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# Municipal Infrastructure Support Programme

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## Program podrške razvoju infrastrukture lokalne samouprave

●●● Gradimo zajedno za budućnost





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# Revitalization of Golubac Fortress

Jean Claude Ah Man  
September 16 -17<sup>th</sup>, 2011

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# Background to Project

- **Feasibility study and preliminary design for fortress completed in 2009**
- **Regulation plan prepared on basis of preliminary design for fortress also includes a road tunnel and a pier**
- **Preliminary design for road, tunnel and pier not started**
- **Project was already selected for inclusion in the Danube Strategy to be funded by the EU**





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# MISP Involvement

- **Feasibility Study already prepared do not comply with EU's requirements**
- **No analysis of alternatives presented**
- **Financial analysis was carried out but are not complete**
- **Economic analysis was not prepared**
- **Environmental impact assessment was not included**
- **MISP was requested to prepare a feasibility to the standards expected by the EU**





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# MISP Approach

- **Identify alternatives using the same scope as proposed in 2009**
- **Maximize the benefits with same budget**
- **Carry out Cost Benefit Analysis**
- **Identify all the issues (social, legal, institutional, programming etc) which can derail the project**
- **Prepare an implementation programme**



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# MISP Team

- **15 Experts involved in feasibility study**
- **Conservation architect, planner, tourism expert, lawyer, institutional expert, road engineer, tunnel engineer, socio-economist, environmental expert, finance expert, economists, engineers**
- **Working group set up within municipality**
- **Frequent brainstorming within team**



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# Golubac Fortress as Tourist Destination

## MISP Guiding Principles

- **Golubac fortress on its own cannot be a tourist destination such as Pompeii in Italy, i.e. too small**
- **Necessity to increase number of attractions to keep tourists on location and maximize spending opportunities**
- **Touring visitors (cruise ship, private transport, organized tours) are expected**
- **Educational tourism (school parties, culture tours)**



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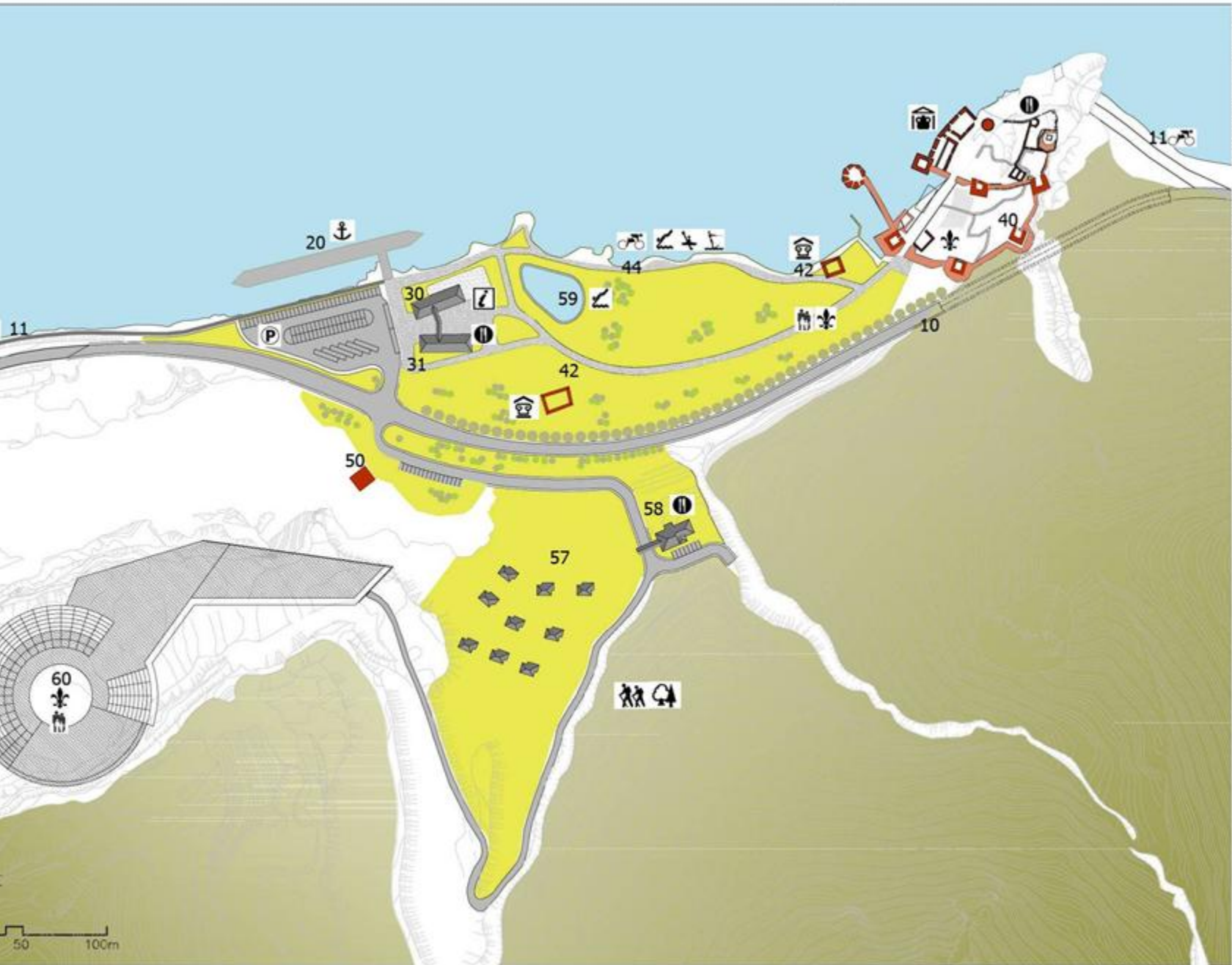
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# Concepts Identified

Three concepts proposed:

- **Concentrated attractions** – most of the attractions concentrated in the fortress (**original concept**)
- **Distributed attractions** – attractions are distributed some in the fortress and some in the forecourt of the fortress
- **Cultural Heritage Destination** – Fortress is maintained as ruins and attractions are located in the forecourt





PHASE 1

- 10 Displacement of the road and construction of the tunnel
- 11 Bicycle path
- 20 Pier
- 30 Visitor's center - building
- 40 Reconstruction and conservation of the fortress
- 42 Archeological park
- 44 Quay
- 57 Wooden apartment complex
- 58 Wooden apartment complex central building
- 59 Swimming pool

PHASE 2

- 31 Visitor's center - building
- 50 Adaptation of the stone into ateliers
- 60 Amphitheatre in the quarry

- (P) parking
- (R) restaurant
- (B) bicycle path
- (E) event site
- (G) gathering point
- (I) info
- (H) hiking
- (NP) national park
- (AP) archaeological park
- (M) museum
- (WS) water sports

50 100m



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# Concept I – Multi-functional Fortress

## Benefits

- **Pier close to the fortress will benefit cruise ships visitors**
- **Visitors from cruise ships do not have far to walk**
- **Most of the attractions located within the fortress**
- **Reconstructed fortress will require less maintenance and is more secure**





Golubac town



11

(P)

30

31

44

42

42

10

50

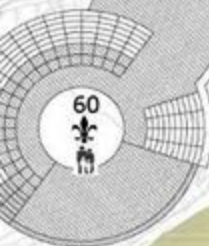
51

61

53

54

(P)



60

50 100m

### PHASE 1

- 10 Displacement of the road and construction of the tunnel
- 11 Bicycle path
- 20 Pier in Golubac
- 30 Visitor's center - building
- 40 Partial reconstruction and conservation of the fortress
- 42 Archeological park
- 44 Quay
- 50 Adaptation of the stone crusher into viewpoint
- 51 Pedestrian bridge
- 53 Viewpoint terrace
- 54 Panorama restaurant

### PHASE 2

- 31 Visitor's center - building
- 60 Amphitheatre in the quarry
- 61 Gondola (monocable system)

- (P) parking
- (R) restaurant
- (B) bicycle path
- (E) event site
- (G) gathering point
- (I) info
- (V) viewpoint
- (G) gondola
- (P) panorama
- (H) hiking
- (N) national park
- (A) archaeological park



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# Concept II – Distributed Attractions

## Benefits

- Pier in Golubac town will encourage economic development in the town
- Bridge over highway opens the mountain and the nature reserve to visitors
- Visitors are provided with more attractions (water front, viewing platform, access to nature reserve, more and larger museums) and tourist likely to stay longer
- Some of the attractions still located within the fortress





PHASE 1

- 10 Displacement of the construction of the tower
- 11 Bicycle path
- 20 Pier in Golubac
- 30 Visitor's center - building
- 40 Conservation of the tower
- 42 Archeological park
- 44 Quay
- 50 Adaptation of the tower into viewpoint
- 51 Pedestrian subway
- 53 Viewpoint terrace
- 54 Panorama restaurant

PHASE 2

- 31 Visitor's center - building
- 60 Amphitheatre in the fortress
- 61 Gondola (monocable)

- (P) parking
- (I) restaurant
- (B) bicycle path
- (F) event site
- (G) gathering point
- (I) info
- (V) viewpoint
- (G) gondola
- (C) panorama
- (H) hiking
- (N) national park
- (A) archaeological park





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# Concept III – Cultural Heritage Destination

## Benefits

- Pier in Golubac town will encourage economic development in the town
- Subway under highway opens the mountain, view points and the nature reserve to visitors
- Visitors are provided with more attractions (same as Concept II) and likely to stay longer
- Fortress is conserved in accordance with ICOMOS rules
- Maximising investments in other attractions



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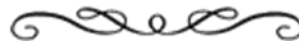
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# Other Alternatives Considered

## For Concepts II & III

- Fortress conserved or reconstructed
- Bicycle path through fortress or through road tunnel
- Pedestrian access to nature reserve and viewing point or no access
- Pedestrian crossing with traffic lights, bridge or underpass
- Tunnel alignment close to fortress or away from fortress
- Pier in Golubac town or near fortress
- All alternatives have advantages and disadvantages





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# Issues Encountered

- Regulation plan cannot be amended within the tight implementation programme
- Geometrical design of the tunnel requires issue of special design conditions and classification of fortress area as a settlement to reduce speed limit
- Detailed design already started and almost complete for some components but not started for others
- Interpretation of international conventions is subjective
- Inflexible position of some parties



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# Lessons Learnt

- Feasibility study to EU standard must be completed before completion of preliminary design, regulation plan and certainly before detailed design
- Preliminary Design and Regulation plans must be sufficiently flexible to adapt to amount and sources of fund
- Evaluation of comparable alternatives has to be strictly enforced
- Cost Benefit Analysis must be obligatory
- Compromise by **all parties** essential





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# Cost Estimates

Investment Components	Concept I Multifunctional Fortress	Concept II Distributed Attractions	Concept III Cultural Heritage Destination
Infrastructure	503.007	508.865	510.162
Traffic Facilities	2.203.410	2.203.410	2.203.410
Pier	1.026.307	1.038.259	1.040.905
Visitor Centre	454.841	460.137	638.737
Fortress Conservation	2.275.460	1.568.921	1.265.379
Other facilities	0	236.500	291.500
Planning/Design	210.000	260.000	260.000
TA & Training	42.000	42.000	42.000
Supervision	325.487	328.304	328.304
Total	7.040.512	6.646.397	6.580.397





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# Conclusion

## Concept I recommended

- **Economic internal rate of return sufficient (i.e. >5.5%)**
- **Planning process too far advanced, changes will delay implementation**
- **Potential delay to implementation and loss of finance**
- **More potential delay if detailed design have to be changed**
- **Additional attractions from other concepts can be built at a later phase**



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## QUESTIONS

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Thank you for your attention!