ANNEX II + III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

Contract title: Procurement of the Flood Defence Mobile Equipment (FDME) for the protection of New Belgrade and Zemun from Danube and Sava high water (h=1,25m)

Publication reference: EuropeAid/137461/C/SUP/RS

Column 1-2 should be completed by the Contracting Authority
Column 3-4 should be completed by the tenderer
Column 5 is reserved for the evaluation committee
Annex III - the Contractor's technical offer

The tenderers are requested to complete the template on the next pages:

- Column 2 is completed by the Contracting Authority shows the required specifications (not to be modified by the tenderer),
- Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words "compliant" or "yes" are not sufficient)
- Column 4 allows the tenderer to make comments on his proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.
The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offered specifications.

CONTENTS

ANNEX II + III: **TECHNICAL SPECIFICATIONS + TECHNICAL OFFER**

Abbreviations:

The following abbreviations are used consistently throughout this document.

FP -	Flood Protective (Protection)
FD -	Flood Defense
FPMS -	Flood Protective Mobile System
FDME -	Flood Defence Mobile Equipment (as part of FPMS)
BASE -	Level of top/crest of the existing flood protective building structure
H -	Aditional flood protective hight (above BASE) = total Height of FPMS (HFPMS)
hwall -	height of new concrete foundation wall (top of the wall is on the level / or above BASE)
hME -	height of Mobile Equipment
H wl 1% -	High Water Level (returned period 100 years)
H wl 0.5% -	High Water Level (returned period 200 years)
H wl 0.1% -	High Water Level (returned period 1000 years)
PP-	PolyPropylene
PE -	PolyEthylene
HDPE -	High Density PolyEthylene

0 OVERVIEW

0.1 Background

In order to improve flood protection system in the City of Belgrade and minimize the risk of future similar situation, it is necessary to strengthen the system further with mobile flood protection systems. On the territory of the city's biggest municipality of Novi Beograd, with nearly 300,000 residents and number of schools, kindergartens, health centers and similar facilities of public interest, the left bank of the Sava river is protected only by one line of defense (embankment). By construction of Belgrade infrastructure around rivers Sava and Danube, existing flood protection building structures (embankments) were built according to the at-the-time available and known data on these rivers' water levels. During the period that followed, the existing flood protection building structures were built up for the level that secures unobstructed passage of 50-yr period level waters. Climate change and increased inflow of residents into the city impose the need to increase the existing flood protection building structures levels to the levels of minimum 100-yr high water with additional protective heights to the level of 1000-yr high water. Certain locations can be up built, however, because of spatial, urbanistic and technical limitations, large parts need to be protected by flood protection mobile systems.
City of Belgrade has no possibilities for developing second (reserve) line of defense from high waters due to developed building and road infrastructure. Environmentally, it is important to mention that water intakes and water transportation systems processing the water supply plant are located on the aforementioned shores/riverbanks.

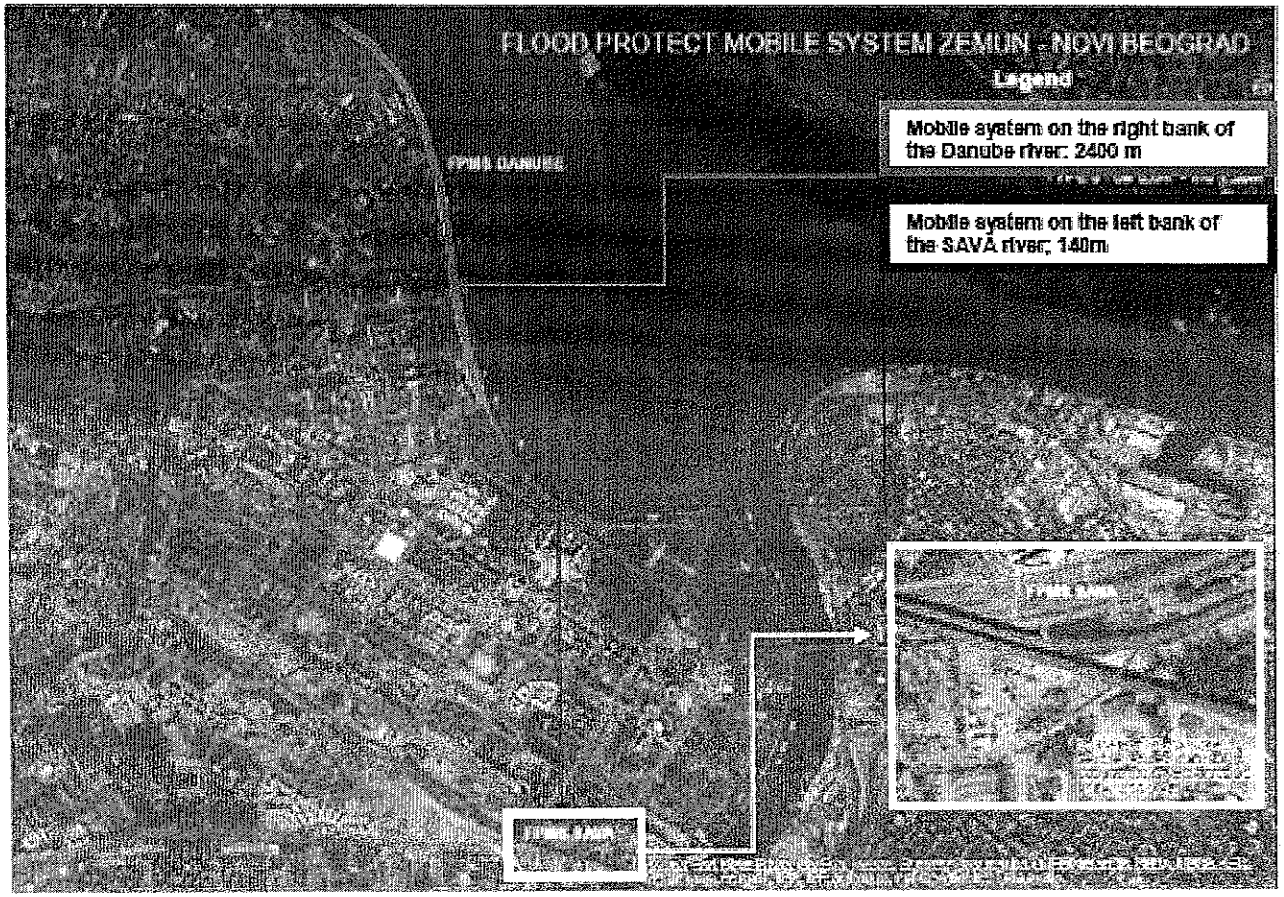
0.1.1 FLOOD PROTECTION OF BELGRADE - CURRENT SITUATION AND NECESSARY FLOOD PROTECTION DEGREE

The protection of Belgrade from Danube and Sava high waters is ensured by protective water structures – quay walls in the central urban zone and embankments, as well as embankments upstream and partly downstream from the city in a total length of 32.03 km, whereas the structures protecting directly the riverside of the city itself make the defence line 21.38 km long.

Criteria for necessary flood protection of the Belgrade area are set out in the Master Plan of Belgrade to 2021 ("Official Gazette of the City of Belgrade" no. 27/2003, 25/2005, 34/2007).
According to this document, Belgrade should be protected from high water return period of once in 200 years, with additional protection, which ensures the protection from high water return period of once in 1000 years
On some sections of the Danube bank, level of the crown protective structure is not on HWL 0.5%, and in some HWL is below 1%. In this sections additional protective height (freeboard) doesn't exist. Due to spatial and urban conditions, in these critical sections required level of protection can not be achieved by constructing new or reconstructing existing permanent structures (dams, wharves, revetments).
At these critical sections, the necessary degree of protection with additional protective height to H0,1% will be achieved by mobile systems - mobile equipment that is installed above the pre-built foundation wall.

It was expected uniform application of mobile (the same design and height) at all critical sections. The application of mobile equipment the same height causes different heights foundation wall.

FLOOD PROTECTION PRIORITY IN BELGRADE: According to the Flood Defence Operational Plan of Serbia, Flood Protected Area of New Belgrade and Zemun is estimated as critical area, with flood defense line length about 2.960 m. First level of priority is to upgrade existing permanent flood protection structure on the Sava river left bank (420 m in industrial area), and to improve flood defense on river bank in city areas with mobile protective barriers – flood protection mobile system in total length of 2.540m, which includes the following sections: Right bank of the Danube river – 2.400m, Left bank of the Sava river – 140m, as part of coast in industrial area without the possibility of building permanent FP facilities (see the map of New Belgrade).



0.1.2 ADOPTED CONCEPT OF THE FLOOD PROTECTION OF NEW BELGRADE (AND ZEMUN) AREA

At the critical sections of the area of New Belgrade and Zemun, the necessary degree of protection with additional protective height to HWL 0.1% will be achieved with mobile systems.

Mobile system consists of **mobile equipment** and the **building structure - foundation wall** on which the mobile equipment is installed during flood defense..

For the flood protection of New Belgrade and Zemun, because of the great length of the critical sections, technically justified that the mobile system does not apply to the entire length of the critical section. Due to possible failure at high water in certain segments of critical sections it is needed to make a physical interruptions with protective wall at full height to level HWL 0.1%.

On the flood defence line alongside Danube and Sava rivers in New Belgrade zone, require a flood protective height is achieved by building the foundation wall of different heights in relation to the current elevation, for supporting mobile equipment uniform height (1.25m).

There are three characteristic critical sections - CASES: section on which is necessary to build an appropriate foundation wall at ground level, sections on which to build the foundation wall height of 0.4m above the ground, and at last section on which to build the foundation wall height above terrain 0.6 m.

Different heights foundation walls affecting the structural characteristics of mobile equipment, which must be uniform in design, with modifications that allow the application to all described sections.

0.2 General Requirements:

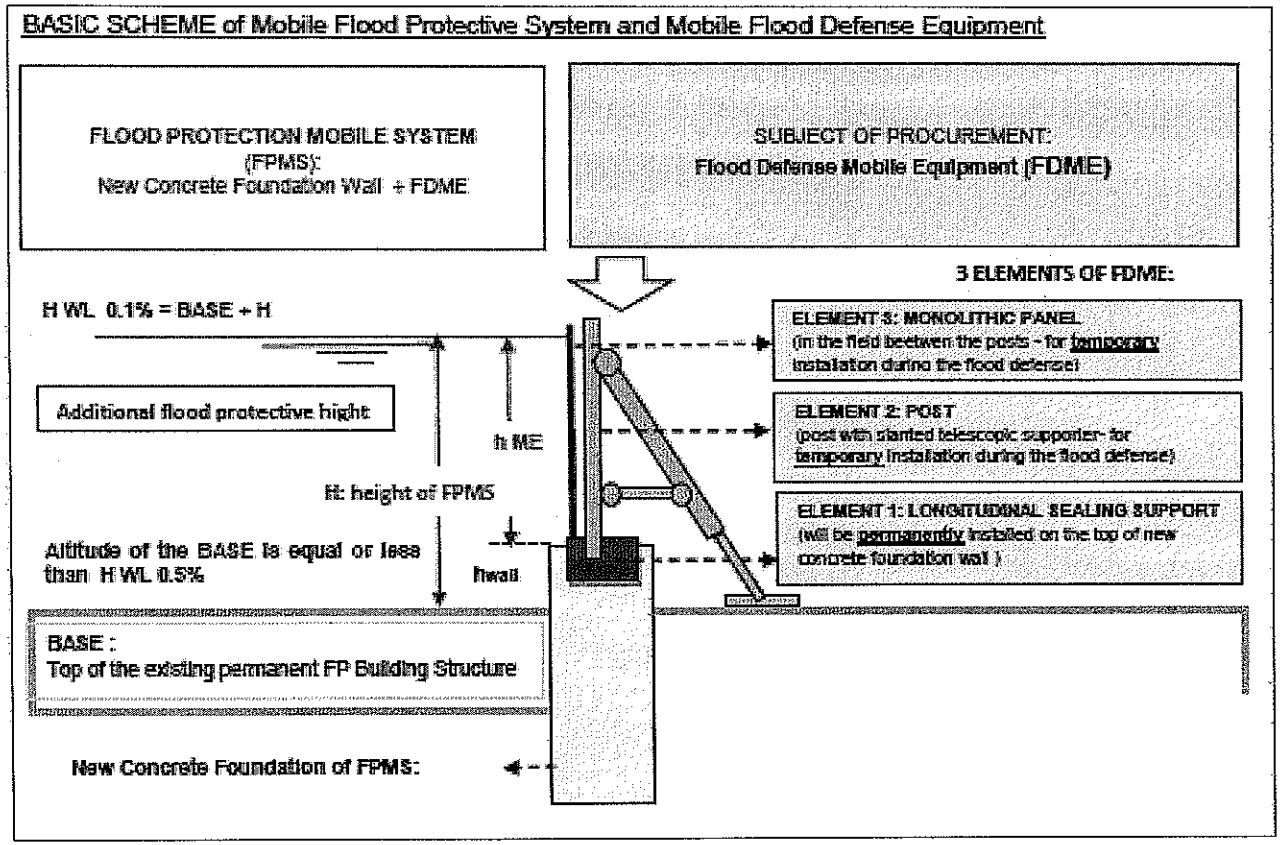
The objective to purchase an flood defense mobile equipment (FDME) is to achieve the required degree of flood protection of the New Belgrade and Zemun area (Hwl 0.1% = BASE + HFPMS = BASE + hwall + hME), in total length of 2.540 m, during flood defense against the high water level of the Danube and Sava river.

FDME must be new, unused, undamaged.

The supplies shall include all accessories to make the provided equipment fully operational and functioning for the intended purpose.

The successful bidder shall provide a solution which includes all equipment and training necessary for the installation/dismounting, setting up, operating and storing of the FDME.

0.2.1 FLOOD PROTECTION MOBILE SYSTEM – SCHEMATIC, definitions and explanations:



BASE is the level of top/crest of the existing permanent FP building structure, and in case of Belgrade, it is equal or less than adopted level Hwl 0,5%.

FLOOD PROTECTIVE MOBILE SYSTEM (FPMS, of suitable height H**)**, is necessary to provide additional flood protective height above BASE;

Total height of the FPMS **(H)** is in line with the total required the superelevation (freeboard) above the existing protection level of the BASE to achieve the required degree of flood protection (Hwl 0.1% = BASE + H = BASE + hwall + hME).

FPMS include two elements above BASE

1) New Foundation Wall as lower part of FPMS, and as longitudinal support of the mobile equipment shall be built on the river banks sections where the level of the crest is lower and cannot be changed – reconstruction works are unacceptable due to technical, urban and financial reasons). - **The Beneficiary has a duty to build.**

2) **The subject of procurement: Flood Defence MOBILE EQUIPMENT** (FDME, of suitable height: h ME) will become temporary and assembly / demountable as top part of FPMS, above the crest of foundation wall, and shall be installed only in extreme flood defence situation.

Static calculation proves the stability of the incentives in high water, and also determine the size of the component forces that are transmitted to the building structure.
Based on the results of static design calculations mobile equipment, which is attached to the offer of mobile equipment manufacturer, the user will design and build a protective wall for the installation of basic mobile equipment uniform characteristics that allow customization and variable terrain grade line, for the following cases:
CASE 1: FDME will be installed in a foundation wall built with the crown at ground level on the section length of 1.900m.
CASE 2: FDME will be installed on the crown of the construction of the wall height of 0.4m on the section length of 300 m;
CASE 3: FDME will be installed on the crown of the construction of the wall height of 0.6m on the section length of 340 m;

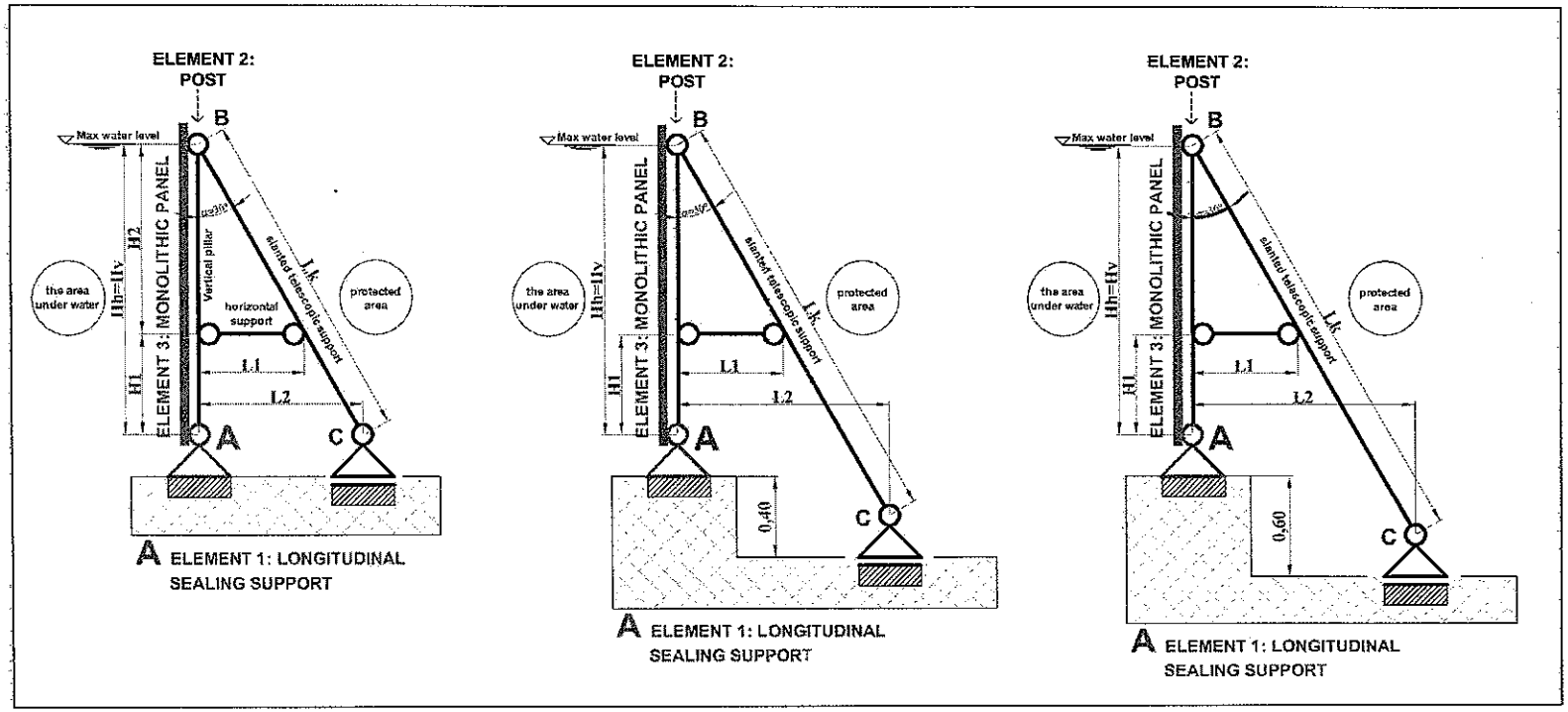
Required model of **FDME** includes **only three** separate main elements:

Element 1: **longitudinal sealing support** - permanent FDME element that is built into foundation wall
Element 2: **post (with slanted telescopic supporter)** –mobile FDME element which is installed into the Element 1. during flood defence.
Element 3: **monolithic panels** – mobile FDME elements in the spans between the posts - Elements 2,installed and connected to the Elements 1 and 2 ensuring waterproofing during flood defence.

- FDME elements are made as an assembly unit of different parts made of different materials.
- FDME element is each separate part of the FDME that requires vertical and horizontal location and lines for waterproof sealing and special operation task during flood defence (according this, FDME element is also separate parts of main elements – example - if Element 3 is not monolithic).
- FDME elements in the assembled state are waterproof and statically stable construction in high water conditions during extreme flood events.
- FDME elements must be designed with protection against theft and vandalism.

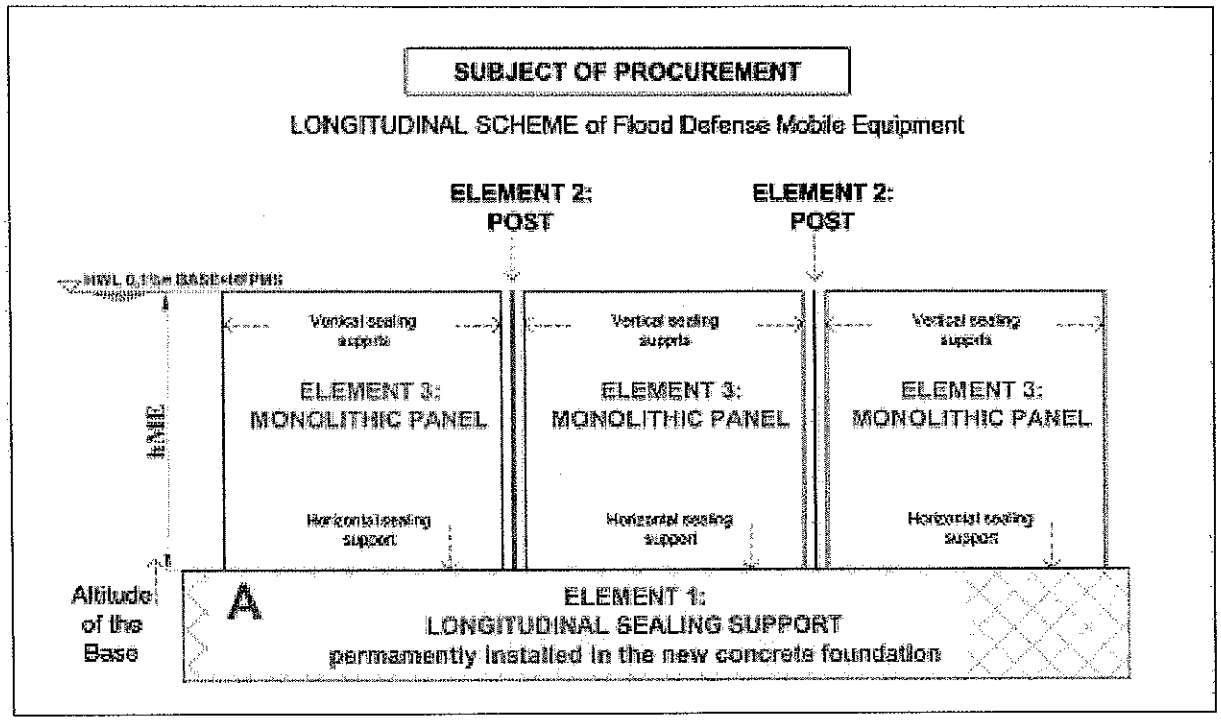
Structural characteristics of elements of mobile equipment:

The scheme of the structural system of mobile equipment
SUBJECT OF PROCUREMENT
CASE 1; CASE 2; CASE 3.
Larger drawings



Element 1: Longitudinal sealing support:
Extension support provides uniform transmission of influence throughout, while providing a watertight seal at the bottom. The longitudinal support (stationary support in a static scheme) receives and transmits to the building structure only horizontal and vertical force, while overturning mobile equipment prevents with slanted support.
Element 2: Post with telescopic slanted supporter:
Post includes components that provide a watertight connection with the monolithic panels in the field.

Post relies on longitudinal support (stationary support in a static scheme) without pinched, transfers only vertical and horizontal force and provides stability of the mobile equipment to turn over, with slanted supporter. The slanted supporter can receive only vertical force (movable support in a static scheme).
Slanted supporter must be telescopic for easy storage. **Length extension of telescopic part is necessary to adapt them to local changes of the coastal height – height of foundation wall above the ground.** Used Bold A constructive relationship between the post and slanted supporter provides stability.
Element 3: Monolithic panels in the field.
Monolithic panels in a field uniformly transfers the load horizontally on vertical supports and the longitudinal vertical support.
Larger drawings



Assembly / disassembly mobile equipment includes the following operations:
When building a foundation wall, the foundation wall permanently installed Element 1. Element 2 and Element 3 are in stock. After the announcement of the flood, Element 2 and Element 3 will be install on the defense line.

0.2.2 BASIC TECHNICAL SPECIFICATIONS OF THE ADOPTED NEW BELGRADE FLOOD DEFENCE MOBILE SYSTEM CONCEPT (with FDME)

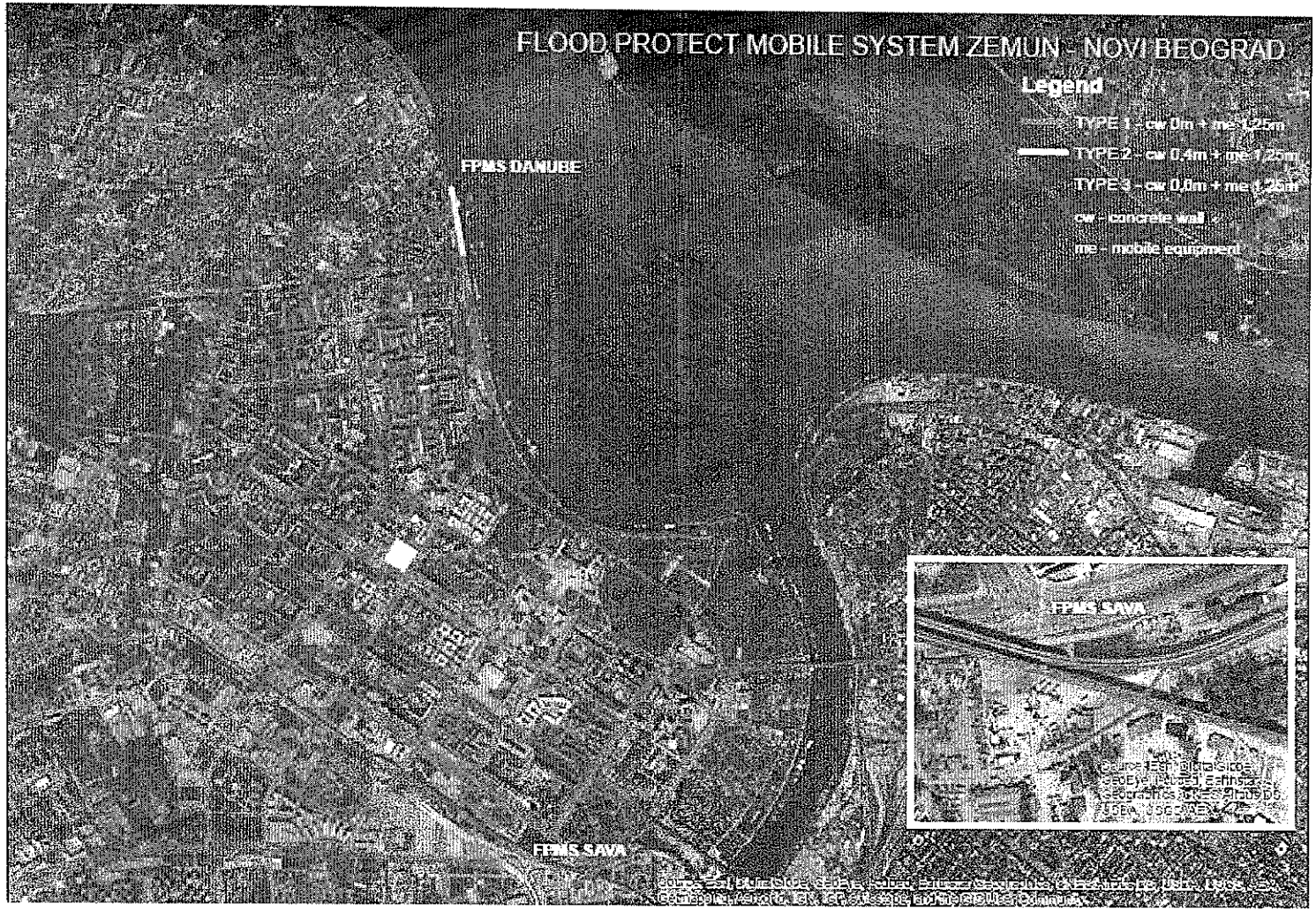
L = 2.540 m: the length of the flood defence line planned for use of FPMS with FDME.

The optimal variant is the application of uniform FDME (the same design and height) at all critical sections.

Adopted optimal height of FDME is h = 1.25 m

On the flood defence line alongside Danube in Zemun and New Belgrade zone, and Sava rivers in New Belgrade zone, depends of height of new foundation walls (on the level of the BASE, 0,4m above BASE, and 0,6m above BASE) there are **three DIFFERENT CASES of FPMS height, above BASE**: H=1,25 m; H =1,65 m; H =1,85 m

River	DANUBE				SAVA				TOTAL lenght
	L (m)	H (m)	hwall (m)	hME (m)	L (m)	H (m)	hwall (m)	hME (m)	
PERTS OF FPMS	1.760	1,25	0	1,25	140	1,25	0	1,25	1.900
	300	1,65	0.40	1,25					300
	340	1,85	0.60	1,25					340
TOTAL lenght	2.400				140				2.540


FLOOD PROTECT MOBILE SYSTEM ZEMUN - NOVI BEOGRAD
Legend
TYPE 1 - cw 0m + me 1,25m
TYPE 2 - cw 0,4m + me 1,25m
TYPE 3 - cw 0,8m + me 1,25m
cw - concrete wall
me - mobile equipment
FPMS DANUBE
FPMS SAVA
FPMS SAVA

0.3 Beneficiary's Responsibility:

In order to ensure smooth project implementation and to provide the Contractor with the necessary information, the Beneficiary has agreed to provide:

- To organize and guide the deployment and effective use of the equipment listed here
- Acceptance and storage of deliveries under this contract
- Localisation of a place for assembling the equipment and training of the team
- Operating the equipment after provisional and final acceptance.
- To build the foundation for mounting FDME, based on static calculation provided by the contractor.

0.4 Scope of the tender:

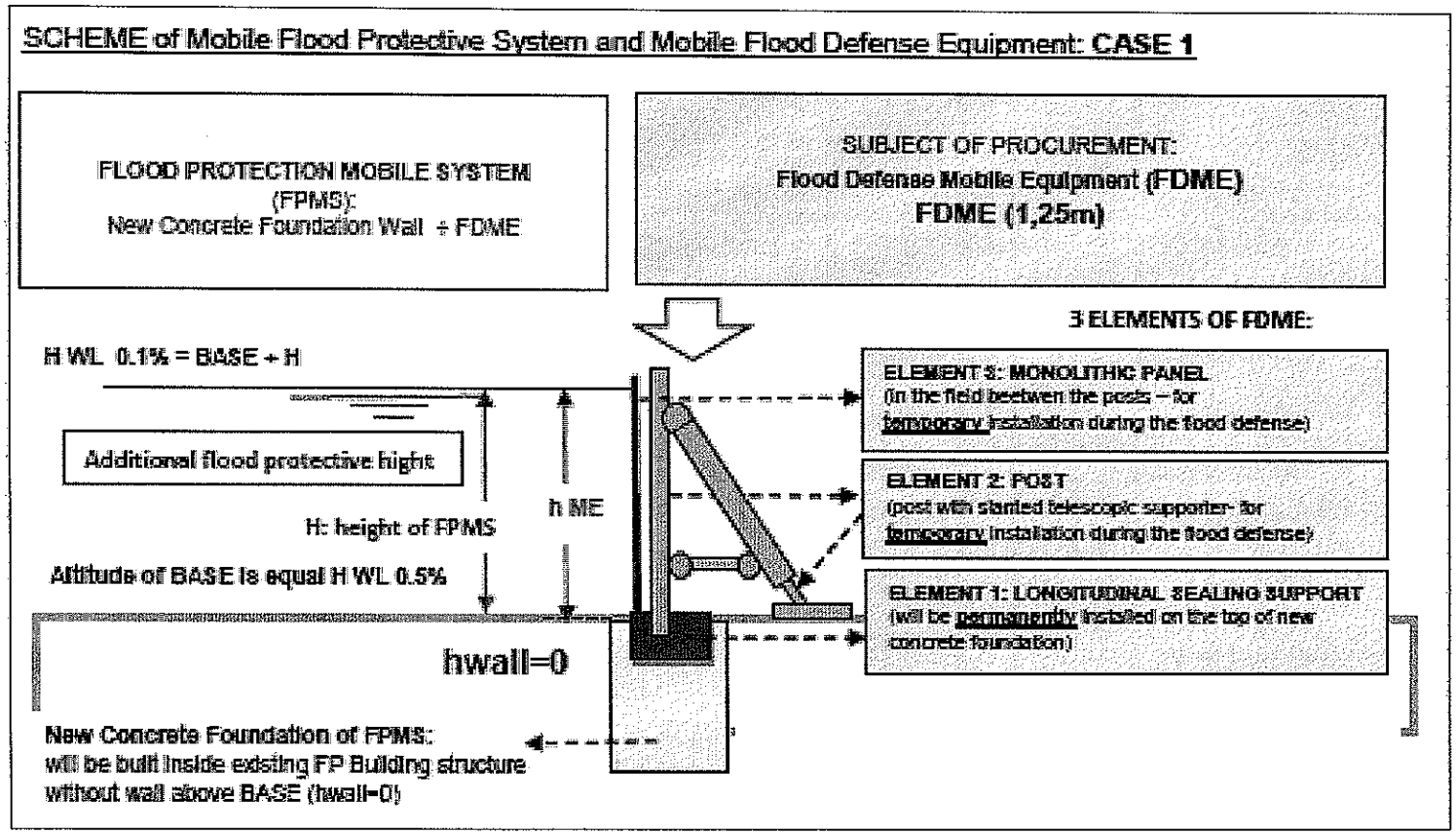
The subject of this tender is the supply of **Flood Defence Mobile Equipment (FDME), height hME=1,25 m,** for the protection of New Belgrade from Danube and Sava high waters: right bank of Danube from the start of the slanted quay at the Hotel Jugoslavija until the end of Zemun Quay (2,400 m), left bank of Sava (localities along the street Savski Nasip: 140 m).

The subject of procurement is the mobile equipment, the design characteristics compatible with the different heights of foundation wall, in accordance with the following cases:
CASE 1: FDME will be installed in a foundation wall built with the crown at ground level on the section length of 1.900m.
CASE 2: FDME will be installed on the crown of the construction of the wall height of 0.4m on the section length of 300 m;
CASE 3: FDME will be installed on the crown of the construction of the wall height of 0.6m on the section length of 340 m;

0.4.1 FLOOD DEFENSE MOBILE EQUIPMENT (hME=1,25m)

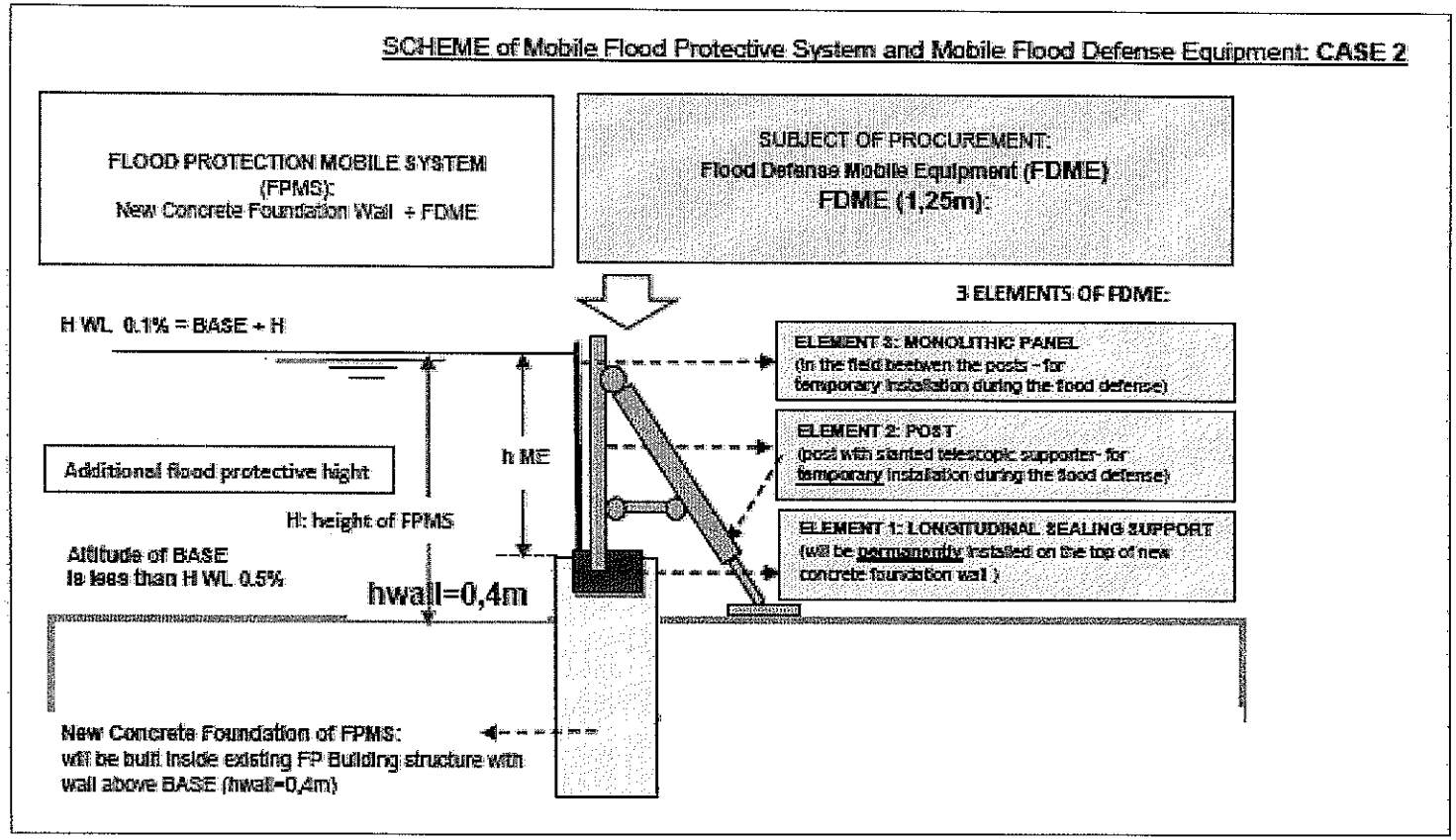
1. **CASE 1:** hwall = 0,00m; hME=1,25m; (H FPMS=1,25m)
2. **CASE 2:** hwall = 0,40m; hME=1,25m; (H FPMS=1,65m)
3. **CASE 3::** hwall = 0,60m; hME=1,25m; (H FPMS=1,85m)

0.4.1.1 **CASE 1:** hwall = 0,00m; hME=1,25m; (HFPMS=1,25m): **(1.900m)**



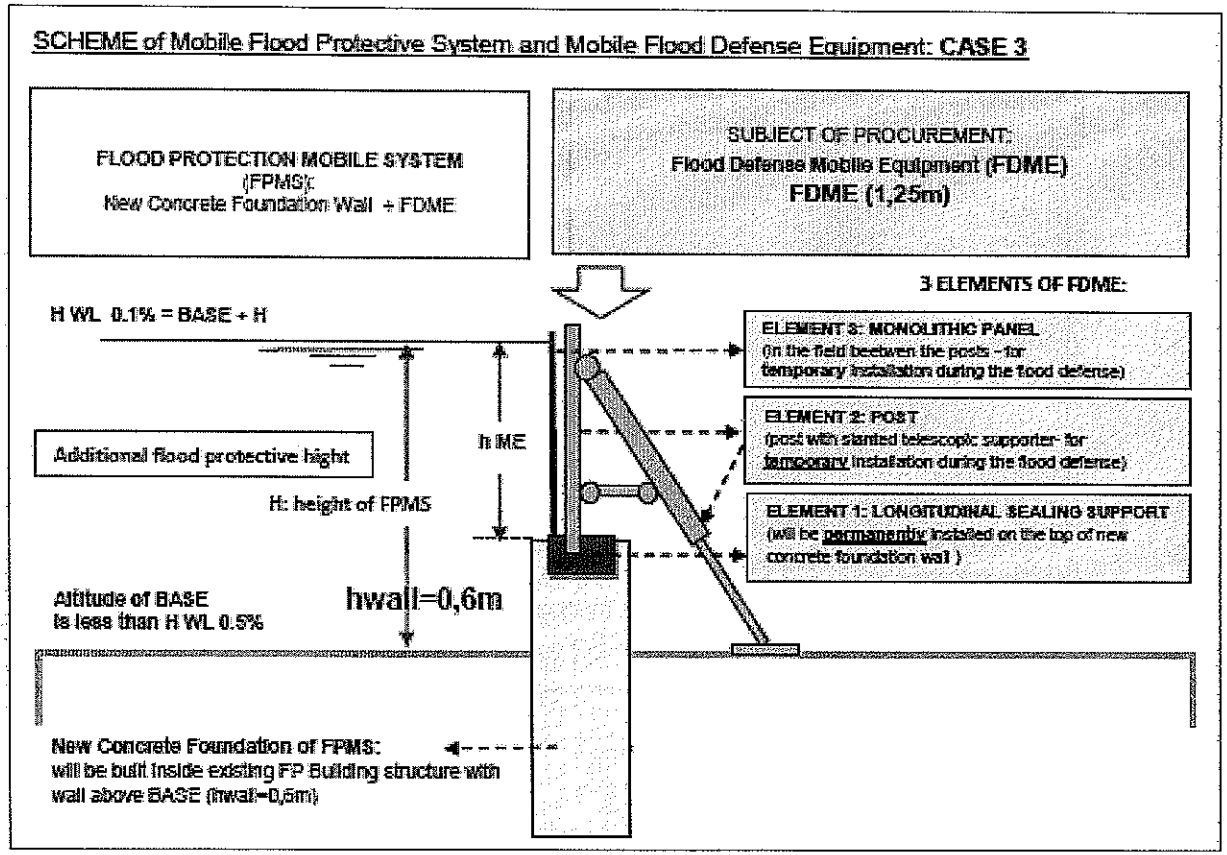
NEW FOUNDATION STRUCTURE (reinforced concrete) as part of FPMS– will be built under BASE: hwall=0,00m (on the top of the existing permanent flood protection building structure)

0.4.1.2 **CASE 2**: hwall = 0,40m; hME=1,25m; (HFPMS=1,65m): **(300m)**



NEW FOUNDATION STRUCTURE(reinforced concrete) as part of FPMS – will be built above BASE: hwall=0,40m

0.4.1.3 **CASE 3**: hwall = 0,60m; hME=1,25m; (HFPMS=1,85m): **(340m)**



NEW FOUNDATION STRUCTURE (reinforced concrete) as part of FPMS– will be built above BASE: hwall=0,60m (on the top of the existing permanent flood protection building structure)

MOBILE EQUIPMENT ELEMENTS (in each cases):
ELEMENT 1: LONGITUDINAL SEALING SUPPORT (built by the Beneficiary on the top of the New Foundation Wall)
ELEMENT2: POST h=1.25m (with slanted telescopic supporter) – number of posts depends on the static technical characteristics of all elements of equipment (extension length of adaptable telescopic supporter depends of angle supporter/ground: if angle is 60^0 extension must be minimum +0,7m).
ELEMENT 3: MONOLITHIC PANELS h=1.25m – number of monolithic panels depends on the static and technical characteristics of all elements of equipment.

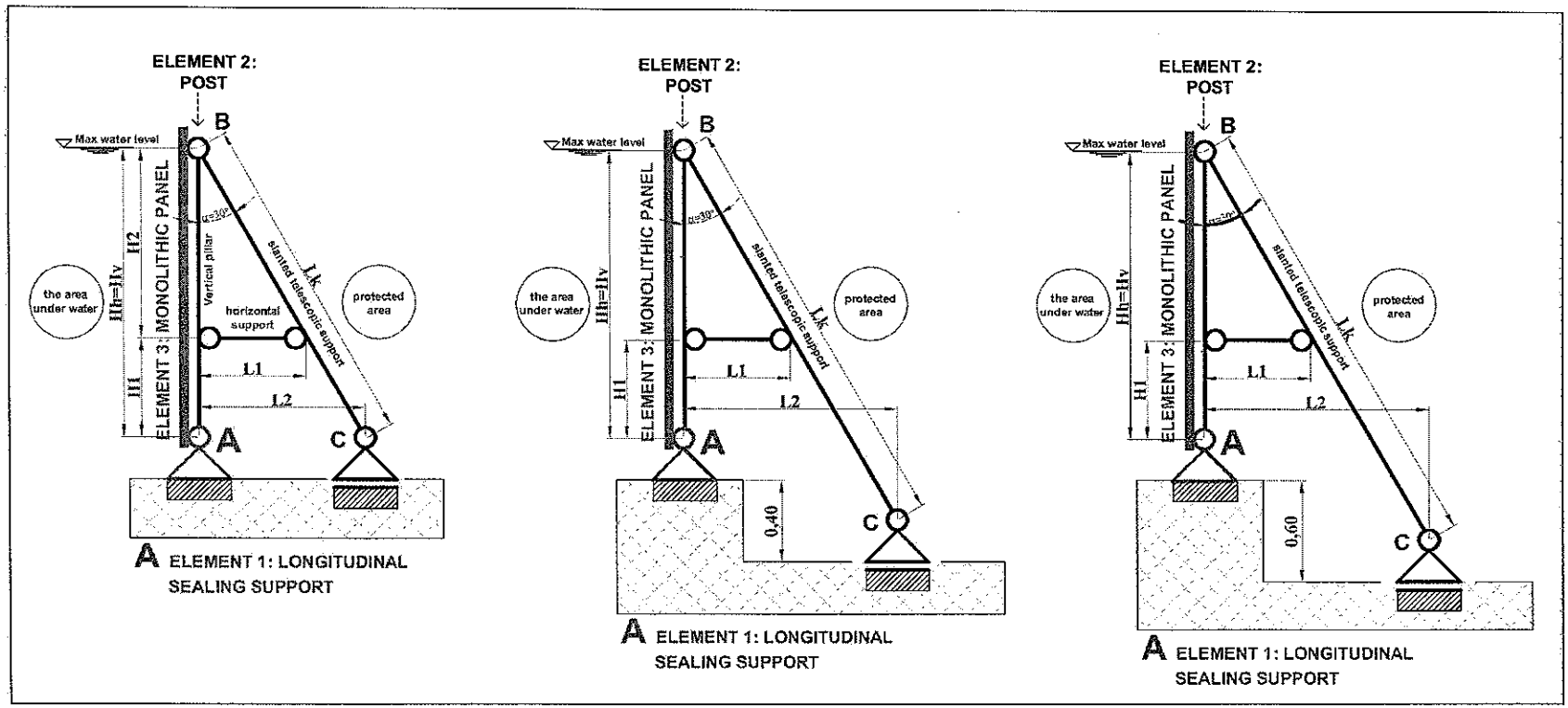
0.5 Technical Documentation:

Technical documentation to be submitted with the offer shall contain at least:

a) Detail descriptions of characteristics and specifications for each element of the offered FDME model separately.

b) Static calculations for offered FDME for each cases of FPMS heights (New FP Building Structure + FDME): hFPMS=1,25m; 1,65 m; 1,85m (officially stamped by a licensed design company).

The scheme of the structural system of mobile equipment
SUBJECT OF PROCUREMENT: CASE 1; CASE 2; CASE 3;
Larger drawings



Parameters (ground characteristics) for static calculations: Cohesion: c = 0; Volume weight: γ =18 KN/m^3; Coefficient of internal friction: φ = 27,5°

Stability to hydrostatic effects (high water level above BASE Hwl=1,25m) and hydrodynamic effects (Velocity V=2m/s)

c) Preparation and installation/dismounting plan (short description, schemes, graphics and photo documentation).

d) Storage Plan for required quantity of Mobile Equipment's (schemes, graphics and photo documentation) for each FDME component

e) Technical requirements for maintenance and periodic control

0.6 Final Documentation:

Final documentation to be submitted during implementation shall contain at least:

a) A complete list of delivered equipment. It shall include name, description, part and revision number, quantity and warranty specification

b) Detail Manual

c) Attest documentation - certificates for all materials used for the whole assembly elements of FDME (in accordance with the applicable EU standards)

d) Brochure (A4 hardcover 20 copies) (Detail Manual, Storage plan, Maintenance, Reparation instruction)

e) Billboard: Board of sheet metal in the frame:

- Storage Plan (1,5m x 2,0m) x 2 billboard
- Manual Scheme during flood defence (1,5m x 2,0m) x 4 billboards.
- Visibility Billboard (see par. 0,11)(1,5m x 1,0m) x 4 billboard

In English and Serbian language and an electronic version on DVD.

0.7 Supply delivery:

The end of the delivery period shall be 12 month after commencement date approval of drawings commencement date with following delivery dates:

a) Quantity 1000m: maximum 6 months from the date of contract signature approval of drawings contract signature.
b) Quantity 1000m: maximum 9 months from the date of contract signature approval of drawings contract signature.
c) Quantity 540: maximum 12 months from the date of contract signature approval of drawings contract signature.

The location of delivery is storage space, determined of the Beneficiary, in Belgrade zone (two locations maximum 10 km from river banks: MAKIŠ and SURČIN).

0.8 Delivery method:

All FDME (of each Types) elements shall be delivered separately, adequately packed on specially designed and steel reinforced pallets, in boxes (steel profiles, galvanized mesh, with holders).

Pallets, or package boxes, shall be designed and manufactured using durable materials for multiple use with reusable waterproof cover foil with reinforcements and connections for multiple use.

The package shall be tied using polyester strap, with contents specification table on each package.

The quantity – number FDME elements in the package, must be expressed in m. of defence line formed.

0.9 Maintenance and Warranty conditions:

The Contractor must guarantee correct operation of the equipment for at least 12 months. This warranty must remain valid for a minimum of 1 year after provisional acceptance according article 32 of the General Conditions.

The warranty shall cover:

a) All functionalities of the equipment (required and offered)

b) All defects in material and workmanship.

c) Repairs of detected damages to components of the equipment, including replacement of damaged parts with new ones if repair is not possible.

d) Repairing detected faults, defects and functional failures in the equipment.

During the warranty period the Supplier shall designate contact person(s) able to support the Beneficiary with information related to the operation of the equipment installed. For this purpose the Supplier(s) shall provide contact telephone and fax numbers plus e-mail addresses.

This fax number(s) and e-mail(s) shall be used also for reporting all defects and/or failures of the equipment.

During the warranty period the Contractor shall provide the support services on a 24/7 basis, with response time of 6 hours.

Commercial Warranty: Beneficiary organizations to be provided with manufacturers' commercial warranty.

0.10 Training:

Training of 4 Intervention Users teams (1 instructor and 5 workers in the User team) to handle FDME (mobilization from storage, installation, removal, maintenance, repair, packaging, storage, application security measures and the protection of workers)

Duration of training: 4 days.

Training will be organized along the route minimum 50 m lengths.

Beneficiary shall provide the foundation for the installation FDME.

Training will be implemented at the time of the first delivery FDME elements.

Location of training will be later defined.

0.11 Visibility:

All supplies shall comply with the visibility Manual for EU External Actions (https://ec.europa.eu/europeaid/communication-and-visibility-manual-eu-external-actions_en).
The FDME panels should be clearly identified, and visibly carry the EU flag and the phrase "Provided with the support of the EU" in the operational language of the EU programme and in the Serbian language.

All requirements listed in the next sections of this specification shall be considered as the minimum acceptable qualifying criteria.

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1. Tender Dossier Requirements: FLOOD DEFENSE MOBILE EQUIPMENT (hME=1,25m) All tenders submitted must comply with the requirements in the tender dossier and comprise:				
1.1	**FDME: FLOOD DEFENSE MOBILE EQUIPMENT**			
	Quantity: 2540 m			
1.1.0	Calculation of Stability to hydrostatic effects (high water level above BASE Hwl=1,25m) and hydrodynamic effects (Velocity V=2m/s) for FDME: TYPE 1: Parameters for static calculations: • Cohesion: c = 0; • Volume weight: γ =18 KN/m^3 • Coefficient of internal friction: φ = 27,5°			
1.1.1	**ELEMENT 1:** LONGITUDINAL SEALING SUPPORT			
1.1.1.1.	Made of: • composites or PEHD, • high strength stainless steel, • longitudinal sealing rubber profiles.			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.1.1.2	All visible surfaces and parts of the bearing must be made of stainless steel			
1.1.1.3	Visible nuts and bolts shall be designed for anti-vandal protection			
1.1.1.4	Protective cover should be made of composite or stainless steel designed for anti-vandal protection, with slip proof surface			
1.1.1.5	Integrated stainless steel components for fast Installation and fastening other elements of FDME			
1.1.1.6	Installation and maintenance tools			
1.1.2	**ELEMENT 2: POST h=1.25m (with slanted telescopic supporter, minimum 0,7 m)**			
1.1.2.1	Posts with elements for operation anc quick installation into Element 1			
1.1.2.2	Designed as compact unit (made of different high strength materials): Required: • steel box and pipe profiles - hot-dip galvanized • PEHD parts • Composites • rubber sealing profiles			
1.1.2.3	Integrated rubber sealing profiles (for stable and waterproof connection with the base support element and the panels).			
1.1.2.4	Integrated stainless steel components for fast Installation and fastening other elements of FDME			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.1.2.5	Extension length of telescopic supporter: +0,2m			
1.1.2.6	Installation and maintenance tools			
1.1.3	**ELEMENT 3: MONOLITHIC PANELS h=1.25m**			
1.1.3.1	Panels – monolith (one unit in between the posts).			
1.1.3.2	Made of composite materials: PP and aluminium.			
1.1.3.3	Accessories for carrying and operation without mechanisation.			
1.1.3.4	Integrated stainless steel components for fast Installation and fastening other elements of FDME			
1.1.3.5	Installation and maintenance tools.			
1.2	**Technical Documentation**			
1.2.1	Detail descriptions of characteristics and specifications for each element of the offered FDME model separately.			
1.2.2	Static calculations for offered FDME for each cases of FPMS heights; (New FP Building Structure + FDME): hFPMS=1,25m; 1,65 m; 1,85m (officially stamped by a licensed Serbian design company, according to the Building and Planning Law, Article 125 requirements – Official Gazette of the Republic of Serbia – No. 72/2009, 81/2009 - amended, 64/2010 - decision US, 24/2011, 121/2012, 42/2013 - decision US, 50/2013 - decision US, 98/2013 - decision US, 132/2014 and 145/2014)).			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Parameters for static calculations: • Cohesion: c = 0; • Volume weight: γ =18 KN/m^3 • Coefficient of internal friction: φ = 27,5° Stability to hydrostatic effects (high water level above BASE HWL=1,25m) and hydrodynamic effects (Velocity V=2m/s)			
1.2.3	Preparation and installation/dismounting plan (short description, schemes, graphics and photo documentation)			
1.2.4	Storage Plan for required quantity of Mobile Equipment's (schemes, graphics and photo documentation) for each FDME component			
1.2.5	Technical requirements for maintenance and periodic control			
1.3	**Final Documentation**			
1.3.1	Complete list of delivered equipment. It shall include name, description, part and revision number, quantity and warranty specification.			
1.3.2	Detail Manual			
1.3.3	Attest documentation - certificates for all materials used for the whole assembly elements of FDME (in accordance with the applicable EU standards)			
1.3.4	Brochure (A4 hardcover) x 20 copies • Manual • Storage plan • Maintenance			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	• Reparation instruction			
1.3.4	Billboard: Board of sheet metal in the frame: • Storage Plan (1,5m x 2,0m) x 2 billboard • Manual Scheme during flood defence (1,5m x 2,0m) x 4 billboards. • Visibility Billboard, (see par. 0,11 above),(1,5m x 1,0m) x 4 billboard			
1.3.5	In English and Serbian language and an electronic version on DVD.			
1.4	**Delivery**			
1.4.1	The end of the delivery period shall be 12 month after commencement date approval of drawings, with following delivery dates: • Quantity 1000m: maximum 6 months from the date of contract signature and approval of the final design by the Beneficiary. • Quantity 1000m: maximum 9 months from the date of contract signature and approval of the final design by the Beneficiary. • Quantity 540m: maximum 12 months from the date of contract signature and approval of the final design by the Beneficiary.			
1.4.2	The location of delivery is storage space of the Beneficiary, in Belgrade zone (two locations maximum 10 km from river banks: MAKIŠ and SURČIN).			
1.4.3	All ~~(of each Types)~~ FDME elements shall be delivered separately, adequately packed on specially designed and steel reinforced pallets, in boxes (steel profiles, galvanized mesh, with holders).			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.4.4	Pallets, or package boxes, shall be designed and manufactured using durable materials for multiple use with reusable waterproof cover foil with reinforcements and connections for multiple use.			
1.4.5	The package shall be tied using polyester strap, with contents specification table on each package.			
1.4.6	The quantity – number FDME elements in the package, must be expressed in m. of defence line formed.			
1.5	Training			
1.5.1	Training of 4 Intervention Users teams (1 instructor and 5 workers in the User team) to handle FDME: • mobilization from storage, • installation, • removal, • maintenance, • repair, • packaging, • storage, • application security measures, • protection of workers.			
1.5.2	Duration of training: 4 days.			
1.5.3	Training will be organized along the route 50 m lengths. (Beneficiary shall provide the foundation for the installation FDME)			
1.5.4	Training will be implemented at the time of the first delivery FDME elements.			
1.5.5	Location of training: right bank of Danube near the			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	hotel Yugoslavia.			
1.6	**Warranty**			
1.6.1	The Contractor must guarantee correct operation of the equipment for at least 12 months			
1.6.2	This warranty must remain valid for a minimum of 1 year after provisional acceptance according article 32 of the General Conditions.			
1.6.3	The warranty shall cover: • All functionalities of the equipment (required and offered) • All defects in material and workmanship. • Repairs of detected damages to components of the equipment, including replacement of damaged parts with new ones if repair is not possible. • Repairing detected faults, defects and functional failures in the equipment.			
1.6.4	During the warranty period the Supplier shall designate contact person(s) able to support the Beneficiary with information related to the operation of the equipment installed. For this purpose the Supplier(s) shall provide contact telephone and fax numbers plus e-mail addresses.			
1.6.5	This fax number(s) and e-mail(s) shall be used also for reporting all defects and/or failures of the equipment.			
1.6.6	During the warranty period the Contractor shall provide the support services on a 24/7 basis, with			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	response time of 6 hours			
1.6.7	Beneficiary organizations to be provided with manufacturers' commercial warranty			