

PREDMJER I PREDRAČUN RADOVA
PRICED BILL OF QUANTITIES
REKONSTRUKCIJA SAVSKOG ODBRAMBENOG NASIPA NA PODRUČJU BRČKO DISTRIKTA BIH
DIONICA II (OD ST. 2+878,03 DO ST. 3+014,07 I OD ST. 3+215,19 DO ST. 4+646,13)
RECONSTRUCTION OF THE SAVA DEFENCE EMBANKMENT IN THE BRČKO DISTRICT BIH AREA
SECTION II (FROM CH. 2+878.03 TO CH. 3+014.07 AND FROM CH. 3+215.19 TO CH. 4+646.13)

No	Opis	Item Description	Unit	Quantity	Unit price €	Total €
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Unit prices include all mentioned works, material with usual dispersion, external and internal transport, storage and keeping of material at the construction site, scaffolding and paneling for performing of works, water, lighting, fuel and energy for machinery as applicable. The Unit Price should also include the cost of a borrow pit for material to be used for reconstruction of section II of the Sava defence embankment in the Brčko District BiH area (with characteristics fully in compliance with the Main Design).

I	PRIPREMNI RADOVI	PREPARATORY WORKS				
1	Iskolčavanje trase projektovanog nasipa, iskolčavanje svih potrebnih objekata i postavljanje poprečnih profila sanacije nasipa prema elementima datim u projektu, uključujući i sva geodetska mjerenja u vezi prenošenja podataka iz projekta na teren ili sa terena na nacrt. Održavanje svih iskolčenih oznaka na terenu u cijelom periodu od početka radova do predaje radova Investitoru.	Staking out of the route of design embankment, staking out of all required facilities and setting of cross sections for embankment repair according to elements provided in the design, including all geodetic measurements for translating design data onto the terrain or terrain data onto drawings. Maintenance of all staked-out markings on the terrain throughout the period between the start of works and handover of works to the Investor.				
	Obračun po km ¹	Calculation per km ¹	km ¹	1,57		0,00
2	Sječa šiblja i ostalog niskog rastinja u pojasu građenja, na vodnoj strani nasipa. Šiblje se uklanja duž trase nasipa sa odlaganjem na hrpe i paljenje istog.	Cutting shrubs and other bush in the construction area, on the water side of the embankment. The bush will be removed along the embankment route, including piling and incinerating.				
	Obračunato po m ² 10x(1768,10-201,12)	Calculation per m ² 10x(1,768.10-201.12)	m ²	15.669,80		0,00
	Sječa stabala i mehaničko vađenje panjeva duž trase nasipa, u širini pojasa izgradnje. Stabla se sijeku na propisane dužine, transportuju i slažu u pravilne oblike na stranu van pojasa izgradnje.	Cutting trees and mechanically removing stumps along the embankment route, in the width of the construction area. Trees will be cut to required length, transported and stacked in proper form on the side outside the construction area.				

3	<p>Panjevi novih posječenih stabala nakon vađenja se skupljaju i transportuju u gomile van pojasa izgradnje na mjesto koje odredi nadzorni organ. Ponuđač će na terenu utvrditi obraslost zahvaćenih površina u skladu sa normama i tehničkim uslovima ovog projekta, te formirati jediničnu cijenu.</p> <p>Obračunato po m² 10x1567x0.3</p>	<p>Following removal, stumps of newly-cut trees will be gathered and transported on piles outside the construction area, at a place determined by the Engineer. The Bidder will determine the level of trees and shrubs on the spot for areas affected, and will determine the unit price in accordance with norms and technical requirements of this project.</p> <p>Calculation per m² 10x1,567x0.3</p>	m ²	4.701,00		0,00
UKUPNO I PRIPREMNI RADOVI		TOTAL I PREPARATORY WORKS	0,00			
II	ZEMLJANI RADOVI	EARTHWORKS				
1	<p>Mašinsko skidanje humusa u sloju od 20 cm, odnosno do dubine njegovog potpunog odstranjivanja. Humus se skida sa dijela kosina sa vodne i branjene strane postojećeg nasipa i transportuje cca 20 m i odlaže van pojasa građenja. Skinuti humus će se nakon iskopa upotrijebiti za humiziranje kosina rekonstruisanog nasipa.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa. Obračun po m²</p>	<p>Mechanical removal of topsoil in a 20 cm layer, i.e. to the depth required for its complete removal. Topsoil will be removed from a part of slopes on the water and defence sides of the existing embankment, and will be transported for approx. 20 m and disposed of outside the construction area. Following excavation, the removed topsoil will be used for topsoiling of slopes of the reconstructed embankment.</p> <p>Calculation per tabular bill of quantities for earthworks. Calculation per m²</p>	m ²	37.371,01		0,00
2	<p>Mašinski iskop materijala II kategorije za rov glinenog čepa. Iskopani materijal će se upotrijebiti za izradu rekonstruisanog nasipa.</p> <p>Obračun po m³ (1.0+3.0)/2x2.0x1566,98</p>	<p>Mechanical excavation of category II material for the trench for the impervious blanket of clay. The excavated material will be used for the reconstructed embankment.</p> <p>Calculation per m³ (1.0+3.0)/2x2.0x1,566.98</p>	m ³	6.267,90		0,00
3	<p>Nabavka materijala karakteristika u svemu prema Glavnom projektu iz pozajmišta koje obezbjeđuje Izvođač radova, te izrada glinenog čepa u nožici-ručno od materijala iz pozajmišta u svemu prema opisu stavke II/8.</p> <p>Obračun po m³</p>	<p>Supply of material, with characteristics fully in compliance with the Main Design, from the borrow pit provided by the Contractor, and manual construction of an impervious blanket of clay using material from the borrow pit, fully according to the description of item II/8.</p> <p>Calculation per m³</p>	m ³	6.267,90		0,00

4	<p>Mašinski iskop krune postojećeg nasipa prosječne dubine 0,50 m. Materijal se poprečno transportuje do 15 m, uz nožicu nasipa na vodnoj strani. Iskopani materijal će se upotrijebiti za zatrpavanje materijalnih rovova. Kod iskopa voditi računa o postojećim pijezometrima na trasi nasipa kako ne bi došlo do oštećenja istih.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m³</p>	<p>Mechanical excavation of the crest of the existing embankment to the average depth of 0.50 m. The material will be transported transversally up to 15 m, next to the embankment toe on the water side. The excavated material will be used to backfill material trenches. During excavation, care should be taken to avoid any damage to the existing piezometers on the embankment route.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³</p>	m ³	3.452,00		0,00
5	<p>Mašinski iskop preostalog dijela nasipa prema pojedinačnim poprečnim profilima. U iskop obračunati iskop za filterski sloj i iskop za stepenasto zasijecanje postojećeg nasipa. Materijal se poprečno transportuje do 15 m, uz nožicu nasipa na vodnoj strani. Iskopani materijal će se koristiti za izradu rekonstruisanog nasipa, a prema tehničkim uslovima za izvođenje radova. Kod iskopa voditi računa o postojećim pijezometrima na trasi nasipa kako ne bi došlo do oštećenja istih.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m³</p>	<p>Mechanical excavation of the remaining part of the embankment according to individual cross sections. The calculation should include excavation for the filter layer and excavation for the benching of the existing embankment. The material will be transported transversally up to 15 m, next to the embankment toe on the water side. The excavated material will be used for the reconstructed embankment, according to technical requirements for the execution of works. During excavation, care should be taken to avoid any damage to the existing piezometers on the embankment route.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³</p>	m ³	17.592,30		0,00
6	<p>Mašinski iskop materijala III kategorije za izradu odvodnog kanala sa branjene strane nasipa.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m³</p> <p>1093,43 + (20,90+60+91)x(0,5+2,0)/2x0,75)</p>	<p>Mechanical excavation of category III material for the drainage canal on the defence side of the embankment.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³</p> <p>1,093.43 + (20.90+60+91)x(0.5+2.0)/2x0.75)</p>	m ³	1.255,03		0,00

7	<p>Mašinski iskop materijala III kategorije (u širokom otkopu) iz pozajmišta materijala (koje obezbjeđuje Izvođač radova) predviđenog za izradu nasipa i glinenog čepa (uz predhodno skinuti humus). U cijenu su uračunati: nabavka materijala u skladu sa karakteristikama definisanim Glavnim projektom, iskop, utovar, transport i istovar na mjesto ugradnje u nasip. Koeficijent rastresitosti 1.2.</p> <p>Obračun po m³</p> <p>potrebno materijala za nasip (stavka 9 8637,60 m3) i za glineni čep (stavka 3 6267,90 m3) ukupno 14905,50</p>	<p>Mechanical excavation of category III material (in bulk excavation) from the borrow pit (to be provided by the Contractor) planned for the construction of the embankment and the impervious blanket of clay (including previous removal of topsoil). The price includes: supply of material in accordance with the characteristics defined in the Main Design, excavation, loading, transport and unloading at the place of installation into the embankment. Bulking coefficient 1.2.</p> <p>Calculation per m³</p> <p>material required for the embankment (item 9 8,637.60 m3) and for the impervious blanket of clay (item 3 6,267.90 m3) total 14,905.50</p>	m ³	14.905,50		0,00
	<p>Izrada dijela nasipa predviđenog za rekonstrukciju od vodonepropusnog materijala iz iskopa (iz zasijecanja preostalog dijela nasipa, iz odvodnog kanala i od iskopa glinenog čepa). Ovaj rad obuhvata razastiranje sa vlaženjem, grubo odnosno fino planiranje i zbijanje materijala u slojevima debljine max 30cm odgovarajućom mehanizacijom, tako da se što bolje obezbijedi stabilnost i vodonepropusnost nasipa. Svaki sloj mora biti zbijen u punoj širini do projektom predviđene zbijenosti, koja iznosi Mv = 95% po standardnom Proktorovom postupku.</p>	<p>Construction of a part of the embankment planned for reconstruction using excavated impermeable material (from the bench cutting of the remaining part of the embankment, from the drainage canal and from the excavation of the impervious blanket of clay). These works include spreading with wetting, coarse and fine grading and compacting of the material in layers of max. 30cm by using appropriate machinery, to ensure the best possible stability and impermeability of the embankment. Each layer must be compacted in the full width to reach the design level of compaction, which is Mv = 95% according to the standard Proctor test.</p>				

8	<p>Nasipanje materijala treba vršiti na predhodno pripremljeno tlo ili niže izvedeni sloj. Svaki sloj će se u podužnom smislu razastirati horizontalno, a u poprečnom sa padom (kako je prikazano na normalnom profilu) radi odvodnje atmosferskih voda. U cijenu je uračunata priprema podloge i dotjerivanje pokosa postojećeg nasipa sa padom od cca 3% prema nožici, kao i izrada privremenih rampi. Kod nasipanja voditi računa o postojećim pijezometrima kako ne bi došlo do oštećenja istih. Izradu nasipa izvoditi prema tehničkim uslovima za izvođenje radova. Cijenom predvidjeti konstantno mjerenje i ispitivanje fizičko-mehaničkih osobina materijala po ugrađenom svakom pojedinačnom sloju materijala, te zahtjevu nadzornog organa.</p> <p>Obračun prema tabelarnom iskazu zemljanih masa. Obračun po m³ ukupno nasip + rampa 40022,62-6311,10+41,31 =33752,83 iz iskopa 17592,30 + 1255,03 + 6267,90</p>	<p>The filling of material should be done on the previously prepared soil or the completed lower layer. Each layer will be spread horizontally in the longitudinal direction, and at an inclination in the transverse direction (as shown on the normal section) for rainwater drainage. The price includes preparation of the base and trimming of the embankment slope with an inclination of approx. 3% toward the toe, as well as construction of temporary ramps. During filling, care should be taken to avoid any damage to the existing piezometers. The embankment will be constructed according to technical requirements for the execution of works. The price will provide for continuous measuring and testing of physical-mechanical properties of material for each installed layer of material, and as required by the Engineer.</p> <p>Calculation per tabular bill of quantities for earthworks. Calculation per m³ total embankment + ramp 40,022.62-6,311.10+41.31 =33,752.83 from the excavation 17,592.30 + 1,255.03 + 6,267.90</p>	m ³	25.115,23		0,00
9	<p>Izrada dijela nasipa predviđenog za rekonstrukciju od materijala iz pozajmišta koje Izvođač radova obezbjeđuje o svom trošku, u skladu sa Glavnim projektom i u svemu prema opisu uz stavku II/8.</p> <p>Obračun po m³ 33752,83-25115,23</p>	<p>Construction of a part of the embankment planned for reconstruction using material from the borrow pit to be provided by the Contractor at his own expense, in accordance with the Main Design and fully according to the description of item II/8.</p> <p>Calculation per m³ 33,752.83-25,115.23</p>	m ³	8.637,60		0,00
10	<p>Mašinsko, grubo i fino planiranje kosih površina nasipa.</p> <p>Obračun po m² 28,52x1567</p>	<p>Mechanical coarse and fine grading of sloped surfaces of the embankment.</p> <p>Calculation per m² 28.52x1,567</p>	m ²	44.690,27		0,00
11	<p>Humiziranje i zatravljivanje ravnih i kosih površina nasipa predviđenih projektom. Koristi se ranije skinut i deponovan humus.</p>	<p>Topsoiling and grassing of flat and sloped surfaces of the embankment as provided in the design. Previously removed and deposited topsoil will be used.</p>				

	<p>Obračun prema iskaznici zemljanih masa.</p> <p>Obračun po m²</p> <p>ukupno humus 37792,01 m²</p>	<p>Calculation per bill of quantities for earthworks.</p> <p>Calculation per m²</p> <p>total topsoil 37,792.01 m²</p>				
11,1	od skinutog starog humusa 37371,01	from the old removed topsoil 37,371.01	m ²	37.371,01		0,00
11,2	od humusa iz pozajmišta	from the topsoil from the borrow pit	m ²	421,00		0,00
12	<p>Mašinsko razastiranje materijala za zatrpavanje starih materijalnih rovova sa vodne strane nasipa, a sa plasmanom svih viškova materijala pri izradi rekonstrukcije. U cijenu je uključeno grubo i fino planiranje i zbijanje u slojevima od 30 cm, kao i transport materijala cca 100 m, u svemu prema normalnom profilu.</p> <p>Obračun po m³</p>	<p>Mechanical spreading of material for the backfilling of old material trenches on the water side of the embankment, which includes all extra material remaining from reconstruction. The price includes coarse and fine grading and compaction in layers of 30 cm, as well as transport of material for approx. 100 m, all as per the normal section.</p> <p>Calculation per m³</p>	m ³	6.741,50		0,00
13	<p>Grubo i fino planiranje i komprimiranje posteljice kolovoza na kruni nasipa (min Mv=20MN/m²), a prema tehničkim uslovima.</p> <p>Obračun po m²</p> <p>4.0x1567+103x4,0</p>	<p>Coarse and fine grading and compression of the road bedding on the embankment crest (min. Mv=20MN/m²), according to technical requirements.</p> <p>Calculation per m²</p> <p>4.0x1,567+103x4.0</p>	m ²	6.679,92		0,00
14	<p>Izrada kolovoza širine 4.0 m i debljine 30 cm, od čega je 20 cm šljunčani sloj, a 10 cm je habajući sloj materijala - Srebrenička rizla ili ekvivalent. Sloj je potrebno ravnomjerno razastrijeti i dobro uvaljati da se dobije ravna površina sa nagibom, a prema normalnom profilu nasipa (Mv=60MN/m²). Radove izvesti prema tehničkim uslovima.</p> <p>Obračun po m³</p> <p>0.3x4.0x1566,98+0,30x4,00x91,50</p>	<p>Construction of carriageway, 4.0 m wide and 30 cm thick, of which 20 cm is a gravel layer and 10 cm is a wearing layer - made of Srebrenička chippings or their equivalent. The layer needs to be evenly spread and well-rolled to achieve a flat surface with, inclined as per the normal section of the embankment (Mv=60MN/m²). The works are to be carried out according to technical requirements.</p> <p>Calculation per m³</p> <p>0.3x4.0x1,566.98+0.30x4.00x91.50</p>	m ³	1.990,18		0,00
15	<p>Izrada bankina na kruni širine 50 cm i debljine 30 cm sa nagibom kako je prikazano u normalnom profilu. U cijenu je uračunata izrada šljunčanih drenaža za odvodnju kolovozne konstrukcije i posteljice na branjenu stranu sa nagibom dim.10/50 cm na svakih 25 m.</p>	<p>Construction of shoulders on the crest, 50 cm wide and 30 cm thick, inclined as shown on the normal section. The price includes construction of the gravel drainage system for drainage of the carriageway structure and bedding inclined toward the defence side, measuring 10/50 cm, spaced at 25 m.</p>				

	Obračun po m ³ 2x0.3x0.5x1567	Calculation per m ³ 2x0.3x0.5x1,567	m ³	470,10		0,00
16	Mašinska izrada filterskog sloja u nožici na branjenoj strani nasipa od šljunkovito-pjeskovitog materijala, debljine 50 cm, od toga 20 cm pijesak i 30 cm šljunak. Obračun po m ³ 2,25x1566,98	Mechanical construction of the filter layer at the toe on the defence side of the embankment, using gravel-sandy material, 50 cm thick, of which 20 cm of sand and 30 cm of gravel. Calculation per m ³ 2.25x1,566.98	m ³	3.525,71		0,00
UKUPNO II ZEMLJANI RADOVI		TOTAL II EARTHWORKS				0,00
III	OSTALI RADOVI	OTHER WORKS				
1	Izrada i postavljanje oznaka za osiguranje pijezometara na trasi rekonstruisanog nasipa, a prema nacrtu detalja. U obračun uzeta izrada i ugrađivanje: beton MB 20 V=0,10 m3 tamponski sloj šljunka V=0,8 m3 betonski anker tipovi TSA M 12X140 mm kom 4 vijci M 16 kom 4 čelična ploča dim.30x30x0,5 cm kom 1 konusni zavrtnji d=10mm l=3cm kom 4 šelna od čeličnog lima dim 18x5x0,5 cm kom 2 pocinčana cijev 1"L=2m kom1 pocinčeni lim dim 50x50x0,20cm kom1 Označavanje izvršiti za svaki ugrađeni pijezometar. Obračun po kom	Fabrication and placing of markings to secure piezometers on the reconstructed embankment route, according to detail drawing. The calculation includes fabrication and installation: concrete MB 20 V=0.10 m3 gravel base layer V=0.8 m3 concrete anchor plugs TSA M 12X140 mm 4 pcs screws M 16 4 pcs steel plate meas. 30x30x0.5 cm 1 piece cone screws d=10mm l=3 cm 4 pcs steel sheet clip 18x5x0.5 cm 2 pcs galvanised pipe 1"L=2m 1 piece galvanised sheet metal meas. 50x50x0.20cm 1 piece Each installed piezometer will be marked. Calculation per piece	pcs	8,00		0,00
2	Uklanjanje postojećih rampi, odnosno demontaža i njihovo ponovno ugrađivanje, a u skladu sa rekonstrukcijom samog nasipa. Obračun po kom	Removal of existing ramps, i.e. their dismantling and re-installation, in accordance with the reconstruction of the embankment. Calculation per piece	pcs	1,00		0,00
	Izrada i postavljanje oznake za rampu na trasi rekonstruisanog nasipa, a prema detalju. U obračun uzeta izrada i ugađivanje beton MB 20 V=0,10 m3 tamponski sloj šljunka V=0,8 m3	Fabrication and placing of the ramp markings on the reconstructed embankment route, according to detail. The calculation includes fabrication and installation concrete MB 20 V=0.10 m3 gravel base layer V=0.8 m3				

3	betonski anker tipovi TSA M 12X140 mm kom 4 vijci M 16 kom 4 čelična ploča dim.30x30x0,5 cm kom 1 konusni zavrtnji d=10mm l=3cm kom 4 šelna od čeličnog lima dim 18x5x0,5 cm kom 2 pocinčana cijev 1"L=2m kom1 pocinčeni lim dim 50x50x0,20cm kom1 Označavanje izvršiti na svakoj ugrađenoj rampi. Obračun po kom	concrete anchor plugs TSA M 12X140 mm 4 pcs screws M 16 4 pcs steel plate meas. 30x30x0.5 cm 1 piece cone screws d=10mm l=3 cm 4 pcs steel sheet clip 18x5x0.5 cm 2 pcs galvanised pipe 1"L=2m 1 piece galvanised sheet metal meas. 50x50x0.20cm Each installed ramp will be marked. Calculation per piece	pcs	1,00	0,00
4	Izrada i ugrađivanje tipskih betonskih stubova za oznaku kilometara na rekonstruisanom nasipu, a prema nacrtu. U obračun uzeto: iskop, izrada betona MB 30 za kilometarski stub F = 0,10 m3 za polukilometarski stub F= 0,06 m3 armatura MAR 500/560 ukupno 9,20 kg Obračun po kom	Fabrication and installation of typical concrete kilometre marking poles on the reconstructed embankment, according to the drawing. The calculation includes: excavation, mixing of MB 30 concrete for the kilometre pole F = 0.10 m3 for the half-kilometre pole F = 0.06 m3 reinforcement MAR 500/560 total 9.20 kg Calculation per piece	pcs	5,00	0,00
UKUPNO III - OSTALI RADOVI		TOTAL III - OTHER WORKS			0,00

ZBIRNA REKAPITULACIJA		OVERALL RECAPITULATION	
DIONICA II:		SECTION II:	
I	PRIPREMNI RADOVI	PREPARATORY WORKS	0,00
II	ZEMLJANI RADOVI	EARTHWORKS	0,00
III	OSTALI RADOVI	OTHER WORKS	0,00
UKUPNO RADOVI DIONICA II €		TOTAL WORKS SECTION II €	0,00

PREDMJER I PREDRAČUN RADOVA
PRICED BILL OF QUANTITIES
REKONSTRUKCIJA SAVSKOG ODBRAMBENOG NASIPA NA PODRUČJU BRČKO DISTRIKTA BIH
DIONICA III (OD ST. 4+646,13 DO ST. 6+138,33)
RECONSTRUCTION OF THE SAVA DEFENCE EMBANKMENT IN THE BRČKO DISTRICT BIH AREA
SECTION III (FROM CH. 4+646.13 TO CH. 6+138.33)

No	Opis	Item Description	Unit	Quantity	Unit price €	Total €
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Unit prices include all mentioned works, material with usual dispersion, external and internal transport, storage and keeping of material at the construction site, scaffolding and paneling for performing of works, water, lighting, fuel and energy for machinery as applicable. The Unit Price should also include the cost of a borrow pit for material to be used for reconstruction of section III of the Sava defence embankment in the Brčko District BiH area (with characteristics fully in compliance with the Main Design).

I	PRIPREMNI RADOVI	PREPARATORY WORKS				
1	Iskolčavanje trase projektovanog nasipa, iskolčavanje svih potrebnih objekata i postavljanje poprečnih profila sanacije nasipa prema elementima datim u projektu, uključujući i sva geodetska mjerenja u vezi prenošenja podataka iz projekta na teren ili sa terena na nacrt. Održavanje svih iskolčenih oznaka na terenu u cijelom periodu od početka radova do predaje radova Investitoru. Obračun po km ¹	Staking out of the route of design embankment, staking out of all required facilities and setting of cross sections for embankment repair according to elements provided in the design, including all geodetic measurements for translating design data onto the terrain or terrain data onto drawings. Maintenance of all staked-out markings on the terrain throughout the period between the start of works and handover of works to the Investor. Calculation per km ¹	km ¹	1,49		0,00
2	Sječa šiblja i ostalog niskog rastinja u pojasu građenja, na vodnoj strani nasipa. Šiblje se uklanja duž trase nasipa sa odlaganjem na hrpe i paljenje istog. Obračunato po m ² 10x1492,20	Cutting shrubs and other bush in the construction area, on the water side of the embankment. The bush will be removed along the embankment route, including piling and incinerating. Calculation per m ² 10x1,492.20	m ²	14.922,00		0,00
3	Sječa stabala i mehaničko vađenje panjeva duž trase nasipa, u širini pojasa izgradnje. Stabla se sijeku na propisane dužine, transportuju i slažu u pravilne oblike na stranu van pojasa izgradnje.	Cutting trees and mechanically removing stumps along the embankment route, in the width of the construction area. Trees will be cut to required length, transported and stacked in proper form on the side outside the construction area.				

	<p>Panjevi novih posječenih stabala nakon vađenja se skupljaju i transportuju u gomile van pojasa izgradnje na mjesto koje odredi nadzorni organ. Ponuđač će na terenu utvrditi obraslost zahvaćenih površina u skladu sa normama i tehničkim uslovima ovog projekta, te formirati jediničnu cijenu.</p> <p>Obračunato po m² 10x1492x0.3</p>	<p>Following removal, stumps of newly-cut trees will be gathered and transported on piles outside the construction area, at a place determined by the Engineer. The Bidder will determine the level of trees and shrubs on the spot for areas affected, and will determine the unit price in accordance with norms and technical requirements of this project.</p> <p>Calculation per m² 10x1,492x0.3</p>	m ²	4.476,00	0,00
UKUPNO I PRIPREMNI RADOVI		TOTAL I PREPARATORY WORKS			0,00

II ZEMLJANI RADOVI		II EARTHWORKS			
1	<p>Mašinsko skidanje humusa u sloju od 20 cm, odnosno do dubine njegovog potpunog odstranjivanja. Humus se skida sa dijela kosina sa vodne i branjene strane postojećeg nasipa i transportuje cca 20 m i odlaže van pojasa građenja. Skinuti humus će se nakon iskopa upotrijebiti za humiziranje kosina rekonstruisanog nasipa.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m²</p>	<p>Mechanical removal of topsoil in a 20 cm layer, i.e. to the depth required for its complete removal. Topsoil will be removed from a part of slopes on the water and defence sides of the existing embankment, and will be transported for approx. 20 m and disposed of outside the construction area. Following excavation, the removed topsoil will be used for topsoiling of slopes of the reconstructed embankment.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m²</p>	m ²	44.980,39	0,00
2	<p>Mašinski iskop materijala II kategorije za rov glinenog čepa. Iskopani materijal će se upotrijebiti za izradu rekonstruisanog nasipa.</p> <p>Obračun po m³ (1.0+3.0)/2x2.0x1492,20</p>	<p>Mechanical excavation of category II material for the trench for the impervious blanket of clay. The excavated material will be used for the reconstructed embankment.</p> <p>Calculation per m³ (1.0+3.0)/2x2.0x1,492.20</p>	m ³	5.969,80	0,00
3	<p>Nabavka materijala karakteristika u svemu prema Glavnom projektu iz pozajmišta koje obezbjeđuje Izvođač radova, te izrada glinenog čepa u nožici-ručno od materijala iz pozajmišta u svemu prema opisu stavke II/8.</p> <p>Obračun po m³</p>	<p>Supply of material, with characteristics fully in compliance with the Main Design, from the borrow pit provided by the Contractor, and manual construction of an impervious blanket of clay using material from the borrow pit, fully according to the description of item II/8.</p> <p>Calculation per m³</p>	m ³	5.969,80	0,00

4	<p>Mašinski iskop krune postojećeg nasipa prosječne dubine 0,50 m. Materijal se poprečno transportuje do 15 m, uz nožicu nasipa na vodnoj strani. Iskopani materijal će se upotrijebiti za zatrpavanje materijalnih rovova. Kod iskopa voditi računa o postojećim pijezometrima na trasi nasipa kako ne bi došlo do oštećenja istih.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m³</p>	<p>Mechanical excavation of the crest of the existing embankment to the average depth of 0.50 m. The material will be transported transversally up to 15 m, next to the embankment toe on the water side. The excavated material will be used to backfill material trenches. During excavation, care should be taken to avoid any damage to the existing piezometers on the embankment route.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³</p>	m3	3.719,60		0,00
5	<p>Mašinski iskop preostalog dijela nasipa prema pojedinačnim poprečnim profilima. U iskop obračunati iskop za filterski sloj i iskop za stepenasto zasijecanje postojećeg nasipa. Materijal se poprečno transportuje do 15 m, uz nožicu nasipa na vodnoj strani. Iskopani materijal će se koristiti za izradu rekonstruisanog nasipa, a prema tehničkim uslovima za izvođenje radova. Kod iskopa voditi računa o postojećim pijezometrima na trasi nasipa kako ne bi došlo do oštećenja istih.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m³</p>	<p>Mechanical excavation of the remaining part of the embankment according to individual cross sections. The calculation should include excavation for the filter layer and excavation for the benching of the existing embankment. The material will be transported transversally up to 15 m, next to the embankment toe on the water side. The excavated material will be used for the reconstructed embankment, according to technical requirements for the execution of works. During excavation, care should be taken to avoid any damage to the existing piezometers on the embankment route.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³</p>	m3	23.773,70		0,00
6	<p>Mašinski iskop materijala III kategorije za izradu odvodnog kanala sa branjene strane nasipa.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m³</p> <p>1077,38 +(78+76)x(0,50+2,00)/2x0,75)</p>	<p>Mechanical excavation of category III material for the drainage canal on the defence side of the embankment.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³</p> <p>1,077.38 +(78+76)x(0.50+2.00)/2x0.75)</p>	m ³	1.224,60		0,00

7	<p>Mašinski iskop materijala III kategorije (u širokom otkopu) iz pozajmišta materijala (koje obezbjeđuje Izvođač radova) predviđenog za izradu nasipa i glinenog čepa (uz predhodno skinuti humus). U cijenu su uračunati: nabavka materijala u skladu sa karakteristikama definisanim Glavnim projektom, iskop, utovar, transport i istovar na mjesto ugradnje u nasip. Koeficijent rastresitosti 1.2.</p> <p>Obračun po m³ potrebno materijala za nasip (stavka 9 6972,50 m3) i za glineni čep (stavka 3 5969,80 m3) ukupno 12942,30</p>	<p>Mechanical excavation of category III material (in bulk excavation) from the borrow pit (to be provided by the Contractor) planned for the construction of the embankment and the impervious blanket of clay (including previous removal of topsoil). The price includes: supply of material in accordance with the characteristics defined in the Main Design, excavation, loading, transport and unloading at the place of installation into the embankment. Bulking coefficient 1.2.</p> <p>Calculation per m³ material required for the embankment (item 9 6,972.50 m3) and for the impervious blanket of clay (item 3 5,969.80 m3) total 12,942.30</p>	m ³	13.000,00		0,00
	<p>Izrada dijela nasipa predviđenog za rekonstrukciju od vodonepropusnog materijala iz iskopa (iz zasijecanja preostalog dijela nasipa, iz odvodnog kanala i od iskopa glinenog čepa). Ovaj rad obuhvata razastiranje sa vlaženjem, grubo odnosno fino planiranje i zbijanje materijala u slojevima debljine max 30cm odgovarajućom mehanizacijom, tako da se što bolje obezbijedi stabilnost i vodonepropusnost nasipa. Svaki sloj mora biti zbijen u punoj širini do projektom predviđene zbijenosti, koja iznosi Mv = 95% po standardnom Proktorovom postupku.</p>	<p>Construction of a part of the embankment planned for reconstruction using excavated impermeable material (from the bench cutting of the remaining part of the embankment, from the drainage canal and from the excavation of the impervious blanket of clay). These works include spreading with wetting, coarse and fine grading and compacting of the material in layers of max. 30cm by using appropriate machinery, to ensure the best possible stability and impermeability of the embankment. Each layer must be compacted in the full width to reach the design level of compaction, which is Mv = 95% according to the standard Proctor test.</p>				

8	<p>Nasipanje materijala treba vršiti na predhodno pripremljeno tlo ili niže izvedeni sloj. Svaki sloj će se u podužnom smislu razastirati horizontalno, a u poprečnom sa padom (kako je prikazano na normalnom profilu) radi odvodnje atmosferskih voda. U cijenu je uračunata priprema podloge i dotjerivanje pokosa postojećeg nasipa sa padom od cca 3% prema nožici, kao i izrada privremenih rampi. Kod nasipanja voditi računa o postojećim pijezometrima kako ne bi došlo do oštećenja istih. Izradu nasipa izvoditi prema tehničkim uslovima za izvođenje radova. Cijenom predvidjeti konstantno mjerenje i ispitivanje fizičko-mehaničkih osobina materijala po ugrađenom svakom pojedinačnom sloju materijala, te zahtjevu nadzornog organa.</p> <p>Obračun prema tabelarnom iskazu zemljanih masa.</p> <p>Obračun po m³ ukupno nasip + rampa 37835,70+82,12+42,75 =37960,60</p> <p>iz iskopa 23773,70 + 1244,60 + 5969,80</p>	<p>The filling of material should be done on the previously prepared soil or the completed lower layer. Each layer will be spread horizontally in the longitudinal direction, and at an inclination in the transverse direction (as shown on the normal section) for rainwater drainage. The price includes preparation of the base and trimming of the embankment slope with an inclination of approx. 3% toward the toe, as well as construction of temporary ramps. During filling, care should be taken to avoid any damage to the existing piezometers. The embankment will be constructed according to technical requirements for the execution of works. The price will provide for continuous measuring and testing of physical-mechanical properties of material for each installed layer of material, and as required by the Engineer.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³ total embankment + ramp 37,835.70+82.12+42.75 =37,960.60</p> <p>from the excavation 23,773.70 + 1,244.60 + 5,969.80</p>	m ³	30.988,10		0,00
9	<p>Izrada dijela nasipa predviđenog za rekonstrukciju od materijala iz pozajmišta koje Izvođač radova obezbjeđuje o svom trošku, u skladu sa Glavnim projektom i u svemu prema opisu uz stavku II / 8.</p> <p>Obračun po m³ 37960,60-30988,10</p>	<p>Construction of a part of the embankment planned for reconstruction using material from the borrow pit to be provided by the Contractor at his own expense, in accordance with the Main Design and fully according to the description of item II / 8.</p> <p>Calculation per m³ 37,960.60-30,988.10</p>	m ³	6.972,50		0,00
10	<p>Mašinsko, grubo i fino planiranje kosih površina nasipa.</p> <p>Obračun po m² 27,82x1492,20</p>	<p>Mechanical coarse and fine grading of sloped surfaces of the embankment.</p> <p>Calculation per m² 27.82x1,492.20</p>	m ²	41.513,00		0,00

11	Humiziranje i zatravljivanje ravnih i kosih površina nasipa predviđenih projektom. Koristi se ranije skinut i deponovan humus. Obračun prema iskaznici zemljanih masa. Obračun po m ² ukupno humus 45726 m ²	Topsoiling and grassing of flat and sloped surfaces of the embankment as provided in the design. Previously removed and deposited topsoil will be used. Calculation per bill of quantities for earthworks. Calculation per m ² total topsoil 45,726 m ²				
11,1	od skinutog starog humusa 44980,40	from the old removed topsoil 44980.40	m ²	44.980,40		0,00
11,2	od humusa iz pozajmišta	from the topsoil from the borrow pit	m ²	745,60		0,00
12	Mašinsko razastiranje materijala za zatrpavanje starih materijalnih rovova sa vodne strane nasipa, a sa plasmanom svih viškova materijala pri izradi rekonstrukcije. U cijenu je uključeno grubo i fino planiranje i zbijanje u slojevima od 30 cm, kao i transport materijala cca 100 m, u svemu prema normalnom profilu. Obračun po m ³ 15274x0,30+3719,60	Mechanical spreading of material for the backfilling of old material trenches on the water side of the embankment, which includes all extra material remaining from reconstruction. The price includes coarse and fine grading and compaction in layers of 30 cm, as well as transport of material for approx. 100 m, all as per the normal section. Calculation per m ³ 15,274x0.30+3,719.60	m ³	8.301,80		0,00
13	Grubo i fino planiranje i komprimiranje posteljice kolovoza na kruni nasipa (min Mv=20MN/m ²), a prema tehničkim uslovima. Obračun po m ² 4.0x1492,20+110,50x4,0	Coarse and fine grading and compression of the road bedding on the embankment crest (min. Mv=20MN/m ²), according to technical requirements. Calculation per m ² 4.0x1,492.20+110.50x4.0	m ²	6.410,80		0,00
14	Izrada kolovoza širine 4.0 m i debljine 30 cm, od čega je 20 cm šljunčani sloj, a 10 cm je habajući sloj materijala - Srebrenička rizla ili ekvivalent. Sloj je potrebno ravnomjerno razastrijeti i dobro uvaljati da se dobije ravna površina sa nagibom, a prema normalnom profilu nasipa (Mv=60MN/m ²). Radove izvesti prema tehničkim uslovima. Obračun po m ³ 0.3x4.0x1492,20+0,30x4,00x110,50	Construction of carriageway, 4.0 m wide and 30 cm thick, of which 20 cm is a gravel layer and 10 cm is a wearing layer - made of Srebrenička chippings or their equivalent. The layer needs to be evenly spread and well-rolled to achieve a flat surface with, inclined as per the normal section of the embankment (Mv=60MN/m ²). The works are to be carried out according to technical requirements. Calculation per m ³ 0.3x4.0x1,492.20+0.30x4.00x110.50	m ³	1.923,30		0,00

15	Izrada bankina na kruni širine 50 cm i debljine 30 cm sa nagibom kako je prikazano u normalnom profilu. U cijenu je uračunata izrada šljunčanih drenaža za odvodnju kolovozne konstrukcije i posteljice na branjenu stranu sa nagibom dim.10/50 cm na svakih 25 m. Obračun po m ³ 2x0.3x0.5x1492,20	Construction of shoulders on the crest, 50 cm wide and 30 cm thick, inclined as shown on the normal section. The price includes construction of the gravel drainage system for drainage of the carriageway structure and bedding inclined toward the defence side, measuring 10/50 cm, spaced at 25 m. Calculation per m ³ 2x0.3x0.5x1,492.20	m ³	447,70	0,00
16	Mašinska izrada filterskog sloja u nožici na branjenoj strani nasipa od šljunkovito-pjeskovitog materijala, debljine 50 cm, od toga 20 cm pijesak i 30 cm šljunak. Obračun po m ³ 2,25x1492,20	Mechanical construction of the filter layer at the toe on the defence side of the embankment, using gravel/sandy material, 50 cm thick, of which 20 cm of sand and 30 cm of gravel. Calculation per m ³ 2.25x1,492.20	m ³	3.357,45	0,00
UKUPNO II ZEMLJANI RADOVI		TOTAL II EARTHWORKS			0,00

III OSTALI RADOVI		OTHER WORKS			
1	Izrada i postavljanje oznaka za osiguranje pijezometara na trasi rekonstruisanog nasipa, a prema nacrtu detalja. U obračun uzeta izrada i ugrađivanje: beton MB 20 V=0,10 m3 tamponski sloj šljunka V=0,8 m3 betonski anker tiplovi TSA M 12X140 mm kom 4 vijci M 16 kom 4 čelična ploča dim.30x30x0,5 cm kom 1 konusni zavrtnji d=10mm l=3cm kom 4 šelna od čeličnog lima dim 18x5x0,5 cm kom 2 pocinčana cijev 1"L=2m kom1 pocinčeni lim dim 50x50x0,20cm kom1 Označavanje izvršiti za svaki ugrađeni pijezometar. Obračun po kom	Fabrication and placing of markings to secure piezometers on the reconstructed embankment route, according to detail drawing. The calculation includes fabrication and installation: concrete MB 20 V=0.10 m3 gravel base layer V=0.8 m3 concrete anchor plugs TSA M 12X140 mm 4 pcs screws M 16 4 pcs steel plate meas. 30x30x0.5 cm 1 piece cone screws d=10mm l=3 cm 4 pcs steel sheet clip 18x5x0.5 cm 2 pcs galvanised pipe 1"L=2m 1 piece galvanised sheet metal meas. 50x50x0.20cm 1 piece Each installed piezometer will be marked. Calculation per piece	pcs	8,00	0,00

2	Uklanjanje postojećih rampi, odnosno demontaža i njihovo ponovno ugrađivanje, a u skladu sa rekonstrukcijom samog nasipa. Obračun po kom	Removal of existing ramps, i.e. their dismantling and re-installation, in accordance with the reconstruction of the embankment. Calculation per piece	pcs	2,00		0,00
3	Izrada i postavljanje oznake za rampu na trasi rekonstruisanog nasipa, a prema detalju. U obračun uzeta izrada i ugađivanje beton MB 20 V=0,10 m3 tamponski sloj šljunka V=0,8 m3 betonski anker tipovi TSA M 12X140 mm kom 4 vijci M 16 kom 4 čelična ploča dim.30x30x0,5 cm kom 1 konusni zavrtnji d=10mm l=3cm kom 4 šelna od čeličnog lima dim 18x5x0,5 cm kom 2 pocinčana cijev 1"L=2m kom1 pocinčeni lim dim 50x50x0,20cm kom1 Označavanje izvršiti na svakoj ugrađenoj rampi. Obračun po kom	Fabrication and placing of the ramp markings on the reconstructed embankment route, according to detail. The calculation includes fabrication and installation concrete MB 20 V=0.10 m3 gravel base layer V=0.8 m3 concrete anchor plugs TSA M 12X140 mm 4 pcs screws M 16 4 pcs steel plate meas. 30x30x0.5 cm 1 piece cone screws d=10mm l=3 cm 4 pcs steel sheet clip 18x5x0.5 cm 2 pcs galvanised pipe 1"L=2m 1 piece galvanised sheet metal meas. 50x50x0.20cm 1 piece Each installed ramp will be marked. Calculation per piece	pcs	2,00		0,00
4	Izrada i ugrađivanje tipskih betonskih stubova za oznaku kilometara na rekonstruisanom nasipu, a prema nacrtu. U obračun uzeto: iskop, izrada betona MB 30 za kilometarski stub F = 0,10 m3 za polukilometarski stub F= 0,06 m3 armatura MAR 500/560 ukupno 9,20 kg Obračun po kom	Fabrication and installation of typical concrete kilometre marking poles on the reconstructed embankment, according to the drawing. The calculation includes: excavation, mixing of MB 30 concrete for the kilometre pole F = 0.10 m3 for the half-kilometre pole F = 0.06 m3 reinforcement MAR 500/560 total 9.20 kg Calculation per piece	pcs	6,00		0,00
	UKUPNO III OSTALI RADOVI	TOTAL III OTHER WORKS				0,00

	ZBIRNA REKAPITULACIJA DIONICA III:	OVERALL RECAPITULATION SECTION III:				
I	PRIPREMNI RADOVI	PREPARATORY WORKS				0,00
II	ZEMLJANI RADOVI	EARTHWORKS				0,00
III	OSTALI RADOVI	OTHER WORKS				0,00
	UKUPNO RADOVI DIONICA III €	TOTAL WORKS SECTION III €				0,00

After corrigendum 1 (Unit and quantities inserted)

PREDMJER I PREDRAČUN RADOVA
PRICED BILL OF QUANTITIES
REKONSTRUKCIJA SAVSKOG ODBRAMBENOG NASIPA NA PODRUČJU BRČKO DISTRIKTA BIH
DIONICA IV (OD ST. 6+138,33 DO ST. 7+328,54 I OD ST. 7+879,95 DO ST. 8+129,16)
RECONSTRUCTION OF THE SAVA DEFENCE EMBANKMENT IN THE BRČKO DISTRICT BIH AREA
SECTION IV (FROM CH. 6+138.33 TO CH. 7+328.54 AND FROM CH. 7+879.95 TO CH. 8+129.16)

No	Opis	Item Description	Unit	Quantity	Unit price €	Total €
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Unit prices include all mentioned works, material with usual dispersion, external and internal transport, storage and keeping of material at the construction site, scaffolding and paneling for performing of works, water, lighting, fuel and energy for machinery as applicable. The Unit Price should also include the cost of a borrow pit for material to be used for reconstruction of section IV of the Sava defence embankment in the Brčko District BiH area (with characteristics fully in compliance with the Main Design).

I PRIPREMNI RADOVI		PREPARATORY WORKS				
1	Iskolčavanje trase projektovanog nasipa, iskolčavanje svih potrebnih objekata i postavljanje poprečnih profila sanacije nasipa prema elementima datim u projektu, uključujući i sva geodetska mjerenja u vezi prenošenja podataka iz projekta na teren ili sa terena na nacрте. Održavanje svih iskolčenih oznaka na terenu u cijelom periodu od početka radova do predaje radova Investitoru.	Staking out of the route of design embankment, staking out of all required facilities and setting of cross sections for embankment repair according to elements provided in the design, including all geodetic measurements for translating design data onto the terrain or terrain data onto drawings. Maintenance of all staked-out markings on the terrain throughout the period between the start of works and handover of works to the Investor.				
	Obračun po km ¹	Calculation per km ¹	km ¹	1,44		0,00
2	Sječa šiblja i ostalog niskog rastinja u pojasu građenja, na vodnoj strani nasipa. Šiblje se uklanja duž trase nasipa sa odlaganjem na hrpe i paljenje istog.	Cutting shrubs and other bush in the construction area, on the water side of the embankment. The bush will be removed along the embankment route, including piling and incinerating.				
	Obračunato po m ² 10x(1991-551)	Calculation per m ² 10x(1991-551)	m ²	14.400,00		0,00

3	<p>Sječa stabala i mehaničko vađenje panjeva duž trase nasipa, u širini pojasa izgradnje. Stabla se sijeku na propisane dužine, transportuju i slažu u pravilne oblike na stranu van pojasa izgradnje.</p> <p>Panjevi novih posječenih stabala nakon vađenja se skupljaju i transportuju u gomile van pojasa izgradnje na mjesto koje odredi nadzorni organ. Ponuđač će na terenu utvrditi obraslost zahvaćenih površina u skladu sa normama i tehničkim uslovima ovog projekta, te formirati jediničnu cijenu.</p> <p>Obračunato po m² 10x(1991-551)x0.3</p>	<p>Cutting trees and mechanically removing stumps along the embankment route, in the width of the construction area. Trees will be cut to required length, transported and stacked in proper form on the side outside the construction area.</p> <p>Following removal, stumps of newly-cut trees will be gathered and transported on piles outside the construction area, at a place determined by the Engineer. The Bidder will determine the level of trees and shrubs on the spot for areas affected, and will determine the unit price in accordance with norms and technical requirements of this project.</p> <p>Calculation per m² 10x(1,991-551)x0.3</p>	m ²	4.320,00		0,00
UKUPNO I PRIPREMNI RADOVI		TOTAL I PREPARATORY WORKS	0,00			

II ZEMLJANI RADOVI		EARTHWORKS				
1	<p>Mašinsko skidanje humusa u sloju od 20 cm, odnosno do dubine njegovog potpunog odstranjivanja. Humus se skida sa dijela kosina sa vodne i branjene strane postojećeg nasipa i transportuje cca 20 m i odlaže van pojasa građenja. Skinuti humus će se nakon iskopa upotrijebiti za humiziranje kosina rekonstruisanog nasipa.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa. Obračun po m²</p>	<p>Mechanical removal of topsoil in a 20 cm layer, i.e. to the depth required for its complete removal. Topsoil will be removed from a part of slopes on the water and defence sides of the existing embankment, and will be transported for approx. 20 m and disposed of outside the construction area. Following excavation, the removed topsoil will be used for topsoiling of slopes of the reconstructed embankment.</p> <p>Calculation per tabular bill of quantities for earthworks. Calculation per m²</p>	m ²	39.400,03		0,00
2	<p>Mašinski iskop materijala II kategorije za rov glinenog čepa. Iskopani materijal će se upotrijebiti za izradu rekonstruisanog nasipa.</p> <p>Obračun po m³ (1.0+3.0)/2x2.0x(1991-551)</p>	<p>Mechanical excavation of category II material for the trench for the impervious blanket of clay. The excavated material will be used for the reconstructed embankment.</p> <p>Calculation per m³ (1.0+3.0)/2x2.0x(1,991-551)</p>	m ³	5.760,00		0,00

3	Nabavka materijala karakteristika u svemu prema Glavnom projektu iz pozajmišta koje obezbeđuje Izvođač radova, te izrada glinenog čepa u nožici-ručno od materijala iz pozajmišta u svemu prema opisu stavke II/8.	Supply of material, with characteristics fully in compliance with the Main Design, from the borrow pit provided by the Contractor, and manual construction of an impervious blanket of clay using material from the borrow pit, fully according to the description of item II/8.				
	Obračun po m ³	Calculation per m ³	m ³	5.760,00		0,00
4	Mašinski iskop krune postojećeg nasipa prosječne dubine 0,50 m. Materijal se poprečno transportuje do 15 m, uz nožicu nasipa na vodnoj strani. Iskopani materijal će se upotrijebiti za zatrpavanje materijalnih rovova. Kod iskopa voditi računa o postojećim pijezometrima na trasi nasipa kako ne bi došlo do oštećenja istih.	Mechanical excavation of the crest of the existing embankment to the average depth of 0.50 m. The material will be transported transversally up to 15 m, next to the embankment toe on the water side. The excavated material will be used to backfill material trenches. During excavation, care should be taken to avoid any damage to the existing piezometers on the embankment route.				
	Obračun prema tabelarnoj iskaznici zemljanih masa.	Calculation per tabular bill of quantities for earthworks.				
	Obračun po m ³	Calculation per m ³	m ³	3.065,61		0,00
5	Mašinski iskop preostalog dijela nasipa prema pojedinačnim poprečnim profilima. U iskop obračunati iskop za filterski sloj i iskop za stepenasto zasijecanje postojećeg nasipa. Materijal se poprečno transportuje do 15 m, uz nožicu nasipa na vodnoj strani. Iskopani materijal će se koristiti za izradu rekonstruisanog nasipa, a prema tehničkim uslovima za izvođenje radova. Kod iskopa voditi računa o postojećim pijezometrima na trasi nasipa kako ne bi došlo do oštećenja istih.	Mechanical excavation of the remaining part of the embankment according to individual cross sections. The calculation should include excavation for the filter layer and excavation for the benching of the existing embankment. The material will be transported transversally up to 15 m, next to the embankment toe on the water side. The excavated material will be used for the reconstructed embankment, according to technical requirements for the execution of works. During excavation, care should be taken to avoid any damage to the existing piezometers on the embankment route.				
	Obračun prema tabelarnoj iskaznici zemljanih masa.	Calculation per tabular bill of quantities for earthworks.				
	Obračun po m ³	Calculation per m ³	m ³	17.590,02		0,00

6	<p>Mašinski iskop materijala III kategorije za izradu odvodnog kanala sa branjene strane nasipa.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m³</p> <p>1168,84+(64+110+86+32)x(0,5+2,0)/2x0,75</p>	<p>Mechanical excavation of category III material for the drainage canal on the defence side of the embankment.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³</p> <p>1,168.84+(64+110+86+32)x(0.5+2.0)/2x0.75</p>	m ³	1.442,60		0,00
7	<p>Mašinski iskop materijala III kategorije (u širokom otkopu) iz pozajmišta materijala (koje obezbjeđuje Izvođač radova) predviđenog za izradu nasipa i glinenog čepa (uz predhodno skinuti humus). U cijenu su uračunati: nabavka materijala u skladu sa karakteristikama definisanim Glavnim projektom, iskop, utovar, transport i istovar na mjesto ugradnje u nasip. Koeficijent rastresitosti 1.2.</p> <p>Obračun po m³</p> <p>potrebno materijala za nasip (stavka 9 11839,18 m3) i za glineni čep (stavka 3 5760 m3) ukupno 17599,18</p>	<p>Mechanical excavation of category III material (in bulk excavation) from the borrow pit (to be provided by the Contractor) planned for the construction of the embankment and the impervious blanket of clay (including previous removal of topsoil). The price includes: supply of material in accordance with the characteristics defined in the Main Design, excavation, loading, transport and unloading at the place of installation into the embankment. Bulking coefficient 1.2.</p> <p>Calculation per m³</p> <p>material required for the embankment (item 9 11,839.18 m3) and for the impervious blanket of clay (item 3 5,760 m3) total 17,599.18</p>	m ³	17.603,20		0,00

8	<p>Izrada dijela nasipa predviđenog za rekonstrukciju od vodonepropusnog materijala iz iskopa (iz zasijecanja preostalog dijela nasipa, iz odvodnog kanala i od iskopa glinenog čepa). Ovaj rad obuhvata razastiranje sa vlaženjem, grubo odnosno fino planiranje i zbijanje materijala u slojevima debljine max 30cm odgovarajućom mehanizacijom, tako da se što bolje obezbijedi stabilnost i vodonepropusnost nasipa. Svaki sloj mora biti zbijen u punoj širini do projektom predviđene zbijenosti, koja iznosi $M_v = 95\%$ po standardnom Proktorovom postupku.</p> <p>Nasipanje materijala treba vršiti na predhodno pripremljeno tlo ili niže izvedeni sloj. Svaki sloj će se u podužnom smislu razastirati horizontalno, a u poprečnom sa padom (kako je prikazano na normalnom profilu) radi odvodnje atmosferskih voda. U cijenu je uračunata priprema podloge i dotjerivanje pokosa postojećeg nasipa sa padom od cca 3% prema nožici, kao i izrada privremenih rampi. Kod nasipanja voditi računa o postojećim pijezometrima kako ne bi došlo do oštećenja istih. Izradu nasipa izvoditi prema tehničkim uslovima za izvođenje radova. Cijenom predvidjeti konstantno mjerenje i ispitivanje fizičko-mehaničkih osobina materijala po ugrađenom svakom pojedinačnom sloju materijala, te zahtjevu nadzornog organa.</p> <p>Obračun prema tabelarnom iskazu zemljanih masa.</p> <p>Obračun po m^3</p>	<p>Construction of a part of the embankment planned for reconstruction using excavated impermeable material (from the bench cutting of the remaining part of the embankment, from the drainage canal and from the excavation of the impervious blanket of clay). These works include spreading with wetting, coarse and fine grading and compacting of the material in layers of max. 30cm by using appropriate machinery, to ensure the best possible stability and impermeability of the embankment. Each layer must be compacted in the full width to reach the design level of compaction, which is $M_v = 95\%$ according to the standard Proctor test.</p> <p>The filling of material should be done on the previously prepared soil or the completed lower layer. Each layer will be spread horizontally in the longitudinal direction, and at an inclination in the transverse direction (as shown on the normal section) for rainwater drainage. The price includes preparation of the base and trimming of the embankment slope with an inclination of approx. 3% toward the toe, as well as construction of temporary ramps. During filling, care should be taken to avoid any damage to the existing piezometers. The embankment will be constructed according to technical requirements for the execution of works. The price will provide for continuous measuring and testing of physical-mechanical properties of material for each installed layer of material, and as required by the Engineer.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m^3</p>				
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	<p>ukupno nasip + rampa 47090,22+271,90 =47362,12</p> <p>iz iskopa 17590,02 + 1442,60 + 5760</p>	<p>total embankment + ramp 47,090.22+271.90 =47,362.12</p> <p>from the excavation 17590,02 + 1442,60 + 5,760</p>	m ³	24.795,94		0,00
9	<p>Izrada dijela nasipa predviđenog za rekonstrukciju od materijala iz pozajmišta koje Izvođač radova obezbjeđuje o svom trošku, u skladu sa Glavnim projektom i u svemu prema opisu uz stavku II/8.</p> <p>Obračun po m³ 47362,12-(8370+2749-392)-24795,94</p>	<p>Construction of a part of the embankment planned for reconstruction using material from the borrow pit to be provided by the Contractor at his own expense, in accordance with the Main Design and fully according to the description of item II/8.</p> <p>Calculation per m³ 47,362.12-(8,370+2,749-392)-24,795.94</p>	m ³	11.839,18		0,00
10	<p>Mašinsko, grubo i fino planiranje kosih površina nasipa.</p> <p>Obračun po m² (2,33+3,00+3,60+4,47+8,25)x151,79+(2,50+1,80+5,00+3,00+3,6+4,5+9,0)x1287,63</p>	<p>Mechanical coarse and fine grading of sloped surfaces of the embankment.</p> <p>Calculation per m² (2.33+3.00+3.60+4.47+8.25)x151.79+(2.50+1.80+5.00+3.00+3.6+4.5+9.0)x1,287.63</p>	m ²	41.142,58		0,00
11	<p>Humiziranje i zatravljivanje ravnih i kosih površina nasipa predviđenih projektom. Koristi se ranije skinut i deponovan humus.</p> <p>Obračun prema iskaznici zemljanih masa.</p> <p>Obračun po m² ukupno humus 39652,63 m²</p>	<p>Topsoiling and grassing of flat and sloped surfaces of the embankment as provided in the design. Previously removed and deposited topsoil will be used.</p> <p>Calculation per bill of quantities for earthworks.</p> <p>Calculation per m² total topsoil 39652.63 m²</p>				
11,1	od skinutog starog humusa 39400,03	from the old removed topsoil 39400.03	m ²	39.400,03		0,00
11,2	od humusa iz pozajmišta	from the topsoil from the borrow pit	m ²	252,60		0,00
12	<p>Mašinsko razastiranje materijala za zatrpavanje starih materijalnih rovova sa vodne strane nasipa, a sa plasmanom svih viškova materijala pri izradi rekonstrukcije. U cijenu je uključeno grubo i fino planiranje i zbijanje u slojevima od 30 cm, kao i transport materijala cca 100 m, u svemu prema normalnom profilu.</p> <p>Obračun po m³ 18148,76x0,30+3065,61</p>	<p>Mechanical spreading of material for the backfilling of old material trenches on the water side of the embankment, which includes all extra material remaining from reconstruction. The price includes coarse and fine grading and compaction in layers of 30 cm, as well as transport of material for approx. 100 m, all as per the normal section.</p> <p>Calculation per m³ 18,148.76x0.30+3,065.61</p>	m ³	8.510,24		0,00

13	Grubo i fino planiranje i komprimiranje posteljice kolovoza na kruni nasipa (min $M_v=20\text{MN/m}^2$), a prema tehničkim uslovima. Obračun po m^2 $4.0 \times (1991-551) + 116.13 \times 4.0$	Coarse and fine grading and compression of the road bedding on the embankment crest (min. $M_v=20\text{MN/m}^2$), according to technical requirements. Calculation per m^2 $4.0 \times (1,991-551) + 116.13 \times 4.0$	m^2	6.224,52		0,00
14	Izrada kolovoza širine 4.0 m i debljine 30 cm, od čega je 20 cm šljunčani sloj, a 10 cm je habajući sloj materijala - Srebrenička rizla ili ekvivalent. Sloj je potrebno ravnomjerno razastrijeti i dobro uvaljati da se dobije ravna površina sa nagibom, a prema normalnom profilu nasipa ($M_v=60\text{MN/m}^2$). Radove izvesti prema tehničkim uslovima. Obračun po m^3 $0.3 \times 4.0 \times (1991-551) + 0.30 \times 4.0 \times 116.13$	Construction of carriageway, 4.0 m wide and 30 cm thick, of which 20 cm is a gravel layer and 10 cm is a wearing layer - made of Srebrenička chippings or their equivalent. The layer needs to be evenly spread and well-rolled to achieve a flat surface with, inclined as per the normal section of the embankment ($M_v=60\text{MN/m}^2$). The works are to be carried out according to technical requirements. Calculation per m^3 $0.3 \times 4.0 \times (1,991-551) + 0.30 \times 4.0 \times 116.13$	m^3	1.867,36		0,00
15	Izrada bankina na kruni širine 50 cm i debljine 30 cm sa nagibom kako je prikazano u normalnom profilu. U cijenu je uračunata izrada šljunčanih drenaža za odvodnju kolovozne konstrukcije i posteljice na branjenu stranu sa nagibom dim. 10/50 cm na svakih 25 m. Obračun po m^3 $2 \times 0.3 \times 0.5 \times (1991-551)$	Construction of shoulders on the crest, 50 cm wide and 30 cm thick, inclined as shown on the normal section. The price includes construction of the gravel drainage system for drainage of the carriageway structure and bedding inclined toward the defence side, measuring 10/50 cm, spaced at 25 m. Calculation per m^3 $2 \times 0.3 \times 0.5 \times (1,991-551)$	m^3	432,00		0,00
16	Mašinska izrada filterskog sloja u nožici na branjenoj strani nasipa od šljunkovito-pjeskovitog materijala, debljine 50 cm, od toga 20 cm pijesak i 30 cm šljunak. Obračun po m^3 $2.25 \times (1991-551)$	Mechanical construction of the filter layer at the toe on the defence side of the embankment, using gravel-sandy material, 50 cm thick, of which 20 cm of sand and 30 cm of gravel. Calculation per m^3 $2.25 \times (1,991-551)$	m^3	3.240,00		0,00
UKUPNO II ZEMLJANI RADOVI		TOTAL II EARTHWORKS				0,00

III	OSTALI RADOVI	OTHER WORKS
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1	<p>Izrada i postavljanje oznaka za osiguranje pijezometara na trasi rekonstruisanog nasipa, a prema nacrtu detalja.</p> <p>U obračun uzeta izrada i ugrađivanje:</p> <p>beton MB 20 V=0,10 m3 tamponski sloj šljunka V=0,8 m3 betonski anker tiplovi TSA M 12X140 mm kom 4 vijci M 16 kom 4 čelična ploča dim.30x30x0,5 cm kom 1 konusni zavrtnji d=10mm l=3cm kom 4 šelna od čeličnog lima dim 18x5x0,5 cm kom 2 pocinčana cijev 1"L=2m kom1 pocinčeni lim dim 50x50x0,20cm kom1</p> <p>Označavanje izvršiti za svaki ugrađeni pijezometar. Obračun po kom</p>	<p>Fabrication and placing of markings to secure piezometers on the reconstructed embankment route, according to detail drawing.</p> <p>The calculation includes fabrication and installation: concrete MB 20 V=0.10 m3 gravel base layer V=0.8 m3 concrete anchor plugs TSA M 12X140 mm 4 pcs screws M 16 4 pcs steel plate meas. 30x30x0.5 cm 1 piece cone screws d=10mm l=3 cm 4 pcs steel sheet clip 18x5x0.5 cm 2 pcs galvanised pipe 1"L=2m 1 piece galvanised sheet metal meas. 50x50x0.20cm 1 piece</p> <p>Each installed piezometer will be marked.</p> <p>Calculation per piece</p>	pcs	8,00		0,00
2	<p>Uklanjanje postojećih rampi, odnosno demontaža i njihovo ponovno ugrađivanje, a u skladu sa rekonstrukcijom samog nasipa.</p> <p>Obračun po kom</p>	<p>Removal of existing ramps, i.e. their dismantling and re-installation, in accordance with the reconstruction of the embankment.</p> <p>Calculation per piece</p>	pcs	3,00		0,00
3	<p>Izrada i postavljanje oznake za rampu na trasi rekonstruisanog nasipa, a prema detalju.</p> <p>U obračun uzeta izrada i ugrađivanje</p> <p>beton MB 20 V=0,10 m3 tamponski sloj šljunka V=0,8 m3 betonski anker tiplovi TSA M 12X140 mm kom 4 vijci M 16 kom 4 čelična ploča dim.30x30x0,5 cm kom 1 konusni zavrtnji d=10mm l=3cm kom 4</p>	<p>Fabrication and placing of the ramp markings on the reconstructed embankment route, according to detail.</p> <p>The calculation includes fabrication and installation concrete MB 20 V=0.10 m3 gravel base layer V=0.8 m3 concrete anchor plugs TSA M 12X140 mm 4 pcs screws M 16 4 pcs steel plate meas. 30x30x0.5 cm 1 piece cone screws d=10mm l=3 cm 4 pcs</p>				

	šelna od čeličnog lima dim 18x5x0,5 cm kom 2 pocinčana cijev 1"L=2m kom1 pocinčeni lim dim 50x50x0,20cm kom1 Označavanje izvršiti na svakoj ugrađenoj rampi. Obračun po kom	steel sheet clip 18x5x0.5 cm 2 pcs galvanised pipe 1"L=2m 1 piece galvanised sheet metal meas. 50x50x0.20cm 1 piece Each installed ramp will be marked. Calculation per piece	pcs	3,00		0,00
4	Izrada i ugrađivanje tipskih betonskih stubova za oznaku kilometara na rekonstruisanom nasipu, a prema nacrtu. U obračun uzeto: iskop, izrada betona MB 30 za kilometarski stub F = 0,10 m3 za polukilometarski stub F= 0,06 m3 armatura MAR 500/560 ukupno 9,20 kg Obračun po kom	Fabrication and installation of typical concrete kilometre marking poles on the reconstructed embankment, according to the drawing. The calculation includes: excavation, mixing of MB 30 concrete for the kilometre pole F = 0.10 m3 for the half-kilometre pole F = 0.06 m3 reinforcement MAR 500/560 total 9.20 kg Calculation per piece	pcs	5,00		0,00
UKUPNO III OSTALI RADOVI		TOTAL III OTHER WORKS				0,00

ZBIRNA REKAPITULACIJA		OVERALL RECAPITULATION	
DIONICA IV:		SECTION IV:	
I	PRIPREMNI RADOVI	PREPARATORY WORKS	0,00
II	ZEMLJANI RADOVI	EARTHWORKS	0,00
III	OSTALI RADOVI	OTHER WORKS	0,00
	UKUPNO RADOVI DIONICA IV	TOTAL WORKS SECTION IV	0,00
	SVEUKUPNO DIONICA IV(€)	GRAND TOTAL SECTION IV (€)	0,00

PREDMJER I PREDRAČUN RADOVA
PRICED BILL OF QUANTITIES
REKONSTRUKCIJA SAVSKOG ODBRAMBENOG NASIPA NA PODRUČJU BRČKO DISTRIKTA BIH
DIONICA V (OD ST. 8+129,16 DO ST. 9+660,22)
RECONSTRUCTION OF THE SAVA DEFENCE EMBANKMENT IN THE BRČKO DISTRICT BIH AREA
SECTION V (FROM CH. 8+129.16 TO CH. 9+660.22)

No	Opis	Item Description	Unit	Quantity	Unit price €	Total (€)
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Unit prices include all mentioned works, material with usual dispersion, external and internal transport, storage and keeping of material at the construction site, scaffolding and paneling for performing of works, water, lighting, fuel and energy for machinery as applicable. The Unit Price should also include the cost of a borrow pit for material to be used for reconstruction of section V of the Sava defence embankment in the Brčko District BiH area (with characteristics fully in compliance with the Main Design).

I PRIPREMNI RADOVI		PREPARATORY WORKS				
1	Iskolčavanje trase projektovanog nasipa, iskolčavanje svih potrebnih objekata i postavljanje poprečnih profila sanacije nasipa prema elementima datim u projektu, uključujući i sva geodetska mjerenja u vezi prenošenja podataka iz projekta na teren ili sa terena na nacрте. Održavanje svih iskolčenih oznaka na terenu u cijelom periodu od početka radova do predaje radova Investitoru. Obračun po km ¹	Staking out of the route of design embankment, staking out of all required facilities and setting of cross sections for embankment repair according to elements provided in the design, including all geodetic measurements for translating design data onto the terrain or terrain data onto drawings. Maintenance of all staked-out markings on the terrain throughout the period between the start of works and handover of works to the Investor. Calculation per km ¹	km ¹	1,53		0,00
2	Sječa šiblja i ostalog niskog rastinja u pojasu građenja, na vodnoj strani nasipa. Šiblje se uklanja duž trase nasipa sa odlaganjem na hrpe i paljenje istog. Obračunato po m ² 10x1531	Cutting shrubs and other bush in the construction area, on the water side of the embankment. The bush will be removed along the embankment route, including piling and incinerating. Calculation per m ² 10x1,531	m ²	15.310,00		0,00

3	Sječa stabala i mehaničko vađenje panjeva duž trase nasipa, u širini pojasa izgradnje. Stabla se sijeku na propisane dužine, transportuju i slažu u pravilne oblike na stranu van pojasa izgradnje.	Cutting trees and mechanically removing stumps along the embankment route, in the width of the construction area. Trees will be cut to required length, transported and stacked in proper form on the side outside the construction area.				
	Panjevi novih posječenih stabala nakon vađenja se skupljaju i transportuju u gomile van pojasa izgradnje na mjesto koje odredi nadzorni organ. Ponuđač će na terenu utvrditi obraslost zahvaćenih površina u skladu sa normama i tehničkim uslovima ovog projekta, te formirati jediničnu cijenu.	Following removal, stumps of newly-cut trees will be gathered and transported on piles outside the construction area, at a place determined by the Engineer. The Bidder will determine the level of trees and shrubs on the spot for areas affected, and will determine the unit price in accordance with norms and technical requirements of this project.				
	Obračunato po m ² 10x1531x0.3	Calculation per m ² 10x1,531x0.3	m ²	4.593,00		0,00
UKUPNO I PRIPREMNI RADOVI		TOTAL I PREPARATORY WORKS				0,00

II ZEMLJANI RADOVI		EARTHWORKS				
1	Mašinsko skidanje humusa u sloju od 20 cm, odnosno do dubine njegovog potpunog odstranjivanja. Humus se skida sa dijela kosina sa vodne i branjene strane postojećeg nasipa i transportuje cca 20 m i odlaže van pojasa građenja. Skinuti humus će se nakon iskopa upotrijebiti za humiziranje kosina rekonstruisanog nasipa.	Mechanical removal of topsoil in a 20 cm layer, i.e. to the depth required for its complete removal. Topsoil will be removed from a part of slopes on the water and defence sides of the existing embankment, and will be transported for approx. 20 m and disposed of outside the construction area. Following excavation, the removed topsoil will be used for topsoiling of slopes of the reconstructed embankment.				
	Obračun prema tabelarnoj iskaznici zemljanih masa.	Calculation per tabular bill of quantities for earthworks.				
	Obračun po m ²	Calculation per m ²	m ²	49.349,02		0,00
2	Mašinski iskop materijala II kategorije za rov glinenog čepa. Iskopani materijal će se upotrijebiti za izradu rekonstruisanog nasipa.	Mechanical excavation of category II material for the trench for the impervious blanket of clay. The excavated material will be used for the reconstructed embankment.				

	Obračun po m ³ (1.0+3.0)/2x2.0x1531,06	Calculation per m ³ (1.0+3.0)/2x2.0x1,531.06	m ³	6.124,30		0,00
3	Nabavka materijala karakteristika u svemu prema Glavnom projektu iz pozajmišta koje obezbjeđuje Izvođač radova, te izrada glinenog čepa u nožici-ručno od materijala iz pozajmišta u svemu prema opisu stavke II/8.	Supply of material, with characteristics fully in compliance with the Main Design, from the borrow pit provided by the Contractor, and manual construction of an impervious blanket of clay using material from the borrow pit, fully according to the description of item II/8.	m ³	6.124,30		0,00
	Obračun po m ³	Calculation per m ³	m ³	6.124,30		0,00
4	Mašinski iskop krune postojećeg nasipa prosječne dubine 0,50 m. Materijal se poprečno transportuje do 15 m, uz nožicu nasipa na vodnoj strani. Iskopani materijal će se upotrijebiti za zatrpavanje materijalnih rovova. Kod iskopa voditi računa o postojećim pijezometrima na trasi nasipa kako ne bi došlo do oštećenja istih.	Mechanical excavation of the crest of the existing embankment to the average depth of 0.50 m. The material will be transported transversally up to 15 m, next to the embankment toe on the water side. The excavated material will be used to backfill material trenches. During excavation, care should be taken to avoid any damage to the existing piezometers on the embankment route.				
	Obračun prema tabelarnoj iskaznici zemljanih masa.	Calculation per tabular bill of quantities for earthworks.				
	Obračun po m ³	Calculation per m ³	m ³	2.870,00		0,00
5	Mašinski iskop preostalog dijela nasipa prema pojedinačnim poprečnim profilima. U iskop obračunati iskop za filterski sloj i iskop za stepenasto zasijecanje postojećeg nasipa. Materijal se poprečno transportuje do 15 m, uz nožicu nasipa na vodnoj strani. Iskopani materijal će se koristiti za izradu rekonstruisanog nasipa, a prema tehničkim uslovima za izvođenje radova. Kod iskopa voditi računa o postojećim pijezometrima na trasi nasipa kako ne bi došlo do oštećenja istih.	Mechanical excavation of the remaining part of the embankment according to individual cross sections. The calculation should include excavation for the filter layer and excavation for the benching of the existing embankment. The material will be transported transversally up to 15 m, next to the embankment toe on the water side. The excavated material will be used for the reconstructed embankment, according to technical requirements for the execution of works. During excavation, care should be taken to avoid any damage to the existing piezometers on the embankment route.				

	<p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m³</p>	<p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³</p>	m ³	22.968,29		0,00
6	<p>Mašinski iskop materijala III kategorije za izradu odvodnog kanala sa branjene strane nasipa.</p> <p>Obračun prema tabelarnoj iskaznici zemljanih masa.</p> <p>Obračun po m³</p> <p>1086,29 +(10+50+70+40x(0,5+2,0)/2x0,75)</p>	<p>Mechanical excavation of category III material for the drainage canal on the defence side of the embankment.</p> <p>Calculation per tabular bill of quantities for earthworks.</p> <p>Calculation per m³</p> <p>1,086.29 +(10+50+70+40x(0.5+2.0)/2x0.75)</p>	m ³	1.246,09		0,00
7	<p>Mašinski iskop materijala III kategorije (u širokom otkopu) iz pozajmišta materijala (koje obezbjeđuje Izvođač radova) predviđenog za izradu nasipa i glinenog čepa (uz predhodno skinuti humus). U cijenu su uračunati: nabavka materijala u skladu sa karakteristikama definisanim Glavnim projektom, iskop, utovar, transport i istovar na mjesto ugradnje u nasip. Koeficijent rastresitosti 1.2.</p> <p>Obračun po m³</p> <p>potrebno materijala za nasip (stavka 9 13045,23 m3) i za glineni čep (stavka 3 6124,30 m3) ukupno 19169,53</p>	<p>Mechanical excavation of category III material (in bulk excavation) from the borrow pit (to be provided by the Contractor) planned for the construction of the embankment and the impervious blanket of clay (including previous removal of topsoil). The price includes: supply of material in accordance with the characteristics defined in the Main Design, excavation, loading, transport and unloading at the place of installation into the embankment. Bulking coefficient 1.2.</p> <p>Calculation per m³</p> <p>material required for the embankment (item 9 13,045.23 m3) and for the impervious blanket of clay (item 3 6,124.30 m3) total 19,169.53</p>	m ³	19.169,53		0,00

Izrada dijela nasipa predviđenog za rekonstrukciju od vodonepropusnog materijala iz iskopa (iz zasijecanja preostalog dijela nasipa, iz odvodnog kanala i od iskopa glinenog čepa). Ovaj rad obuhvata razastiranje sa vlaženjem, grubo odnosno fino planiranje i zbijanje materijala u slojevima debljine max 30cm odgovarajućom mehanizacijom, tako da se što bolje obezbijedi stabilnost i vodonepropusnost nasipa. Svaki sloj mora biti zbijen u punoj širini do projektom predviđene zbijenosti, koja iznosi $M_v = 95\%$ po standardnom Proktorovom postupku.

Nasipanje materijala treba vršiti na predhodno pripremljeno tlo ili niže izvedeni sloj. Svaki sloj će se u podužnom smislu razastirati horizontalno, a u poprečnom sa padom (kako je prikazano na normalnom profilu) radi odvodnje atmosferskih voda. U cijenu je uračunata priprema podloge i dotjerivanje pokosa postojećeg nasipa sa padom od cca 3% prema nožici, kao i izrada privremenih rampi. Kod nasipanja voditi računa o postojećim piježometrima kako ne bi došlo do oštećenja istih. Izradu nasipa izvoditi prema tehničkim uslovima za izvođenje radova. Cijenom predvidjeti konstantno mjerenje i ispitivanje fizičko-mehaničkih osobina materijala po ugrađenom svakom pojedinačnom sloju materijala, te zahtjevu nadzornog organa.

Obračun prema tabelarnom iskazu zemljanih masa.

Construction of a part of the embankment planned for reconstruction using excavated impermeable material (from the bench cutting of the remaining part of the embankment, from the drainage canal and from the excavation of the impervious blanket of clay). These works include spreading with wetting, coarse and fine grading and compacting of the material in layers of max. 30cm by using appropriate machinery, to ensure the best possible stability and impermeability of the embankment. Each layer must be compacted in the full width to reach the design level of compaction, which is $M_v = 95\%$ according to the standard Proctor test.

The filling of material should be done on the previously prepared soil or the completed lower layer. Each layer will be spread horizontally in the longitudinal direction, and at an inclination in the transverse direction (as shown on the normal section) for rainwater drainage. The price includes preparation of the base and trimming of the embankment slope with an inclination of approx. 3% toward the toe, as well as construction of temporary ramps. During filling, care should be taken to avoid any damage to the existing piezometers. The embankment will be constructed according to technical requirements for the execution of works. The price will provide for continuous measuring and testing of physical-mechanical properties of material for each installed layer of material, and as required by the Engineer.

Calculation per tabular bill of quantities for earthworks.

	<p>Obračun po m³ ukupno nasip + rampa 43237,68+146,23 =43383,91</p> <p>iz iskopa 22968,29 + 1246,09 + 6124,30</p>	<p>Calculation per m³ total embankment + ramp 43,237.68+146.23 =43,383.91</p> <p>from the excavation 22,968.29 + 1,246.09 + 6,124.30</p>	m ³	30.338,68		0,00
9	<p>Izrada dijela nasipa predviđenog za rekonstrukciju od materijala iz pozajmišta koje Izvođač radova obezbjeđuje o svom trošku, u skladu sa Glavnim projektom i u svemu prema opisu uz stavku II/8.</p> <p>Obračun po m³ 43383,91-30338,68</p>	<p>Construction of a part of the embankment planned for reconstruction using material from the borrow pit to be provided by the Contractor at his own expense, in accordance with the Main Design and fully according to the description of item II/8.</p> <p>Calculation per m³ 43,383.91-30,338.68</p>	m ³	13.045,23		0,00
10	<p>Mašinsko, grubo i fino planiranje kosih površina nasipa.</p> <p>Obračun po m² 48530,87/1531,06=31,70 31,70-5,0=26,70x1531,06=40875,60 445,02/91,50=4,86 3=1,86x91,50=170,20</p>	<p>Mechanical coarse and fine grading of sloped surfaces of the embankment.</p> <p>Calculation per m² 48,530.87/1,531.06=31.70 31.70-5.0=26.70x1,531.06=40,875.60 445.02/91.50=4.86 3=1.86x91.50=170.20</p>	m ²	41.045,80		0,00
11	<p>Humiziranje i zatravljivanje ravnih i kosih površina nasipa predviđenih projektom. Koristi se ranije skinut i deponovan humus.</p> <p>Obračun prema iskaznici zemljanih masa.</p> <p>Obračun po m² ukupno humus 48975,89 m² od skinutog starog humusa 48975,89</p>	<p>Topsoiling and grassing of flat and sloped surfaces of the embankment as provided in the design. Previously removed and deposited topsoil will be used.</p> <p>Calculation per bill of quantities for earthworks.</p> <p>Calculation per m² total topsoil 48975.89 m² from the old removed topsoil 48975.89</p>	m ²	48.975,89		0,00
12	<p>Mašinsko razastiranje materijala za zatrpavanje starih materijalnih rovova sa vodne strane nasipa, a sa plasmanom svih viškova materijala pri izradi rekonstrukcije. U cijenu je uključeno grubo i fino planiranje i zbijanje u slojevima od 30 cm, kao i transport materijala cca 100 m, u svemu prema normalnom profilu.</p>	<p>Mechanical spreading of material for the backfilling of old material trenches on the water side of the embankment, which includes all extra material remaining from reconstruction. The price includes coarse and fine grading and compaction in layers of 30 cm, as well as transport of material for approx. 100 m, all as per the normal section.</p>				

	Obračun po m ³ 15420x0,30+373,13+2870,09	Calculation per m ³ 15,420x0.30+373.13+2,870.09	m ³	7.869,20		0,00
13	Grubo i fino planiranje i komprimiranje posteljice kolovoza na kruni nasipa (min Mv=20MN/m ²), a prema tehničkim uslovima. Obračun po m ² 4.0x1531,06+91,50x4,0	Coarse and fine grading and compression of the road bedding on the embankment crest (min. Mv=20MN/m ²), according to technical requirements. Calculation per m ² 4.0x1,531.06+91.50x4.0	m ²	6.490,20		0,00
14	Izrada kolovoza širine 4.0 m i debljine 30 cm, od čega je 20 cm šljunčani sloj, a 10 cm je habajući sloj materijala - Srebrenička rizla ili ekvivalent. Sloj je potrebno ravnomjerno razastrijeti i dobro uvaljati da se dobije ravna površina sa nagibom, a prema normalnom profilu nasipa (Mv=60MN/m ²). Radove izvesti prema tehničkim uslovima. Obračun po m ³ 0.3x4.0x1531,06+0,30x4,00x91,50	Construction of carriageway, 4.0 m wide and 30 cm thick, of which 20 cm is a gravel layer and 10 cm is a wearing layer - made of Srebrenička chippings or their equivalent. The layer needs to be evenly spread and well-rolled to achieve a flat surface with, inclined as per the normal section of the embankment (Mv=60MN/m ²). The works are to be carried out according to technical requirements. Calculation per m ³ 0.3x4.0x1,531.06+0.30x4.00x91.50	m ³	1.947,07		0,00
15	Izrada bankina na kruni širine 50 cm i debljine 30 cm sa nagibom kako je prikazano u normalnom profilu. U cijenu je uračunata izrada šljunčanih drenaža za odvodnju kolovozne konstrukcije i posteljice na branjenu stranu sa nagibom dim.10/50 cm na svakih 25 m. Obračun po m ³ 2x0.3x0.5x1531,06	Construction of shoulders on the crest, 50 cm wide and 30 cm thick, inclined as shown on the normal section. The price includes construction of the gravel drainage system for drainage of the carriageway structure and bedding inclined toward the defence side, measuring 10/50 cm, spaced at 25 m. Calculation per m ³ 2x0.3x0.5x1,531.06	m ³	459,30		0,00
16	Mašinska izrada filterskog sloja u nožici na branjenoj strani nasipa od šljunkovito-pjeskovitog materijala, debljine 50 cm, od toga 20 cm pijesak i 30 cm šljunak. Obračun po m ³ 2,25x1531,06	Mechanical construction of the filter layer at the toe on the defence side of the embankment, using gravel-sandy material, 50 cm thick, of which 20 cm of sand and 30 cm of gravel. Calculation per m ³ 2.25x1,531.06	m ³	3.444,90		0,00

UKUPNO II ZEMLJANI RADOVI		TOTAL II EARTHWORKS		0,00	
III	OSTALI RADOVI	OTHER WORKS			
1	<p>Izrada i postavljanje oznaka za osiguranje pijezometara na trasi rekonstruisanog nasipa, a prema nacrtu detalja.</p> <p>U obračun uzeta izrada i ugrađivanje:</p> <p>beton MB 20 V=0,10 m3 tamponski sloj šljunka V=0,8 m3 betonski anker tiplovi TSA M 12X140 mm kom 4 vijci M 16 kom 4 čelična ploča dim.30x30x0,5 cm kom 1 konusni zavrtnji d=10mm l=3cm kom 4 šelna od čeličnog lima dim 18x5x0,5 cm kom 2 pocinčana cijev 1"L=2m kom1 pocinčeni lim dim 50x50x0,20cm kom1</p> <p>Označavanje izvršiti za svaki ugrađeni pijezometar.</p> <p>Obračun po kom</p>	<p>Fabrication and placing of markings to secure piezometers on the reconstructed embankment route, according to detail drawing.</p> <p>The calculation includes fabrication and installation:</p> <p>concrete MB 20 V=0.10 m3 gravel base layer V=0.8 m3 concrete anchor plugs TSA M 12X140 mm 4 pcs screws M 16 4 pcs steel plate meas. 30x30x0.5 cm 1 piece cone screws d=10mm l=3 cm 4 pcs steel sheet clip 18x5x0.5 cm 2 pcs galvanised pipe 1"L=2m 1 piece galvanised sheet metal meas. 50x50x0.20cm 1 piece</p> <p>Each installed piezometer will be marked.</p> <p>Calculation per piece</p>	pcs	4,00	0,00
2	<p>Uklanjanje postojećih rampi, odnosno demontaža i njihovo ponovno ugrađivanje, a u skladu sa rekonstrukcijom samog nasipa.</p> <p>Obračun po kom</p>	<p>Removal of existing ramps, i.e. their dismantling and re-installation, in accordance with the reconstruction of the embankment.</p> <p>Calculation per piece</p>	pcs	1,00	0,00
	<p>Izrada i postavljanje oznake za rampu na trasi rekonstruisanog nasipa, a prema detalju.</p> <p>U obračun uzeta izrada i ugrađivanje</p> <p>beton MB 20 V=0,10 m3 tamponski sloj šljunka V=0,8 m3 betonski anker tiplovi TSA M 12X140 mm kom 4</p>	<p>Fabrication and placing of the ramp markings on the reconstructed embankment route, according to detail.</p> <p>The calculation includes fabrication and installation</p> <p>concrete MB 20 V=0.10 m3 gravel base layer V=0.8 m3 concrete anchor plugs TSA M 12X140 mm 4 pcs</p>			

3	<p>vijci M 16 kom 4</p> <p>čelična ploča dim.30x30x0,5 cm kom 1</p> <p>konusni zavrtnji d=10mm l=3cm kom 4</p> <p>šelna od čeličnog lima dim 18x5x0,5 cm kom 2</p> <p>pocinčana cijev 1"L=2m kom1</p> <p>pocinčeni lim dim 50x50x0,20cm kom1</p> <p>Označavanje izvršiti na svakoj ugrađenoj rampi.</p> <p>Obračun po kom</p>	<p>screws M 16 4 pcs</p> <p>steel plate meas. 30x30x0.5 cm 1 piece</p> <p>cone screws d=10mm l=3 cm 4 pcs</p> <p>steel sheet clip 18x5x0.5 cm 2 pcs</p> <p>galvanised pipe 1"L=2m 1 piece</p> <p>galvanised sheet metal meas. 50x50x0.20cm 1 piece</p> <p>Each installed ramp will be marked.</p> <p>Calculation per piece</p>	pcs	1,00		0,00
4	<p>Izrada i ugrađivanje tipskih betonskih stubova za oznaku kilometara na rekonstruisanom nasipu, a prema nacrtu.</p> <p>U obračun uzeto: iskop, izrada betona MB 30 za kilometarski stub F = 0,10 m3</p> <p>za polukilometarski stub F= 0,06 m3</p> <p>armatura MAR 500/560 ukupno 9,20 kg</p> <p>Obračun po kom</p>	<p>Fabrication and installation of typical concrete kilometre marking poles on the reconstructed embankment, according to the drawing.</p> <p>The calculation includes: excavation, mixing of MB 30 concrete</p> <p>for the kilometre pole F = 0.10 m3</p> <p>for the half-kilometre pole F = 0.06 m3</p> <p>reinforcement MAR 500/560 total 9.20 kg</p> <p>Calculation per piece</p>	pcs	4,00		0,00
UKUPNO III OSTALI RADOVI		TOTAL III OTHER WORKS				0,00

ZBIRNA REKAPITULACIJA		OVERALL RECAPITULATION	
DIONICA V:		SECTION V:	
I	PRIPREMNI RADOVI	PREPARATORY WORKS	0,00
II	ZEMLJANI RADOVI	EARTHWORKS	0,00
III	OSTALI RADOVI	OTHER WORKS	0,00
UKUPNO RADOVI DIONICA V (€)		TOTAL WORKS SECTION V (€)	0,00

PREDMJER I PREDRAČUN RADOVA
PRICED BILL OF QUANTITIES
REKONSTRUKCIJA SAVSKOG ODBRAMBENOG NASIPA NA PODRUČJU BRČKO DISTRIKTA BIH
SVE DIONICE (II,III,IV I V))
RECONSTRUCTION OF THE SAVA DEFENCE EMBANKMENT IN THE BRČKO DISTRICT BIH AREA
ALL SECTIONS (Sections II, III, IV and V)

No	Opis	Item Description	Unit	Quantity	Unit price €	Total €
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Unit prices include all mentioned works, material with usual dispersion, external and internal transport, storage and keeping of material at the construction site, scaffolding and paneling for performing of works, water, lighting, fuel and energy for machinery as applicable.

	RAZNO	MISCELLANEOUS				
1	Izrada projekta izvedenog stanja za sve sekcije koje su predmet ovoga ugovora (sekcija I, II, III i IV) nakon završetka izvođenja građevinskih radova, a sve u skladu prema postojećoj lokalnoj legislativi. Ovaj projekat treba da sadrži sve izmjene tehničkih rješenja iz Glavnog projekta do kojih je došlo tokom izgradnje. Takođe, projekat treba da obuhvati i tehničku dokumentaciju izvođačkih projekata, koji će tokom izgradnje prema potrebi biti napravljen.	Preparation of as-built drawings for the structure following completion of all construction works subject to this Contract (Sections II, III, IV and V). this should take into consideration requirements of the local legislation in place. These drawings will include all changes to the technical solutions specified in the Main Design which were effected during construction works. In addition, these drawings will include technical documentation of the final design, which will be developed during construction works as necessary.	Is	1,00		0,00
2	Nabavka I ugradnja EU vizibiliti table, prema EU vizibiliti insrukiji za sve sekcije (sekcija I, II, III i IV), koji je sastavni dio Ugovora.	Procurement and installation of the EU Visibility Board as per instruction of the EU Visibility Guidance for all sections (Sections II, III, IV and V), being integral part of the Contract.	Pcs	4,00		0,00
UKUPNO RAZNO €		TOTAL MISCELLANEOUS €				0,00

PREDMJER I PREDRAČUN RADOVA
PRICED BILL OF QUANTITIES

REKONSTRUKCIJA SAVSKOG ODBRAMBENOG NASIPA NA PODRUČJU BRČKO DISTRIKTA BIH

RECONSTRUCTION OF THE SAVA DEFENCE EMBANKMENT IN THE BRČKO DISTRICT BIH
AREA

DIONICE/SECTIONS II, III, IV and V

Opis radova	Description	Value/ Vrijednost (€)
DIONICA II	SECTION II	0,00
DIONICA III	SECTION III	0,00
DIONICA IV	SECTION IV	0,00
DIONICA V	SECTION V	0,00
RAZNO (sve dionice)	MISCELLANEOUS (all sections)	0,00
UKUPNO	TOTAL ALL (€)	0,00
Rezerva 5%	Provisional Sum 5%	0,00
SVEUKUPNO	GRAND TOTAL (€)	0,00