

D.T3.1.2 Deliverable title: The investment preparation documentation for pilot action in Chorzów

D.T3.1.2

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Table of Contents

| | |
|--|---|
| 1. Procedure for order of the investment preparation documentation for pilot action in Chorzów | 2 |
| 2. Approval of the documentation..... | 4 |



1. Procedure for order of the investment preparation documentation for pilot action in Chorzów

Activities related to the implementation of the project with the acronym SALUTE4CE entitled 'Integrated environmental management using micro squares in functional urban areas - application of the urban green acupuncture idea' co-financed from the INTERREG program for Central Europe undertaken in the period from October 2019 to March 2020.

In the period from October 2019 to March 2020, we completed the following project elements: Documentation necessary to initiate the procedure for the public procurement for the implementation of four projects related to the project with the acronym SALUTE4CE has been developed, including:

- a) preliminary assessment of substrate quality in terms of plant selection at four investment spots. It was necessary to start

Green roadside of Moniuszki street - parking at the flyover: The soil needs to be replaced up to 30 cm deep due to heavy metal contamination (Pb, Cd and Zn). The substrate should be fertilizer and cultivation requirements for the proposed plant species. To create a green wall can be used: *Humulus lupulus*

Chorzów Cultural Center - green wall: The soil does not meet the standards for heavy metal contamination, there is an excess of zinc (Zn) content, therefore it is necessary to replace the substrate to a depth of 30 cm, the substrate should be fertilizer and cultivation requirements of the proposed below plant species. In order to obtain a green wall on the racks it is proposed to plan: *Schisandra chinensis*), *Aristolochia macrophylla*, *Celastrus scanden*, *Schizophragma hydrangeoides*

Green Bankowa Street - alley with plantings on both sides of the oak-hornbeam species. The soil meets the standards for heavy metal contamination (Journal of Laws of 2016 item 1395), although slight exceedances of the zinc (Zn) content were found, but they will not be significant from the point of view of plant cultivation. The soil has an appropriate pH, it also does not require fertilization or the addition of organic matter. In order to complement biodiversity on both sides of the street, it is proposed to plant hornbeam species: *Sambucus ebulus*, *Paris quadrifolia*, *Osmunda regalis*, *Lathyrus vernus*, *Melittis melissophyllum*, *Scrophularia nodosa*, *Carex sylvatica*, *Carex digitata*, *Sanicula europaea*, *Pyrola rotundifolia*, *Corydalis cava*, *Convallaria majalis*, *Asarum europaeum*, *Pulmonaria obscura*, *Hepatica nobilis*, *Galium odoratum*, *Anemone nemorosa*

Green yard for the real estate at Armii Krajowej 32 Street - a green wall with vines and a herb garden next to the tenement house. The soil meets the requirements for heavy metals appropriate pH and fertilizer requirements of the proposed plant species. However, due to the low content of organic matter, it requires supplementing, e.g. in the form of compost. To cover the concrete elements of the viaduct, use plants on racks: *Actinidia*, *Ampelopsis brevipedunculata*, *Clematis*, *Vitis coignetiae*.

In addition, to ensure the attractiveness of this space for residents, it is proposed to make flowerbeds with herb plantings: *Origanum vulgare*, *Symphytum officinale*, *Pimpinella major*; *P. magna*, *Asarum europaeum*, *Valeriana simplicifolia*, *Levisticum officinale*, *Ruta graveolens*, *Salvia officinalis*, *Veronica chamaedrys*, *Alchemilla vulgaris*, *Ononis arvensis*, *Ononis spinosa*, *Nepeta cataria*, *Thymus serpyllum*, *Mentha arvensis*, *Fragaria vesca*, *Salvia officinalis*, *Marrubium vulgare*, *Galium odoratum*, *Centaurea jacea*, *Centaurea rhenana*, *Hypericum perforatum*,

Galeobdolon luteum, *Lamium album*, *Lamium purpureum*, *Origanum vulgare*, *Thymus serpyllum*, *Thymus pulegioides*, *Melissa officinalis*, *Mentha longifolia*, *Mentha arvensis*, *Pulsatilla vulgaris*, *Primula sp.*, *Tussilago farfara*

- b) Project assumptions (attachment to the Specification of Essential Terms of the Order),



The assumptions, in the descriptive part, specify in detail what is the subject of the contract, what should include the design documentation being the subject of the contract, the existing state of the objects related to the project is briefly described and project guidelines are given. In the conditions for the design documentation, it was noted that when starting the contract, the existing greenery, physico-chemical composition of the soil, soil quality assessment and suggested plant species for use in planting design should be taken into account. It was also mentioned that when choosing material and technological solutions it is necessary to take into account the operating conditions of the building - external, generally accessible area - so as to ensure rational costs of operation and exploitation, safety of use as well as durability and resistance to devastation. In the conditions of execution and acceptance of works, it was noted that the project must comply with formal requirements in accordance with building law and constitute the basis for obtaining a building permit. In addition, the required deadlines were given: assembling of the concept and of complete project documentation together with the building permit / notification of construction works.

It was also included that the deadline for the service was the criterion for assessing the offer, with the maximum deadline being 5 months from the date of signing the contract. In the information part of the assumptions, the project attached basic maps on a scale of 1: 500, 1: 1000 with marked development boundaries, a table of physicochemical composition of the soil as well as an assessment of soil quality and a list of suggested plant species.

- c) Assumptions for the Specification of Essential Terms of the Order,
The assumptions specify:
 - deadline for completing the order,
 - evaluation criteria for the offer,
 - evaluation method for the offer,
 - amount of security deposit,
 - the method of calculating the price,
 - conditions for participation in the procedure.
- d) Draft contract (attachment to the Specification of Essential Terms of the Contract).
The draft contract includes paragraphs specifying:
 - what should include project documentation,
 - deadlines for submitting and checking project documentation,
 - terms of payment,
 - author's supervision,
 - transferring copyrights to all documentation to the City of Chorzow,
 - contractual penalties,
 - changes the contract.
- e) after preparing the documentation on October 2019, the City Secretary was asked to agree to initiate public procurement for the implementation of four projects related to the implementation of the project with the acronym SALUTE4CE. After obtaining agreement, on November 2019, an information about public procurement was published in the Public Information Bulletin on the website of the City of Chorzow. Offers were publicly opened at the City Hall. Two offers were received.
As the most advantageous tender committee choose the offer: "FRANTA & FRANTA ARCHITEKCI" Sp. z o.o., 41-500 Chorzów, Al. Harcerska 3, for PLN 48,000 gross, with the offered delivery date - up to 3 months from the date of sign the contract. The offer obtained the highest number of points - 100 points out of 100 possible. On December 2019, the Company signed contract No. 2258.2019 for the implementation of four projects related to the implementation of the project with the acronym SALUTE4CE.



2. Approval of the documentation

On January 2020 "FRANTA & FRANTA ARCHITEKCI" Sp. z o.o. according the contract provided project concepts with visualizations and descriptions for 4 locations. Two weeks later, after considering our comments we accepted the submitted ideas. The concepts contain information on the selection of vegetation species. Selected species include species suggested for use in the project's assumptions:

- in the concept of "green street" appear: *Euonymus fortunei*, *Ribes alpinum*, *Lathyrus vemus*, *Conwallaria majalis*, *Asarum europaeum*,



- in the concept of the "green road": *Humulus lupulus*,
- in the concept of "green wall": *Ajuga reptans*, *Asplenium trichomanes*, *Hedera helix*, *Vinca minor*, *Geranium macrorrhizum*, *Heuchera x hybrida*, *Euonymus fortunei*,





- in the concept of "green yard": *Ribes alpinum*, *Cornus alba*, *Carpinus betulus*, *Euonymus europaeus*, *Nepeta faassenii*, *Mentha L.*, *Melissa officinalis*



On 14.01.2020 r. 'FRANTA & FRANTA ARCHITEKCI' according to the agreement provided project concepts along with visualizations and descriptions for 4 locations. After analyzing the submitted concepts we referred to them. In a letter to the 'FRANTA & FRANTA ARCHITEKCI' of 20/01/2020. City of Chorzów presented comments on individual concepts:

I In terms of the concept of a green street - Bankowa Street

1. The relation between the biologically active surface (grass) and the concrete surface adopted in the concept should be changed. There must be more grass which fills the gaps between concrete slabs in grassy pavement presented in the conception. For this purpose, we suggest to thicken the grassy between the plates. It would also be reasonable to include an absorbent basin. Absorbent basin is depressions for rainwater retention overgrown with vegetation including grasses,. Absorbent basin slows down the water flow, enables infiltration into groundwater and acts as a rainwater pollution filter. Absorbent basin works perfectly along roads, squares and parking. The basin collects rainwater mainly from roads and pavements. Water can be supplied through the street inlet system or directly from the sidewalks. Usually it has a width of 1.5-5.0 m. It is also lowered by 0.3-0.5 m compared to the terrain.

2. All elements necessary for the full implementation of the investment should be taken into account. When constructing the street, you cannot forget about new concrete resistors from the escarpment side at the street lamps and seats.



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II. In terms of the green roadside concept - Moniuszki Street

1. All elements necessary for the full implementation of the investment should be taken into account. In this case it is necessary to separate the roadside from the street by building curbs or parking stops, which will protect the plants from damage.



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III. In the scope of the green wall concept - Chorzów Cultural Center

Due to the need to ensure the right solution of the green wall as acceptance of the solution with the Contractor's warranty. Adaptation of a vertical garden hydroponic system doesn't mean that this is a solution based only on hydroponics. The wall should use native species. In the design, it must be permanent fixed to the building wall. For cost reasons, we suggest reducing the green wall by a 0.5 m module on each side.



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IV. In terms of the concept of a green yard - Armii Krajowej Street

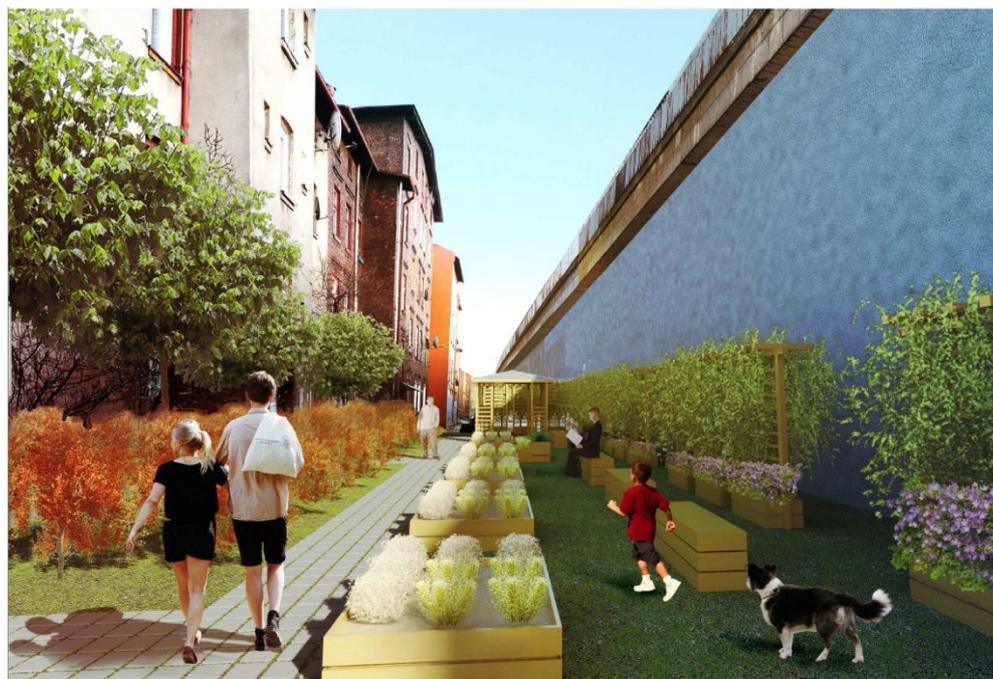
As in the case of the other three concepts, it is necessary to adapt the type of materials to financial resources intended for the investment. Therefore, we propose to limit the number of elements of small architecture presented in the concept to the necessary minimum. Leave one pot for growing herbs and wooden seats. Do not use flower pots with pergolas. Instead, plant hedge shrubs in the ground in line, at a

suitable distance from the retaining wall. The design should also include concrete pavement surfaces with grass joints and a playground for games proposed in the concept. The installation of a lawn should also be considered.





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On 29.01.2020 City of Chorzów finally accepted the submitted ideas including our comments. The contractor did not include absorbent basin in the final concept for "green street". We agreed to omit the absorbent basin in the final version of the concept because they were presented by the FRANTA & FRANTA ARCHITEKCI as a proposal for possible application. FRANTA & FRANTA ARCHITEKCI also agreed to use the 'green wall' solution proposed by the City of Chorzów taking into account reduction by a 0.5 m module on each side.