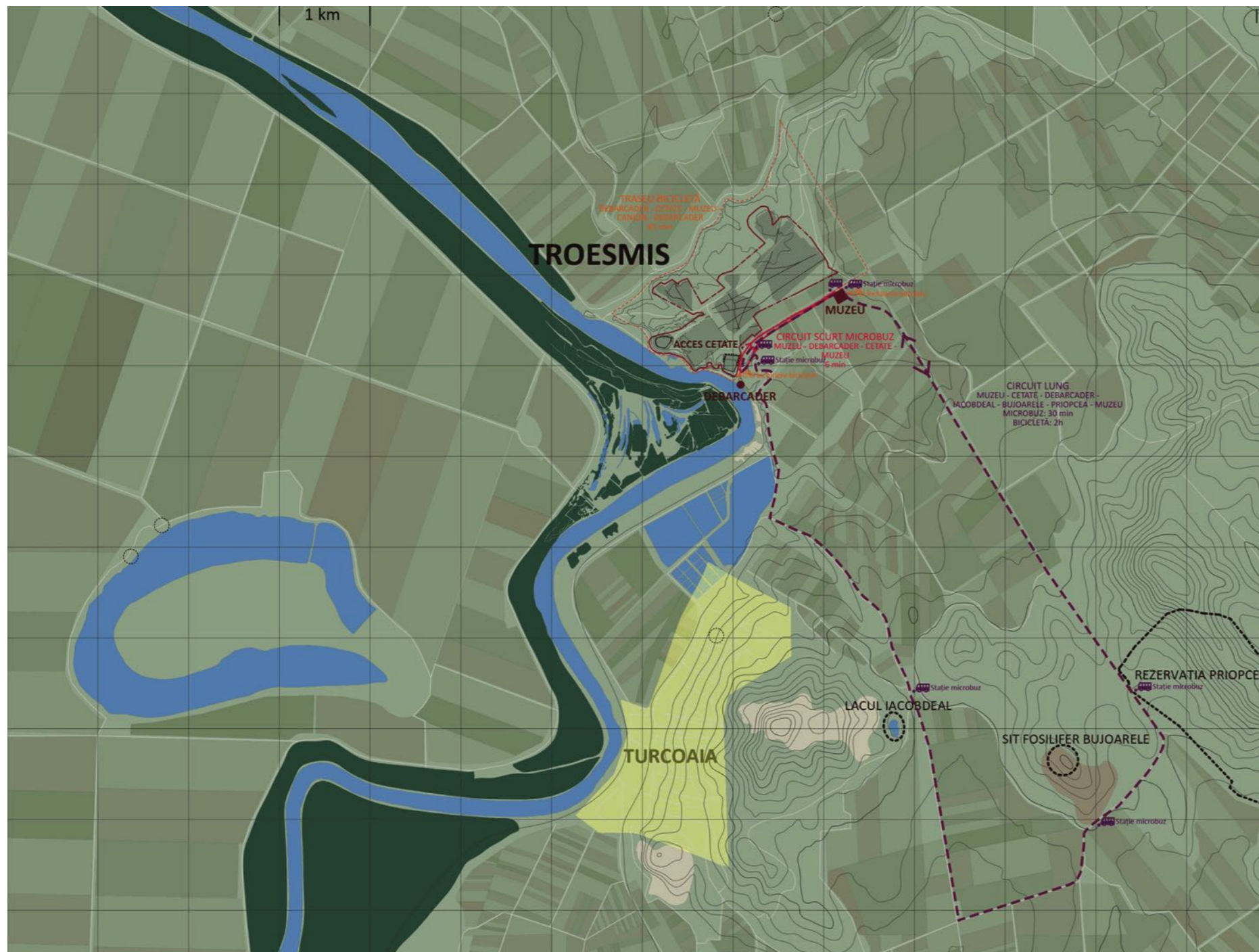
The research team from UAUIM has followed the entire Danube Limes on the Romanian territory and has proceeded to the development of local and regional projects that would include the archaeological sites on touristic circuits.

The method is based on a several steps investigation, at different territorial scales of the context hosting the archaeological site. The analysis includes the natural features, monuments and other touristic poles, touristic facilities, infrastructure, from roads, ports and airports and urbanized areas and the relationship with the Danube. The results disclosed possibilities for thematic trips or circuits, that would have included one or several sites. A main direction of such an approach is also the preservation of the local identity and of the original landscape.

Cycling circuits

At the beginning of the Roman Limes in Romania, the a project develops a cycling circuit connecting two archaeological sites of the Roman Danube Limes, Drobeta and Puținei. The circuit proposes to follow first the ancient Roman Road and to return along the river, through a landscape appropriate for leisure and sports. The project also identifies other interest points, in order to enhance the diversity of the proposed circuit and marks possible stops.

The potential of this small circuit is to connect to larger transnational or national cycling circuits but also to provide a development basis for the local communities and enhance the visibility of remote, unknown archaeological sites.



Project for a visiting circuit connecting the archaeological site of Toesmis with natural areas
Student Ioana Costescu, UAUIM 2021



Project for a circuit on the archaeological site of Oltina
student Catrina Ulici, UAUIM 2021



Sailing circuits

At the end of the Danube Limes, a sailing circuit has been developed, sliding through water channels near ancient fortresses. The ancient shore of the Black Sea had changed therefore the last archaeological sites are now only accessible also by water. At the end of the long cruise on the Danube, another small circuit relates the visitors to the end of the Roman Empire through ancient Roman roads, natural parks and lakes.

Project for sailing & road circuits the end of the Roman Danube Limes,
 Student Georgiana Fotescu, UAUIM 2021