Appendix 1. Plan of Mitigation Measures

Appendix 1 to the Environmental Management Plan (EMP) for Works Contract 3D.3 Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce describes conditions for implementation of the aforementioned Contract in reference to measures mitigating adverse impact on the environment.

The costs and the schedule of implementation of those measures shall be included in the bid. Conditions described in this document in reference to the Contractor and its personnel (regardless of the legal form of cooperation) are also binding in the range referring to the current situation, subcontractors of the Contract and their personnel and subcontractors.

Conditions described in Appendix 1 to the EMP are grouped in the following categories:

Cat.	Category Name	Items in the table
A.	Requirements on the schedule of works and implementation of the EMP	1-2
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C.	Requirements on access roads to the Contract Area	5-12
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Plan Zarządzania Środowiskiem dla POPDOW – Podkomponent 3D – Kontrakt na roboty 3D.3: Łęg IV – rozbudowa lewego wału rzeki w km 0+082-5+030 na terenie gm. Gorzyce oraz prawego wału w km 0+000-5+236 na terenie gm. Gorzyce

Clarifications to the table given in Appendix 1 to the EMP:

- 1) if not stated otherwise, the term "construction site" applied in this appendix shall be understood in accordance with a definition given in the Construction Law, i.e. as a space, where the construction works are performed, including a space taken by devices of the site facilities.
- 2) if not stated otherwise, the term *Contract Area* applied in this appendix refers to the area of any preparatory works, essential works (including Fixed Works and Temporary Works), and any other work associated with the removal of faults and defects, or performance of unfinished works as listed in the Taking-Over Certificate or identified in the Defects, Guarantee, and Warranty Notification Period including areas of necessary temporary acquisition.
- 3) if not stated otherwise, the term *Contract Implementation Period* applied in this appendix refers to the time of performance of any preparatory works, essential works (including Fixed Works and Temporary Works), and any other work associated with the removal of faults and defects, or performance of unfinished works as listed in the Taking-Over Certificate or identified in the Defects, Guarantee, and Warranty Notification Period.

Item	ED item	Issue	Site	Mitigation Measure	Unit
A. R	REQUIREME	NTS ON THE SCH	EDULE OF WORKS	S AND IMPLEMENTATION OF THE EMP	
1.	-	Schedule of Works	Contract Area	EMP conditions on the time of works and on implementation of selected measures associated with the EMP implementation	Contractor (e.g.
				When setting work schedules and at the stage of their implementation, the EMP conditions regarding the dates and time of conducting various types of work should be taken into account, described in detail in the consecutive items of the table, including e.g.:	Site Manager, EMP Coordinator, Environmental Supervision Team)
				a) acceptable hours of works (see item 80);	
				b) acceptable periods for the execution of works (see item 97);	
				c) acceptable time and hour of deliveries on access roads to the construction site (see item 8);	
				d) dates for the activities related to removal of topsoil layer/mineral soil layer (see item 53);	
				e) acceptable dates for removing trees and shrubs (see item 17, 18);	
				f) dates of environmental inspection before removal of trees (see item 18);	
				g) dates of other inspections and environmental inventories (see items 28, 29, 30, 35, 37, 41, 42, 46, 48);	
				h) dates of obtaining administrative decisions allowing for exceptions from bans related to the protected species (see items 17, 49);	
				i) allowable dates for carrying out works posing a direct threat for protected species of fauna (see items 33, 34, 36, 43, 45);	
				j) dates for removing of the water reservoirs and temporary water deposits on the construction site (see item 40, 41, 42, 43);	
				k) acceptable dates for carrying out works in water channels (see item 44, 64, 65);	
				 the optimal date for conducting works within the root volumes of trees and shrubs and dates for protection of uncovered roots of trees and shrubs (see items 23, 24); 	
				m) dates of actions associated with reinstatement of a fertile layer of soil, sowing, and curing of grassland (see items 56, 57);	
				n) dates of trainings and educational actions associated with implementation of the EMP (see items 107, 113, 115, 117, 118, 119, 120);	
				o) dates of cyclic meetings on implementation of the EMP (see items 108);	
				p) deadlines for reporting the implementation of the EMP (see items 102, 105, 107, 109).	

Item	ED item	Issue	Site	Mitigation Measure	Unit
2.	-	Schedule of Works	Contract Area with access	EMP conditions on activities to be carried out before or at the initial stage of works in a given section	Contractor (e.g.
			roads and their surroundings	When setting work schedules and at the stage of their implementation, the EMP conditions should be taken into account regarding activities to be carried out before or at the initial stage of works, described in detail in the following items of the table, including e.g.:	Site Manager, EMP Coordinator)
				a) conditions for building and equipping the construction site facilities, service roads and sites (see items 10, 13, 14, 15, 35, 37, 60, 67, 68, 69, 70, 71, 76, 77, 81, 85, 86, 87, 92, 94, 95);	
				b) conditions for the road access to the construction site (see items 5, 6, 7, 8, 9, 10, 11);	
				c) conditions for the removal and protection of topsoil layer/mineral soil layer (see items 52, 54);	
				d) conditions for removal trees and shrubs (see item 16);	
				e) the condition for securing trees and shrubs unintended for removal (see item 21);	
				f) conditions for the implementation of environmental inspections and inventories (see items 28, 29, 30, 35, 38);	
				g) conditions for carrying out works posing a direct threat for protected species of fauna (see item 33);	
				h) the condition for securing the building site against the entry of small animals (see item 35);	
				 the condition for obtaining decisions authorizing exceptions to the protection principles for species of plants, fungi and animals (see item 49); 	
				j) conditions for carrying out works in water channels ((see items 61, 62, 63, 65);	
				k) conditions for draining construction excavations (see item 66);	
				l) conditions for the development of selected documents (see items 7, 49, 51, 65, 84, 89, 96, 100, 102, 104, 105, 106, 109, 110, 117, 118);	
				m) conditions for documentation of technical condition of buildings and infrastructure facilities (see items 9, 91);	
				n) the condition for inventory of illegal landfills and waste disposal (see item 88);	
				o) the condition for obtaining the Engineer's approval for the appointed person to be EMP coordinator and the composition of the team of environmental experts, the team of archaeological experts, and the team of sappers (see items 103, 105, 106);	
				p) the condition for training and educational actions (see items 107, 113, 115, 117, 118, 119, 120);	
				q) conditions for payment of compensation (see items 3, 4).	

Item	ED item	Issue	Site	Mitigation Measure	Unit
B. R	EQUIREME	NTS ON PURCHA	SE AND COMPENS	SATION	
3.	-	Obtainment of properties for permanent acquisition	Contract Area	Compensation for permanent acquisition Purchase and payment of compensation for permanent acquisition and for support to Project Affected Persons – according to the Land Acquisition and resettlement Action Plan.	Investor Engineer
4.	-	Obtainment of properties for temporary acquisition	Contract Area	Compensation for temporary acquisition Payment of compensation for temporary acquisition prior to the commencement of performance and/or on the performance stage — according to the Land Acquisition and resettlement Action Plan.	Investor Engineer Contractor
C. R	EQUIREME	NTS ON ACCESS F	ROADS TO THE C O	ONTRACT AREA	
5.		Protection of land surface and landscape, protection of soil and water, protection of material goods, protection of biotic nature	Access roads to the Contract Area with their surroundings	Location of access routes to the Contract Area The existing road system shall be applied to the greatest feasible extent as access routes to the Contract Area. If it would be necessary to apply the existing non-public roads (so-called internal roads) as access roads, the Contractor shall be obliged to priorly establish conditions for use of those roads with their owners or administrators, and subsequently to observe those conditions within the Contract Implementation Period. Draft establishments shall be submitted to the Engineer for approval prior to signing.	Contractor (e.g. Site Manager, EMP Coordinator)
6.	_	Protection of land surface and landscape, protection of soil and water, protection of material goods, protection of biotic nature	Access roads to the Contract Area with their surroundings	If it would be necessary to develop new access roads to the Contract Area (beyond the existing system of public and non-public roads), the following conditions are binding: a) new access roads shall be set out at the possible shortest distance, beyond the area of high environmental value, and in a way minimizing necessary removal of trees and shrubs; b) Planned locations of new access roads shall be agreed with the environmental team (discussed under item 103), and shall be provided – including the aforementioned establishments – for the Engineer's acceptance; c) planned locations and conditions for application of new access roads shall be agreed with owners or administrators of land located within the lane of planned roads or in a direct vicinity of that lane, and subsequently those conditions shall be observed within the Contract Implementation Period. Draft establishments shall be submitted to the Engineer for approval prior to signing; d) obtainment of the aforementioned establishments does not release the Contractor from necessary observance of binding regulations on planning and execution of transportation beyond the existing road network.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
7.	-	Protection of health and safety of people, protection of material goods	Access roads to the Contract Area with their surroundings	Development of and agreement on temporary traffic organization designs Prior to the commencement of use for particular sections of access roads to the Contract Area, the Contractor shall submit to the Engineer for approval the temporary traffic organization designs for the time of works, as agreed upon with Road Managers, Police, and other authorities and entities associated with provision of safety on roads (especially in vicinity of entry roads to and exit roads from the construction site). Depending on the needs and on the progress of works, those designs should be updated and presented for re-acceptance by the Engineer (including the aforementioned establishments).	Contractor (e.g. Site Manager, EMP Coordinator)
8.		Protection of health and safety of people, protection of material goods	Access roads to the Contract Area with their surroundings	Assurance of safety and liquidity of traffic on access roads In the Contract Implementation Period the Contractor shall – on an ongoing basis and in proper advance – undertake any organizational and technical measures to assure safety and liquidity of traffic on access roads to the Contract Area (especially in vicinity of entry roads to and exit roads from the construction site), including e.g.: a) the Contractor shall ensure proper marking of all currently applied access roads to the Contract Area, in accordance with applicable law and arrangements with relevant Road Managers and Police (including compliance with the Engineer-accepted temporary traffic organization designs discussed under item 7). These markings will be regularly inspected, and in the event of their destruction or theft, the Contractor will immediately take action to restore or complement them. b) depending on the needs the Contractor shall supply, assemble, and operate additional temporary safety devices (e.g. light signalization, information boards, protective barriers, manual traffic management system, etc.). to assure safety for vehicles and pedestrians on access roads to the Contract Area and in vicinity of entry roads to and exit roads from the construction site. The aforementioned additional safety devices shall be priorly agreed with relevant Road Authorities and with the Police. c) at planning of measures that may result in an increase of traffic intensity in case of vehicles and construction machines on access roads and in vicinity of entry roads to and exit roads from the construction materials, deliveries of equipment and construction materials, deliveries of equipment and construction machines, offloading, etc.), the Contractor shall do its best to avoid having the planned deadlines, time, and implementation method for the aforementioned measures disturb the traffic, and especially in time of intensive traffic in a given location.	Contractor (e.g. Site Manager, EMP Coordinator)

Item	ED item	Issue	Site	Mitigation Measure	Unit
9.		Protection of land surface and landscape, protection of material goods	Access roads to the Contract Area with their surroundings	Documentation on the original state of the site, access roads, and their surroundings The Contractor shall be obliged to document the original state of areas, which may undergo unfavourable impact due performance of the construction works, including the following e.g.: a) the Contractor is obliged to provide photographic documentation of the entire Contract Area and access roads, with particular reference to the technical condition of roads and buildings located in the vicinity of the roads for transporting building materials and construction equipment. The completed documentation should be described with the place and the date of development thereof; b) prior to the commencement of use in case of particular section of access roads to the Contract Area, the Contractor shall carry out site inspections in the presence of Road Administrators, subsequently to which the protocols of the condition of access roads shall be developed. Based on the protocols, the Contractor will be obliged to restore the technical condition of the roads (see also: item 12).	Contractor (e.g. Site Manager, EMP Coordinator)
10.	-	Protection of health and safety of people	Access roads to the Contract Area with their surroundings	 Keeping the access roads clean In order to keep the access roads to the Contract Area clean and prevent accidents on the access roads the Contractor will be obliged to take the following steps: a) to apply all available technical means and organize works to minimize the dusting and pollution of access roads to the Contract Area; b) to immediately and systematically remove any dirt caused on the access roads as a result of the movement of vehicles, machines and equipment related to the implementation of the Contract (especially in vicinity of entry roads to and exit roads from the construction site). 	Contractor (e.g. Site Manager, EMP Coordinator)
11.	-	Protection of health and safety of people, protection of material goods	Access roads to the Contract Area with their surroundings	Observing load limits at access roads and conditions for transportation of non-standard loads The works shall be planned and performed in a way, which would assure the absence of deterioration of technical conditions for the access roads to the Contract Area, and especially due to deliveries of construction materials and construction equipment. The Contractor shall comply with the statutory load limits on the axle when transporting materials and equipment to and from the Contract Area. The Contractor shall obtain all necessary permits for the transport of non-standard loads and shall notify the Engineer of any such transport on a continuous basis	Contractor (e.g. Site Manager, EMP Coordinator)

Item	ED item	Issue	Site	Mitigation Measure	Unit
12.	-	Protection of health and safety of people, protection of material goods	Access roads to the Contract Area with their surroundings	Repairs to buildings and infrastructural elements The Contractor will be liable for any damage to civil structures and buildings, roads, drainage ditches, culverts, water and gas pipelines, power poles and lines, cables, geodetic control points and installations of any kind, and other types of objects such as vertical and horizontal markings, navigation markings, information boards, cultural heritage structures, etc., caused by it or its Subcontractors, service providers and suppliers during the Contract Implementation Period. The Contractor will be also responsible for restoring the flow of ditches and drainage systems in the area of works and used transport roads, in the event of damages caused by the performance of works and transport connected with the works, The Contractor shall immediately repair any damage at its own expense and, if necessary, carry out other work ordered by the Engineer (see also: item 9).	Contractor (e.g. Site Manager, EMP Coordinator)
D. R	REQUIREME	NTS ON LOCATIO	N OF SITE FACILIT	TIES AND SERVICE ROADS AND YARDS	
13.	-	Protection of land surface and landscape, protection of soil and water, protection of biotic nature	Contract Area	Obligation to build site facilities, service roads and yards Construction site facilities, service roads and yards must be completed prior to the commencement of construction works. Construction site facilities are used to store building materials, for garaging, refueling and repairing of vehicles, machines and equipment, and to provide location of social facilities (locker rooms, office, workshop, portable sanitary cabins) and waste containers. Equipment for site facilities should meet, among others, conditions provided for in detailed items 10, 13, 14, 15, 35, 37, 60, 67, 68, 69, 70, 71, 76, 77, 81, 85, 86, 87, 92, 94, 95. When planning the abovementioned facilities of the construction site, economic land use shall be assured and their space should be limited to the necessary minimum (see also: item 26).	Contractor (e.g. Site Manager, EMP Coordinator)

Item	ED item	Issue	Site	Mitigation Measure	Unit
14.	II.13 II.20	Protection of land surface and landscape, protection of soil and water, protection of acoustic climate, protection of biotic nature	Contract Area	Conditions for the location of site facilities, yards, storage sites, etc. Site facilities, equipment bases, material storage sites and technological yards, construction materials and soil storage sites, and parking lots, etc. should be located: a) in the areas ensuring no impact of noise on acoustically protected areas; b) in the greatest distance from residential houses; c) outside the immediate vicinity of flood waters of the river (also beyond the embanked area), and outside the areas where water may be contaminated; d) at least 20 m from: woods, wetlands, areas with stagnant water and drainage ditches; e) beyond the reach of natural habitats and other areas of high natural value; f) taking into account the principle of minimizing land acquisition and transformation of its area and the obligation of land reclamation after completion of works. The locations intended for site facilities, site facilities organization plans should be agreed with a team of environmental experts (discussed under item 103) and presented for the Engineer's approval together with expert agreements.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
15.	11.46	Protection of land surface and landscape, protection of soil and water, protection of acoustic climate, protection of biotic nature	Contract Area	Conditions for the location of service roads and technical yards Service roads and technical yards should be located: a) in areas allowing for maintenance of conformity with binding regulations on acoustic protection of land; b) at the maximum possible distance from existing residential buildings; c) at the maximum possible distance from existing watercourses, water reservoirs and wetlands; d) in areas allowing for keeping the existing trees and shrubs growing outside the places necessary to occupy the area in connection with the implementation of the project; e) outside the areas with the highest natural values; if the condition cannot be met in a given location, service roads should be located in the immediate vicinity of the works, taking up minimum necessary space of the areas; f) in the first place on existing roads. The detailed locations intended for service roads should be agreed with a team of environmental experts (discussed under item 103), including specialists in zoology and botany and phytosociology, taking into account the condition of not deteriorating the ecological status of the natural objects inventoried in this zone. Locations of the service roads and the technical yards should be presented for the Engineer's approval together with the abovementioned expert agreements.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit			
E. R	REQUIREMENTS ON REMOVAL OF TREES AND SHRUBS							
16.	II.11	Protection of landscape, protection of biotic nature	Contract Area	Acceptable scope and general conditions of removal trees and shrubs Removal of trees and shrubs shall be limited to the necessary minimum allowing for the performance. Only trees and shrubs growing in the very close vicinity of the extended embankments, up to 821 trees, and shrubs from an area of about 1.176 ha should be removed. Trees and shrubs planned for removal shall be precisely located and visibly marked on site. Compliance between the location and the number of trees and shrubs marked on site (as planned for removal) and the information on this subject contained in the current project documentation, should be confirmed by a written opinion of environmental supervision (discussed under item 103).	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)			
17.	II.38	Protection of landscape, protection of biotic nature	Contract Area	Acceptable time of removal trees and shrubs Felling and/or other forms of removal of trees and shrubs in the aboveground part should be carried out outside the breeding season of birds, i.e. outside the period from March the 1st to August the 15th October (this condition does not apply to removal of stumps and roots of trees and shrubs remaining after the above works).	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)			

Item	ED item	Issue	Site	Mitigation Measure	Unit
18.	_	 Protection of biotic nature 	ic	 Environmental supervision before and during removal of trees In the case of removing trees with diameter of above 100 cm at breast height, the following rules apply: a) removal of trees should be preceded by the inspection of these trees for the presence of protected species of birds, invertebrates and bats, carried out by the experts: ornithologist, entomologist and chiropterologist (discussed under item 103), in no more than 1 week time before removal the tree; b) in case protected species of birds, invertebrates and/or bats in trees planned for removal are detected, the experts will schedule acceptable deadlines and ways to carry out removal of trees as well as determine the methods of dealing with the wood inhabited by protected animal species. The deadlines for removal as scheduled by the experts can not violate the conditions specified in item 17; c) in case protected species of birds, invertebrates and/or bats in trees planned for removal and/or trees currently subject to removal are detected, an administrative decision required by law should be obtained to allow for exceptions to the prohibitions applicable to protected animal species (if required 	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
				in a given case); d) if relocation of protected species of birds, invertebrates and/or bats from trees planned for removal and/or from trees currently subject to removal would be necessary, it shall be done under the supervision and in accordance with the guideline of a competent environmental expert, discussed under item 103. A memo and photo documentation shall be developed on relocation of / damage to the present habitats and stands of plants or animals, in accordance with guidelines given in the obtained administrative decisions. The memo shall at least state the following: type and quantity of relocated species, indication of the present site and the site of relocation, determination of a relocation method, and the time when it was done.	

Item	ED item	Issue	Site	Mitigation Measure	Unit
F. R	EQUIREME	NTS ON PROTECT	TION OF TREES AN	ID SHRUBS NOT INTENDED FOR REMOVAL	
19.	II.12	Protection of landscape, protection of biotic nature		Protection of the areas under crowns of trees and shrubs It is prohibited to collect any building materials and waste in the vicinity of the tree trunks, i.e. within the range of the tree crown outline and at least 2 m outside the tree crown outline and shrubs Construction works should be carried out in a way that does not harm trees and shrubs that have not been intended for removal. At a distance of less than 1 m from the edge of the protrusion of the crown of trees and shrubs not intended for removal, it is forbidden to: a) store construction materials, earth masses (including topsoil), waste, and other materials that may influence the increase in tamping and changes in soil aeration or posing risk of pollution to the soil and water environment within that zone; b) outline roads and service yards, parking spaces and other elements that may influence the increase in tamping and changes in soil aeration; c) allow for traffic, stopover and parking of vehicles, machines and equipment; d) smoke or use fire, use equipment or machines producing high temperature that can cause drying of the crown of trees and shrubs. The storage of substances that may pollute the soil and water environment is prohibited at a distance of less than 10 m from trunks of trees and shrubs not intended for removal.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
20.	-	Protection of landscape, protection of biotic nature	Contract Area	Fencing of the areas under crowns of trees and shrubs Trees and shrubs not expected to be removed growing within the construction site (together with temporary occupation areas) should be fenced in the crown projection line in a way visible to all participants of the works. These fences should be installed before the commencement of works on a given section of works and kept in good condition until the completion of works that could have an adverse effect on the trees and shrubs in question. During the Contract Implementation Period, the condition of tree trunks exposed to damage should be monitored on an ongoing basis and the protection should be maintained in a proper condition, whilst guaranteeing a proper protection for trunks against mechanical damage. After completion of the above works fences should be removed.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
21.	II.12	Protection of landscape, protection of biotic nature	Contract Area	Protection of tree trunks not intended for removal Prior to the commencement of construction works in a particular section, trunks of trees – not intended for removal – exposed to mechanical damage should be protected, e.g. through application of straw mats or formwork made of wire-covered boards. If it is technically impossible to use the above protection, it is recommended to fence off the groups of trees/shrubs should be fenced off for the duration of the works. The following will be used for the protection of greenery, e.g.: wooden posts about 2.5 m high, polypropylene mesh about 1.8 m high in bright colour or galvanized wire. If the implementation of the above-mentioned solutions is not technically possible, the fencing should be made with coloured tape. If the wooden boards protection is used, the cladding elements should be installed in such a way that the boards tightly adhere to the entire surface of the trunk, and the edges of the boards do not cause bark damage; the lower parts of boards should be secured against the possibility of changing positions, for example by covering with earth, additional wire fastening, etc.). During the Contract Implementation Period, the condition of tree trunks exposed to damage should be monitored on an ongoing basis and the protection should be maintained in a proper condition, whilst guaranteeing a proper protection for trunks against mechanical damage. After the completion of works trunk protection should be removed. The planned protection method for trees not to be removed should be agreed with a competent environmental expert (discussed under item 103), and the results of establishments shall be	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
22.	II.12	Protection of landscape, protection of biotic nature	Contract Area	Protection or preventive cutting of tree boughs and branches exposed to damage In the case of trees not intended for removal, tree boughs and branches exposed to mechanical damage by working or moving vehicles, machinery and equipment should be protected against damage, e.g. by supporting the lowest growing branches and branches or by tying them to branches and branches growing above (each time in a way that does not damage the bark). If the above-mentioned protective measures cannot be applied, preventive cutting of tree boughs and branches exposed to mechanical damage should be carried out. Performing preventive cuts of tree boughs and branches always requires the Engineer's approval. These pruning cuts cannot disturb the natural habit of trees (they cannot cover more than 1/3 of the tree's green mass), they should ensure stability and statics of trees (pruning must be even on each side of the crown). Pruning spots shall properly be secured with a fungicide. The range of preventive cutting and the method of care for cut boughs and branches should be agreed with the team of environmental experts.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
23.	-	Protection of landscape, protection of biotic nature	Contract Area	Carrying out works within root blocks of trees and shrubs Works in the vicinity of root blocks of trees and shrubs not intended for removal should only be carried out manually, subject to the following conditions: a) skeletal roots (with a diameter of over 4 cm) should not be cut off; b) excavations should be carried out no closer than 2 m from the trunk, if feasible; c) the time of root exposure to drying or freezing should be shortened to the minimum; d) the suitable period for carrying out the work in question is from October to April. The abovementioned activities should be performed in consultation with the team of environmental experts.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
24.	-	Protection of landscape, protection of biotic nature	Contract Area	Securing of exposed roots of trees and shrubs Exposed roots of trees and shrubs not intended for removal should be covered with straw or jute mats, in accordance with guidelines of the team of environmental experts. From the beginning of April until the end of October the exposed roots shall additionally be protected against drying-out (e.g. through watering of the mats covering the roots). At negative temperatures these mats should be dry to avoid freezing of the roots.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
25.	II.12	Protection of landscape, protection of biotic nature	Contract Area	Care in case of damaging trees and shrubs In case aboveground parts of trees and shrubs not intended for removal have been damaged, the necessary care measures should be carried out immediately, adequate to the place and type of damage. In case of root damage, the ends should be trimmed off and the roots secured with a fungicide. The abovementioned activities should be performed in consultation with the team of environmental experts.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
G. R	REQUIREME	NTS ON SECURIN	G THE PROTECTE	D ENVIRONMENTAL RESOURCES	
26.	_	Protection of land surface and landscape, protection of soil and water, protection of biotic nature	Contract Area	Limiting the impact of Contract implementation on environmental resources For the purpose of limiting the adverse impact of the works on environmental resources present in the Contract Area and in its vicinity the Contractor shall e.g.: a) assure such organization of the works, to maximally reduce the Contract Implementation Period; b) assure economic use of the land and minimum transformation of its surface; c) limit the use and transformation of environmental elements only to the extent, which is necessary for proper and timely implementation of the Contract.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
27.	-	Protection of land surface and landscape, protection of soil and water, protection of biotic nature	Contract Area	Protection of the existing plant cover and lay of land within the construction site The Contractor shall do its best to keep the existing plant cover (trees, shrubs, and herbal vegetation) and the existing lay of land within those parts of the construction site, which are not directly associated with the performance (according to the binding design documentation). For that purpose, the traffic of vehicles and construction machines within the construction site should only be limited to the active performance sites or to planned construction works and other works associated with implementation of the Contract, as well as to the set-out service roads, storage yards, site facilities, etc.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
28.	-	Protection of biotic nature	Contract Area	One-time environmental inventory of the Contract Area prior to the commencement of works Prior to the commencement of works, a team of environmental experts (discussed under item 103) will be obliged to perform one-time environmental inventory of the Contract Area. The purpose of the inventory is to determine the current distribution of natural habitats and habitats and sites of protected species of flora and fauna, including ongoing revision of information on the subject as included in the EMP and in other available source materials. If the presence of natural habitats and habitats or protected sites of plant and animal species in the Contract Area has been confirmed, it is necessary to act as follows: a) in the case of protected environmental habitats – further actions should be agreed with a competent environmental team's expert (discussed under item 103), and the results of the findings should be submitted to the Engineer for approval; b) in the case of habitats or sites of protected species – further actions should be agreed with a competent environmental team's expert (discussed under item 103), including conditions specified under item 49, and the results of the findings should be submitted to the Engineer for approval.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
29.	11.44	Protection of biotic nature	Contract Area	Preventing the spread of invasive species in phase of the Contract implementation Prior to the commencement of works in particular sections of the Works Contract one shall perform inspection to establish the current presence of foreign invasive species. The inspection shall be done the expert botanist, as discussed under item 103. In case of identifying presence of foreign invasive plant species one shall determine and implement necessary measures to prevent the spread of the aforementioned plants due to implementation of the Contract. The invasive plants must be eradicated manually or mechanically, depending on the acreage occupied, before flowering and seed dispersal. Those measures shall be defined in agreement with the aforementioned expert, and the results of establishments shall be submitted to the Engineer for acceptance.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
30.	II.45	Protection of biotic nature	Contract Area	Preventing the spread of invasive species at the stage of embankment exploitation	Investor
				While carrying out maintenance works at the stage of embankment exploitation, the area covered by the project within the borders of the lines separating the investment, within five years from the time of completion of works, should be inspected for the appearance of foreign invasive plant species. In the event that the maintenance operations (mowing) of the embankment are not effective in removing the above-mentioned plants, action should be taken, after consultation with the botanist, to remove them effectively.	
31.	II.15 II.16 II.19	Protection of biotic nature	Contract Area	Securing valuable natural habitats in the vicinity of the Contract Area During the works, on the section at km 4+810 – 4+940 (the embanked area of the left embankment), the riparian habitat (91EO) should be protected against the possibility of accidental, mechanical damage to the trees and against the possibility of being driven by construction equipment. Permanent fencing in the form of security should be set up (e.g. with a warning tape). During the works, the riparian habitat of oxbow lakes (3150) should be protected against the possibility of accidental, mechanical damage to the trees and against the possibility of being driven by construction equipment. Permanent fencing in the form of security should be set up (e.g. with a warning tape) at the following chainage: - km 0+880 – 1+000 (the embanked area of the right embankment), - km 1+050 (the embanked area of the right embankment). During the works, the habitats of Cnidium meadows (6440) should be protected against the possibility of occupying an area larger than necessary. Permanent fencing in the form of security should be set up (e.g. with a warning tape) at the following chainage: - km 0+120 – 0+420 (the embanked area of the right embankment), - km 1+760 – 2+040 (the embanked area of the right embankment), - km 0+770 – 0+960 (the embanked area of the left embankment), - km 4+490 – 4+670 (the embanked area of the left embankment). The above-mentioned activities should be performed in agreement with the Environmental Supervision Team. During the Contract implementation period, the condition of the above-mentioned security fencing should be monitored on an ongoing basis. After completion of the works, the above-mentioned fences must be removed.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
32.	II.17	Protection of biotic nature	Contract Area	Conducting work resulting in the destruction of natural habitats During the works related to permissible destruction about 1 are of the natural habitat 3150-2 (oxbow lake and small water reservoirs), in the following locations: km 0+880 – 1+000 and km 1+030 – 1+200 (the vicinity of the right flood embankment), execution of the above-mentioned activities should be agreed with the appropriate expert of the Environmental Supervision Team (discussed under item 103).	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
33.	II.22 II.24	Protection of biotic nature	Contract Area	Terms of works resulting in the destruction of sites of protected fauna species Before starting the investment work related to mowing a part of the sites of Scarce Large Blue Butterfly and Dusky Large Blue Butterfly intended for destruction must be done, so as to prevent the blooming of Great Burnet (the host plant and the nectar-giving butterflies) in order to induce the butterflies to live on parts of sites not intended for destruction. Additional mowing should be performed prior to the removal of the humus layer on the embankments. Deadlines for the implementation of the above-mentioned activities should be agreed with the appropriate expert of the Environmental Supervision Team (discussed under item 103).	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
34.	II.23	Protection of biotic nature	Contract Area	Time limits for works resulting in the destruction of sites of protected fauna species Works interfering with the Dusky Large Blue habitats should be carried out outside the period of their activity, i.e. from 1 September to the end of February. The above-mentioned limitation applies to species habitats in the following locations: - km 0+025 - 0+175 (leftt embankment), - km 0+000 - 0+925 (right embankment), - km 2+025 - 2+150 (right embankment), - km 3+400 - 3+575 (right embankment). The total area of destroyed Dusky Large Blue habitats may not exceed 1.454 ha.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
35.	-	Protection of biotic nature	Contract Area	Securing the Contract area against small animals entering the site Works should be performed in such a way as to avoid killing of animals. Prior to the commencement of and during the works within particular sites of the Contract Area the environmental teams (discussed under item 103) shall perform cyclic inspections of those sites to determine the need of actions to limit migration of wild animal species (especially of protected species) into the construction site. In case such a need would be identified, the aforementioned environmental supervision team shall determine conditions necessary to limit the migration of the aforementioned animal species into the construction site (e.g. fencing of selected sections of the construction site, cyclic inspections, and trapping done under supervision of the aforementioned environmental supervision team, etc.), and shall subsequently supervise their implementation. A detailed description of the planned measures in that range within a particular site shall be submitted for the Engineer's acceptance.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
36.	II.18 II.26	Protection of biotic nature	Contract Area	Time limits for works in the context of amphibian protection Works related to the installation of steel sheet piles should be carried out outside the main breeding period and amphibian wintering period, i.e. outside the period of 15 October – 30 June. Construction works interfering with the crest of existing larger bodies of water should be carried out after the end of the amphibians breeding period, but before animals reduce their activity, diminish their abilities to escape and bury themselves in the silt for winter rest, i.e. from mid-August to early October.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

37.	II.30	Protection	Contract Area	Protection of the amphibians habitats	Contractor
	II.31	of biotic nature		In order to protect the construction site against the presence of amphibians, protective fences should be made before the commencement of construction works on the sections and on dates indicated by nature supervision.	(e.g. Site Manager, EMP Coordinator, Environmental
				Geotextile fences should be used or mesh fences with a maximum mesh diameter of 0.5 by 0.5 cm and at least 50 cm of entire length, with 10 cm of fence edge bent outwards, forming a small roof at an angle of 45 - 90°. On the lower part, the fencing material should be buried into the ground to a depth of at least 15 cm – fences must tightly adhere to the ground surface and must be properly anchored in order to effectively prevent amphibians from reaching the work sites. The ends of the fences will be equipped with ushaped "turnstiles" with the of arm length min. 50 cm. At the ends of the protective fences, holes with the dimensions of approx. 0.5 x 0.5 x 0.2 m should be excavated, which will be lined with foil (instead of holes, buckets of similar parameters and perforated bottom can be tightly buried). Fences should cover the sections of identified amphibian habitats (reproduction and migration) together with sections at least 300 m long before and at least 300 m behind the above-mentioned	Supervision Team)
				places, however, if the nature supervision considers it justified, in order to protect the project sites from the possibility of amphibians entering the construction site, fences should also be located on other sections of the works indicated by the supervision, before or during the construction works.	
				Temporary herpetological fences will be distributed as follows: left embankment: - 0+700 – 1+150 (from the side of the area beyond the embankment), - 1+220 – 1+630 (from the side of the area beyond the embankment), - 2+125 – 2+720 (from the side of the area beyond the embankment), - 3+700 – 4+500 (from the side of the area beyond the embankment), - 0+000 – 0+600 (from the side of the embanked area), - 1+300 – 2+800 (from the side of the embanked area), 2) right embankment: - 0+950 – 1+380 (from the side of the area beyond the embankment), - 1+760 – 2+350 (from the side of the area beyond the embankment),	
				 0+550 – 1+550 (from the side of the embanked area), 1+760 – 2+400 (from the side of the embanked area). During the period of amphibian activity, fences should be regularly cleaned at least once a week, checked for tightness, all defects should be removed on an ongoing basis, and the vegetation along the fences should be mowed. The amphibians wandering along fences and gathering in the holes/ buckets made should be systematically caught and moved and in a manner agreed with the above-mentioned herpetologist expert and in accordance with the conditions specified in item 39, 40, 41, 42. When the amphibians are active, above-mentioned activities should be performed twice a day - in the morning and in the 	

Item	ED item	Issue	Site	Mitigation Measure	Unit
				evening.	
38.	_	Protection of biotic nature	Contract Area	Limitation of losses in protected animal species during the earthworks Directly prior to the commencement of earthworks in a given site relevant experts of the environmental team (discussed under item 103) shall inspect sites of the currently planned works in terms of the protected animal species' occurrence. In case of identifying presence of the aforementioned animals, one shall implement measures discussed under items 39, 40, 41, 42. The earthworks and works related to destruction of parts of amphibian habitats shall be performed under supervision of the aforementioned experts.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
39.	II.25	Protection of biotic nature	Contract Area	Trapping and relocating small animals from the outside of Contract Area Before the Roman Snail and Yellowish Snail (Helix lutescens) habitats are destroyed, the individuals of these species should be caught and moved outside the construction site in habitats where they had previously been found to be present by nature supervision. Above-mentioned activities should be carried out with the participation of the Environmental Supervision Team.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
40.	11.27	Protection of biotic nature	Contract Area	Prevention of creating the wintering sites for amphibians on the construction site In addition, to discourage amphibians from wintering in water bodies, the part of which is to be destroyed in early October, if possible, pump off the water or reduce its level to such an extent that the part of the body crest canopy intended for destruction is not flooded. Destruction of parts of amphibians' habitat should be preceded by lowering the water table with continuous trapping of animals. The dried part of the backfilled water body bottom should be thoroughly penetrated to catch the remaining animals. The backfilled parts of the habitat should be executed with a one-sided front of works to catch all of the specimens. Above-mentioned activities should be carried out in the presence of an appropriate expert from the Environmental Supervision Team (discussed under item 103).	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
41.	11.32	Protection of biotic nature	Contract Area	Prevention of creating habitats suitable for amphibians on the construction site The potholes and other cavities created on the construction site where water can accumulate will be immediately eliminated in order to prevent amphibians from laying their eggs there and settling there. The amphibian habitats created on the construction site, i.e.: deep excavations with stagnant water, deep potholes will be inspected for the presence of small animals (including amphibians, reptiles, small mammals) before they are backfilled. If small animals are found to be present, water should be pumped out, and after lowering the water table, the bottom should be penetrated and all the specimens should be caught. Trapped animals shall be moved to a suitable habitat for the species concerned. Liquidation of drained trenches or ruts should be backfilled immediately after the animals have been trapped. Above-mentioned activities should be carried out in the presence of an appropriate expert from the Environmental Supervision Team (discussed under item 103). A protocol and photographic documentation should be made of the activities of transfer / destruction of existing species, habitats and positions of plants or animals in accordance with the guidelines indicated in the obtained administrative decisions. The protocol should state at least the type and number of species transferred, an indication of the places from which and to which the transfer takes place, the manner of transfer and the time in which it takes place.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
42.	II.33	Protection of biotic nature	Contract Area	Principles of liquidation of wetlands that are amphibians habitats Before liquidating wetlands being the amphibians habitats, inspection should be carried out for the presence of animals. Removal (drainage) of wetlands should be carried out in September. Trapped animals shall be moved to a suitable habitat for the species concerned. If the habitats that are wintering sites for amphibians need to be destroyed, they must be fenced in early for the duration of the works in order to prevent amphibians migrating there for the winter. The above-mentioned activities should be carried out in the presence of a herpetologist from the Environmental Supervision Team. A protocol and photographic documentation should be made of the activities of transfer / destruction of existing species, habitats and positions of plants or animals in accordance with the guidelines indicated in the obtained administrative decisions. The protocol should state at least the type and number of species transferred, an indication of the places from which and to which the transfer takes place, the manner of transfer and the time in which it takes place.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
43.	II.28	Protection of biotic nature	Contract Area	Time limits for carrying out works related to interference with the amphibians breeding habitats Works related to interference with the amphibians breeding habitats should be performed outside the period from 1 March to 30 June, while works interfering with the breeding and wintering habitats of amphibians should be performed from 1 August to 15 October.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
44.	II.29	Protection of biotic nature	Contract Area	Time limits for carrying out works related to clearing drainage ditches The works related to the unblocking of drainage ditches flow should be carried out outside the period of 1 March - 31 July, from the bank positions, and the use of heavy equipment should be limited to the necessary minimum.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
45.	11.39	Protection of biotic nature	Contract Area	Time limits for carrying out works in the context of bird protection Due to the habitat of the Black-tailed Godwit in the vicinity of the Contract area, no preparatory works should be carried out in the period from March 15 to July 31 (e.g. humus removal, removal of low vegetation and cutting out of vegetation) in the sections: km 2+500 - 3+500 (right embankment) and km 2+000 - 3+000 (left embankment).	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
46.	11.40	Protection of biotic nature	Contract Area	Securing and controlling places that may constitute traps for small animals Excavations, wells and other sites that may form traps for animals (especially for amphibians, reptiles, and small mammals) shall be protected – to the maximum feasible extent – against presence of the aforementioned animals without having them released on their own, e.g. by covering them tightly after each finished working day. These places should be regularly and daily inspected to limit mortality of specimens, which – despite the protection – moved to those sites The protection type for particular sites and the time and frequency of their inspections and the proceeding methods for trapped animals shall be agreed with the environmental team (discussed under item 103) on an ongoing basis, and results of those establishments shall subsequently be implemented. In the event of imprisonment in the above-mentioned animal sites, they should be immediately caught and moved to a habitat suitable for a given species outside the construction site.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
47.	-	Protection of water, Protection of biotic nature	Contract Area	Keeping the continuity of water flow in water-courses Actions of the Contractor shall be planned and performed in a way to keep the continuity of water flow in water-courses throughout the Contract Implementation Period.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
48.	11.49	Protection of water, Protection of biotic nature	Contract Area	Ongoing inspections by experts of the Environmental Supervision Team during the Contract implementation Period Construction works and other works performed during the Contract Implementation Period should be carried out under the ongoing supervision of experts from the Environmental Supervision Team (discussed under item 103). For the nature supervision, at least 8 visits each month should be carried out, and during the spring and autumn migration of amphibians, herpetological supervision should be carried out constantly. For each visit, a description of the situation in the form of Nature Supervision Sheet should be prepared and, if necessary, comments and recommendations, along with photographic documentation, should be provided to the Contractor's personnel responsible for carrying out the works in accordance with the EMP.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
49.		Protection of biotic nature	Contract Area	Obtaining a decision allowing for exceptions to the principles of species protection of plants, fungi and animals identified in the Contract Area In respect of the resources of protected species of flora and fauna present within the Contract Area and in its impact range (including resources described in this EMP and in other available sources, as well as identified in the Contract Implementation Period due to actions of the environmental team discussed under item 103), the following measures shall be undertaken: a) the Contractor shall obtain and submit to the Engineer for approval a written opinion of the team of environmental experts including the specification of: • the extent of the possible impact of the works on the identified natural resources, and • the need to obtain the decision referred to in point below, and then, if it proves necessary in the light of the abovementioned opinion, shall carry out the activities referred to in points b-d (hereunder); b) before taking any actions that may lead to the destruction of habitats and sites or flushing out the representatives of protected species, the Contractor is required to obtain the administrative decision required by law, allowing for exceptions to the binding prohibitions regarding protected species of plants, fungi and animals; c) the Engineer should be notified of the decision obtained; d) the Contractor is obliged to precisely and timely implement the conditions contained in the abovementioned decision.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
H. R	EQUIREM	ENTS ON GROU	ND MANAGEM	ENT (INCLUDING TOPSOIL)	
50.	II.8	Protection of land surface and landscape, protection of soil	Contract Area	Acquisition of earth masses for investment purposes The earth masses for the purposes of the investment should not be collected from the area beyond the embankment.	Contractor (e.g. Site Manager, EMP Coordinator)
51.	1	Protection of land surface and landscape, protection of soil	Contract Area	Gospodarka gruntami pochodzącymi z terenu budowy First, soil located on the construction site (including soil mass) shall be managed on site. The excess of soil shall be managed in accordance with design documentation. A proceeding method for ground remaining waste shall be presented in the Waste Management Plan (Waste MP), as developed by the Contractor and handed over for acceptance to the Engineer prior to the commencement of works (according to item 84).	Contractor (e.g. Site Manager, EMP Coordinator)
52.	II.21	Protection of soil, protection of biotic nature	Contract Area	Collecting the top layer of soil Before starting the works, a fertile soil layer (humus) with a thickness of approx. 20 - 30 cm shall be removed, which will then be stockpiled on the area beyond the embankment and will be used for embankment formation and land cleaning works. After stacking the soil, it should be protected against weather conditions and other negative influences. In order to protect the layer of topsoil from the Contract Area: a) prior to the commencement of construction works in particular sections of the Contract Area top layer of fertile soil (so-called topsoil) having thickness corresponding with applicable design documentation shall be removed (this condition refers to all locations within the Contract Area, where the existing topsoil layer may be degraded due to the works, traffic and servicing of vehicles, machines and devices, and storage of materials, etc.); b) the works associated with the removal of topsoil shall be preceded with provision of environmental inventories discussed under items 28, and their execution need to include e.g. the conditions informed under item 38.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
53.	II.41 II.42 II.43	Protection of soil, protection of biotic nature	Contract Area	Time limits for removing the humus layer Removal of humus and low vegetation in wetlands, irrespective of the presence of amphibians in these areas, should be carried out between August 1 and October 15, so as to eliminate the possibility of their use by animals. Removal of humus and low vegetation outside wetlands should be done outside the period from March 1 to July 31. Wetlands should be defined in accordance with the indications of environmental supervision. Main construction works should be started immediately after the completion of preparatory works i.e. removal of high, medium and low vegetation and removal of humus.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
54.	_	Protection of land surface and landscape, protection of soil, protection of biotic nature	Contract Area	 Storing of topsoil The removed layer of topsoil shall be stored in the following way: a) removed topsoil shall be stored in the form of piles, located in places where it will be effectively protected against degradation (see also the description in point c); b) the precise location of topsoil piles should be pre-arranged with a team of environmental experts (discussed under item 103), so that topsoil storing does not degrade natural habitats and protected species, nor does it adversely affect the condition of trees and shrubs; c) storage piles of topsoil should be marked and efficiently secured against: contamination, being driven over by vehicles, compaction, storage of building materials, etc.; d) storage piles of topsoil shall be kept in adequate humidity, in a manner allowing for its reuse (e.g. they should be systematically sprinkled, with a frequency depending on the weather). 	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
55.	-	Protection of soil, protection of biotic nature	Contract Area	Use of topsoil The stored topsoil should be used to reinstate the fertile soil's layer on further construction stages	Contractor (e.g. Site Manager, EMP Coordinator)

Item	ED item	Issue	Site	Mitigation Measure	Unit
I. F	REQUIREME	NTS ON LAND RE	CLAMATION AFTI	ER COMPLETION OF WORKS	
56.	II.14	Protection of land surface and landscape, protection of soil, protection of biotic nature		Recreation of topsoil layer and green areas and tidying up the site after completion of the works After completion of the works: a) construction facilities, service roads and sites should be dismantled, whilst road slabs and sand collected from ballast (if applicable) should be transported outside the Contract Area to the place specified beforehand (accepted by the Engineer); b) in the areas acquired in connection with the implementation of the Contract (within the boundaries of the Contract Area), appropriate agrotechnical measures should be taken (soil loosening, fertilization, etc.), in order to prepare the recreation of the fertile soil layer, and then the fertile soil layer, and then the fertile soil layer should be recreated (e.g. using the topsoil collected from the area of works – see: item 55); c) provide treatment facilitating reinstatement of green areas (including sowing and planting of trees [in accordance with design documentation], using native species of plants only, in conformity with local habitat conditions). The sowing shall be done in the shortest possible time after completion of reinstatement of the fertile soil layer to prevent development of weeds within topsoiled surfaces; d) proper care of the recreated green areas should be ensured (e.g. in accordance with conditions determined under item 57) until the end of the Defect, Guarantee and Warranty Period; e) remove any waste left and tidy up the Contract area; f) order and restore the proper condition of the area under works, due to the e.g.: traffic of machines, means of transportation, and the areas adjacent to the performad under the supervision of expert botanist-phytosociologist and expert dendrologist (discussed under item 103), including e.g.: agreement of the composition and quantitative proportions of seed mixtures planned for sowing; agreement of the exact dates of works; agreement of the exact dates of works; agreement of the principles of caring for the recreated green areas; submission of the results of the above	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
57.		Protection of land surface and landscape, protection of soil, protection of biotic nature	Contract Area	Caring for grasslands in the first growing season after planting consists in: a) Fertilizing: • lawns should be supplied with mineral fertilizers as needed (no more 3-5 kg NPK/are/year); • mixtures of fertilizers should be prepared in such a way as to supply the grass with ingredients required in particular seasons: • in spring, the lawn requires a mixture with dominating nitrogen, • from the middle of summer nitrogen should be reduced, increasing the dose of potassium and phosphorus, • the final fertilization should not contain nitrogen, but potassium and phosphorus. b) Additional seeding. c) Mowing: • the first mowing should be carried out when the grass is about 10 cm high and should be cut to a height of 6 cm, • subsequent mowing should take place at such intervals so that the grass does not exceed 15 cm in height, • the last pre-winter mowing should be carried out 1 month before the expected cold weather (for the climate of Poland the first half of October may be assumed), • after each mowing, cut grass should be removed from all surfaces and harvested hay should be stored outside the construction site. d) Maintenance of proper soil humidity. Mowing of grasslands in subsequent growing seasons should be carried out twice a year.	In the Contract Implementation Period — Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team) After the Contract Implementation Period — Investor

Item	ED item	Issue	Site	Mitigation Measure	Unit			
J. R	. REQUIREMENTS ON PREVENTION OF POLLUTION EMISSION TO THE GROUND AND WATER ENVIRONMENT							
58.		Protection of soil and water, protection of health and safety of people, protection of biotic nature	Contract Area	Assurance of safety for the ground and water environment The Contractor is obliged to assure such an organization of works, including organization and equipment for the construction site, so it would prevent the possible contamination of the ground and water environment in the Contract Area and its vicinity, as well as it would prevent the uncontrolled leakage of earth masses and other construction materials into surface waters.	Contractor (e.g. Site Manager, EMP Coordinator)			
59.	-	Protection of soil and water, protection of health and safety of people, protection of biotic nature	Contract Area	The use of building materials in accordance with regulations and standards and harmless to the environment Only building materials and raw materials that meet valid standards of environmental protection, having legally requires certificates, and allowed for application in a way planned by the Contractor, may be used. Earth structures should be made of natural materials, without application of hazardous materials or materials harmful to health. The material used for the reconstruction and extension of flood embankments and for backfilling of excavations must not contain substances harmful to the aquatic environment and which present a risk of contamination of the earth's surface (in particular, it must not contain harmful substances subject to leaching, which occur in a form of soluble compounds).	Contractor (e.g. Site Manager, EMP Coordinator)			
60.	-	Protection of soil and water, protection of air	Contract Area	Technical efficiency and inspections of vehicles, machines and equipment Only technically efficient vehicles, machines and equipment — technical condition of which does not pose risk of uncontrolled emission of pollutions to the water and ground environment (e.g. leakage of fuel, diesel, operating fluids, grease, etc.) and to the air (exceeding acceptable emission standards for combustion gases) — should be used to implement the Contract.	Contractor (e.g. Site Manager, EMP Coordinator)			

Item	ED item	Issue	Site	Mitigation Measure	Unit
61.	II.9	Protection of water, protection of biotic nature	Contract Area	Conditions for the regulation of ditches If it is necessary to relocate the ditches in connection with their renovation and reconstruction of embankment locks, they should be made in small sections, i.e. approx. 25-40 m, so that the embankment locks can function properly, both hydraulically and technically.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
62.	II.10 II.34	Protection of water, protection of biotic nature	Contract Area	Conditions for unblocking flowing and stagnant water channels The works for desilting, reconstruction of the existing sections of ditches in the embanked area, their connection to the Łeg River and the partial strengthening of its banks shall be performed without the use of heavy equipment. Ditches shall be unblocked by ensuring that the works are staged, protecting against the formation of an oxygen deficit and ensuring that works are carried out in the water in the correct way and under the right conditions during the desilting. These works must be carried out under the care of the natural supervision inspector who will indicate appropriate intervals, particularly in areas where there is permanent turbidity during the works.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
63.	II.35	Protection of water, protection of biotic nature	Contract Area	Conditions for interference in the channel and in the bank zone of water-courses In the Contract Implementation Period one shall not interfere in channels and banks of water-courses (e.g. banned traffic of vehicles, machines, and devices; ban of polluting, devastating, material storing, etc.), except for channels and banks sections covered by the works, in accordance with the valid design documentation. No water or aggregate for the construction purpose can be collected from the Łeg River.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)
64.	11.36	Protection of water, protection of biotic nature	Contract Area	Time limits for carrying out works in flowing and stagnant water channels Works in the riverbed of the Łęg, the unblocking of ditches and other works that may adversely affect fish spawning must not be carried out between 1 March and 30 June.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
65.	II.37	Protection of water,	Contract Area	General conditions for the works performance in channels of flowing waters and stagnant waters	Contractor (e.g.
		protection of biotic		Works in the riverbed of the Łęg River can be carried out from the bank stations only.	Site Manager, EMP
		nature		For the purpose of protecting flowing waters and stagnant waters against contamination, the works within channels of those waters shall be performed according to the following rules:	Coordinator, Environmental Supervision Team)
		a) during the performance in channels of flowing waters or stagnant waters one shall continuously perform a visual monitoring for water at performance sites in order to check, if water is not locally polluted with suspension, which may affect the physical-chemical condition of water adversely and/or deteriorate living conditions for water organisms within the channels, due to the performance. In case of identifying occurrence of the aforementioned contamination, one shall immediately notify the Engineer and obtain an opinion of the water protection expert (discussed under item 103) on the possibility of and the conditions for further performance of the given type of works on site, and on the necessity and method of providing laboratory tests for the purpose of identifying the current level of contamination. The aforementioned opinion requires acceptance of the Engineer.			
		b) if, due to the measures described under point b (above), the binding contamination standards would be exceeded or it would be possible that they would be exceeded, the works on site shall be stopped (immediately or just after reaching a stage, when stopping the given type of works does not provide hazards of other type to the environment and/or health and safety of people), and decision on restarting them may be made not earlier than after receiving an opinion of environmental supervision team (including the aforementions water protection expert) determining the time of feasible recommencement for the given type of works, as well as detailed conditions for the performance (in reference to the protection of water against pollutions). The aforementioned opinion requires acceptance of the Engineer.			
				c) prior to the commencement of the given type of works within channels of flowing waters or stagnant waters, the Contractor shall present a Detailed Quality Assurance Plan (DQAP) for the given type of works – including e.g. conditions described in points a, b, and c (above) and containing a written opinion of the environmental supervision team (including the water protection expert) – for the Engineer's acceptance. The proceeding rules described in the aforementioned DQAP cannot be against the guidelines given in the document titled ("Environmental, Health and Safety Guidelines for Ports, Harbours, and Terminals"), as published at the website of the World Bank ¹ .	

On the website:

https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_policy_ehs-portsharborsterminals_

Item	ED item	Issue	Site	Mitigation Measure	Unit
66.	-	Protection of water, protection of biotic nature	Contract Area	Conditions for draining construction excavations Within the excavations one shall apply a relevant drainage system for construction excavations to assure keeping them without stagnant water. If suspensions are found in water pumped out of the excavations, the water should be cleaned (e.g. in a sedimentation/settling tank intercepting suspensions) before it is discharged into surface waters. Suspensions from treatment should be disposed of in a manner consistent with their type, eliminating the possibility of penetration into surface waters or storage in places where there may be flooding, etc.	Contractor (e.g. Site Manager, EMP Coordinator)
67.	-	Protection of soil and water	Contract Area	Location and equipment for sites of collecting, producing, and treatment of materials, which may pollute the ground and water environment The sites of collecting, producing, and treating the construction materials (e.g. concrete mass, prefabricates, aggregate, etc.) and other substances that may pollute the subbase and/or surface water, shall be located and equipped to minimize the risk of their adverse impact on the condition of environment, and especially to limit the risk of pollution emission to the ground and water environment. Such sites shall be provided with proper protection against possible contamination of the subbase and water, and should be provided with equipment and materials allowing for immediate removal of potential pollutions. Location of the aforementioned sites should also meet conditions discussed under item 14.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
68.	II.1 II.2	Protection of soil and water	Contract Area	Designation, marking, and equipment of servicing sites for vehicles, machines, and devices, hazardous materials storage sites, and hazardous waste storage sites within the site facilities	Contractor (e.g. Site Manager, EMP Coordinator,
				Within the site facilities one shall designate, mark, and properly equip:	Environmental Supervision Team)
				 the sites for servicing, refueling, repairing, and cleaning of vehicles, machines, and devices; 	
				the sites for storing hazardous materials;	
				the sites for storing hazardous waste.	
				These sites should be equipped with in technical and chemical measures to remove or neutralize hazardous substances, including petroleum derivatives.	
				The surface of the area where the refuelling will take place shall be sealed by using e.g. a geomembrane and covered with concrete slabs. Rainwater and meltwater from the above-mentioned places should be cleaned in separators allowing for the reduction of petroleum hydrocarbons.	
				Store the fuel in tight containers on a hardened surface.	
				Permanent refuelling points for construction equipment and building materials collection points shall be located outside the area of particular flood hazard, outside wetlands, at least more than ten metres from the riverbed.	
				At establishing locations for the aforementioned sites one shall consider e.g. a safe distance from reservoirs of flowing water and of stagnant water.	
				A detailed location of the aforementioned sites shall be agreed with the environmental team (discussed under item 103).	
69.	II.3	Protection of soil and	Contract Area	Conditions regarding the performance of regular service actions to vehicles, machines, and devices	Contractor (e.g.
		water		The contractor will carry out ongoing inspections of the condition of vehicles, machines and devices and eliminate the possibility of any contaminants getting into the soil and water environment (including, in particular, spills of fuels, oils, operating fluids, lubricants, etc.), both during operation, by the available organizational measures, as well as during service, refueling, transport and parking of vehicles, machines and devices.	Site Manager, EMP Coordinator)
				Regular service actions to vehicles, machines, and devices — associated with a risk of polluting the subbase or water (including e.g. supplementation of operating fluids and refueling, removal of minor mechanic failures, cleaning of wheels for vehicles and machines, cleaning of the equipment applied for concrete-casting, etc.) shall only be done in places located away from banks of water reservoirs, properly protected against possible polluting of the subbase and water, and provided with the equipment and with materials allowing for immediate removal of potential pollutions.	
				If feasible, such actions shall be done mainly in designated, marked, and properly equipped places within the site facilities, as discussed under item 68.	

Item	ED item	Issue	Site	Mitigation Measure	Unit
70.	11.4	Protection of soil and water	Contract Area	Conditions regarding the performance of periodical service actions, repairs, and cleaning of vehicles, machines, and devices No maintenance works such as changing oil, etc., shall be undertaken on the construction site Periodical service actions (e.g. replacement of diesel, fluids; replacement of worn-out parts and components; etc.), repairs and cleaning of vehicles, machines, and devices shall only be done in designated, marked, and properly equipped places within the site facilities, as discussed under item 68.	Contractor (e.g. Site Manager, EMP Coordinator)
71.	II.3	Protection of soil and water	Contract Area	Assuring the availability of absorbents close to locations under risk of diesel substances' emission In places under risk of uncontrolled emission of diesel derivatives to the subbase and to water (including e.g. servicing sites for vehicles, machines, and devices; equipment bases; parking lots; etc.) one shall provide access to the proper volume of absorbents used for removal of leaks and spills of diesel substances.	Contractor (e.g. Site Manager, EMP Coordinator)
72.	II.5	Protection of soil and water	Contract Area	Ensuring access to sanitary facilities The construction site facilities will be equipped with portable sanitary facilities, with the provision of sewage collection. All employees will be trained in maintaining proper sanitary conditions within the construction site and its immediate surroundings.	Contractor (e.g. Site Manager, EMP Coordinator)
73.	-	Protection of soil and water	Contract Area	Inspection of the subbase condition at work and stoppage locations for vehicles, machines, and devices Locations of operations and stoppage of vehicles, machines, and devices should be regularly inspected (especially after longer time of operation or stoppage in a given location) to identify potential leaks of substances that may pollute the ground subbase. In case of identifying the leaks one shall undertake relevant measures, in accordance with conditions described under item 74.	Contractor (e.g. Site Manager, EMP Coordinator)
74.	-	Protection of soil and water	Contract Area	Proceedings in the case of emission of diesel derivatives In the event of any events associated with emission of diesel derivatives into the environment (including subbase and water), one shall: a) take immediate action to prevent the spread of contamination, by means of available resources (e.g. absorbents); b) immediately remove contaminated layers of soil, according to the currently binding regulations; in case of major failures, use the procedures for notification of crisis situation (described in item 78).	Contractor (e.g. Site Manager, EMP Coordinator)
75.	II.6	Protection of soil and water	Contract Area	Prevention of erosion Once the embankment has been constructed, it should be sown with grass in such a way that surface erosion is kept to a minimum and the fractions that form suspensions do not get into the water.	Contractor (e.g. Site Manager, EMP Coordinator)

Item	ED item	Issue	Site	Mitigation Measure	Unit			
K. R	K. REQUIREMENTS ON PREVENTION OF POLLUTION EMISSION TO THE AIR							
76.	II.53	Protection of air	Contract Area	 Limiting air pollution with exhaust fumes In order to reduce the adverse impact on the condition of the air: a) it is necessary to eliminate the idling time of engines and follow the instructions on turning the machines and equipment off during stoppage and breaks in operation; b) the works shall be planned and performed in a way allowing for minimization of use in case of the construction equipment and the means of transportation; c) only technically efficient vehicles, machines and equipment should be used, with the required approvals to reduce the emission of gaseous and particulate substances into the air; d) a place should be provided for free manoeuvres of vehicles, such as yards; e) it is necessary to limit the traffic of vehicles, machines and devices to the necessary minimum, as well as to limit the speed of traffic on the construction site. 	Contractor (e.g. Site Manager, EMP Coordinator)			
77.	11.53	Protection of air	Contract Area	Limiting dusting from the construction site and roads When carrying out construction works, dusting should be limited by maintaining a high work culture, in particular by: a) regular cleaning of the construction site; b) applying the necessary technical and organizational measures to limit the emission of dust from the construction site, including storage places for building materials and dusting from wheels of vehicles and machines; c) storage of loose materials in places protected from the wind and (if possible) in factory packaging, and if necessary covering the above-mentioned materials with tarpaulins, etc.; d) suspension of works or spraying water on roads, squares and other surfaces causing dusting during dry and windy periods; e) limiting the speed of vehicles on dusting roads (especially in dry periods); f) using sealed tarpaulins on cars carrying materials that can cause dusting during transport; g) storage of materials that may cause dusting, in a way that prevents them from being washed away by water and dispersed by the wind; h) cleaning vehicle wheels before entering access roads to the Contract Area; i) removing dirt using mechanical devices.	Contractor (e.g. Site Manager, EMP Coordinator)			
78.	-	Protection of air	Contract Area	Ban to burn fires and burn down materials, waste, litter, etc. It is forbidden to burn fires and burn down materials, waste and litter, etc. in the Contract Area.	Contractor (e.g. Site Manager, EMP Coordinator)			

Item	ED item	Issue	Site	Mitigation Measure	Unit				
L. R	. REQUIREMENTS ON PREVENTION OF NOISE EMISSION								
79.	II.51	Protection of acoustic climate	Contract Area	Reducing time of works to daytime In the surroundings of areas and buildings subject to acoustic protection, construction works and transport of building materials should be carried out in a daytime, i.e. from 6:00 am to 10:00 pm.	Contractor (e.g. Site Manager, EMP Coordinator)				
80.	II.52	Protection of acoustic climate	Contract Area	Use of acoustic screens In order to reduce noise emission to the environment during construction works carried out close to existing residential buildings, a portable full fence should be used as an acoustic screen.	Contractor (e.g. Site Manager, EMP Coordinator)				
81.	-	Protection of acoustic climate	Contract Area	Reducing noise of vehicles, machines and equipment During the Contract Implementation Period only technically efficient vehicles, machines and equipment shall be used, with noise emission (acoustic power) compliant with the binding regulations and which does not result in exceeding the environmental quality standards in the scope of permissible noise levels. In case any inefficient vehicles, machines and equipment are found which can generate a higher noise level in their neighbourhood, they should be immediately replaced with the efficient ones.	Contractor (e.g. Site Manager, EMP Coordinator)				
82.	-	Protection of acoustic climate	Contract Area	Reducing noise of pump sets In the case of carrying out works in the acoustically protected areas or in their vicinity, in order to reduce their inconvenience to residents, only such pump sets shall be used which are equipped with soundproof housing which ensures the reduction of the noise levels to be compliant with the applicable regulations and standards (regarding permissible noise levels in the environment).	Contractor (e.g. Site Manager, EMP Coordinator)				
83.	-	Protection of acoustic climate	Contract Area	Control of noise level in acoustically protected areas In the case of works carried out in acoustically protected areas or in their vicinity, the noise level shall be constantly monitored and, depending on the needs, appropriate technical and organizational measures ensuring noise reduction to be compliant with applicable regulations and standards (regarding permissible noise levels in the environment) should be applied.	Contractor (e.g. Site Manager, EMP Coordinator)				

Item	ED item	Issue	Site	Mitigation Measure	Unit			
M. R	M. REQUIREMENTS ON WASTE MANAGEMENT							
84.	_	Protection of soil and water	Contract Area	Development of a Waste Management Plan (Waste MP) Prior to the commencement of works the Contractor – as a waste producer – shall develop and submit for the Engineer's approval a Waste Management Plan, specifying the way of handling waste expected to be generated during the works and taking into account, among others, conditions for waste management included in the EMP.	Contractor (e.g. Site Manager, EMP Coordinator)			
85.	11.54	Protection of soil and water, protection of air	Contract Area	General guidelines for waste management Waste produced during implementation of the Contract shall be segregated and stored selectively in sealed containers or in separate and properly organized roof – covered places, on a paved surface, in conditions protecting against dusting and blowing light fractions out, and their adverse impact on the environment. Waste shall be successively taken over by units having proper permits for their treatment.	Contractor (e.g. Site Manager, EMP Coordinator)			
86.	-	Protection of soil and water	Contract Area	Guidelines for handling hazardous waste Hazardous waste should be segregated and stored separately in special sealed containers placed in the sealed, paved area that is marked and secured against access by third parties, until it is handed over to entities authorized to handle it.	Contractor (e.g. Site Manager, EMP Coordinator)			
87.	-	Protection of soil and water	Contract Area	Guidelines for handling domestic waste Domestic waste shall be collected at site facilities (paved) in tight holding tanks, contents of which shall be transferred to authorized entities having relevant certificates for their treatment.	Contractor (e.g. Site Manager, EMP Coordinator)			
88.	-	Protection of soil and water	Contract Area	Preventing illegal dumping of litter and waste Prior to the commencement of works the Contractor shall investigate the Contract Area for possible occurrence of illegal landfills of litter and waste. In case of identifying an illegal landfill, the Contractor shall clear such sites through removing the waste and transporting it away to the treatment site. In the Contract Implementation Period the Contractor shall secure the Contract Area against possible formation of such landfills.	Contractor (e.g. Site Manager, EMP Coordinator)			

Item	ED item	Issue	Site	Mitigation Measure	Unit				
N. R	N. REQUIREMENTS ON PROTECTION OF HEALTH AND SAFETY OF PEOPLE								
89.	-	Protection of health and safety of people	Contract Area	Development of documents related to safety in the Contract area In the Contract Area it is necessary to maintain order and ensure proper organization of works. Prior to the commencement of works, the Contractor will develop and then obtain the Engineer's approval for the following documents related to safety on the construction site (description in Chapter 6.14 of the EMP): a) Construction site organization plan; b) Waste management plan (Waste MP – see also item 84); c) Quality assurance plans (general and detailed ones for particular types of works); d) Flood protection plan for the site for the performance time	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)				
				(see also item 96); Health and safety plan (BIOZ Plan).					
90.	_	Protection of health and safety of people	Contract Area	Sapper inspection and supervision in the Contract area In order to minimize the risk related to the possible occurrence of dangerous objects of military origin in the Contract Area, the Contractor shall ensure: a) during the works – sapper supervision of works (carried out by the team of sappers discussed under item 106), consisting in the ongoing checking and clearing of the Contract Area of dangerous objects of military origin along with their treatment; b) in the case of finding dangerous objects of military origin in the Contract Area - implementation of procedures described in item 99.	Contractor (e.g. Site Manager, EMP Coordinator, Sapper Supervision Team)				
91.	-	Protection of health and safety of people, protection of material goods	Contract Area	Documentation and monitoring of the technical condition of buildings exposed to tremor and vibrations Before starting works during which tremors and vibrations threatening the local residents as well as nearby buildings and infrastructure facilities may occur, the Contractor will carry out an inventory of existing buildings and facilities located in the zone of potential impact of vibration and vibration, with particular reference to cracks and damages. During the performance of the aforementioned works, the Contractor will monitor the condition of these buildings and facilities on a regular basis.	Contractor (e.g. Site Manager, EMP Coordinator)				

Item	ED item	Issue	Site	Mitigation Measure	Unit
92.	_	Protection of health and safety of people	Contract Area	Implementation of guidelines on work safety requirements The Contractor will ensure the implementation of detailed guidelines on work safety requirements, including in terms of: a) development of the construction site, including hazardous areas; b) storage and transport; c) electrical installations and devices; d) machines and technical equipment; e) work at heights; f) earthworks; g) selected renovation and demolition works; contained in applicable legal regulations and/or required by the Engineer.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
93.	-	Protection of health and safety of people	Contract Area	Safe performing of works on flood embankments Operations of machines, devices, and other equipment on the flood embankments shall be done in a way not posing hazard to the safety of people and assets, avoiding toppling, slipping or rolling them down the embankment's slope.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
94.	-	Protection of health and safety of people	Contract Area	Conditions for the safe storage of construction materials Materials applied for construction works shall be stored in a way protecting them against destruction and in a way not posing hazard to the safety of people and assets, avoiding toppling, slipping down or falling of goods, devices, machines, and other equipment.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
95.	-	Protection of health and safety of people	Contract Area	Ensuring hygienic conditions In the Contract Area, it is necessary to ensure the necessary number of portable toilets and ensure their use by employees, as well as ensure the training of all employees in maintaining appropriate hygiene conditions within the construction site and its immediate neighborhood.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)

Item	ED item	Issue	Site	Mitigation Measure	Unit
O. R	REQUIREME	NTS ON EXCEPTION	ONAL HAZARDS T	O THE ENVIRONMENT	
96.	-	Protection of health and safety of people	Contract Area	Development and implementation of the Flood protection plan for the site In connection with the flood risk, the Contractor will prepare and submit to the Engineer's approval a document entitled: "Flood Protection Plan for the Construction Site", taking into account local hydrological and meteorological conditions in the vicinity of the construction site, and determining a dependence between the time of commencing the evacuation and/or protection of construction equipment and the occurrence of a particular hydro-meteorological situation. This document should include, inter alia, the conditions described in item 97. In the event of a flood, the Contractor will follow the procedures described in the above-mentioned document.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
97.	II.7	Protection of health and safety of people	Contract Area	Guidelines in relation to the risk of flooding Construction works should be carried out outside the periods of warning and alarm levels in the Vistula River in the vicinity of the construction site. During the flood wave transition, vehicles, machinery, building materials and other mobile objects and elements used during construction should be located in areas beyond the reach of flood waters.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
98.	-	Protection of health and safety of people	Contract Area	Guidelines on notifying of emergency In the event of emergency (other than a flood), accident, major failure, etc., the Contractor is obliged to take the following actions: a) Immediately notify relevant services (Fire Brigade, Ambulance Service, Police, etc.); b) until the arrival of the relevant services, take the necessary actions to reduce the risk of loss of personnel, property and environment (as agreed with the relevant services, if possible); c) notify the Engineer and the Employer; d) after the arrival of the relevant services, act strictly according to their guidelines and instructions.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
99.	-	Protection of health and safety of people	Contract Area	Guidelines for handling unexploded ordnance or live bombs In the case of finding unexploded ordnance or live bomb, the Contractor shall: a) immediately stop works on the particular site; b) assure evacuation of the employees from the explosion risk area; c) immediately notify the sapper supervision team (discussed under item 106) and the Police, and then follow the guidelines obtained from them; d) notify the Engineer and the Employer. Under no circumstances unexploded ordnance or live bombs may be picked up, dug out, buried, relocated, thrown to fire or water, etc.	Contractor (e.g. Site Manager, EMP Coordinator, Sapper Supervision Team, H&S Supervisor)

Item	ED item	Issue	Site	Mitigation Measure	Unit				
P. F	P. REQUIREMENTS ON THE PROTECTION OF CULTURAL HERITAGE								
100.		Protection of heritage	Contract Area	Providing archaeological supervision for the earthworks The earthworks in the Contract Area shall be performed under archaeological supervision assuring protection of cultural heritage. To this end, the Contractor shall: a) ensure the participation of a team of archaeologists (discussed under item 105) who conduct ongoing supervision of earthworks; b) prepare a relevant action plan for the archaeological supervision team in the Contract Implementation Period, and present it for the Engineer's acceptance; c) if necessary, obtain the permission required by law to conduct archaeological research from the competent heritage conservator.	Contractor (e.g. Site Manager, EMP Coordinator, Archaeological Supervision Team)				
101.		Protection of heritage	Contract Area	Guidelines on the conduct in the case of uncovering mobile monuments or archaeological sites If during the works an object is uncovered which may be or certainly is a historic monument or has a historical value, the Contractor is obliged to: a) immediately stop any work that may damage or destroy uncovered objects in a given place; b) secure (by means of available sources) uncovered objects and the place where they were found against being destroyed, damaged or stolen; c) immediately notify the team of archaeologists (discussed under item 105) and the Engineer; d) take further security measures, agreed with the team of archaeologists and the Engineer; e) facilitate and ensure carrying out documentary activities, archaeological research and other necessary activities indicated by an expert team of archaeologists and/or administrative authorities responsible for preserving the historic substance; f) after completing the activities and research listed in items d) and e) uncovered mobile monuments should be relocated to appropriate institutions indicated by a team of archaeological experts and/or administrative authorities responsible for protecting the historic substance (in accordance with the applicable regulations and the content of the Permit referred to in item 100, letter c); g) in the case of immobile monuments, after completing the activities and research listed in items d) and e) the guidelines should be implemented regarding further treatment of the uncovered historic substance, established by a team of archaeological experts and/or administrative authorities responsible for protecting the historic substance (in accordance with applicable regulations and the content of the Permit referred to in item 100, letter c).	Contractor (e.g. Site Manager, EMP Coordinator, Archaeological Supervision Team)				

Item	ED item	Issue	Site	Mitigation Measure	Unit
Q. R	REQUIREME	NTS ON THE CON	ITRACTOR'S PERS	CONNEL IMPLEMENTING THE EMP	
102.	or EN im	Implementati on of the EMP and implementati on reporting	of the P and Jementati eporting	In the Contactor's team, a person shall be appointed to coordinate and supervise actions related to the implementation of the EMP. The responsibilities of the person shall include: a) supervising the implementation of individual EMP terms in the subsequent stages of the Contract implementation;	Contractor (e.g. Site Manager, EMP Coordinator)
				 b) ongoing monitoring of the status of implementation of individual terms of Appendix 1 and Appendix 2 to the EMP in the Contract Area; c) ongoing informing of the Contractor's management team on the obligations arising from the EMP at the particular stage of works, as well as on the issues arising during the implementation of the EMP; d) co-operation with the rest of the Contractor's team (including a team of environmental experts, a team of archaeologists, a team of sapper supervision, and a H&S supervisor) in the scope of ensuring the implementation of the EMP; e) preparation of commentaries and reports for the Engineer (e.g. kick-off, monthly, quarterly, ad-hoc, final report); f) development of memos and reports for RDOŚ Rzeszów and/or for GDOŚ (to the extent resulting from the relevant administrative decisions obtained at the Contract implementation stage [e.g. permits on departure from bans related to the protected species, as discussed under item 38], if the Contractor would obtain such decisions); g) co-operation with people responsible for the implementation of the EMP from the Engineer's team and the Employer's team. The person appointed to perform the abovementioned role shall 	
103.	11.47	Implementati on of the EMP and implementati on reporting, protection of water, protection of biotic nature	Contract Area	require the Engineer's approval.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
104.	II.50	Implementati on of the EMP and implementati on reporting, protection of water, protection of biotic nature	Contract Area	Responsibilities of the team of environmental experts The team of environmental experts will be involved in the implementation of mitigating measures related to the protection of natural environment resources, as defined in this EMP. Environmental supervision during the investment implementation period should in particular: a) checking the current status of habitats and populations of selected species in the investment zone and in the buffer after approx. 50 m on both sides of the delimited belt of flood protection embankments, b) monitor and determine the impact of the investment on the population status of protected species and their habitats - at a distance of about 500 m on both sides of the belt of flood protection embankments, c) verify the methodology of construction works and their impact on protected species and natural habitats, d) a chiropterologist will be present during felling of trees and shrubs, e) react immediately if an observed or highly probable negative impact of the works on the species and habitats to be protected is identified, f) determine the necessity and means of carrying out activities to minimise environmental damage, g) monitor and determine the effectiveness of the minimization measures taken, h) carry out herpetological monitoring on the whole area of the implemented investment including, among others: — to determine the location of temporary hurdles, to issue instructions for their correct installation and to examine the tightness of herpetological hurdles, — to keep a log of amphibians' observations, — habitat analysis of sites to which amphibians are transferred: the analysis is to include a description of dominant and characteristic plant species, composition of the herpetofauna, anthropopressure risks, characteristics of chemical factors determining good reproductive conditions for the transferred amphibians. Being involved in the work on other OVFM Project contracts or on any other Contracts cannot limit the availability of the experts for this Contract. Befo	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team)

Item	ED item	Issue	Site	Mitigation Measure	Unit
105.	-	Implementati on of the EMP and implementati on reporting, protection of heritage	Contract Area	Providing a team of archaeological experts Throughout the whole Contract Implementation Period the Contractor shall provide a team of archaeological experts. These experts will be involved in the implementation of selected mitigation measures related to protection of cultural heritage, as specified in the EMP (see items: 100, 101). Monthly reports on actions of the archaeological supervision team shall be developed and attached to the Contractor's reports (as discussed under item 109). Depending on the needs, a team of archaeological experts can consist of one or more people with the appropriate professional licenses. The personnel composition of the team of archaeologists requires the approval of the Engineer. Being involved in the work on other OVFM Project contracts or on any other Contracts cannot limit the availability of the experts for this Contract. Before the commencement of works, the Contractor will submit to the Engineer's approval a Quality Assurance Plan regarding the activities of the team of archaeological experts.	Contractor (e.g. Site Manager, EMP Coordinator, Archaeological Supervision Team)
106.	-	Implementati on of the EMP and implementati on reporting, protection of health and safety of people	Contract Area	Providing a sapper supervision team Throughout the whole Contract Implementation Period the Contractor shall provide a sapper supervision team. This team will be involved in the implementation of selected mitigation measures to protect health and safety of people, as specified in the EMP (see items: 90, 99). Depending on the needs, a team of sappers can consist of one or more people with the appropriate professional licenses. The personnel composition of the team of sappers requires the approval of the Engineer. Being involved in the work on other OVFM Project contracts or on any other Contracts cannot limit the availability of the experts for this Contract. Prior to the commencement of works, the Contractor will submit to the Engineer for approval a Quality Assurance Plan for the sapper supervision team.	Contractor (e.g. Site Manager, EMP Coordinator, Sapper Supervision Team)
107.	-	Implementati on of the EMP and implementati on reporting	Contract Area	Training of the Contractor's staff in the scope of the EMP implementation The Contractor is obliged to train its managerial and engineering and technical staff on the rules and methods of implementation of these EMP terms which, in accordance with Appendix 1 and Appendix 2 to the EMP, are assigned to the Contractor. These trainings should be completed with a test. In the monthly reports submitted to the Engineer, the Contractor shall provide information on the state of training of the Contractor's staff in the scope of the EMP terms in the current reporting period.	Contractor (e.g. Site Manager, EMP Coordinator)

Item	ED item	Issue	Site	Mitigation Measure	Unit			
R. R	REQUIREMENTS ON IMPLEMENTATION REPORTS FOR THE EMP							
108.	_	Implementati on of the EMP and implementati on reporting	Contract Area	Discussing the implementation of EMP during working meetings and Site Meetings During the Contract Implementation Period monthly meetings of the representatives of the PIO, the Engineer and the Contractor will be held to discuss and control the implementation of mitigation measures and monitoring measures specified in the EMP. Meeting memos / protocols shall be developed for the purpose of those meetings, and they shall be attached to monthly reports discussed under item 109. Notwithstanding the above, updated requirements and problems related to the implementation of the EMP will be discussed at all Site Meetings and included in Site Meeting memos / protocols.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team, Archaeological Supervision Team, Sapper Supervision Team, H&S Supervisor)			
109.	II.48	Implementati on of the EMP and implementati on reporting	Contract Area	Reporting the implementation status of the EMP During the Contract Implementation Period, the Contractor will submit monthly reports to the Engineer on the implementation of the conditions specified in the EMP (in the form of a checklist together with the necessary attachments, including reports on the implementation of environmental supervision and archaeological supervision) and shall include a description of the EMP implementation status in monthly Progress Reports. A template of the above-mentioned report (checklist) will be developed by the Contractor and submitted to the Engineer for approval. Depending on the circumstances, the Engineer may request the Contractor to submit additional reports regarding, among others, emerging critical situations, accidents, implementation of selected EMP items, and others. Within six months after the completion of the works, a report on the conducted nature supervision together with photographic documentation should be submitted to the Regional Director for Environmental Protection in Rzeszów.	Contractor (e.g. Site Manager, EMP Coordinator, Environmental Supervision Team, Archaeological Supervision Team, Sapper Supervision Team, H&S Supervisor)			

Item	ED item	Issue	Site	Mitigation Measure	Unit
S. R	REMAINING	ES REQUIREMEN	NTS		
110.	-	Protection of health and safety of people, remaining ES issues	Contract Area	Obligation to observe ES requirements and conditions The Contractor shall be obliged to apply and observe all ES policies' requirements and conditions (i.e. the ones related to environmental, social and health and safety issues) as determined in the Contract documents, in the Operational Policies and Procedures of the World Bank concerning protection of health and environment, as well as safeguard policies (see: description in Chapter 6 of the EMP), in the WBG's Environmental, Health and Safety (EHS) Guidelines (see: description in Chapter 6 of the EMP), in the ES Code of Conduct developed on the stage of filing a bid (see: description in Chapter 6 of the EMP), in documents of the Contractor listed in item 69 (above), and as results from the legislation valid in Poland (including the Labor Code, the Construction Law, and others). The ES requirements and conditions determined in reference to the Contractor and its personnel in the aforementioned sources (regardless of the legal cooperation form) are also valid in the scope relevant for a given case for Contractor's subcontractors and their personnel and their subcontractors.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
111.	-	Remaining ES issues	Contract Area	Assurance of safety in case of accidents at work The Contractor shall be obliged to assure such conditions for implementation of the Contract (including performance conditions) to avoid accidents engaging any people associated with implementation of the Contract (including the staff of e.g.: the Contractor, the Engineer, the Investor, the PCU, subcontractors, suppliers, and others) and third parties. In case an accident happens, the Contractor shall immediately assure proper treatment for injured people, notify relevant services and provide them with access to the site, and secure the place in a way assuring safety to the aforementioned services and other people, who may be present in the area of the event. Regardless of the aforementioned actions the Contractor shall immediately inform the Engineer about all accidents and near misses related to implementation of the Contract (both: on site, as well as in any other location), in accordance with binding procedures determined in the Contract documents (see also: item 118).	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
112.	-	Remaining ES issues	Contract Area	Provision of H&S Expert in the Contractor's team The Contractor shall be obliged to assure a permanent H&S supervision throughout the Contract Implementation Period, and the supervisor shall take care for observing the H&S rules determined in the Contract documents and in the binding provisions of national law. Members and qualifications of the H&S supervising team need to be in compliance with Polish provisions of the labor law.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)

Item	ED item	Issue	Site	Mitigation Measure	Unit
113.	-	Remaining ES issues	Contract Area	Educational actions related to H&S rules and regulations The H&S Supervisor shall implement trainings and an awareness programme for the Contractor's staff in reference to the H&S rules and regulations on site. Those actions shall be implemented throughout the performance period, at least once per 6 months. They shall take a form of informational, educational and awareness campaigns related to H&S issues in the scope corresponding with the current stage of Contract implementation.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
114.	-	Remaining ES issues	Contract Area	Assurance of safety for people in case of sexual harassment and mobbing The Contractor shall be obliged to assure such conditions of Contract implementation to avoid cases of sexual harassment or mobbing towards the Contractor's personnel and subcontractors, any other people associated with implementation of the Contract, and any third parties. If aforementioned cases of sexual harassment or mobbing occur, the Contractor shall undertake measures to immediately stop the aforementioned behavior, and subsequently it shall immediately take disciplinary measures determined by the law and internal regulations of the company in relation to perpetrators, and shall provide the victims of such behavior with any necessary help and support in the scope corresponding with the case. Regardless of the aforementioned actions the Contractor shall immediately inform the Engineer about any cases of sexual harassment or mobbing, in accordance with binding procedures determined in the Contract documents (see also: item 118).	Contractor (e.g. Site Manager, EMP Coordinator, Sexual Harassment and Mobbing Prevention Specialist)
115.	-	Remaining ES issues	Contract Area	Educational actions to prevent cases of sexual harassment and/or mobbing The Contractor shall implement trainings and an awareness programme for the Contractor's staff in reference to the prevention of cases of sexual harassment and mobbing. Those actions shall be implemented throughout the performance period, at least once per 12 months. They shall take a form of informational, educational and awareness campaigns related to sexual harassment and mobbing. The measures shall be implemented by an expert having proper substantial qualifications in that scope, who would remain a member of the Contractor's team.	Contractor (e.g. Site Manager, EMP Coordinator, Sexual Harassment and Mobbing Prevention Specialist)

Item	ED item	Issue	Site	Mitigation Measure	Unit
116.		Remaining ES issues	Contract Area	Assurance of proper conditions of work and payment for the personnel The Contractor shall be obliged to secure proper conditions of works and payment for the personnel associated with implementation of the Contract, fully in accordance with provisions of the labor law binding in Poland (and especially with the Labor Code), including the following, e.g.: • the Contractor shall assure equal treatment in case of payment for the employees performing the same work, without consideration of sex, sexual orientation, and age; • people employed at the Contract shall not be harassed due to sex, sexual orientation and age; • the Contractor may employ only such a young employee, who is 15 years old, completed at least 8-years of primary school, and provided a medical statement confirming that a work of a given type is not risky to his/her health; • the Contractor shall ensure that juvenile employees (persons under the age of 18) will not perform work that is forbidden for juvenile employees², including in particular works that create an accident hazard, including construction and demolition work; • the Contractor – adequately to the potential and conditions, and in accordance with Polish provisions of the Labor Code – shall secure the living and social needs of the employees on the work site; the Contractor shall be obliged to facilitate the employees in improving their professional qualifications.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
117.	-	Remaining ES issues	Contract Area	Educational actions related to the provision of claims referring to the conditions of work and payment The Contractor shall inform all people employed due to implementation of the Contract about a possibility of providing claims related to the conditions of work and payment, and shall develop an information leaflet with necessary data on provision of claims and applications, in which it would assure about e.g. the absence of repercussion for a person notifying about an issue. Proceeding rules described in the aforementioned leaflet cannot be against the guidelines given in the document titled "Grievance Redress Mechanisms", as published on the website of the World Bank ³ . Contents of the aforementioned leaflet shall be agreed with the Engineer.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)

In accordance with provisions set out in the Regulation on works prohibited for juveniles

Na stronie www: http://documents.worldbank.org/curated/en/145491521090890782/Grievance-redress-mechanisms

Item	ED item	Issue	Site	Mitigation Measure	Unit
118.	-	Protection of health and safety of people, remaining ES issues	Contract Area	Development and implementation of procedures related to the ongoing provision of information on ES issues In the period not longer than 30 days from the commencement date of the Contract, the Engineer shall develop and provide the Contractor with a set of procedures related to the ongoing provision of information related to the following: • exceptional hazards (i.e. emergency and crisis situations discussed in section 5.12 of the EMP); • accidents and near misses; • cases of sexual harassment and mobbing; • claims of the personnel related to the conditions of work and payment. The Contractor shall immediately inform the Engineer about any issues in that scope, in accordance with the conditions determined under the valid contractual procedures.	Engineer (e.g. Resident Engineer, H&S Supervisor) Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
119.	-	Protection of health and safety of people, remaining ES issues	Contract Area	Guidelines on prevention of infectious diseases (including HIV/AIDS type diseases and diseases caused by corona viruses) The Contractor shall, via an approved service provider, implement an awareness-raising programme (including an appropriate training) on the prevention of sexually transmitted diseases (among others HIV/AIDS) and other infectious diseases (including those caused by coronaviruses) and shall take all other measures to reduce the risk of transmission of infectious diseases among the Contractor's personnel and the local community. These activities should be performed in accordance with the detailed guidelines set out in the Bidding Documents.	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)
120.	-	Protection of health and safety of people, remaining ES issues	Contract Area	Rules of conduct in the event of an epidemic state or an epidemic risk state In the event that an epidemic state or an epidemic risk state is in force during the Contract Implementation Period, the Contractor is obliged to: a) to provide the persons on the construction site with all necessary precautions to maintain the health and safety of persons related to the Contract implementation, to the extent described in the Terms and Conditions of the Contract, in particular to introduce appropriate measures to avoid or minimize the spread of infectious diseases, including measures aimed at avoiding or minimizing the transmission of infectious diseases that may be associated with the inflow of temporary or permanent labor, related to the Contract implementation, in the manner specified in the applicable Law (e.g. in regulations issued pursuant to the Act of 5 December 2008 on preventing and combating infections and infectious diseases in humans, and others); b) designate a person responsible under the Contract for matters relating to the health and safety at work during an epidemic state or an epidemic risk state; c) implement relevant recommendations of the World Bank and sanitary services in the Republic of Poland; d) cooperate with the Engineer and the Investor, in particular	Contractor (e.g. Site Manager, EMP Coordinator, H&S Supervisor)

Item	ED item	Issue	Site	Mitigation Measure	Unit
				provide current information on the precautions taken or planned, (including the appropriate protection of the construction site against unauthorized access, the procedures introduced and the appropriate updating of the documents described in item 6.14, in particular the Health and Safety Plan);	
				e) organize information action (e.g. in the form of posters and instructions on the construction site) on the symptoms and signs of infection, virus spread, protection measures (including among others regular hand washing);	
				f) organize training for the Contractor's personnel who is related to the Contract implementation, at least in the scope of:	
				 updated procedures and documents, 	
				 symptoms and signs of COVID-19 (or any other infectious disease connected with an established epidemic state or epidemic risk state), including self-monitoring of symptoms, spread of the virus, available protection measures, 	
				 procedures in case of noticing symptoms of the disease in oneself and others, 	
				 regulations in force concerning the quarantine of workers and their families, remuneration for the period of illness, isolation or quarantine, the provision of health care, including sanitary transport carried out in connection with the prevention of infection, 	
				 applicable procedures for signaling infringements or reporting complaints by employees, 	
				 waste handling (e.g. masks, gloves, disinfectants and cleaning products). 	
				In the course of an epidemic state or an epidemic risk state, within the scope of the law, training should be provided by electronic means of communication or in the form of self-education.	