

# ENVIRONMENTAL MANAGEMENT PLAN

## FINAL VERSION

**ODRA-VISTULA FLOOD MANAGEMENT PROJECT – Loan Agreement no. 8524 PL**

Environmental category B – in accordance with WB OP 4.01

### **Component 3:**

Flood Protection of the Upper Vistula

### **Subcomponent 3D:**

Passive and Active Protection in San basin

### **The Works Contract 3D.2/1:**

*Construction of the right embankment of the Biala River in the City of Tarnów*

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## ODRA-VISTULA FLOOD MANAGEMENT PROJECT

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### **ENVIRONMENTAL MANAGEMENT PLAN**

**Subcomponent 3D: Passive and active protection in San basin**

**3D.2/1 Construction of the right embankment of the Biala River in the City of Tarnów.**

Environmental category B – according to OP 4.01 WB

#### **Project Implementation Unit:**

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**LIST OF DEFINITIONS AND ABBREVIATIONS APPLIED IN THIS EMP**

Name	Description
BIOZ Plan	Health and Safety Plan developed based upon Article 21a item 4 of the Act of July 7, 1994 – Building Law Act
BGW	Body of Groundwater
BSW	Body of Surface Water
BOD5	Biochemical oxygen demand during 5 days
CE	Contract Engineer
CEB	Council of Europe Development Bank <a href="https://coebank.org/en/">https://coebank.org/en/</a>
Consultant / Engineer / Consultant Engineer	Company or legal person providing services for the Investor Technical Assistance Consultant for the OVFMP
Contractor	Company or a legal person implementing the Contract
Designer	Company or a legal person drawing up the design documentation
EIA	Environment Impact Assessment
EMP	Environmental Management Plan
Environmental Decision (ED)	Decision on environmental conditions
ESHS	Environmental, Social, Health & Safety System
ESMF	Environmental and Social Management Framework <a href="http://www.odrapcu.pl/en_popdow_dokumenty_RPZSiSS.html">http://www.odrapcu.pl/en_popdow_dokumenty_RPZSiSS.html</a>
FGA	Family Garden Allotment
FRMP	Flood Risk Management Plans
GDOŚ	General Directorate for Environmental Protection
H&S	Health and Safety
IMGW - PIB	Institute of Meteorology and Water Management – National Research Institute
MGR	Major Groundwater Reservoirs
LA&RAP	Land Acquisition and Resettlement Action Plan
LSDP	Local Spatial Development Plan
MZMiUW	Małopolski Board of Amelioration and Hydraulic Structures in Cracow
PAD	Project Appraisal Document for the World Bank approval of a Loan to the Polish Government to implement OVFMP <a href="http://documents.worldbank.org/curated/en/320251467986305800/Poland-Odra-Vistula-Flood-Management-Project">http://documents.worldbank.org/curated/en/320251467986305800/Poland-Odra-Vistula-Flood-Management-Project</a>

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Name	Description
PCU / OVFM PCU	Odra-Vistula Flood Management Project Coordination Unit <a href="http://www.odrapcu.pl/">http://www.odrapcu.pl/</a>
PDWD	Publicly Accessible Data Register
PGW WP	State Water Holding Polish Waters
PIO	Project Implementation Office - created within PIU separate organizational unit responsible for the implementation of Works Contract <a href="http://www.odrapcu.pl/">http://www.odrapcu.pl/</a>
PIU	Project Implementation Unit
PIU/Investor/ Employer (to December 31, 2017)	Małopolski Board of Amelioration and Hydraulic Structures in Cracow
PIU/Investor/ Employer (from January 1, 2018)	State Water Holding Polish Waters Regional Water Management Authority in Cracow
POM	Project Operations Manual prepared by the Odra Vistula Flood Management Project Coordination Unit, Wroclaw 2015 <a href="http://www.odrapcu.pl/doc/POM_PL.pdf">http://www.odrapcu.pl/doc/POM_PL.pdf</a> the binding version is the English one: <a href="http://www.odrapcu.pl/doc/POM_ENG.pdf">http://www.odrapcu.pl/doc/POM_ENG.pdf</a>
Project / OVFMP	Odra-Vistula Flood Management Project
RDOŚ	Regional Directorate for Environmental Protection
Roads authority	Agency responsible for management of public roads in accordance with the Act on public roads
RZGW	Regional Water Management Authority
WIOŚ	Provincial Inspectorate for Environmental Protection
Waste MP	Waste Management Plan
Works Contract/Co ntract	Works Contract <b>3D.2/1 Construction of the right embankment of the Biala River in the City of Tarnów</b>
World Bank (WB)	International Bank for Reconstruction and Development <a href="http://www.worldbank.org/">http://www.worldbank.org/</a>

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**LIST OF ABBREVIATIONS FOR TITLES OF LEGAL ACTS APPLIED IN THIS EMP**

Titles of legal acts quoted within contents of this EMP are given in their abbreviated form. Full titles of legal acts are given in the table below.

<b>Title in the text</b>	<b>Full title (with publication reference)</b>
<i>APC</i>	Act of June 14, 1960 - Administrative Procedure Code (consolidated text: Journal of Laws of 2018, item 2096, as amended).
<i>BIOZ Regulation</i>	Regulation of the Minister of Infrastructure of June 23, 2003 on Information Concerning Safety and Health Protection and Safety and Health Protection Plan (Journal of Laws of 2003, No.120, item 1126)
<i>Building Law Act</i>	Construction Law (consolidated text: Journal of Laws of 2018, item 1202, as amended)
<i>EIA Act</i>	Act of October 3, 2008 on providing information on the environment and its protection, public participation in the environmental protection, and on environmental impact assessments (consolidated text, Journal of Laws of 2018, item 2081, as amended)
<i>EIA Regulation</i>	Regulation of the Council of Ministers of November 9, 2010 on Works Contracts likely to have significant impact on the environment (consolidated text, Journal of Laws of 2016, item 71)
<i>NC Act</i>	Act of April 16, 2004 on nature conservation (consolidated text, Journal of Laws of 2018, item 1614, as amended)
<i>Water MP</i>	Regulation of the Council of Ministers of October 18, 2016 on Water Management Plan for waters within the Vistula River Basin (Journal of Laws 2016, item 1911)

## **SUMMARY**

This document presents the Environmental Management Plan (EMP) for the Contract 3D.2/1 *Construction of the right embankment of the Biala River in the City of Tarnów*, which remains a part of Subcomponent 3D implemented within Odra-Vistula Flood Management Project, co-financed by the International Bank for Reconstruction and Development (also referred to as the World Bank), and by the Council of Europe Development Bank, and also by grants awarded by the European Union Cohesion Fund and by the State Budget.

This EMP includes the following elements:

- Brief description of the OVFM Project (Section 1.1).
- Description of the Contract, to which this EMP refers to (Section 2).
- Institutional, legal and administrative conditions for implementation of the Contract with specified binding state legal acts on environmental protection, main stages of the EIA procedure, and also the current course of EIA procedure for the Works Contract (Section 3).
- Description of individual elements of the environment in the area of the Contract (Section 4).
- Summary of the environmental impact assessments (Section 5).
- Description of mitigation measures to be implemented by the Contractor and by the PIU at the stage of implementing the Contract to eliminate or limit the adverse impact of the Works Contract on the environment (Section 6), including a tabulated summary of those measures ( Appendix 1 – Plan of mitigation measures).
- Description of monitoring measures at the stage of developing, implementing and operating the Contract (Section 7), including a tabulated summary of those measures (Appendix 2 – Plan of monitoring measures).
- Description of the course and results of public consultations on the stage of environmental impact assessment and on the stage of developing this EMP (Section 8).
- Description of the organizational structure for implementation of the EMP (Section 9).
- Implementation schedule and description of reporting procedures (Section 10)

Appendices to the EMP 3D.2/1 include check lists of the Plan of mitigation measures (Appendix 1) and of the Plan of monitoring measures (Appendix 2), the list of national legal acts related to environmental protection (Appendix 3), the environmental decision, resolutions, permits, notes (Appendix 4), drawings showing the location of the proposed Works Contract (Appendix 5), a map presenting location of areas protected in reference to elements of the Contract (Appendix 6), a map presenting areas under potential flood threat (Appendix 7), a map of areas excluded from the potential flood threat due to implementation of the Works Contract (Appendix 8), a map with location of fauna occurrence sites (Appendix 9), and a map with location of the Works Contract's elements (Appendix 10).

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A basis for the development of this EMP were the following materials: ESMF, PAD, POM, WB operational policies, investment data sheet, issued environmental decision, environmental impact report, and design documentation.

### ***Need for Contract Implementation***

Implementation of the Contract results from: necessary improvement of flood safety for the area located along the right bank of the River Biała in Tarnów, protection of developed areas, and limitation of flood damage within the area in question through construction of an embankment between the PKP railway embankment (Cracow – Medyka railway line) and the existing embankment (vicinity of Św. Katarzyny Street), which closes the flood protection system for the City of Tarnów.

The Works Contract in question was included on List no. 1 under item “ID 1\_635\_W” (ordinal no.: 1034) of Appendix no. 2 titled “*Investments which do not adversely affect the achievement of good status of water or which do not deteriorate the status of water*” to the MasterPlan for the Vistula River Basin (2014)<sup>1</sup>.

### ***Location of Contract***

The Contract is located within Małopolskie Province, district of the City of Tarnów, Municipality of Tarnów.

### ***Scope of Contract***

The Works Contract comprises construction of a new right flood embankment over a length of 695 m, along with development of accompanying facilities including e.g.: a flood road at the embankment strip footing, an embankment ramp, a technical lane, an entry road to the embankment crest from the road at the embankment, two entry roads onto the embankment from the embanked area, and embankment crossings.

It is also planned to seal the embankment through development of an anti-filtration membrane within the embankment crest. At the embankment crossing and the entry road onto the embankment from the flood road the crest shall be reinforced using concrete slabs. Sowing with grass is expected for the remaining area.

The Works Contract also comprises: redevelopment of the existing overhead power and lighting line, protection of the existing teletechnical cables, redevelopment of a section of medium-pressure gas piping, as well as redevelopment of a section of water-supply connection, and a section of storm drain. It is also planned to demolish internal underground water-supply system and underground power line for garden allotments.

Implementation of the Works Contract shall refer to: demolition of fencing for the garden allotments over a length of about 8913 m, development of fences for the allotments on the landside of the embankment over a length of about 500 m, and demolition of about 175 free-standing objects (so-called garden sheds) at the developed embankment and within the formed embanked area.

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<sup>1</sup> See: description in the footnote for Chapter 2.2.

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Elements of the Works Contract has been described in details in Section 2.2. and on a map reproduced under Appendix 10 to this EMP.

Logging of about 461 trees and removal of shrubs from the area of about 341.7 m<sup>2</sup> shall be done due to implementation of the planned Works Contract. It is also expected to provide replacement planting.

### ***Current conditions of environmental elements surrounding the Contract***

As a result of works done by the team of specialist to identify values of the natural and cultural environment during the development of EMP and during earlier works associated with the development of environmental documentation and the obtainment of administrative decisions, it has been identified that the area located within the Contract implementation boundaries is characterized by the following local and supra-local conditions:

- Presence of protected species of plants and of protected habitats, fungi, lichens, mosses was not identified in the area of direct Works Contract impact, i.e. within the embankment and in the directly adjacent area; presence of protected invertebrates has also not been identified;
- 6 protected species of birds (including 4 species under strict protection and 2 species under partial protection) were identified within the inspected area;
- The inventory of mammals done in vicinity of the Works Contract site did not prove the presence of species under strict or partial protection;
- The occurrence of amphibians or reptiles under protection has not been identified within the inspected area;
- In accordance with the Standard Data Form for Natura 2000 site Biała Tarnowska PLH 120090 protected species of invertebrates (thick shelled river mussel), amphibians (yellow-bellied toad, northern crested newt), and ichthyofauna (barbus, stone loach, European bullhead, brook lamprey) live in the river;
- The analyzed Works Contract is located beyond the area of protected sites.

### ***Summary of the major adverse impacts during implementation of the Contract***

#### ***Impact on earth surface, soils, and grounds***

Short-term impact on the landscape shall occur due to the works done in the Contract implementation phase. It results from the necessary removal or at least disturbance of the top layer of soil or from the development of excavations for embankment elements. Land shall also be additionally acquired for: construction of the embankment, a flood road at the embankment strip footing, and also a technical lane within the embanked area and in the area beyond the embankment. While keeping the environmental protection standards and H&S regulations, significant impact shall not occur, and the quality of soil should not be deteriorated due to implementation of the Works Contract.

#### ***Impact on air condition and climate***

Impact on the climate shall not be exerted on the Contract implementation stage.

However, gases and dusts (combustion gas) shall be emitted during implementation of the Works Contract due to operations of construction machines and means of transportation. The

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impact shall be short-term and – due to the scale of the works – it is neither expected to exceed acceptable concentration of substances in the air nor to deteriorate the environmental quality standards (in case of the air). Dusting may occur during offloading of soil in location of embankments to be developed only. The emission shall relate to the area of construction works and to the course of access and technological roads only. It shall be of local and temporary character.

### *Impact on surface water and groundwater*

Due to the lack interference in the river bed morphology or in the hydrological regime, as well as due to the lack of new wastewater source, the impact on the bodies of surface water shall not occur during implementation of the Works Contract; thus, it shall not form a risk of not achieving the environmental objectives determined for bodies of surface water.

Implementation of the Works Contract shall neither relate to the emission of pollutions to groundwater nor to the intake of groundwater. Therefore, there shall be no impact on the chemical status and on the quantitative status of bodies of groundwater; thus, it shall not form a risk of not achieving the environmental objectives defined for bodies of groundwater.

### *Impact on acoustic climate*

Short-term impact on the acoustic climate shall occur during implementation of the Works Contract due to emission of noise by operating construction machines. The greatest impact would occur at performance of the works in a direct vicinity of the acoustically protected areas. The impact shall cease at completion of the works under the Works Contract.

### *Impact on the environment*

The Contract site is an area heavily transformed by human, where no natural habitats occur at the moment, including habitats determined under Appendix I to the Habitats Directive. Therefore, on the Contract implementation stage there shall be no significant impact on environmental habitats.

Performance of the planned construction works is associated with the impact of Works Contract on vegetation and fauna within the implementation area. A method adopted for implementation minimizes the impact through its limitation to the impact on vegetation, which collides directly with the Works Contract.

The impact of the Works Contract on fauna, including species under protection, shall mainly result from the increased level of noise during implementation of the Contract, as it may cause temporary scaring of animals. The Works Contract shall directly affect soil fauna through the interference in the soil structure during construction of the embankment and during construction of service roads. Those however shall be reversible and short-term impacts. Minor impact shall be associated with logging of trees. Reinstatement of a natural soil cover in that area shall – with the lapse of time – lead to reproduction of previous plant groups and fauna groups due to natural succession. Additionally, the necessary logging shall be compensated with replacement planting, location of which would be determined at commencing the construction works.

### *Impact on the cultural environment, archaeological sites*

Due to a huge distance from the area of the planned Contract from the closest historic objects, the construction works stage shall not affect the monuments in any way.

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### *Impact on population and on material goods*

A basic aim for implementation of the Works Contract is the assurance of protection for health and life of people in case of river floods, and also improvement of emotional comfort for people living at neighboring sites. The Odra-Vistula Flood Management Project remains a project of national significance implemented at support of international financing institutions. It is one of numerous Works Contract on flood protection, developed and implemented due to catastrophic floods occurring in Poland within last twenty years. In case of those events, implementation of the Works Contract is economically justified, and it gains common social acceptance of the local authorities and of the inhabitants, owners, and users of land, where the construction works are or will be performed.

However, one shall consider a risk of social conflicts caused by nuisance for the people living in vicinity mainly, which would occur on the performance stage in reference to the adverse impact of the construction works and deliveries (noise, vibrations, air pollution). One shall emphasize that those impacts shall be temporary and limited, and they shall end at the completion of the construction phase.

In accordance with the EIA Report, development of a new embankment – which is important for protection of people living in the area beyond the embankment – shall not result in deterioration of flood safety for the area located on the opposite bank of the River Biała. A flood embankment having a height sufficient for the purpose of protection – even if the water-table raises as a result of developing the designed new embankment – is located there.

The environmental impact assessment done proved though the noticeable impact of the construction of the new embankment in a form of increased flood hazard in areas located on the left bank of the River Biała between the railway bridge in the artery of Krakowska Street and the bridge in the artery of state road no. 94 – it is especially related to the Koszyce Estate.

A decision of the Regional Director for Environmental Protection in Cracow dated November 30, 2016, ref. no.: ST-I.4210.1.2015.MB, establishing “environmental conditions for the Works Contract comprising construction of the right embankment of the Biala River in the City of Tarnów at local chainage km 0+000 – 0+695”, contains an indication that implementation of the Works Contract shall be synchronized in time with the construction of the left flood embankment at chainage about km 6+680 to 7+700 of the River Biała, in order to (through developing the discussed embankment) avoid increasing a flood hazard for the Koszyckie Estate in Tarnów. This provision is however not treated as a condition for the Contractor, which would affect the performance under Contract 3D.2/1 *Construction of the right embankment of the Biala River in the City of Tarnów*.

Nonetheless, considering the above, for the purpose of protection for the Koszyce Estate against floods one shall extend the existing left embankment of the River Biała. PGW WP expects to develop design documentation for the construction of a left flood embankment at chainage from about km 6+680 – 7+700 of the River Biała, and subsequently to construct the subject section of embankment.

More detailed information on the above is presented in Chapter 5.10 of this EMP.

### *Impact on health and safety of people*

The Works Contract does not generate significant hazards to health and safety of people. There may emerge only in case of failure or such other random event as fire, leakage of pollutions, finding of unexploded shells and misfires, hazard to third parties associated with the

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performance (e.g. excavations, traffic of machines and vehicles), flood hazard, hazards associated with transmission of infectious diseases, etc. The EMP determines relevant conditions for prevention of such events and for mitigation of potential effects.

The proposed Works Contract shall result in a temporary deterioration of the life quality and standard for the inhabitants, especially due to the traffic of trucks in the performance area. The impact shall be short-term and reversible.

### Other ESHS hazards

Regardless of the ones listed above, such ESHS related types of issues or hazards as accidents and near misses, cases of sexual harassment or mobbing, cases of labour law violation, cases of sexually transmitted diseases, including HIV/AIDS, and others, may occur during implementation of the Works Contract. This EMP determines relevant conditions to prevent hazards of those types and to efficiently react to the cases of their occurrence.

### Cumulative impact

The cumulative impact refers to implementation of the Contract *3D.2/1 Construction of the right embankment of the Biala River in the City of Tarnów* and to the Contract *3D.2/2 Expansion of the left and right embankment of the Biala River in the Tarnow Municipality and the City of Tarnow*, also implemented under the OVFM Project. The impact shall occur on the performance stage only. Impacts on the acoustic climate and on the air may be especially accumulated. Fulfilment of obligations imposed on the Investor in the ED shall allow for limiting nuisance of those impacts significantly.

## **Summary of major adverse impact on the Contract's operational stage**

### Impact on earth surface, soils, and grounds

Due to the fact that the Works Contract shall be implemented within the heavily transformed area and it shall remain a continuation for the existing embankments, it shall not deteriorate landscape values in the City of Tarnów. After completion of the construction works, on the operation stage, the Works Contract shall not affect the soil and grounds.

### Impact on air condition and climate

It is not expected to significantly modify macroclimate parameters on the Works Contract's implementation stage. Reduction of the flood risk shall allow for avoiding its consequences, e.g. such as modelling of topo-climate due to local changes to water relations. Therefore, during the use of the Contract there shall be no significant impact on the air. Combustion gas shall be emitted by lawnmowers used for plant mowing only, which would be a minor and local impact without any effects for the air condition and quality.

### Impact on surface water and on groundwater

There shall be no interference in the riverbed on the operational stage, and therefore there shall be no significant impact on bodies of surface water. During such extreme events as floods, the new embankment shall not cause water damming at bridges and shall not increase a flood wave at Dunajec. Therefore, the use of embankments shall not result in modification of the surface water's quality.

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Impact of the Works Contract on the groundwater level shall be temporary and shall occur during accommodation of a flood wave only. It shall be associated with the development of an anti-filtration membrane within the embankment body, but the change of groundwater level during the flood shall be temporary, and after accommodation of the flood water groundwater shall return to its level from before the peak flow.

### *Acoustic impact*

During the use of the new embankment there shall be no impact on the acoustic climate. There may be a temporary impact in a form of noise emitted by operating lawnmowers, which are necessary for mowing of greenery growing at the embankment; however, the total time of mowing amounts to few hours a year.

### *Nature*

During the use of the planned new embankment adverse impact on flora and fauna shall not occur. It is associated with the planned ordering of the construction site after completing the works and with the succession of environmental habitats within the formed embanked area. The necessary logging of trees and shrubs – colliding with the planned development of embankment directly – shall be limited to the necessary minimum, and it shall be compensated with replacement planting, location of which would be determined at commencing the construction works.

### *Impact on the cultural environment*

The use of the Works Contract shall not affect buildings and other structures entered into records of historic objects or/and to the heritage register.

### *Cumulative impact*

The use of embankments shall not cause accumulation of adverse impacts.

### ***Limiting adverse impact and strengthening of positive impact***

Main environmental impacts on the environment will take place over the time of the Contract implementation. During that time numerous measures shall be undertaken to mitigate or to eliminate adverse impact – measures described in Section 6 and tabulated in Appendix 1 to this EMP – Plan of mitigation measures. The mitigation measures aim at the following:

- protection of the aquatic environment and soil against pollution (the use of efficient mechanical equipment, proper storage and handling of substances harmful to the environment, including diesel products, such as fuels, lubricants, etc., provision of site facilities and staff facilities);
- protection against noise: works conducted only from 06.00 am to 10.00 pm, use of efficient construction equipment;
- removal of trees and shrubs (logging) only in the necessary range and conducting it beyond the bird hatching season;

## **ENVIRONMENTAL MANAGEMENT PLAN FOR CONTRACT 3D.2/1 CONSTRUCTION OF THE RIGHT EMBANKMENT OF THE BIALA RIVER IN THE CITY OF TARNÓW**

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- prior to the commencement of earthworks, within the indicated deadline, one shall inspect the occurrence of protected animal species, and the removed humus layer shall be placed beyond the work area – for application during reclamation works;
- in case of identifying seasonal migration of amphibians, apply solutions protecting against mortality (due to the works performed and the traffic of vehicles) of animals migrating to and from breeding grounds (e.g. fencing of habitats for amphibians on the construction site's side with a small fence and moving the animals to the area beyond the Works Contract);
- at the stage of Contract implementation monitor potential migration barriers and transfer the animals to the area beyond the Works Contract.

### ***Essential monitoring***

The Plan of Monitoring Measures related to verification of proper implementation of designed mitigation measures, as well as to monitoring of the impact on the environment on the Contract preparation stage and implementation stage, is described in Section 7 and summarized in Appendix 2 to the EMP – Plan of monitoring measures. The Plan of Monitoring Measures shall enable ongoing control over the proper implementation of all mitigation measures.

### ***Conclusions from the review of possible social conflict***

It is possible that there will be social conflicts arising due to e.g. inconvenience for residents of the surrounding areas mainly on the Works Contract implementation stage related to adverse impact of the construction works and transport (noise, vibration, air pollution) and to losing the land (garden allotments) by the local society. It is also possible that there will be a potential protest of ecological organizations against the logging. However, the overriding objective of the Works Contract, which is the reduction of the flood risk and the assurance of safety for life, health, and assets of people, should compensate for any inconvenience during the construction stage. The negative effects of flooding the flood plains in Tarnów during the past events will justify the economic aspect and cause widespread social acceptance of the local authorities, residents, property owners and users of land, where or in the vicinity of which the construction works are or will be performed. The argument for the favorable attitude towards the Contract is also a very small interference in the natural environment.

### ***Legal context of the Contract***

This Contract is qualified to so-called Group II, in accordance with the EIA Regulation. In the Decision dated February 23, 2015, ref. no.: ST-I.4210.1.2015.MB, the Regional Director for Environment Protection in Cracow imposed an obligation to provide the Environmental Impact Assessment for the Contract and determined the scope of the report. After submission of the Environmental Impact Report by the Investor - MZMiUW, RDOŚ in Cracow conducted a proceeding on the environmental impact assessment, with the public participation.

On November 30, 2016 RDOŚ in Cracow issued the decision on environmental conditions, in which it determined conditions for implementation of the Contract regarding environmental protection.

## **1 Introduction**

This paper presents the Environmental Management Plan (EMP) for the Contract 3D.2/1 *Construction of the right embankment of the Biala River in the City of Tarnów*, which remains a part of Subcomponent 3D implemented within Odra-Vistula Flood Management Project (OVFMP), co-financed by the International Bank for Reconstruction and Development (World Bank), the Council of Europe Development Bank, and also by grants awarded by the European Union Cohesion Fund, and by the State Budget.

### **1.1 Odra-Vistula Flood Management Project**

The most urgent flood protection tasks within selected reaches of the Odra and Vistula River Basins were expected for implementation under the OVFMP Project.

3 Works Contract Components were considered under the Project, and they cover actions associated with flood safety improvement within the: Middle and Lower Odra River (Component 1), Nysa Kłodzka Valley (Component 2), and Upper Vistula (Component 3).

Component 1 covers various actions implemented within an extensive section of Odra over a total length of about 440 km (so-called free-flow Odra).

Component 2 of the Project shall be implemented within the Kotlina Kłodzka, which covers mountainous and highland sections of the Nysa Kłodzka River Basin.

The objective of Component 3 – Flood Protection of the Upper Vistula – is implementation of measures to limit the hazard associated with flood risk within the selected areas under successive improvements to flood safety within the Upper Vistula River Basin.

Component 3 is divided into the following Subcomponents:

- Subcomponent 3A – Flood protection of Upper Vistula towns and Kraków,
- Subcomponent 3B – Protection of Sandomierz and Tarnobrzeg,
- Subcomponent 3C – Passive and Active Protection in Raba Sub-basin,
- Subcomponent 3D – Passive and Active Protection in San Basin.

Two other Components shall be implemented under the Project, but they do not contain construction works associated with Works Contract actions, i.e.: Component 4 Institutional Strengthening and Enhanced Forecasting, and Component 5 Project Management and Studies.

Description of the Project may also be found in the Environmental and Social Management Framework published at e.g. websites of the World Bank<sup>2</sup> and of the Odra-Vistula Flood Management Project Coordination Unit<sup>3</sup>. A detailed description of the Project is also given in PAD<sup>4</sup> and in the “Project Operations Manual”.<sup>5</sup>

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<sup>2</sup> <http://documents.worldbank.org/curated/en/717671468333613779/Poland-Odra-Vistula-Flood-Management-Project-environmental-and-social-management-framework>;

<sup>3</sup> [http://www.odrapcu.pl/en\\_popdow\\_oprojekcie.html](http://www.odrapcu.pl/en_popdow_oprojekcie.html);

<sup>4</sup> <http://documents.worldbank.org/curated/en/320251467986305800/Poland-Odra-Vistula-Flood-Management-Project>.

<sup>5</sup> [http://www.odrapcu.pl/doc/POM\\_PL.pdf](http://www.odrapcu.pl/doc/POM_PL.pdf); a binding English version is available at: <http://www.odrapcu.pl/doc/POM/ENG.pdf>

## **2 Contract Description**

Contract 3D.2/1 *Construction of the right embankment of the Biala River in the City of Tarnów* forms a part of Subcomponent 3D under the Odra-Vistula Flood Management Project.

The Project Implementation Unit (PIU) for the Contract is the State Water Holding Polish Waters, represented by the Water Management Authority in Cracow with its office at 22. Marszałka J. Piłsudskiego Street, 31-109 Cracow.

The reason for implementation of the Contract is closing of the flood zone for the River Biała in Tarnów, between the high bank forming a PKP railway embankment (railway line Cracow – Medyka) and the existing embankment (area of Św. Katarzyny Street). It is necessary for: improving flood safety, protection of citizens, and limitation of flood damage within the area beyond the embankment located along a section of the right embankment of the River Biała in Tarnów, where there is no protection in the form of flood embankments.

In accordance with the Works Contract, the planned works comprise development of a new section of the right embankment of the River Biała in Tarnów over a length of 695 m (at embankment chainage km 0+000 – 0+695).

Implementation of the Works Contract shall be associated with the removal of facilities of garden allotments from the area of about 12 ha, due to provision of land for the development of the embankment and for the embanked area.

It is expected under the Contract to seal the planned new embankment through developing an anti-filtration membrane within its crest, constructing a flood road at the strip footing – including an entry road onto the embankment crest, developing two entry roads onto the embankment from the flood road and two entry roads onto the embankment from the embanked area's side.

Implementation of the Contract shall relate to: demolition of the internal water-supply system at the route of embankment, redevelopment of a water-supply connection for the free-standing object, redevelopment of the existing gas piping, redevelopment of the sewerage system, and redevelopment of the existing power line and lighting system.

Detailed description of objects under the Contract is given in Section 2.2.

### **2.1 Contract Location**

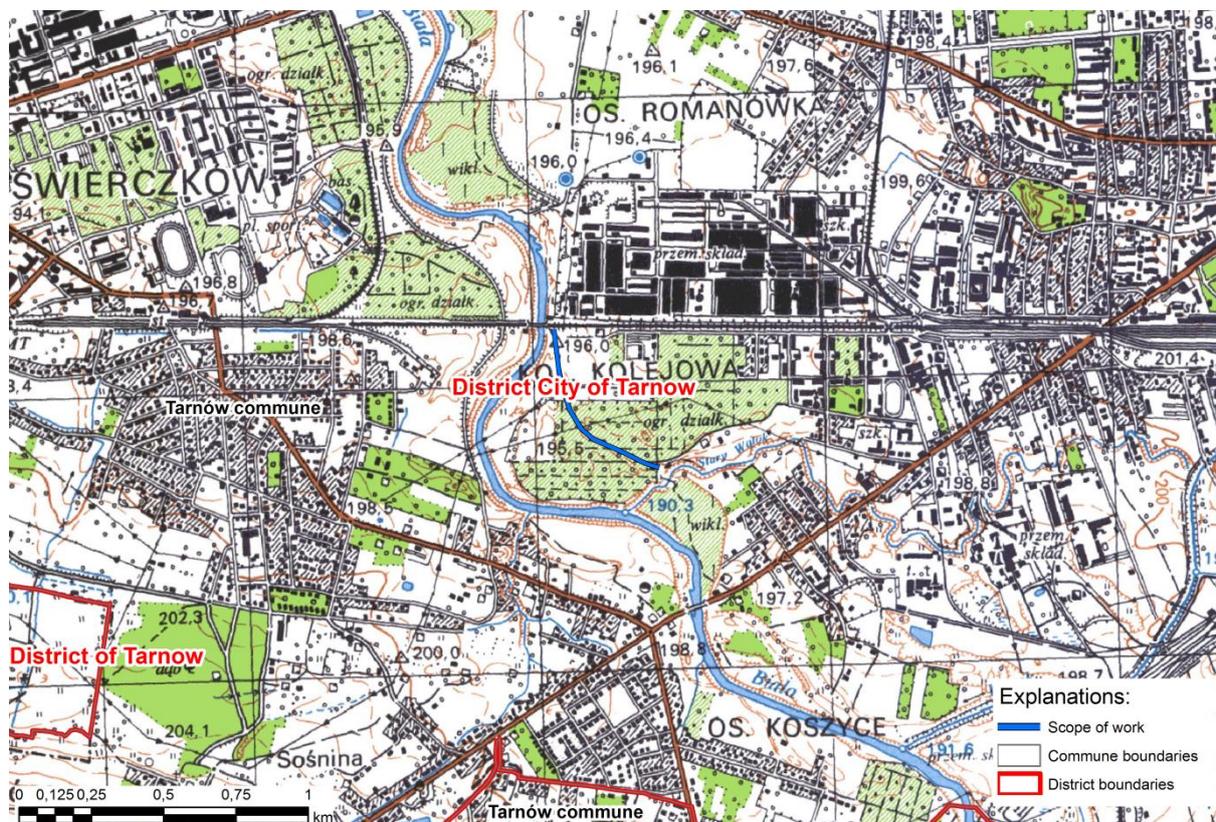
The Works Contract is located at local chainage 0+000 – 0+695 (register chainage of the River Biała km 5+046 to 6+186), within Małopolskie Province, in the area of the City of Tarnów (District of the City of Tarnów, Municipality of Tarnów).

Beginning of the embankment shall be located in vicinity of a railway embankment at the Cracow – Medyka route, in the final section of Stanisława Kassali Street. Further on, the embankment route shall run along the existing dirt road and through the Family Garden Allotments “Semafor”. The designed embankment shall join the existing embankment in the area of Św. Katarzyny Street.

The location of Contract is presented on a figure given below (Drawing no. 1) and in a graphical Appendix 5 – Map of Works Contract Location.

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## Drawing no. 1 Contract location



## 2.2 Specificity of objects comprised by the Contract

The Works Contract comprises construction of a new section of the right embankment for the River Biała in Tarnów over a length of 695 m (at chainage km 0+000 – 0+695).

In reference to the environmental screening described in the Environmental and Social Management Framework for the OVFM Project, the proposed works were included on List no. 1 under item “ID 1\_635\_W” of Appendix no. 2 titled “*Investments which do not adversely affect the achievement of good status of water or which do not deteriorate the status of water*” to the Master Plan for the Vistula River Basin (2014)<sup>6</sup>. Due to the expected lack of adverse impact on environmental objectives, the Works Contract has not been entered to the currently binding Water Management Plan for the Vistula River Basin (OJ of 2016, item 1911).

However, the Works Contract has been included on a list of strategic measures in the Flood Risk Management Plan for the Vistula River Basin (OJ of 2016, item 1841).

The Works Contract shall comprise construction of a new embankment over a length of 695 m (km 0+000 – 0+695). Beginning of the embankment shall be located in vicinity of a railway

<sup>6</sup> The MasterPlan for the Vistula River Basin and for the Odra River Basin remains a result of establishments made with the European Committee, which led to implementation of “*Action Plan for Strategic Planning in Water Management*” by Poland (resolution of the Council of Ministers of July 2, 2013, ref. no.: 118/2013). The MasterPlans remained an update to water management plans, since their previous update in 2015, and subsequently their results – in terms of investments, which affect or which may affect the status of water bodies – were transferred to the updated water management plans (adopted by the resolution of the Council of Ministers of October 18, 2016 [OJ item no. 1967]).

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embankment at the Cracow – Medyka route, in the final section of Stanisława Kassali Street. Further on, the embankment route shall run along the existing dirt road and through the Family Garden Allotments “Semafor”. The embankment shall join the existing embankment in the area of Św. Katarzyny Street.

Basic parameters of the embankment designed as an earth-fill embankment are as follows:

- Embankment class – II
- Design flow p = 1.0%
- Control flow p = 0.3%
- Embankment length - 695 m
- Width of embankment crest – 3.0 m
- Embankment height:
  - In the area of the railway embankment: about 2.0 m on the embanked area’s side, and about 0.95 m on the side of the area beyond the embankment,
  - In the area of Św. Katarzyny Street: about 1.9 m on the embanked area’s side, and about 1.8 m on the side of the area beyond the embankment,
- Maximum embankment height – about 4.35 m on the embanked area’s side, and about 3.35 m on the side of the area beyond the embankment at Stanisława Kassali Street,
- Crest inclination – 2% towards the embanked area,
- Riverside slope inclination – 1 ÷ 2,
- Landside slope inclination – 1 ÷ 2.

Construction of the embankment shall comprise the following elements, e.g.:

- Hardening of slopes and of the embankment crest with rip-rap over a length of 10 m from the connection with the railway embankment at embankment chainage km 0+000 – 0+010;
- Sowing of the embankment crest with a mix of grass at embankment chainage km 0+010-0+168 and 0+180-0+660;
- Reinforcement of the embankment crest using concrete slabs, where embankment crossings and entry roads onto the embankment from a flood road occur, at embankment chainage km 0+168 – 0+180 and 0+660 – 0+695;
- Development of a 3.5 m wide flood road, reinforced with breakstone over a width of 3.0 m, at embankment strip footing at embankment chainage km 0+060-0+168 and 0+180-0+660;
- Development of a technical lane over a width of 3.0 m, on average, within the embanked area at chainage km 0+000 – 0+695 and in the area beyond the embankment at chainage km 0+000 - 0+053 and 0+156 – 0+695;
- Construction of an entry road onto the embankment crest from the flood road at chainage km 0+ 646 over a length of 12.0 m, inclination of 1:12, width of 3.5 m, hardened with concrete slabs over a width of 3.0 m;
- Development of an embankment ramp at embankment chainage km 0+168-0+180;
- Development of the following at the embankment ramp: construction of 2 entry roads on the side of the area beyond the embankment, from the flood road, 3.5 m wide and

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- 11.0 m long, inclination of 1:12 each, hardened with concrete slabs over a width of 3.0 m; and construction of 2 entry roads on the side of the embanked area, 3.5 m wide and inclination of 1:12, and length of 59.0 m and 50.0 m, respectively, hardened with concrete slabs over a width of 3.0 m;
- Development of 4 embankment turnpikes at chainage km 0+010, 0+163, 0+185, and 0+655;
  - Development of 7 hectometer posts at chainage km 0+049, 0+149, 0+249, 0+349, 0+449, 0+549, 0+649;
  - Development of an anti-filtration membrane within the embankment crest on a depth of 1.0 m b.g.l., minimum thickness of 0.4 m and depth of 8.0 m at embankment chainage km 0+005 – 0+695;
  - Demolition of fences at garden allotments (including fencing located at the Biała river bed over a length of 1100 m) – over the total length of 8913 m;
  - Development of fencing for garden allotments located on the landside of the embankment over a length of 500 m at embankment chainage km 0+174 – 0+695;
  - Demolition of about 175 free-standing objects (garden sheds) at the embankment to be developed and within the formed embanked area;
  - Demolition of the internal underground water-supply system at garden allotments over the total length of about 438 m;
  - Demolition of the internal underground power line at garden allotments over the total length of about 85 m;
  - Redevelopment of 2 water-supply valves;
  - Redevelopment of a section of the water-supply connection for the free-standing object over a length of about 21 m;
  - Redevelopment of a section of medium-pressure gas piping, including: demolition of the existing piping over a length of 31.7 m, and development of a new section piping in the same location over a length of 31.7 m, and development of protective tubes over a length of 28.2 m and 6.0m;
  - protection for the existing teletechnical cables through application of 4 units of protective tubes;
  - Redevelopment of the existing overhead power and lighting line comprising e.g.: demolition of the existing 3 posts and construction of 3 new posts and replacement of 1 of the existing posts, and demolition of the existing power cables and development of new ones;
  - Redevelopment of a section of storm drain comprising e.g.: demolition of the existing section of tube and of the existing outlet, and discharge of water to the River Biała through a new outlet and an open ditch over a length of about 40 m, including ditch's bottom protection using open-work slabs on geo-textile and its reinforcement with a palisade made of timber piles, as well as reinforcement of ditch slopes with rip-rap on geo-textile;
  - Development of protection for the existing sewerage system through assembly of tight manholes for the existing chambers (3 units);
  - Assembly of a return-valve for the existing chamber Ø1500 – 1 unit; and

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- Repairs to the access roads, which will be damaged during the performance.

The aforementioned elements of the Works Contract and their location have been graphically presented in Appendix 9 to this EMP.

## **3 Institutional, legal and administrative conditions**

### **3.1 Institutions involved in implementation of the Contract**

Małopolski Board of Amelioration and Water Structures in Cracow – performing tasks of the Małopolskie Province Marshal – has been the investor for the Contract until December 31, 2017. From January 1, 2018 the Contract Investor is a newly assigned unit, i.e. State Water Holding Polish Waters Regional Water Management Authority in Cracow (PGW WP, RZGW in Cracow).

Additionally, on the stage of performance and of operation, implementation of the Contract may require involvement of public administration units on central, regional, and local levels.

The Odra-Vistula Flood Management Project Coordination Unit shall be responsible for ongoing coordination and monitoring of Project implementation.

### **3.2 Binding Polish law acts with regard to the environment**

In accordance with the Polish Law the investment process related to the environmental protection remains a subject of several acts and regulations. A summary of selected, basic legal acts binding in case of environmental protection has been presented in Appendix 3 to this EMP. The number and contents of legal acts given in Appendix 3 may be modified along with adjustments to environmental protection provisions valid in the territory of Poland. The Contractor is also obliged – except for application of rules determined under this EMP – to apply valid provisions of the state law in the scope of environmental protection.

### **3.3 EIA procedure in Poland**

The description of the EIA procedure in Polish legislation is included in the Environmental and Social Management Framework (ESMF) published on the i.a. web pages of the World Bank (WB)<sup>7</sup> and the Odra-Vistula Flood Management Project Coordination Unit<sup>8</sup>. Furthermore, legal provisions listed under Appendix 3 to this EMP – Summary of state legal acts associated with environmental protection – are binding for the EIA procedure.

### **3.4 World Bank requirements**

The discussed Contract shall be co-financed by e.g. the International Bank for Reconstruction and Development (World Bank). As a consequence, the conditions of its implementation, with regard to environmental protection, are compliant with the following policies of the World Bank<sup>9</sup>:

- OP 4.01 – on the environmental impact assessment,
- OP 4.04 – on natural habitats, and

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<sup>7</sup><http://documents.worldbank.org/curated/en/717671468333613779/Poland-Odra-Vistula-Flood-Management-Project-environmental-and-social-management-framework>;

<sup>8</sup> [http://www.odrapcu.pl/en\\_popdow\\_dokumenty\\_RPZSiSS.html](http://www.odrapcu.pl/en_popdow_dokumenty_RPZSiSS.html);

<sup>9</sup> <https://policies.worldbank.org/sites/PPF3/Pages/Manuals/Operational%20Manual.aspx>

- OP 4.11 – on the physical cultural resources.

Description of the aforementioned World Bank policies is included in the Environment and Social Management Framework ESMF published on the i.e. websites of the World Bank<sup>4</sup> and of the Odra-Vistula Flood Management Project Coordination Unit<sup>5</sup>.

### **3.5 The current condition of EIA procedures for the Works Contract**

The analyzed Works Contract is qualified, in accordance with the Regulation of the Council of Ministers of November 9, 2010 on investments which may significantly affect the environment (Article 3 (1) item 65 of the Regulation), to so-called Group II, which comprises investments which may potentially affect the environment significantly. In conformity with Article 59 (1) and Article 63 (1) of the Act of October 3, 2008 *on providing information on the environment and its protection, public participation in the environmental protection, and on environmental impact assessments* (EIA Act), such investments require provision of an environmental impact assessment, if a unit proper for the issuance of a decision on environmental conditions decides – through proceeding – about such an obligation. In that case the unit was – in accordance with Article 75 (1) item 1 letter I) – the Regional Director for Environmental Protection in Cracow.

Decision of the Regional Director for Environmental Protection in Cracow dated November 30, 2016 (ref. no.: ST-I.4210.1.2015.MB) on environmental conditions for the Works Contract titled: “Construction of the right embankment of the Biala River in the City of Tarnów” was issued for the Contract in question.

Copy of the aforementioned document has been reproduced under Appendix 4 to this EMP.

In case of the analyzed Contract the environmental impact assessment procedure was implemented as follows:

- The Regional Director for Environmental Protection in Cracow received application dated 01/12/2015 of Mrs. Małgorzata Jelonek, acting on behalf of the Małopolskie Province – Małopolskie Board of Amelioration and Water Structures in Cracow, for the issuance of a decision on environmental conditions for the Contract comprising construction of the right embankment of the Biała River at local chainage of km 0+000 – 0+695 in the City of Tarnów
- In accordance with the valid regulations, information on provision of the application has been placed in the Publicly Accessible Data Register (PDWD), on the website of Center of Environmental Information – Ekoportal <http://ekoportal.gov.pl>, in data sheet no.: 38/2015.
- In accordance with Article 64 (2) of the Act of June 14, 1960 – Administrative Procedure Code (OJ of 2018, item 2096, as amended) and based upon Article 74 of the Act of October 3, 2008 *on providing information on the environment and its protection, public participation in the environmental protection, and on environmental impact assessments* (OJ of 2018, item 2081), RDOŚ called the Proxy in a note dated 01/21/2015, ref. no.: ST-I.4210.1.2015.MB, to supplement the filed application with the following:

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- Copy of a site map certified by a relevant authority, including the expected site, where the Contract shall be implemented, and including an area, which will be affected by the Works Contract;
- Missing extracts from the land register comprising areas affected by the Works Contract.

In reference to the aforementioned notification, Mrs. Małgorzata Jelonek – acting as the Proxy in that case – provided relevant documents along with a note dated 01/28/2018, ref. no.: BTT-117/MJ/2015, in which she simultaneously applied for removing the plot no. 307 area no. 267 Municipality of Tarnów from the range of application.

- The Regional Director for Environmental Protection in Cracow informed the parties in the notification dated 01/29/2015, ref. no.: ST-I.4210.1.2015.MB, about the commencement of proceeding to issue a decision on environmental conditions for the Works Contract titled: “Construction of the right embankment of the Biala River in the City of Tarnów” and about a possibility of acknowledging the filed documentation.
- Due to the fact that the planned Works Contract is classified to a group of investments, for which implementation of the environmental impact assessment procedure may be required based upon Article 63 (1), due to Article 59 (1) item 2 of the EIA Act, the Regional Director for Environmental Protection in Cracow requested the State District Sanitary Inspector in Tarnów to issue an opinion on the obligation to provide an environmental impact assessment and an environmental impact report, and to eventually establish the range of environmental impact report.
- The State District Sanitary Inspector in Tarnów issued a sanitary opinion no. 33/2015 on 02/13/2015, ref. no.: NNZ.420.18.2015.2, in which he stated that the Works Contract in question requires implementation of the environmental impact assessment and development of the environmental impact report with a range compliant with Article 66 (1) of the EIA Act.
- After analyzing the collected evidence and taking into account the aforementioned opinion of the State District Sanitary Inspector in Tarnów, the Regional Director for Environmental Protection in Cracow identified in the decision dated 02/23/2015 (ref. no.: ST-I.4210.1.2015.MB) that it is obligatory to perform an environmental impact assessment, and he simultaneously determined the range of environmental impact report – in accordance with the requirements determined under Article 66 (1) of the EIA Act; and indicated issues which shall be included in the report in details. Information on the decision has been published in the PDWD (data sheet no.: 179/2015).
- The Regional Director for Environmental Protection in Cracow suspended the proceeding on the issuance of a decision on environmental conditions for the Works Contract in question with a decision dated 02/23/2015 (ref. no.: ST-I.4210.1.2015.MB), and information on the decision has been published in the PDWD (data sheet no.: 178/2015).
- On 05/11/2015 Mrs. Małgorzata Jelonek provided the Regional Director for Environmental Protection in Cracow with a document titled: Environmental Impact Report for the Works Contract titled “Construction of the right embankment of the Biala River in the City of

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Tarnów". Information on the report has been published in the PDWD (data sheet no.: 469/2015).

- The Regional Director for Environmental Protection in Cracow restarted the suspended administrative proceeding on the issuance of a decision on environmental conditions for the implementation of the Contract with a note dated 05/14/2015 (ref. no.: ST-I.4210.1.2015.MB). Information on the resolution has been published in the PDWD (data sheet no.: 496/2015).
- After analyzing the documentation, it was stated that the Report does not meet the requirements determined under Article 66 of the EIA Act and under the resolution of the Regional Director for Environmental Protection in Cracow dated 02/23/2015, ref. no.: ST-I.4210.1.2015.MB. It was simultaneously stated that the EIA report does not contain sufficient information for determination of conditions for implementation of the Works Contract, and as a consequence it requires updating. As a result, the Proxy was called in a note dated 06/10/2015 (ref. no.: ST-I.4210.1.2015.MB) to update the Report through provision of a detailed range of necessary update and clarifications.
- An updated and corrected EIA Report was filed by the Applicant with a note dated 09/24/2015 (ref. no.: BTT-203/MJ/2015). The Proxy simultaneously requested the Regional Director for Environmental Protection in Cracow in the aforementioned note to add plots no. 307 – area no. 276 Municipality of Tarnów, and 66/3 and 78/13 – area no. 192 Municipality of Tarnów, where it shall be necessary to redevelop an overhead power line, to the application on the issuance of a decision on environmental conditions. A corrected site map was also attached to the note, including indication of an area, where the Works Contract shall be implemented, along with the Contract's impact range; and including extracts from the land register for the aforementioned plots. Information on the updated report has been published in the PDWD (data sheet no.: 79/2016).
- After analyzing the Report and its update, the Proxy was again called in a note dated 12/17/2015, ref. no.: ST-I.4210.1.2015.MB, to update the EIA Report. Simultaneously, due to the Contract's impact range on the environment proved in the updated Report, and therefore due to necessary extension of the number of proceeding parties, the Proxy was requested to provide the following along with the updated EIA report:
  - Updated list of plots located within the Contract's impact range;
  - Extracts from the land register for plots located within the area under the Works Contract impact;
  - Copies of site maps – for the entire area where the Works Contract impact is expected – certified by a relevant unit.
- The Proxy provided the Regional Director for Environmental Protection in Cracow on 02/01/2016 with the required update of documentation. Information on the updated report has been published in the PDWD (data sheet no.: 80/2016).
- During the proceeding it was established that – due to the proved range of impact for the planned Works Contract on the environment – the owners and the users of properties are also the proceeding parties, except for the parties listed in the notification dated 01/29/2015, ref. no.: ST-I.4210.1.2015.MB, located within the Contract's impact range, in

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accordance with Article 28 of the APC. As a consequence, it was stated that the number of parties exceeds 20, and therefore – in accordance with Article 74 (3) of the EIA Act – Article 49 of the APC was applied for the proceeding, and from that moment the parties were notified about any actions of the authorities by notifications and announcements published in a common way.

- As a result, a notification dated 03/07/2016, ref. no.: ST-I.4210.1.2015, informed that the Regional Director for Environmental Protection in Cracow implements administrative proceeding on the issuance of a decision on environmental conditions for the Works Contract titled: “Construction of the right embankment of the Biala River in the City of Tarnów”. The notification was published through placement on notice boards (from 03/07/2016 to 03/22/2016) of the: Site Issues Department (SID) in Tarnów of the Regional Directorate for Environmental Protection in Cracow, City Office of Tarnów; on 9 notice boards at the planned Works Contract location (at FGA “Semafor”), on 3 notice boards at the Koszyckie Estate in Tarnów – within the Works Contract range; and it was also published at the website of the RDOŚ in Cracow (<http://bip.krakow.rdos.gov.pl/>).
- After analyzing the provided evidence, the Regional Director for Environmental Protection in Cracow – due to the impact of the planned Works Contract proved during the proceeding, e.g. on engineering objects – applied in notes dated 03/21/2016, ref. no.: ST-I.4210.1.2015.MB, to the following:
  - Board of Roads and Traffic (ZDiK) in Tarnów, remaining the Administrator for the road bridge over Biała in the artery of Krakowska Street, with a request to make a standpoint on the impact of the planned construction of the right embankment for the River Biała at local chainage km 0+000 – 0+695, in the City of Tarnów, on a flood hazard for that object.
  - General Directorate for National Roads and Motorways Branch in Cracow (GDDKiA) with a request to make a standpoint on the impact of the planned construction of the flood embankment in question on flood hazard for a road bridge over Biała in the artery of state road no. 94.
  - Regional Water Management Authority (RZGW) in Cracow, remaining the Administrator of the River Biała, with a request to make a standpoint on the impact of the planned construction of the flood embankment on flood hazard for the City of Tarnów, including engineering objects, and especially the road bridge over Biała in the artery of Krakowska Street in Tarnów and the Koszyckie Estate in Tarnów.
  - Polish State Railways S.A. (PKP S.A.) with a request to make a standpoint on the impact of the planned construction of the flood embankment on flood hazard for a railway bridge over Biała within a railway line Cracow – Medyka.

The updated EIA Report was attached in a digital form, on CD, to the aforementioned notes.

- In reference to the notes listed above, the Regional Director for Environmental Protection in Cracow received the following:
  - Opinion of GDDKiA Branch in Cracow received on 04/08/2016 (dated 04/04/2016, ref. no.: O.KR.z-4.432.2016rk.5380/3398), containing a negative assessment for the planned Works Contract due to the fact that as a result of developing new flood

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- embankment the elevation of design water within the bridge over Biała – placed within the artery of DK 94 road – would be increased by 0.48 m.
- Opinion of ZDiK in Tarnów received on 04/11/2016 (dated 04/08/2016, ref. no.: ZDiK.DE.431.32.2016.JS), stating that ZDiK in Tarnów does not see any direct flood hazard caused by the Works Contract determined in the application on the road bridge over Biała, in the artery of Krakowska Street.
  - Opinion of RZGW in Cracow received on 04/13/2016 (dated 04/08/2016, ref. no.: ZP-rr-773-2-7/16), containing the following information: “RZGW in Cracow states that the subject Contract may be implemented in its current form, assuming simultaneous determination of time and financial frames for implementation of the following stage of protection for the City of Tarnów by flood embankments (it is especially related to the construction of a section of embankments protecting the Koszyce Estate) and full awareness of the Investor that the occurrence of flood event on Biała Tarnowska prior to completing the construction of the left embankment may cause an increase of flood hazard for buildings located within that area”.
  - On 04/21/2016, upon an initiative of the Proxy, a meeting was held in the office of GDDKiA Branch in Cracow in relation to the impact of the planned construction of the embankment on flood hazard for engineering objects in the City of Tarnów. Representatives of GDDKiA Branch in Cracow, RZGW in Cracow, MZMiUW in Cracow, and RDOŚ in Cracow, as well as the Proxy attended the meeting.
  - In the note dated 04/22/2016, ref. no.: ST-I.4210.1.2015.MB, the Regional Directorate for Environmental Protection in Cracow – in reference to the note dated 04/08/2016, ref. no.: ZP-rr-773-2-7/16 – applied to the RZGW in Cracow with a request to present (based upon data and hydraulic-hydrological models held by RZGW in Cracow) the possible scale of flood hazard increase for the bridge objects resulting from implementation of the Works Contract titled: “Construction of the right embankment of the Biała River in the City of Tarnów”, and – further on – after developing the left embankment protecting the Koszyckie Estate in Tarnów.
  - In reference to the aforementioned note RZGW in Cracow provided its standpoint (opinion dated 05/06/2016, ref. no.: ZP-rr-773-2-7-1/16) that the construction of the embankment shall result in increasing the elevation of water-table at all of three bridges, but – simultaneously – in case of implementing all of the contracts planned under the FRMP, elevations of water-table shall be significantly decreased. Although implementation of the Works Contract may cause temporary increase of flood hazard, RZGW in Cracow sustained its standpoint on its implementation, and justified it as follows: “However, due to an overriding interest, i.e. final increase of the flood protection level in the Biała Tarnowska River Basin, RZGW in Cracow sustains its standpoint given in the note no. ZP-rr-773-2-7-1/16 that the subject Works Contract may be implemented in its current form, while assuming implementation of the following stages of development for the flood protection system”.
  - On 05/30/2016 the SID in Tarnów received a note dated 05/23/2016, ref. no.: O.KR.Z-4.432.2016rk.5342/2016, from the Deputy Director of GDDKiA Branch in Cracow, containing a standpoint that GDDKiA identified hazards, which may occur due to

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implementation of the subject Works Contract; however, considering the overriding interest, which is the final rising of the flood protection level for the Biała Tarnowska River Basin, and the fact that the Contract shall remain the first stage of works foreseen in the FRMP, the Branch states that the subject Works Contract may be implemented in its current form, while assuming that following stages of developing the flood protection system would be implemented, provided that rescheduling of implementation for further stages, causing failure to meet the requirements for bridge objects, cannot form a basis for imposing a condition of rising the bottom of the structure or of providing other types of protection to remove a potential risk caused due to regulation works done on the River Biała Tarnowska, or application for their redevelopment submitted by the road administrator.

- On 06/06/2016 the Regional Director for Environmental Protection in Cracow has again applied (note no. ST-I.4210.1.2015.MB – after the note dated 03/21/2016) to the Headquarters of PKP S.A. with a request to provide a standpoint of PKP S.A. on the impact of the planned construction of the right embankment of River Biała at local chainage km 0+000-0+695 in the City of Tarnów on flood hazard for the railway bridge over Biała within the railway line Cracow-Medyka in the City of Tarnów. PKP S.A. Properties Management Department in Cracow informed the Regional Director for Environmental Protection in Cracow in a note dated 03/22/2016, ref. no.: KNKr.12.741.86.2016JD/3, that the note no. ST-I.4210.1.2015.MB has been submitted to PKP PLK S.A. Railway Line Authorities in Cracow and to PKP PLK S.A. Investment Implementation Center in Cracow.
- Answer to the aforementioned request was provided to the SID in Tarnów on 08/10/2016 – note of PKP Polish Railway Lines S.A. Railway Lines Authorities dated 08/05/2016, ref. no.: IZDK5-513-28/1/16 – which contained information obtained from the Investment Implementation Center South – as given in a note dated 08/01/2016, ref. no.: IRRK3/2/3-0815-POLIŚ 5.1-7-294/16. In accordance with contents of the aforementioned note, the designer's standpoint is as follows: "The bridge has recently been redeveloped, and elevation of the structure's bottom is 197.84. As a consequence, Q1% and Q0.3% water elevations shall be changed. According to calculations done for the bridge after the redevelopment, Q0.3 elevation amounts to 196.03. Flow conditions underneath the bridge would also be modified due to the changed opening of the object. The bridge opening before the modernization was 65.36 m, whereas after the redevelopment it amounts to 73.60 m. The minimum spacing from the bridge bottom to the highest water level cannot be smaller than 1.00 m. The table provided (attached to the opinion) for designed W1 informs 1.62 m at Q0.3. This is a rate meeting that condition."
- On 06/17/2016 the SID in Tarnów received a note dated 04/27/2016 containing remarks of leisure gardeners (55 signatures) on legitimacy of the planned construction of the flood embankment within the area of garden allotments "Semafor" in Tarnów. It was stated in the note that the level of water in June 2010 – during the flood determined as "the flood of the century" – flooded about 50% of garden allotments "Semafor", thus it was the greatest flooding of the area in 60 years; and the level of water has never exceeded the limits of garden allotments.
- After analyzing all of the evidence, acting based upon Article 77 (1) item 2 of the EIA Act, the Regional Director for Environmental Protection in Cracow applied (note dated 08/23/2016, ref. no.: ST-I.4210.1.2015.MB) to the State District Sanitary Inspector in

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Tarnów – being a unit relevant for providing an opinion on the Works Contract in sanitary and hygiene terms – with a request to issue an opinion on implementation conditions for the Works Contract prior to the issuance of a decision on environmental conditions. In the announcement of 08/23/2016, ref. no.: ST-I.4210.1.2015.MB, the proceeding parties were informed about the aforementioned request for opinion. The announcement was published through placement on notice boards, and it was also published at the website <http://bip.krakow.rdos.gov.pl/>.

- The State District Sanitary Inspector in Tarnów provided a positive opinion in the sanitary opinion no. 263/2016 dated 09/14/2016 (reception date: 09/19/2016), ref. no.: NNZ.420.124.2016.2, for environmental conditions for the aforementioned Works Contract in terms of hygiene and health requirements – while keeping all technical, technological and organizational solutions resulting from the environmental impact report, including updates, and protecting the surrounding and the environment, and – as a result – health of people against adverse impact of the designed Works Contract. Those requirements were included among conditions imposed onto the Investor by that decision on environmental conditions.
- Participation of the public was assured within the framework of administrative proceeding on the stage of environmental impact assessment – in accordance with Article 79 of the EIA Act. In the announcement dated 09/20/2016 (ref. no.: ST-I.4210.1.2015.MB) the Regional Director for Environmental Protection in Cracow notified the public about numerous facts, including e.g. commencement of the proceeding on the issuance of a decision on environmental conditions. On the stage of public consultations, which – in accordance with the announcement of the Regional Director for Environmental Protection in Cracow – lasted from 09/22/2016 to 10/12/2016, the Regional Directorate for Environmental Protection in Cracow did not receive any remarks or requests associated with the Works Contract in question.
- Prior to the issuance of a decision on environmental conditions, the proceeding parties have been informed about a possibility of commenting the evidence collected, in accordance with Article 10 of the Administrative Procedure Code, through an Announcement of the Regional Director for Environmental Protection in Cracow dated 10/21/2016 (ref. no.: ST-I.4210.1.2015.MB).
- None of the proceeding parties commented the evidence and materials collected, based upon which a decision on environmental conditions for the subject Works Contract was to be issued.
- After analyzing the scope of planned Works Contract and after identifying its potential impact on the environment, it was stated that the Works Contract shall not result in transboundary impact, and therefore it is not necessary to implement a proceeding discussed under Article 104 (1) of the EIA Act.
- Based upon the analysis of collected evidence it was also stated that implementation of the Works Contract in question – at application of mitigation measures and conditions included in the decision on environmental conditions – shall not result in excessive nuisance to the environment.

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- The decision on environmental conditions for the Works Contract has been issued by the Regional Director for Environmental Protection in Cracow on November 30, 2016 (ref. no.: ST-I.4210.1.2015.MB). The proceeding parties have been notified about the issuance of decision in an Announcement of the Regional Director for Environmental Protection in Cracow dated November 30, 2016 (ref. no.: ST-I.4210.1.2015.MB). The decision has been published through the aforementioned Announcement.
- The proceeding parties did not claim against the decision to the General Director for Environmental Protection within a legal deadline of 14 days; thus, the decision became final on December 31, 2016.

## 4 Description of environmental elements in vicinity of the Works Contract

### 4.1 Land surface, landscape, and geological structure

The designed embankment is located within the City of Tarnów, between railway tracks on the north and Krakowska Street on the south. Length of the section is 695 m. In a reach from km 0+000 and the boundaries of garden allotments "Semafor" the embankment shall run through the area of unorganized greenery and also along a dirt road. Then the embankment should run through garden allotments and join the existing embankment in vicinity of Św. Katarzyny Street. The area of garden allotments between the planned embankment and the river bed (about 12 ha) is mainly used for cultivation of vegetables, fruit, and decorative plants – the site is extensively used by owners of allotments. Furthermore, between the area of garden allotments and the Biała river bed there is an unorganized greenery location over a width of about 40 - 150 meters.

According to physical and geographic regionalization by Kondracki<sup>10</sup>, the analyzed section of embankments is located within the mezoregion Nadwiślańska Lowland (512.41)

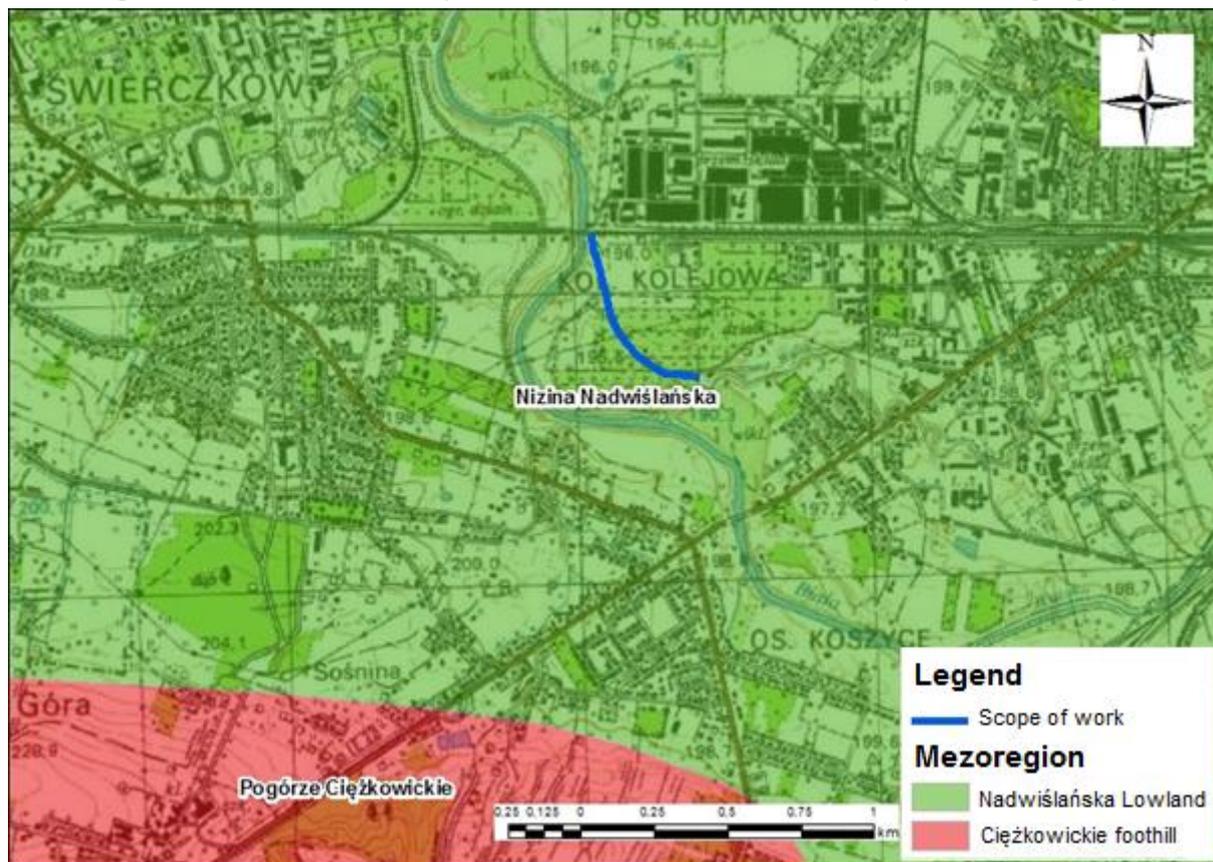
- megaregion: Carpathian Region (along with Podkarpacie);
- province: Western Carpathian Mountains with Podkarpacie;
- subprovince: Northern Podkarpacie;
- macroregion: Sandomierska Valley;
- mezoregion: Nadwiślańska Lowland;

Location of the Works Contract in reference to physical and geographic units is presented on a drawing given below (Drawing no. 2).

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10 Kondracki J., Geografia regionalna Polski, Wydawnictwo Naukowe PWN, Warsaw 2001

Drawing no. 2 Location of the analyzed Works Contract in reference to physical and geographic units



Source: own materials based upon *Physical-geographical mesoregions of Poland: Verification and adjustment of boundaries on the basis of contemporary spatial data*, "Geographia Polonica", 2018 – basing upon the study of Kondracki J.

Nadwiślańska Lowland – remaining a part of Sandomierska Valley – covers a wide valley of Vistula from Cracow to Zawichost. The valley is filled with quaternary alluvial sediments with thickness of several meters. Except for a flood terrace it is specified by a higher sand terrace (partially with sand dunes) and a terrace covered by loess. Miocene maritime sediments are placed underneath sand and fluvisols brought by rivers, and they contain rich deposits of sulphur, which is extracted using open-cast and underground smelting methods in the area of Tarnobrzeg. The level of transformation for the natural environment is relatively small and reaches significant level only in vicinity of Cracow and Tarnobrzeg.

## 4.2 Climate

According to regionalization of climate in Poland (Woś A., 1993) the Works Contract site is located in region no. XXVII Tarnowsko-Rzeszowski. The region covers the eastern part of Carpathian Foothills mainly. Its range is established by clear climatic boundaries. In reference to the remaining ones, it is specified by relatively often occurring very warm days with recorded rainfall. Frost, moderate low temperature without overcast and rainfall also occur more often

than in many other regions.<sup>11</sup> The warmest month in Tarnów is July with average temperature of 19.4°C, whereas January is the coldest month – with average temperature of -4.2°C. A month with the smallest volume of precipitation is February (30 mm, on average), whereas the most extensive rainfall occurs in June – 99 mm, on average.<sup>12</sup>

### 4.3 Air quality

Rate of air pollution depends on the: volume of emission from emitters located within a particular area, inflow of pollutions from other areas, climate and meteorological conditions, and land development and lay of land.

The main source of air pollution within the city is so-called anthropogenic emission resulting from actions of human. Anthropogenic emission includes both: emission from power and industrial plants, as well as low emission from communal units (boiler-plants, individual domestic furnaces, and private plants) and traffic emission.

Main pollution sources in the area of Tarnów are as follows, e.g.:<sup>13</sup>

- Emission of pollution associated with traffic;
- Emission from industrial plants;
- Emission of gases and dusts from individual domestic furnaces and from small plants, which are not required to have a permit for emission of gases and dusts to the air.

The quality of air was tested in Tarnów by the State Environmental Protection Inspectorate in two spots: at Bitwy pod Studziankami Street and at Bł. Ks. Romana Sitko Street. The following substances were examined:

- Automatic measurement: nitrogen dioxide, ozone, sulphur dioxide, carbon monoxide, suspended particulates PM10
- Manual measurement: suspended particulates PM2.5, suspended particulates PM10, arsenic in PM10, benzo(a)pyrene in PM10, cadmium in PM10, nickel w PM10, lead in PM10, benzene<sup>14</sup>

In terms of criteria established for the protection of health within the City of Tarnów excessive concentration was identified in 2016 for the following: suspended particulates PM10 and benzo(a)pyrene in PM10<sup>15</sup> dust; whereas in 2017 for the following: suspended particulates PM10 and benzo(a)pyrene in PM10 dust, and suspended particulates PM2.5.<sup>16</sup>

### 4.4 Soils and grounds

The designed embankment – in a reach from its beginning to the boundaries of garden allotments “Semafor” – shall run through the area of unorganized greenery and also along a dirt road. Then the embankment should run through garden allotments and join the existing

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<sup>11</sup> Woś A., Regiony klimatyczne Polski w świetle częstości występowania różnych typów pogody; Zeszyty Instytutu Geografii i Przestrzennego Zagospodarowania PAN, no. 20, 1993.

<sup>12</sup> <https://pl.climate-data.org>

<sup>13</sup> Environmental Protection Programme for the City of Tarnów for the years 2017-2024, including a short-term strategy for the years 2017-2020.

<sup>14</sup> Ibidem

<sup>15</sup> Report on the environment for Małopolskie Province in 2016.

<sup>16</sup> Report on the environment for Małopolskie Province in 2017.

embankment in vicinity of Św. Katarzyny Street. The area of garden allotments between the planned embankment and the river bed (about 12 ha) is mainly used for cultivation of vegetables, fruit, and decorative plants – the site is extensively used by owners of allotments. Furthermore, between the area of garden allotments and the Biała river bed there is an unorganized greenery location over a width of about 40 - 150 meters.

In accordance with soil and agricultural map<sup>17</sup> fluvisols are present within the entire area of Works Contract.

## 4.5 Surface water

The Works Contract area is located within the Vistula River Basin, within the boundaries of Upper Western Vistula water region (until the end of 2017 that area belonged to the Upper Vistula water region before enforcement of the Act of July 20, 2017 Water Law).

The River Biała is a right tributary river of the Dunajec River.

The Biała River has provided low drops of the river bottom. It is fed by precipitation water and water of thawing snow, and the volume and dynamics of the flow depend on the size and intensity of rainfall, permeability of the subbase, and inflow rate.

The river cuts off from natural flood plains with flood embankments over a significant length.

A water-gauge on the River Biała is located in Koszyce Wielkie (in a distance of about 2 km from the Contract implementation area). In accordance with records of the years 1981-2010, hydrological characteristics of the River Biała are as follows:

SSQ 9,550 m<sup>3</sup>/s

SNQ 1,391 m<sup>3</sup>/s

NNQ 0,600 m<sup>3</sup>/s

In conformity with provisions of the updated “Water Management Plan for the Vistula River Basin” (Water MP), as adopted with the Regulation of the Council of Ministers of October 18, 2016, the Works Contract shall be implemented within the body of water named Biała od Rostówki do ujścia (PLRW 200014214899). According to the typology adopted under the Water MP the type of BSW in question is 14 – small flysch river. It has not been set out as a heavily modified body of water.

The status of BSW Biała od Rostówki do ujścia has been assessed as bad, which is a result of weak ecological status (determining co-efficients: ichthyofauna, phytobenthos) and good chemical status. As a consequence of such an assessment, the BSW in question has been determined as under risk of not achieving environmental objectives.

The environmental objective for that BSW – as indicated in the Water MP – is the good ecological status and the good chemical status. There is a departure for that objective, which includes extension of the deadline until 2021, which was justified as follows: *“Lack of technical possibilities. Pressure, which may be a reason for exceeding the quality rates, has not been identified within the BSW. It is necessary to consider the reasons in detail to properly plan the recovery measures. Recognition of the reasons for not achieving the good status shall be assured by implementation of measures on the state level: assignment of a national data base on hydromorphological changes, performance of an extended analysis for pressure in terms*

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<sup>17</sup> <http://mijp.geomalopolska.pl>

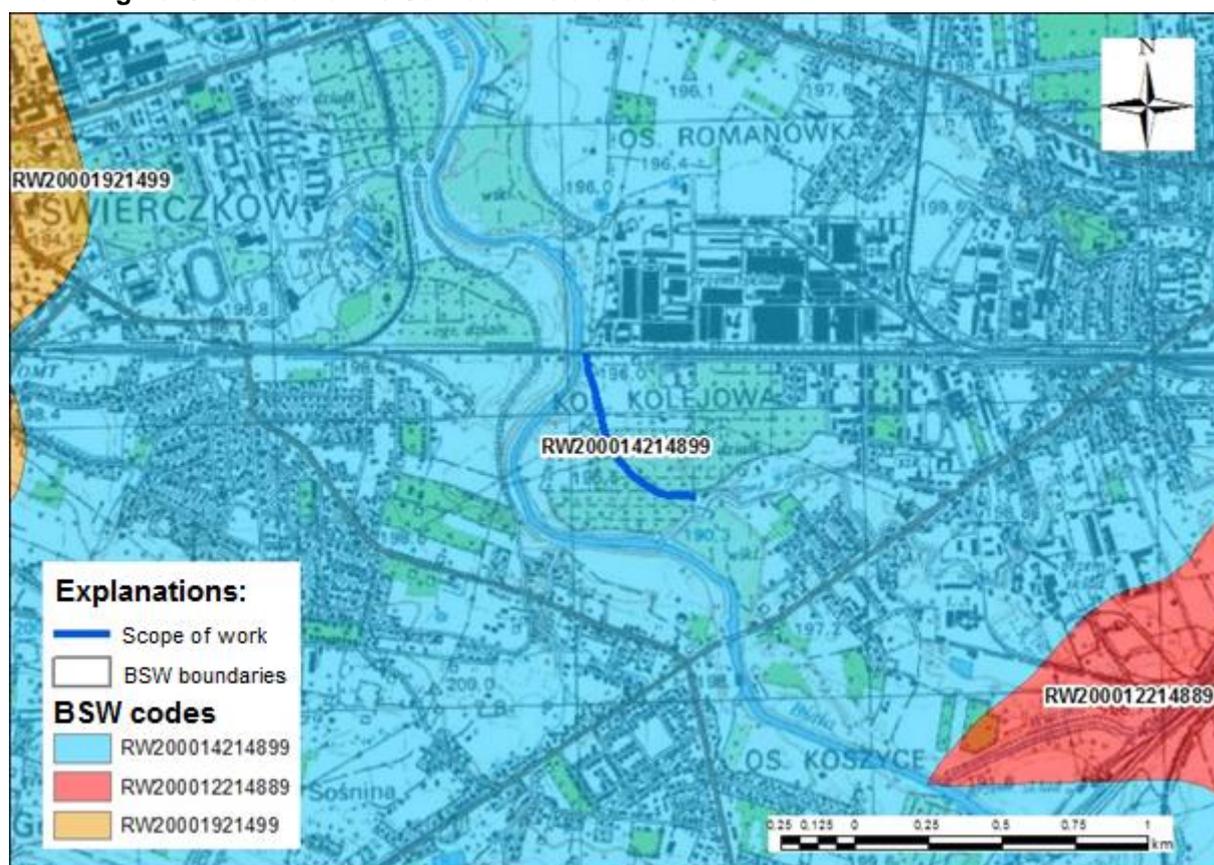
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*of hydromorphological changes, development of good practice for hydraulic works and maintenance works, including establishment of rules for their performance, and development of a state programme for renaturalization of surface water.”*

Implementation of the planned Works Contract is not related to interference in the Biała River Bed. The Contract therefore does not affect the morphological continuity of the River Biała, and it shall also not result in impact on hydro-morphological and biological elements.

Location of the Contract in reference to BSW was presented on the drawing given below (Drawing no. 3).

**Drawing no. 3** Location of the Contract in reference to BSW



Source: Own materials.

## 4.6 Groundwater

### Geological formation and hydrogeological conditions

In accordance with classification of hydrogeological units<sup>18</sup>, the Works Contract area is entirely located within the province of Vistula, Upper Vistula region, Przedkarpackie Depression. Older subbase of that area is made of middle Tertiary formations – Miocene – shaped in a form of gray Miocene clays, called as Krakowieckie clays. Quaternary sediments lay on tertiary formations, and they are made of alluvial soils of washed out loess and river sands. Drillings

<sup>18</sup> Hydrogeologia regionalna Polski, Państwowy Instytut Geologiczny, 2007

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made in the ground allowed for identifying the occurrence of silty sand, fine sand, medium-grain sand, and coarse sand, whereas semi-compacted dark and ash-grey silty clay were found in the bottom part of a borehole.

The analyzed Contract is located beyond the boundaries of MGR.

### **Bodies of groundwater**

Division of the area of Poland into bodies of groundwater in the process of implementation for the Water Framework Directive is subject to modifications. The current version of the division contains 172 bodies and 3 sub-bodies, and is valid from the end of 2016. The analyzed Works Contract is located within BGW 150 (European code: PLGW2000150).

The Water Management Plan for waters within the Vistula River Basin (Water MP), as approved by the Council of Ministers on October 18, 2016 (OJ 2016, item 1911), evaluates the quantitative status and the chemical status for BGW 150 as good. In terms of risk of not achieving environmental objectives under the Plan, the BGW in question was defined as not being at risk.

Environmental objective for BGW 150 is: good chemical status, and good quantitative status.

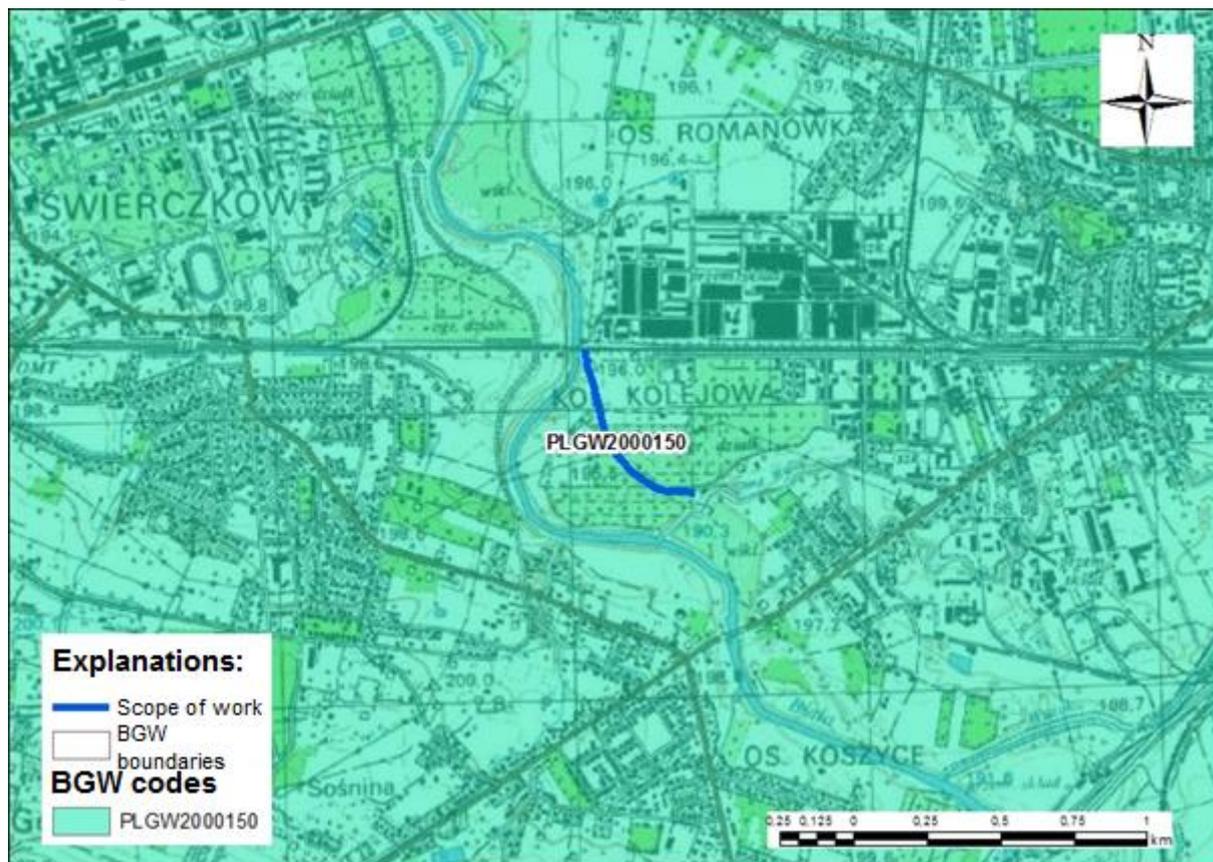
In compliance with provisions under the Water Management Plan for the Vistula River Basin the main environmental objectives for BGW are as follows:

- Preventing the inflow or limitation of the inflow of pollutions to groundwater,
- Preventing the deterioration of status for all bodies of groundwater (including reservations listed under the Water Framework Directive),
- Assurance of balance between the intake and the supply for groundwater,
- Implementation of measures necessary for reversing significant and constantly increasing concentration trend for any pollution generated due to human actions.

In order to meet the requirements for the lack of deterioration for status of waterbodies having at least good chemical and quantitative status, the environmental objective for those would be the maintenance of that status.

Location of the Contract in reference to BGW was presented on the drawing given below (Drawing no. 4).

**Drawing no. 4** Location of the Contract in reference to BGW.



Source: Own materials.

## 4.7 Acoustic climate

When analyzing the noise source, one may classify it to the following groups:

- Traffic noise: road transport, railway transport,
- Industrial noise: installations and used devices,
- Noise associated with the work environment.

Within the Works Contract implementation area there are no permanent sources of excessive noise. That climate is mainly affected by operations of engineering objects located in vicinity (residential units, industrial units), traffic on local roads, a railway line, as well as the use of garden allotments.

Residential areas are located in the neighborhood of the Contract site, and they remain acoustically protected sites, in accordance with the Regulation of the Minister of Environment of June 14, 2007 on the acceptable level of noise in the environment (OJ of 2014, item 112). In relation to the Works Contract those sites are located in a distance of:

- about 200 m due south-east,
- about 600 m due east,
- about 500 m due west (left bank of the River Biała),

- about 500 m due south (left bank of the River Biała).

Buildings located at the aforementioned sites are detached houses, for which the acceptable level of noise during the day is 50 dB and at night 40 dB, in accordance with the aforementioned Regulation.

## **4.8 Nature**

### **4.8.1 Protected natural habitats and protected species**

#### **Natural habitats under Appendix I to the Habitats Directive**

An environmental inventory done from the end of July until the middle of September 2014 did not prove the occurrence of protected environmental sites listed under Appendix I to the Habitats Directive.

#### **Protected species of plants and fungi**

During the environmental inventory done within the area of the planned Works Contract the occurrence of strictly or partially protected species of plants, as listed in the Regulation of the Minister of Environment of October 9, 2014 on the protection of plant species (OJ of 2014, item 1409), was not identified.

During the environmental inventory done within the inspected area the occurrence of protected species of fungi, as listed in the Regulation of the Minister of Environment of October 9, 2014 on the protection of fungi species (OJ of 2014, item 1408), was not identified.

#### **Protected species of animals**

Within the boundaries of the Works Contract and in its neighborhood, during the environmental inventory, the following were identified:

- The occurrence of animals under protection in accordance with the Regulation of the Minister of Environment of December 16, 2016 on the protection of animal species (OJ of 2014, item 1348), i.e.: 4 species of birds under strict protection (fieldfare, barn swallow, Eurasian jay, great tit) and 2 under partial protection (feral pigeon, Eurasian magpie).
- No occurrence of protected species of invertebrates; however, in accordance with the Standard Data Form for Natura 2000 site Biała Tarnowska PLH 120090, thick shelled river mussel *Unio crassus* lives in the river; thus, it is possible that that mussel is also present in a reach of the river-bed running in vicinity of the analyzed site. The occurrence of that species has not been confirmed during the inventory. However, the inventory identified the occurrence of unprotected species, including peacock butterfly and large white.
- No occurrence of protected amphibians and reptiles; however, in accordance with the Standard Data Form for Natura 2000 site Biała Tarnowska PLH 120090, within the areas located in a distance of about 3 km – thus, potentially within the Works Contract implementation area – two strictly protected species of amphibians occur and they remain in the interest of Community, in conformity with the Regulation of the Minister of Environment of October 6, 2014 on the protection of animal species (OJ of 2014, item 1348) and with the Regulation of the Minister of Environment of April 13, 2010 on

environmental habitats and species remaining in the interest of Community, and also selection criteria for sites qualified to recognition or assignment as Natura 2000 sites (OJ no. 77, item 510, as amended), and those are: yellow-bellied toad *Bombina variegata*, and northern crested newt *Triturus cristatus*.

Additionally, within the framework of an inventory for the existing embankment sites (beyond the implementation zone for the planned new embankment) a reptile species was identified – sand lizard *Lacerta agilis*, which – in accordance with the Regulation of the Minister of Environment of October 6, 2014 on the protection of animal species (OJ of 2014, item 1348) – is subject to partial protection. It is therefore necessary to take special care during the performance.

- No occurrence of protected mammals. During the inventory species remaining in the interest of Community were identified, in accordance with the Regulation of the Minister of Environment of April 13, 2010 on environmental habitats and species remaining in the interest of Community, and also selection criteria for sites qualified to recognition or assignment as Natura 2000 sites (OJ no. 77, item 510, as amended), and those are:
  - Otter *Lutra lutra*,
  - Eurasian beaver *Castor fiber*,
  - European polecat *Mustela putorius*.
  
- During the research done on the stage of obtaining a decision on environmental conditions, one has resigned of performing an inventory for ichthyofauna, due to the well-documented presence of ichthyofauna and its representatives in the River Biała. In accordance with the Standard Data Form for Natura 2000 site Biała Tarnowska PLH 120090, 4 species of fish – pisces (barbus, stone loach, European bullhead), as well as jawless fish (brook lamprey) – live in the river, and they are under partial protection based upon Regulation of the Minister of Environment of December 16, 2016 on the protection of animal species (OJ of 2016, item 2183).

All species identified within the boundaries of the Works Contract and in its direct neighborhood (in compliance with the inventory done) were presented on a map in Appendix 9 to this EMP - Map with location of environmental habitats and fauna occurrence sites within the Works Contract.

#### **4.8.2 Protected areas**

Location of the Contract in reference to the protected areas was presented on a map in Appendix 6 to this EMP - Map with location of the Works Contract in reference to protected areas and to NATURA 2000 sites.

##### **Natura 2000 sites**

The Works Contract implementation area is located beyond the reach of Natura 2000 sites, but there are two areas under Natura 2000 special protection in the neighborhood: Biała Tarnowska PLH120090 (2.2 km from the Works Contract site), and Dolny Dunajec PLH120085 (3.54 km from the Works Contract site).

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Natura 2000 site Biała Tarnowska (PLH120090) covers a narrow valley of the River Biała from Śnietnica to the vicinity of Tarnów (bridge in Bistuszowa).<sup>19</sup> 4 types of habitats listed under Appendix I to the Habitats Directive were identified there. Those are: Alpine rivers and the herbaceous vegetation along their banks, Alpine rivers and their ligneous vegetation with *Myricaria germanica*, Alpine rivers and their ligneous vegetation with *Salix elaeagnos*, and Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Pandion*, *Alnion incanae*, *Salicion albae*).

Natura 2000 site Biała Tarnowska (PLH120090) is also important for the protection of fish. In general, 16 species of fish were identified in Biała Tarnowska, including 5 species of fish listed under Appendix II to the Habitats Directive, i.e.: asp, barbus, European bullhead, brook lamprey, Atlantic salmon.

The other of Natura 2000 sites, Dolny Dunajec PLH120085, is formed by the River Dunajec in a reach from the dam in Czchów to its estuary to Vistula, along with tributary rivers: Paleśnianka Stream, and Siemiechówka Stream. The Dunajec River – within the boundaries of the habitat – is classified as type 20 – lowland gravel river, and as type 19 – lowland sandy-loamy river.<sup>20</sup> 2 types of habitats listed under Appendix I to the Habitats Directive were identified there. Those are: Alpine rivers and the herbaceous vegetation along their banks, and Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Pandion*, *Alnion incanae*, *Salicion albae*).

Furthermore, the Natura 2000 Standard Data Form for the site Dolny Dunajec PLH120085 lists the following protected species under Article 4 of the Directive 2009/147/EC and species under Appendix II to the Directive 92/43/ECC: asp, barbus, yellow-bellied toad, Eurasian beaver, European bullhead, brook lamprey, otter, Atlantic salmon, northern crested newt, thick shelled river mussel.

There are no environmental habitats listed under Appendix I to the Habitats Directive within the Works Contract implementation area.

### **Remaining forms of nature conservation**

The Contract implementation area is located beyond the reach of remaining areas under protection, in accordance with the Act of April 16, 2004 on nature conservation (uniformed text: OJ of 2009, no. 152, item 1220, as amended). The aforementioned forms of environmental protection have also not been identified in a direct vicinity of the embankment to be modernized.

## **4.9 Cultural landscape and monuments**

Historic objects were not identified within the Contract area, implementation of the Works Contract does not collide with archaeological stations and with historic objects.

According to the register of fixed heritage for the Małopolskie Province dated February 2015, as published by the Provincial Office for Heritage Protection in Cracow, the following historic objects are located in Tarnów, in a distance of about 2 km from the planned Contract implementation site:

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<sup>19</sup>[www.natura2000.gdos.gov.pl](http://www.natura2000.gdos.gov.pl)

<sup>20</sup>[www.natura2000.gdos.gov.pl](http://www.natura2000.gdos.gov.pl)

- Tarnów, Municipality of Tarnów – urban group of Nitrogen Plant’s estate in Mościce, A-208 dated 12/17/1979;
- Tarnów, Municipality of Tarnów – urban group – Dworcowy Square, PKP main station, platform shelters, area of the park, A-80 dated 12/01/1975;
- Tarnów, Municipality of Tarnów – house, 6. Czerwonych Klonów Street, A-208 dated 12/17/1979;
- Tarnów, Municipality of Tarnów – railway gatehouse, 5. Stanisława Kassali Street, [A-1415/M] dated 08/28/2014;
- Tarnów-Chyszów – military cemetery no. 200, A-54/M dated 05/05/2006;
- Tarnów - Mościce, Municipality of Tarnów – Square with a cornerstone for “Nasz Dom” (“Za Torem”) estate, Obrońców Lwowa Street, A-411 dated 08/02/1998;
- Tarnów – Mościce, Municipality of Tarnów – villa with its surroundings at 9. Jarzębinowa Street, A-63/M dated 07/21/2006.

## 4.10 Population

The planned Contract 3D.2/1 is a linear Works Contract located in vicinity of residential buildings, although not in its direct neighborhood – the closest buildings are located about 200 m from the implementation area. The site is located within the boundaries of the City of Tarnów. In accordance with data valid for December 30, 2017<sup>21</sup> the City of Tarnów is inhabited by 109 650 people, and population density is 1,515 people/km<sup>2</sup>.<sup>22</sup>

Family Garden Allotments “Semafor” are located within the planned embanked area on the Contract site – implementation of the Works Contract shall relate to the removal of facilities from the area of garden allotments, about 12 ha. It is expected to demolish and liquidate all free-standing objects (fences, garden sheds) located in the area between the new embankment and the river. The works shall include demolition of about 175 garden sheds and of fences at garden allotments over the total length of about 8,913 m. Internal water-supply network and power line shall be also demolished within that area.

The issues associated with a social context for the implemented Works Contract were described in more details in the document titled *Land Acquisition and Resettlement Action Plan* (LA&RAP) for the subject Contract.

## 4.11 Remaining ESHS issues

ESHS related issues (i.e. the ones related to environmental, social and health and safety aspects) are regulated in Poland by several provision given in binding legal acts, including e.g. the Act of April 27, 2001 Environmental Protection Law, the Act of October 3, 2008 on providing information on the environment and its protection, public participation in the environmental protection, and on environmental impact assessments, the Act of April 16, 2004 on nature conservation, the Act of April 13, 2007 on preventing of damages to the environment and on repairing them, the Act of December 14, 2012 on waste, the Act of July 20, 1991 on Environmental Protection Inspectorate, the Act of March 14, 1985 on the State Sanitary Inspectorate, the Act of July 7, 1994 Construction Law, the Act of July 20, 2017 Water Law,

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<sup>21</sup> [GUS – Baza Demografia: Wyniki badań bieżących: Stan i struktura ludności: Ludność: 2017: Ludność stan w dniu 30 VI: Ludność według płci i miast: Małopolskie](#)

<sup>22</sup> <https://bdl.stat.gov.pl>

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the Act of June 26, 1974 Labour Code, the Act of April 13, 2007 on the State Labour Inspectorate, the Act of December 3, 2010 on implementation of some provisions of the European Union in reference to equal treatment, the Act of April 23, 1964 Civil Code, the Act of June 6, 1997 Penal Code, and others.

Legal regulations included in those acts are to e.g.:

- assure proper condition for abiotic environment and for biotic environment on site and in the areas surrounding the implemented construction investments;
- assure safety and health of people in reference to implementation of construction investments;
- prevent cases of sexual harassment and mobbing on work sites;
- assure proper social and labour conditions, and payment for the personnel.

Supervision over observing of provisions included in the aforementioned legal acts is performed by e.g. such numerous institutions and state authorities as the: General Directorate for Environmental Protection, Regional Directorates for Environmental Protection, Environmental Protection Inspectorate, State Sanitary Inspectorate, Construction Supervision Authorities (including Provincial Construction Inspectorates and District Construction Inspectorates), State Labour Inspectorate, Ombudsman, Governmental Proxy for Equal Treatment, Governmental Proxy for Rights of the Disabled, Police, and others.

Nonetheless, considering the importance of ESHS issues and the requirements of international institutions financing the OVFM Project (including the World Bank), this Environmental Management Plan and other documents of the Contract contain numerous detailed conditions to assure the proper implementation of any valid provisions and to keep high proceeding standards in the aforementioned scope.

## **5 Environmental Impact Assessment – Summary**

### **5.1 Impact on land surface and landscape**

Significant permanent adverse changes to the local landscape shall not occur due to implementation of the Works Contract.

The landscape shall permanently change during implementation of the Works Contract only at the new embankment. The landscape shall also undergo minor modifications within the first years after completion of the construction process, when the formed embanked area would be occupied by environmental habitats.

Due to the fact that the Works Contract shall be implemented within an area which has already been heavily transformed and it would remain a continuation for the existing embankments, it shall not deteriorate landscape values in the City of Tarnów.

As a result of the works, short-term impact on the landscape shall additionally occur on the implementation stage. It results from the necessary removal or – at least – disturbance of the top layer of soil, or from development of excavations for embankment elements. Additional area shall also be acquired for the embankment to be constructed, flood road at strip footing, and technical lane within the embanked area and in the area beyond the embankment. Except for the listed forms of impact there shall be no interference in the soil layer.

In order to limit the impact of works on land surface and on landscape during implementation of the Contract, one shall implement mitigation measures described in Appendix 1 to this EMP – Plan of mitigation measures, items in the table: 4, 6 -13, 16, 17, 19, 20, 28 - 30, 32, 64, 108 – 110, 121-123.

### **5.2 Impact on local climate**

On the stage of implementation there shall be no impact on the climate. On the Works Contract's use stage there shall also be no impact on the climate in both: micro-scale and macro-scale. Any changes associated with conditions of shaping air humidity – related to the vicinity of surface water and flood plains – shall be of local character. On the Works Contract's operational stage it is not expected to identify significant changes to parameters of micro-climate; thus, it is not necessary to implement additional mitigation measures. Measures shall however be undertaken during the performance (e.g. removal of vegetation), and they may affect such elements of climate as e.g. insolation associated with presence of vegetation, or air humidity. That shall however be an impact of a minor scale.

Reduction of a flood risk shall allow for avoiding its consequence, e.g. such as: shaping of topo-climate due to local changes in water relations.

The Works Contract shall not cause adverse impact on the climate on both: the implementation stage, as well as the operational stage.

### **5.3 Impact on air quality**

Impact of the analyzed Works Contract on the air quality shall only occur at the performance, when works – comprising application of construction equipment, and diesel vehicles and machines – would cause emission of gas and dust pollutions, and as a consequence – increase the level of air contamination. The impact shall be short-term and – due to the scale of the works – it is not expected to exceed permissible concentration of substances in the air. Dusting may only be caused during offloading of soil at embankments to be developed. Soil shall not be stockpiled within the Contract area – it will be delivered on an ongoing basis; thus, excessive dusting shall not occur.

The range of emission shall correspond with the performance area only, and with the route of access roads and technological roads. The emission shall be unorganized, local, and temporary. After completion of the works it shall cease completely.

A main component resulting in contamination of air during emission of combustion gas from engines is nitrogen oxide. Volume and composition of emitted substances depend on the type of engines of operating vehicles or machines (gasoline, diesel or gas feeding), and of their age and technical condition. That emission shall be limited through application of technically efficient machines having required certificates.

The volume of emission shall depend on the number of vehicles and machines with diesel engines used for the construction, and on their work time. Organization of the work (optimizing the use of equipment, work productivity, etc.), as well as organization of space, including the construction site and access roads (optimizing the delivery routes, location of the site facilities), are important for limitation of the emission. Additional possibilities of limiting the emission of pollutions are related to the care for the technical condition of vehicles and machines, as well as to the observance of environmental protection standards and H&S. In order to minimize the adverse impact on the air it is recommended to sprinkle the yards and dirt roads regularly (limitation of dusting) at dry periods.

Deliveries of construction materials shall not cause changes to the general air quality at the site. Due to the temporary character of deliveries using access roads and temporary roads, the emission shall practically have no meaning and shall not cause exceedance of standard volumes beyond the traffic routes.

On the operational stage the Works Contract shall not remain a source of significant emission of pollutions to the air. Operations of the objects and of flood defenses under the modernization are not associated with regular emission of pollutions.

A source of temporary unorganized emission shall only be the combustion of fuel by vehicles moving within the technological road while performing maintenance works or inspecting the embankment, or operations of diesel lawnmowers at curing the embankment slopes; however, that emission shall not significantly affect the air quality due to a small scale.

One shall assume that the Works Contract shall not cause significant impact on the air quality on both: the implementation stage, as well as on the operational stage.

In order to limit the impact of works on the quality of air during implementation of the Contract, one shall implement mitigation measures described in Appendix 1 to the EMP for Contract 3D.2/1 - Plan of mitigation measures, items in the table: 79 – 83, 85.

## **5.4 Impact on soil and grounds**

Impact of the Contract on the soil environment shall be present – similarly as in case of most of the remaining environmental components – only on the performance stage. Adverse impact on the surface of earth will result from the necessary construction works. Development of the embankment shall require relocation of soil, due to development of embankment mainly.

The expected impact onto the surface of earth shall be local. Implementation of the Works Contract shall not require development of deep excavations.

During implementation of the Works Contract impact on the soil shall occur, mainly due to the necessary removal of the ground within the designed embankment route, in order to assure proper parameters for the embankment and its sealing. Due to the possible management of all of the removed soil within the Contract implementation area, the impact shall not be significant.

A hazard for soil is mainly associated with the occurrence of such failures as leakage of diesel derivatives, which may cause local contamination of the ground. The impact shall be local.

At keeping standard of environmental protection and of H&S there shall be no significant impact, and the quality of soil shall not be deteriorated due to implementation of the Works Contract. Adverse impact related to the temporary relocation of soil during the earthworks shall be momentary. After completion of the works, the site shall be cleared and reinstated by the Contractor.

The Works Contract shall not cause adverse impact on the soil and on the subbase on both: the implementation stage, as well as the operational stage.

It was however assumed that in order to limit the impact of works on the status of soils and grounds during implementation of the Contract one shall implement mitigation measures described in Appendix 1 to the EMP for Contract 3D.2/1 - Plan of mitigation measures, items in the table: 14, 15, 18 - 20, 23 – 32, 60 – 62, 65 – 74, 84 – 88, 108 – 110, 121-123.

## **5.5 Impact on surface water**

Implementation of the subject Contract is not associated with interference in the Biała river-bed, and it shall be implemented beyond the channel, in a distance of about 250 m from the bank slope; thus, direct significant impact on surface water is not anticipated. There shall be no interference in morphology of the river-bed or in the hydrological regime; the Works Contract shall be implemented beyond the river-bed and the joint between the bank and the channel. As the Works Contract remains a continuation for the existing embankments of the River Biała, it is planned to be implemented within an urbanized land, and therefore one shall deem that concentration of water in the river-bed and the accelerated discharge – characteristic for embanked sections of water-courses – remain the current condition of the environment. The Contract in question shall not form hazard to achieving environmental objectives established for the BSW, within catchment of which it shall be implemented. The Works Contract shall not relate to the intake of water or to the discharge of waste water into the soil; thus, it shall not affect the quantitative status and the qualitative status of surface water, and shall not pose risk to achieving the environmental objectives by the BSW.

Implementation of the Contract shall not be associated with occurrence of new sources of waste water emission to the ground. Although domestic waste and small volume of

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technological waste will be produced during the performance, they shall be collected in tight containers and successively transferred to the waste treatment plant. The planned works shall also result in production of a small volume of waste, municipal waste mainly, which would be taken over by a company with regulated formal and legal status, in order to treat them properly. At implementation of the Works Contract waste shall also be produced during liquidation and demolition of garden allotments' facilities and demolition and redevelopment of infrastructure. They should be transferred to an external unit having necessary permits for further management in the process of recovery or treatment beyond the Contract area.

Assuming the proper course of works, the analyzed Works Contract shall not cause production of hazardous waste posing a risk of water quality deterioration.

Impact during the performance may be a result of the leakage of substances harmful to the environment, i.e. increase of suspension in the discharge, spilled fuel or other substances applied during the construction works. One shall undertake any measures to remove the adverse effects of the event then. Performance conditions, as well as location and organization of the site facilities determined in the environmental decision shall protect the water against a potential contamination possibility.

There shall be no interference in the river-bed also on the embankment's operational stage, and therefore there shall be no significant impact on bodies of surface water. During such extreme events as floods, the new embankment shall not cause water damming at bridges and shall not increase a flood wave at Dunajec. This is why the use of embankments shall not result in the change of surface water quality.

The Works Contract shall not cause significant impact on the surface water on both: the implementation stage, as well as the operational stage.

It was however assumed that in order to limit the impact of works on the status of water during implementation of the Contract one shall implement mitigation measures described in Appendix 1 to the EMP for Contract 3D.2/1 - Plan of mitigation measures, items in the table: 14 – 20, 23 – 26, 60 – 63, 65 – 74, 84 – 88, 121-123.

### **5.6 Impact on groundwater**

Impact of the Works Contract on the level of groundwater shall be temporary and shall occur during accommodation of a flood wave only. It is associated with the development of hydro-insulating membrane in the embankment body, as it would modify flow conditions for water in the ground during floods, when hydraulic gradient changes through rising of the dammed water-table within the embanked area. Change of the groundwater level during floods shall however be temporary, and groundwater shall return to the level from before the peak flow after accommodation of the flood wave.

Implementation of the Contract shall neither relate to the emission of pollutions to the groundwater nor to the intake of groundwater. It is also not planned to develop any elements affecting the quantitative status or the chemical status of groundwater under the Contract. This is why during the implementation, as well as the use of embankments there shall be no impact on the chemical status and the quantitative status of bodies of groundwater; thus, it shall not form a risk of not achieving the environmental objectives determined for the body of groundwater.

A risk of emission of pollutions to the ground and water environment on the implementation stage may only result from not meeting standard requirements for environmental protection by the Contractor, as applied during the construction works, e.g. improper storage of waste, improper waste management at site facilities, application of diesel vehicles and construction machines and devices against their purpose or beyond designated sites (e.g. traffic of vehicles beyond the set out roads, parking lots, or maneuvering yards) or due to exceptional cases, i.e. equipment failures, traffic accidents, or rapid unfavorable weather changes or natural disasters. An indirect reason for events, which may form a risk to the ground and water environment, is the lack of sufficient control over efficiency of the equipment. An increased risk of emission of pollutions to the ground and water environment occurs then in a form of leaks of harmful liquid or semi-liquid substances (fuel, diesel, grease) from vehicles and construction machines and devices, and their infiltration in subbase or surface discharge. Weather conditions for the construction works shall be of a crucial meaning in case of using the water.

The Works Contract shall not cause significant impact on the groundwater on both: the implementation stage, as well as the operational stage.

In order to limit the impact of works on the status of groundwater during implementation of the Contract one shall implement mitigation measures described in Appendix 1 to the EMP for Contract 3D.2/1 - Plan of mitigation measures, items in the table: 14 – 20, 23 – 26, 60 – 63, 65 – 74, 84 – 88, 121-123.

## **5.7 Impact on acoustic climate**

Due to specificity of the Works Contract its acoustic impact shall occur in the implementation phase only, when it would be necessary to apply heavy construction equipment and to deliver construction materials. Those shall be movable as well as fixed noise sources associated with preparation of the site for the construction (including e.g.: logging of trees and shrubs), loading, delivery, and unloading of materials, construction of the embankment, condensation of slopes, development of hydro-insulating membranes, and clearance works associated with site grading and sowing with grass. Exceedance of permissible noise standard may be related to periods of operations of heavy equipment and of truck deliveries in vicinity of noise sources. The greatest impact shall occur at the performance in the direct neighborhood of acoustically protected areas (residential areas). The impact shall however be short-term and shall end at the completion of works within the Works Contract area.

At the use of the Works Contract there shall be no impact on the acoustic climate, due to the absence of devices and machines, which would be required for operating the Works Contract. Temporarily there may be a short-term impact in a form of noise emitted by operating lawnmowers, which are necessary to mow greenery at the embankment; however, the impact may last for few hours a year only, in total.

The impact is integrally associated with the scope of the Works Contract on the implementation stage, and it cannot be eliminated completely. In order to limit the impact of works on the status of acoustic climate during implementation of the Contract one shall implement mitigation measures described in Appendix 1 to the EMP for Contract 3D.2/1 - Plan of mitigation measures, items in the table: 16, 75 – 79.

## **5.8 Impact on nature**

### **5.8.1 Protected natural habitats and protected species**

#### **Natural habitats under Appendix I to the Habitats Directive**

The Contract implementation site is an area heavily transformed by human, where no natural habitats are present, including sites listed under Appendix I to the Habitats Directive. Therefore, there shall be no impact on environmental habitats on the Works Contract implementation stage. After completing the implementation, one shall expect that environmental habitats would start their succession within the use stage in the area of former garden allotments between the river and the embankment. It may therefore be stated that the Works Contract shall have a positive impact on natural habitats.

#### **Protected species of plants and fungi**

During the environmental inventory done within the area of the planned Works Contract the occurrence of strictly or partially protected species of plants, as listed in the Regulation of the Minister of Environment of October 9, 2014 on the protection of plant species (OJ of 2014, item 1409), was not identified.

The occurrence of protected species of fungi, as listed in the Regulation of the Minister of Environment of October 9, 2014 on the protection of fungi species (OJ of 2014, item 1408), was also not identified.

Implementation of the Works Contract shall therefore not affect the protected species of plants and fungi.

Performance of the planned construction works relates to the impact of the Works Contract on vegetation within the implementation area. A method adopted for implementation minimizes that impact through its limitation to the impact on vegetation colliding with the Works Contract directly. Herbaceous plant shall be damaged and trees – directly colliding with the planned Contract and placed within the area acquired for temporary technological roads and maneuvering yards – shall be logged. It is planned to log about 461 trees and remove about 341.7 m<sup>2</sup> of shrubs colliding with the planned Contract directly. For the purpose of restoring environmental values, top-soiling and sowing shall be done for the area damaged during the performance after completion of the works. The necessary logging of trees shall be compensated with replacement planting in the amount of 461 trees. The scope and detailed location of planting shall be determined at commencing the construction works. The planting shall be done in the closest possible distance from the Works Contract, at plots owned by the Municipality of Tarnów and/or by the Commune of Tarnów (in accordance with a note of the RDOŚ Cracow given in Appendix 4g).

Adverse impact on vegetation shall disappear in the operational stage to a high extent. It is related to the expected reinstatement of land to its original condition, while keeping the previous use of land.

#### **Protected species of animals**

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Information on the occurrence of protected species of animals within the Works Contract implementation zone and in its direct neighborhood was presented in Section 4.8.1. Impact of the Works Contract on particular groups of identified animals is described below.

### Invertebrates

The occurrence of protected species of invertebrates has not been identified with the Contract implementation zone. However, due to the fact that in accordance with the Standard Data Form for Natura 2000 site Biała Tarnowska PLH 120090, thick shelled river mussel *Unio crassus* lives in the river; thus, it is possible that that mussel is also present in a reach of the river-bed running in vicinity of the analyzed site. It is therefore necessary to take special care and apply the requirements in reference to implemented mitigation measures – as determined in Appendix 1 to the EMP – during the construction works.

### Amphibians and reptiles

The occurrence of protected species of amphibians and reptiles and their breeding zones have not been identified within the Contract implementation zone. However, in accordance with the Standard Data Form for Natura 2000 site Biała Tarnowska PLH 120090, within the areas located in a distance of about 3 km – thus, potentially within the Works Contract implementation area – two strictly protected species of amphibians occur, and those are: yellow-bellied toad *Bombina variegata*, and northern crested newt *Triturus cristatus*. The inventory of existing embankments also proved the occurrence of sand lizard *Lacerta agilis*, which – in accordance with the Regulation of the Minister of Environment of October 6, 2014 on the protection of animal species (OJ of 2014, item 1348) – is subject to partial protection. It is therefore necessary to take special care during the performance.

The planned construction works may form a risk of trapping and killing for amphibians and reptiles in excavations located within the site. A potential threat is also the traffic of vehicles and machines, which may deteriorate the conditions of occurrence and breeding in vicinity of the Works Contract, or form a direct hazard to life of specimens. Incidents of polluting the water and ground environment may also form a threat to that group of animals.

Impact of that type has a potential character, and the performance compliant with conditions determined in Appendix 1 to the EMP (as also discussed under Section 6.8) highly reduces its occurrence risk.

### Birds

In vicinity of the Contract implementation site, beyond its boundaries, the occurrence of 6 species of protected birds was identified (see: a map given in Appendix 9 to the EMP and a description given in Section 4.8.1). During the performance the species may be threatened by potential forms of adverse impact.

It shall mainly result from the necessary logging of trees colliding with the course of embankment. For the purpose of mitigating the impact, the logging shall be done beyond the hatching season of birds, i.e. from the October 16<sup>th</sup> until the end of February, and – furthermore – trees not to be logged shall provide protection for birds. Adverse impact may also be associated with increased penetration of the site by people and with intensive traffic of vehicles and construction machines (scaring and disturbance of specimens) – the impact shall be local and temporary, and limited to the period and the time of performance.

Considering the fact that identified birds are mostly common species and species widely spread in Poland, and taking into account the temporary and ceasing character of potential impact, effects of the Works Contract for populations of protected species of birds shall be deemed as insignificant.

Any type of adverse impact on animals shall essentially cease on the operational stage. It is related to the expected restoration of the site to its original condition, while keeping the previous use of land.

In order to limit the impact of works on the status of flora and fauna during implementation of the Contract one shall implement mitigation measures described in Appendix 1 to the EMP for Contract 3D.2/1 - Plan of mitigation measures, items in the table: 14 – 17, 26, 27, 31, 33 – 60, 64, 109, 121-124.

### **5.8.2 Protected sites**

The Works Contract implementation area is located beyond the reach of Natura 2000 sites, but there are two areas under Natura 2000 special protection in the neighborhood: Biała Tarnowska PLH120090 (2.22 km from the Works Contract site), and Dolny Dunajec PLH120085 (3.54 km from the Works Contract site), as described in Section 4.8.2 and presented on a map under Appendix 6 to this EMP.

Within the framework of environmental impact assessment, the Regional Director for Environmental Protection in Cracow inspected the expected impact of the Works Contract on objectives for the Natura 2000 site Biała Tarnowska PLH120090. It was identified that implementation of the Works Contract – on both: the performance stage, as well as the operational stage – shall neither cause reduction in the population volume for species under protection within that site nor reduction of their occurrence, due to the absence of interference in the Biała river-bed and its biological development. It shall also not result in deterioration of the status of natural habitats, reduction of their areas, or change in their characteristic features. One shall therefore deem that implementation of the Works Contract shall not affect the Natura 2000 site Biała Tarnowska PLH120090, and its connection with other Natura 2000 sites adversely.

Due to a huge distance between the Works Contract and the Natura 2000 site Dolny Dunajec PLH120085 (about 3.54 km), there shall be no impact on that area during the implementation.

### **5.9 Impact on cultural landscape and on monuments**

As proved by an analysis done on the stage of environmental impact assessment, at implementation, as well as at the use of the Works Contract there shall be no threats to sites and objects of historic value. Neither the area of the analyzed Works Contract nor objects located within its boundaries or in its close vicinity are considered as heritage, in accordance with the Act of July 23, 2003 on the protection of heritage and care about heritage; thus, they are not subject to conservator's protection. It is not expected that the Works Contract may have any adverse impact on historic objects located in vicinity of the site in question.

The closest historic objects entered to the register of fixed heritage for the Małopolskie Province dated February 2015, as published by the Provincial Office for Heritage Protection in Cracow, are located in Tarnów, in a distance of about 2 km from the planned Contract implementation site, and those are:

- urban group of Nitrogen Plant's estate in Mościce;
- urban group – Dworcowy Square, PKP main station, platform shelters, area of the park;
- house, 6. Czerwonych Klonów Street;
- railway gatehouse, 5. Stanisława Kassali Street;
- military cemetery no. 200;
- Square with a cornerstone for "Nasz Dom" ("Za Torem") estate, Obrońców Lwowa Street;
- villa with its surroundings at 9. Jarzębinowa Street.

Implementation of the Works Contract does not affect the aforementioned historic objects.

In order to limit the impact of works on the cultural landscape and on historic objects during implementation of the Contract one shall implement mitigation measures described in Appendix 1 to the EMP for Contract 3D.2/1 - Plan of mitigation measures, items in the table: 99, 100, 104.

## **5.10 Impact on population and on material goods**

### **Social impact**

A basic aim for implementation of the Works Contract is the assurance of protection for health and life of people in case of river floods, and also improvement of emotional comfort for people living at neighboring sites. The Odra-Vistula Flood Management Project remains a project of national significance implemented at support of international financing institutions. It is one of numerous Works Contract on flood protection, developed and implemented due to catastrophic floods occurring in Poland within last twenty years (the event of May 2010, which caused serious material damage in the valley of Upper Vistula and within some of its tributary rivers – e.g. in Podkarpackie Province, was one of them). In case of those events, implementation of the Works Contract is economically justified, and it gains common social acceptance of the local authorities and of the inhabitants, owners, and users of land, where the construction works are or will be performed.

However, one shall consider a risk of social conflicts caused not by the Works Contract itself and by the intended objective – which is improvement of the flood safety, but by nuisance for the people living in vicinity mainly, which would occur on the performance stage in reference to the adverse impact of the construction works and deliveries (noise, vibrations, air pollution). One shall emphasize that those impacts shall be temporary and limited, and they shall end at the completion of the construction phase. Limitation of nuisance to people is one of the main objectives for implementation of Environmental Management Plans, and its achievement shall be one of priorities on the performance stage. However, an overriding project's objective, which is limitation of flood risk, should compensate potential nuisance occurring on the performance stage, which is difficult to eliminate.

In accordance with the EIA Report, development of a new embankment – which is important for protection of people living in the area beyond the embankment – shall not result in deterioration of flood safety for the area located on the opposite bank of the River Biała. A flood embankment having a height sufficient for the purpose of protection – even if the water-table raises as a result of developing the designed new embankment – is located there.

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The environmental impact assessment done proved the noticeable impact of the construction of the new embankment in a form of increased flood hazard in areas located on the left bank of the River Biała between the railway bridge in the artery of Krakowska Street and the bridge in the artery of state road no. 94 – it is especially related to the Koszyce Estate. A decision of the Regional Director for Environmental Protection in Cracow dated November 30, 2016, ref. no.: ST-I.4210.1.2015.MB, establishing “environmental conditions for the Works Contract comprising construction of the right embankment of the Biala River in the City of Tarnów at local chainage km 0+000 – 0+695”, contains an indication that implementation of the Works Contract shall be synchronized in time with the construction of the left flood embankment at chainage about km 6+680 to 7+700 of the River Biała, in order to (through developing the discussed embankment) avoid increasing a flood hazard for the Koszyckie Estate in Tarnów. This provision is however not treated as a condition for the Contractor, which would affect the performance under Contract 3D.2/1 *Construction of the right embankment of the Biala River in the City of Tarnów*.

Nonetheless, considering the above, for the purpose of protection for the Koszyce Estate against floods one shall extend the existing left embankment of the River Biała, which currently ends at Krakowska Street. Construction of flood embankments in the area of Koszyce Estate was included in the Investment Programme Analysis for the Dunajec River Basin (API) as a significant measure, which shall necessarily be implemented. The Works Contract has also been put in the Flood Risk Management Plan (FRMP) on the 1<sup>st</sup> planning stage for the years 2016-2021. Flood Hazard Maps (FHM) for Poland are currently being updated, as bespoke by PGW WP. Flood Risk Maps (FRM) are additionally being updated, and they shall determine the number of people under a risk of flood, as well as the value of potential material damage, and they shall inform important objects under a risk of flooding in case a flood event – with particular probability rate (10%, 1%, and 0.5%) – occurs. The works’ range covers areas located on both sides of the River Biała, including the Koszyce Estate in question. On a further stage, based upon the results of the works in progress, PGW WP expects to develop design documentation for the construction of a left flood embankment at chainage from about km 6+680 – 7+700 of the River Biała, and subsequently to construct the subject section of embankment.

Development of a new embankment under this EMP is therefore one of the stages of works limiting flood hazard in the River Biała basin. Under a separate Contract 3D.2/2 *Expansion of the left and right embankment of the Biala River in the Tarnow Municipality and the City of Tarnow*, to be implemented under the OVFMP, the existing embankments located within the City of Tarnów shall be extended.

Implementation of those two Works Contract shall provide flood protection for the City of Tarnów in the area from the estuary of Biała River to the estuary of Wątok Stream (right embankment) and to Krakowska Street (left embankment). Still, an element supplementing the flood protection system for the City of Tarnów shall be the construction of the left embankment for the River Biała in the area of Koszyce Estate, as expected by PGW WP.

The issues associated with a social context for the implemented Works Contract were described in more details in the document titled *Land Acquisition and Resettlement Action Plan (LA&RAP)* for the subject Contract.

### **Impact on material goods**

Except for protection of people's health and life, it is assumed that the Works Contract shall protect material assets through reducing the flood hazard. The most of residential objects, where the planned embankment shall be placed, is located in a huge distance from the Contract area.

For the purpose of providing land for implementation of the Contract it shall be necessary to remove about 175 free-standing objects from garden allotments "Semafor" and to demolish fencing of garden allotments over the total length of about 8,913 m in the area of the Biała river-bed.

Additionally, the environmental impact assessment done proved the significant impact of the construction of the new embankment in a form of increased flood hazard – and therefore in increasing flood hazard for material goods – in areas located on the left bank of the River Biała between the railway bridge in the artery of Krakowska Street and the bridge in the artery of state road no. 94 – it is especially related to the Koszyce Estate and to the area of Family Garden Allotments "Metalowiec".

Considering the above, for the purpose of flood protection for the Koszyckie Estate one shall extend the existing left embankment of the River Biała at chainage from about km 6+680 – 7+700 of the river. Those actions were described in details above, in Section 5.10 – part titled "Social impact".

The most of construction works shall be performed in a huge distance from developed areas. The Contractor shall be responsible for planning, organizing, and performing the construction works in such a way to avoid the occurrence of hazard for surrounding material goods. It shall also be responsible for any damage to the bulk objects, structures, roads, elements of technical facilities (ditches, culverts, transmission networks), as well as information boards, cultural objects, etc., caused by the Contractor or its subcontractors. That liability shall relate to an obligation of repairing any damage of that type at own expense.

The issues associated with a social context for the implemented Works Contract, including expropriation of properties, limitation of the previous method of use or of the access to properties, were described in more details in the document titled *Land Acquisition and Resettlement Action Plan (LA&RAP)* for the subject Contract.

## **5.11 Impact on health and safety of people**

Implementation of the planned Works Contract may relate to the following impact on the people's health and life:

- Increased emission of pollutions to the air

On the construction stage there may be local and temporary increase of the contamination level for the air, which is associated with the use of vehicles and construction machines (emission of combustion gas). Due to its disperse, local and not too intensive character, as well as due to the distance from most of the construction site from the closest houses, the impact should not result in significant effects in reference to the health of Contractor's personnel and inhabitants living in vicinity (see also: Section 5.3).

- Increased emission of noise

On the construction stage there may be local and temporary increase of the noise level, which is associated with the performance and with the use of vehicles and construction machines. Considering the circumstances discussed under Section 5.7, the event should not result in significant effects in reference to the health of Contractor's personnel and inhabitants living in vicinity.

- Hazard of contamination with diesel derivatives

Bad organization of the works and not observing relevant standard may lead to contamination of water and ground with fuel on the construction stage, what – in turn – may form a direct or indirect hazard to the health of Contractor's personnel and inhabitants living in vicinity. In order to prevent such hazard Appendix 1 to this EMP implements numerous conditions to limit a risk of diesel pollutions on the construction stage (see also: Section 6.11).

- Possible failure or disaster at the flood embankment on the operational stage

The issues associated with the potential impact of failure or disaster at the flood embankment to the health of Contractor's personnel and inhabitants living in localities placed in the area beyond the embankment were discussed in Section 5.12

## **5.12 Exceptional hazard (crisis situations and emergencies)**

Hazard associated with contamination of the environment may occur on both: the implementation stage, as well as on the operational stage, e.g.: identification of unexploded shells and misfires, failures of embankments, or failure of devices during the operations.

Due to the possible accommodation of a flood wave during the performance, the Contractor shall be obliged to organize and establish detailed rules of proceeding in case of the discussed event.

The Contractor is obliged to perform the works under sapper supervision, which includes constant inspection and clearance of the site from dangerous military items, including their treatment.

The most likely event, which may occur during the performance, is leakage of substances from machines and vehicles operating within the site. Constant inspections of the machines and proper organization of the site and site facilities shall be assured to remove the contamination as soon as possible.

The proper performance and use, and observation of rules of proper organization for the works and observation of the law would allow for providing full safety for the construction site and for the environment.

## **5.13 Other hazards related to ESHS**

Implementation of the Contract may relate to numerous impacts related to ESHS issues (i.e. environmental, social and health and safety aspects). Except for the issues discussed above

in Sections 5.1-5.12, the following additional issues or hazards related to that subject may occur during implementation of the Contract, e.g.:

- Accidents and near misses, including participation of people associated with implementation of the Contract and/or of third parties;
- Cases of such unacceptable behavior on work sites as sexual harassment or mobbing;
- Cases of intentional or unintentional violation of labour law's provisions, including the ones associated with social conditions and labour conditions, and with payment to the personnel;
- Cases of infections with sexually transmitted diseases, including HIV/AIDS, resulting from the lack of knowledge on preventing and controlling infections of that type.

Due to significant social effects of those hazards, this Environmental Management Plan and other documents of the Contract contain numerous detailed conditions to prevent and efficiently react in case such event occurs, and to assure proper implementation of any provisions of national legislation in that scope (see e.g.: section 6.14).

## **5.14 Cumulative impact**

One may face cumulated impact during simultaneous implementation of Contract 3D.2/1 *Construction of the right embankment of the Biala River in the City of Tarnów* and Contract 3D.2/2 *Expansion of the left and right embankment of the Biala River in the Tarnow Municipality and the City of Tarnow* implemented in the neighborhood, also within the framework of OVFM Project. The impact shall be present on the performance stage only.

The following may especially be accumulated:

- Impact on the acoustic climate,
- Impact on the air.

Those impacts – as ones strictly associated with the performance stage – cannot practically be eliminated. Nuisance of those impacts shall however be significantly limited due to meeting the obligations imposed onto the Investor with the ED.

The use of embankments shall not cause accumulation of adverse impact.

## **6 Description of mitigation measures**

In order to limit adverse impact of the planned Works Contract onto the environment, Appendix 1 to this EMP provides a list of mitigation measures, which shall be implemented prior to, during, and after completion of the construction works. Those measures have been developed based upon the conditions included in the following documents:

- Environmental Impact Report for “Construction of the right embankment of the Biala River in the City of Tarnów at local chainage km 0+000 – 0+695”, with updates.
- Decision of the Regional Director for Environmental Protection in Cracow dated November 30, 2016, ref. no.: ST-I.4210.1.2015.MB, establishing environmental conditions for “Construction of the right embankment of the Biala River in the City of Tarnów” at local chainage km 0+000 – 0+695.
- World Bank policies:
  - OP/BP 4.01 – on environmental impact assessment,
  - OP/BP 4.04 – on natural habitats,
  - OP/BP 4.11 – on physical cultural resources.
- Odra-Vistula Flood Management Project – Project Operations Manual, Wrocław 2015.
- Odra-Vistula Flood Management Project – Environmental and Social Management Framework, Cracow 2015.

They are associated with detailed guidelines for the Contractor and they need to be implemented prior to, during, and after completion of the Contract for works.

A summary and general characteristics of the main categories of mitigation measures were provided below, including a breakdown into particular environmental components.

### **6.1 Land surface and landscape**

#### **Implementation stage**

Basic forms of the adverse impact of the planned Works Contract on the surface of land and on the landscape were provided in Section 5.1.

In order to limit adverse impact of the Contract on land surface and on landscape mitigation measures were established, and their implementation was planned during performance of the construction works, and also prior to their commencement. The performance stage shall be preceded with works associated with preparation of the Works Contract implementation site, including e.g. preparation of storage yards for construction materials, site facilities, etc., and setting-out, preparation (and agreement with road administrators) of delivery routes for machines and vehicles.

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Locations of temporary acquisition (technological roads, yards, site facilities, storages sites for construction materials, parking lots and others) should be placed and developed in accordance with the guidelines of the Contractor's environmental team, as approved by the Engineer.

Machines and vehicles may move only within technological roads and maneuvering yards within the site. Order should be kept within the construction site and proper organization of the works should be assured.

The most important mitigation measures are as follows:

- Delivery of materials should be done using existing public roads running in vicinity of the planned Contract and using technological roads, with maximum possible application of the existing road network; if new temporary roads would be necessary, one shall locate them, where possible, within areas of low environmental values, in a maximum distance from the existing water-courses, water reservoirs, and wet land;
- Storage sites for materials, rest and refreshment facilities, and parking lots for the equipment and for machines shall be located in places of the lowest environmental value, in a proper distance from residential areas, water-courses, reservoirs, and wet land, including rules of minimization for acquisition of land and for transformation of its surface;
- The site facilities shall be hardened and equipped with sanitary facilities;
- The area of planned Works Contract shall be cleared after completion of the works and green areas shall be reinstated;
- The area of works and land adjacent to the construction site shall be reinstated to its original conditions due to e.g. the traffic of machines and means of transport.

In accordance with valid standards and at keeping environmental protection rules in conformity with the conditions determined in relevant decisions, the performance shall minimize adverse impact of the Works Contract on the soil environment.

Mitigation measures related to the protection of land surface and landscape were listed in Appendix 1 – Plan of mitigation measures, items in the table: 4, 6 -13, 16, 17, 19, 20, 29, 30, 32, 64, 108 – 110, 121-123.

### **Operational stage**

During the operational stage no adverse impacts on ground surface and landscape are anticipated; thus, it was not necessary to plan and implement mitigation measures.

## **6.2 Climate**

Due to the fact that implementation of the Works Contract shall not cause adverse impact on the local climate (see: description under Section 5.2), it was not stated necessary to plan and implement mitigation measures in that range.

## **6.3 Air quality**

### **Implementation stage**

Basic forms of adverse impact of the planned Contract on the air were presented in Section 5.3.

For the purpose of limiting those impacts, it is recommended to apply e.g. the following mitigation measures to eliminate or at least reduce the adverse Works Contract impact on the air quality:

- Equipment used on the implementation stage shall be fully efficient and meet the legal requirements to protect against the emission of dusts and gases to the air,
- Loose materials and aggregate necessary for the planned works shall be properly protected against outblowing and excessive dusting during transportation, storage, and embedding,
- Access roads shall be kept in proper cleanliness, and the construction site shall be protected against dusting,
- One shall limit the operational time of diesel engines, construction machines and vehicles, eliminate their operations at idle, and reduce traffic velocity for vehicles within the site.

Detailed recommendations for mitigation measures related to air protection are shown in Appendix 1 – Plan of mitigation measures, items in the table: 79 – 83, 85.

### **Operational stage**

The only source of temporary unorganized emission of pollution to the air on the operational stage shall be emission of combustion gas during mowing of plants on the embankment. That emission shall not have a significant impact on the air quality, and therefore there is no need for introduction of mitigation measures concerning protection of air during the operational stage.

## **6.4 Soils and grounds**

### **Implementation stage**

Basic forms of adverse impact of the planned Contract on the soil and grounds were presented in Section 5.4.

The most important mitigation measures to limit those impacts are as follows:

- One shall remove a layer of top-soil and then about 40 cm thick layer of mineral soil prior to the commencement of earthworks. The collected ground and top-soil shall be stored for embedding in further construction phases. Storage sites for top-soil and mineral ground should be selected by the Contractor to protect them against pollution, overdrying, mixing, overpassing, and compaction, and to allow for its re-embedding;
- In case of a failure polluting the ground, one shall immediately remove the polluted soil layers and hand them over to a specialized company having relevant permits for business actions related to the hazardous waste treatment; in case of serious failures one shall apply notification procedures for relevant services;

- During the performance one shall apply efficient equipment only to protect the soil against pollutions;
- Site facilities, where vehicles, machines and devices shall move, shall be sealed on the subbase side using insulation materials assuring protection for the soil;
- Maintenance of vehicles, machines and devices (e.g. diesel exchange, liquid change, etc.) may be done in designated spots within site facilities only, while meeting determined conditions (e.g. proper marking, protection on the subbase side, distance from water, etc.);
- Site facilities, and especially locations designated for maintenance of vehicles, machines and devices (including garages, fueling sites, technical service sites, etc.) shall be provided with a station with sorbent for neutralizing potential leakage of hazardous substances (including diesel derivatives);
- Fueling should be done using mobile or fixed fuel distribution stations having relevant protection, e.g. a station with sorbent to remove leakage and spills of diesel derivatives to the ground;
- Grounds (including spoil) and aggregate used for construction works and transported from beyond the site should meet requirements related to soil quality standards and to earth quality standards (in conformity with the Environmental Protection Law and its secondary regulations), and any other valid regulations and standards.

Additional measures mitigating impact on soils include the following: ban to repair equipment and machines, to change diesel, and to fuel and store fuels beyond the set out areas meeting relevant requirements.

Ongoing regular inspections of technical condition of vehicles and construction equipment will be carried out during the construction stage.

After completing the construction works the site facilities and any temporary works and yards shall be removed, and a fertile layer of soil shall be restored within the area acquired for the purpose of Works Contract implementation, and proper agrotechnical actions shall be done. The new embankment shall be top-soiled, and ground shall be sown with a mix of native grass species in such a way to limit the surface erosion.

Mitigation measures related to protection of land are shown in Appendix 1 – Plan of mitigation measures, items in the table: 14, 15, 18 - 20, 23 – 32, 60 – 62, 65 – 74, 84 – 87, 108 – 110, 121-123.

### **Operational stage**

After completion of the construction works there will be no adverse impact of the Works Contract on the soil environment. Therefore, there is no need for introduction of mitigation measures concerning protection of soil and ground during the operational stage.

## **6.5 Surface water**

### **Implementation stage**

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Basic forms of adverse impact of the planned Contract on the surface water were presented in Section 5.5.

Limitation of nuisance and adverse impact of the Works Contract on surface water on the implementation stage is associated with the proper performance. In order to meet requirements related to the protection of environment, the construction works shall be preceded with a detailed plan and a schedule of works addressing relevant protection.

One shall keep the site clean and shall assure the proper organization of works. One shall only apply materials which would not be harmful to the environment or which would not cause nuisance. One shall not apply substances, which may be lethal to the occurring animals, except for substances necessary for proper operations of the construction machines.

One shall apply a proper drainage system for excavations in the area of excavations, which would assure keeping them dry. One shall maximally limit the time of drainage and shall apply methods limiting the volume of discharged water, along with its protection against contamination.

During implementation of the Contract one cannot interfere in channels and banks of water courses. It is also not allowed to intake water or to extract aggregate from the river bed and to extract soil from the embanked area.

In case of diesel derivatives' leakage to surface water the Contractor is obliged to undertake relevant measures immediately, and – in particular cases – to notify relevant services. Site facilities shall be equipped with relevant volume of sorbent throughout the Contract implementation period.

For the time of construction works the Contractor shall develop a flood protection plan, which shall be agreed with the Engineer. That plan shall include e.g. a proceeding manual for the time of potential flood after commencement of the works. In case a flood occurs, the Contractor shall be obliged to proceed in accordance with procedures described in the aforementioned document.

Mitigation measures related to protection of water are shown in Appendix 1 to the EMP – Plan of mitigation measures, items in the table: 14 – 20, 23 – 26, 60 – 63, 65 – 74, 84 – 88, 121-123.

### **Operational stage**

No risk for surface water will occur on the operational stage. As a consequence, it is not expected to implement mitigation measures for protection of surface waters on the operational stage.

## **6.6 Groundwater**

### **Implementation stage**

Basic forms of adverse impact of the planned Contract on the groundwater were presented in Section 5.6.

Measures to protect groundwater are coherent with measures to protect against contamination of soils and the ground, and also of surface water (in reference to the proper organization of works and locations of temporary acquisition, and providing them with relevant sorbent).

Mitigation measures related to protection of water are shown in Appendix 1 – Plan of mitigation measures, items in the table: 14 – 20, 23 – 26, 60 – 63, 65 – 74, 84 – 88, 121-123.

### **Operational stage**

During the use of embankments there will be no adverse impact on the groundwater. Therefore, there is no need for introduction of mitigation measures concerning protection of groundwater during the operational stage.

## **6.7 Acoustic climate**

### **Implementation stage**

Basic forms of adverse impact of the planned Contract on the local acoustic climate were presented in Section 5.7.

It is expected to implement the following mitigation measures to limit those impacts:

- Construction works shall be performed within the day, i.e. from 6:00 am to 10:00 pm,
- Site facilities, construction yards and parking lots shall be located in the furthest possible distance from residential areas,
- Construction equipment applied during the works should be fully technically efficient and shall be specified by low noise emission,
- If it would be necessary to perform the works at or in vicinity of acoustically protected sites, the level of noise shall be inspected on an ongoing basis, and noise reducing measures shall be applied (e.g. soundproof casing).

Mitigation measures related to reduction of noise emission are summarized in Appendix 1 – Plan of mitigation measures, items in the table: 16, 756 – 79.

### **Operational stage**

The noise emission during the operational stage will not exceed the value admissible by law. There is no need for introduction of mitigation measures concerning acoustic protection.

## **6.8 Nature**

### **6.8.1 Natural habitats, flora and fauna**

#### **Implementation stage**

Basic forms of adverse impact of the planned Contract on the biotic nature were presented in Section 5.8.1.

The Contractor shall be obliged to perform any works under supervision of environmental experts in order to limit those impacts. Due to the works performed, the following mitigation measures are expected, e.g.:

- The Contractor's environmental team shall provide a one-time-only inventory for temporary acquisition sites and permanent acquisition sites prior to the commencement

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of works, in order to establish the valid distribution of potential stands of protected plant species, and to establish environmentally valuable sites. One cannot damage vegetation located beyond the Contract area during the construction works.

- One shall inventory flora prior to the commencement of demolition works in the area of newly formed embanked area. All identified specimens of alien and invasive plant species shall be removed from the newly formed embanked area.
- Due to the hatching season of birds, logging of trees and shrubs shall be done from October the 16<sup>th</sup> until the end of February. Occasional logging may be done during the hatching season under environmental supervision – only after the ornithologist identifies that there are no occupied bird nests, tree hollows, and that there are no nestlings, or that trees and shrubs are not inhabited by other animals under protection.
- One shall assure such an organization of works to maximally limit the *Contract implementation period*, and in turn minimize the adverse impact of works on animals living in the *Contract implementation area* and in its vicinity.
- The works shall be done in a way allowing for avoiding killing of animals, and the performance site shall be protected against the presence of small animals. One shall systematically inspect the condition of fences within the entire *Contract implementation period*, and shall immediately remove potential leakiness.
- The construction site, and especially the opened excavations, shall be inspected and properly protected against forming of traps for animals.
- One shall avoid forming of ruts and other land pits, in which water may stay, in order to avoid potential unstable breeding habitats for amphibians. In case such spots would be formed in locations, which may collide with the ongoing works or with the planned works, and in location of ongoing traffic or planned traffic of vehicles, machines, and devices, they shall be removed on an ongoing basis.
- The works shall be performed in a way assuring the possibility of safe migration for amphibians, including migration of amphibians through internal roads designed *within the Contract implementation area*.
- If within the work area seasonal migration of amphibians would be identified, the area in question shall be protected to disable migration of amphibians to the site, where they would be endangered due to the works – for that purpose one shall properly fence the construction site with a fencing of a minimum height of 0.5 m, including a 10 cm overhang placed outside (e.g. foil, agro-textile). In the bottom part the fencing material shall be dug into the ground – the fencing needs to tightly adjoin the ground and it needs to be anchored. In case of identifying amphibians therein, they shall be transferred to the area beyond the Works Contract under environmental supervision.
- In case of discovering fossil remnants of plants or animals one shall immediately notify the regional director for environmental protection about it.

Mitigation measures related to protection of natural environment are shown in Appendix 1 – Plan of mitigation measures, items in the table: 14 – 17, 26, 27, 31, 33 – 60, 64, 109, 121-124.

### Operational stage

Adverse impact on the natural environment is not anticipated on the operational stage, and therefore it was stated that it is not necessary to implement mitigation measures.

## **6.8.2 Protected sites**

Due to the specificity and type of the works performed, and the location of Contract beyond protected areas and in a huge distance from closest Natura 2000 sites, implementation of the Works Contract would not adversely affect natural habitats and species of animals, for protection of which the aforementioned protected sites have been established (see: description in Section 5.8.2). As a consequence, it was not stated necessary to implement mitigation measures.

## **6.9 Cultural landscape and monuments**

Due to the fact that the Provincial Heritage Conservator in Cracow Office in Tarnów provided a positive opinion for the Works Contract in question in a note dated February 25, 2015, ref. no.: OZT.5183.23.2015.Msz-W.1, and he did not impose additional obligations and restrictions (see: description under Section 5.9), it was stated that it is not necessary to plan and implement mitigation measures in that range.

However, in order to eliminate the potential adverse impact of the Works Contract on yet undiscovered heritage resources, a measure was proposed to assure archaeological supervision throughout the time of earthworks. If any objects that might be monuments or archaeological artefacts are discovered during the construction works, the Contractor is obliged to act in accordance with provisions of the Act of July 23, 2003 on the Protection of Monuments (consolidated text, OJ of 2014, item 1446, as amended).

Mitigation measures related to the cultural environment are shown in Appendix 1 – Plan of mitigation measures, item in the table: 99, 100, 104.

### **Operational stage**

Adverse impact on monuments and archaeological sites is not anticipated on the operational stage. As a consequence, no mitigation measures were foreseen.

## **6.10 Organization of the site facilities and the construction site**

The Contractor, by its own effort, will acquire the area for site establishment and storage yards respecting the requirements and conditions of the World Bank regarding compensation. Any approval for temporary acquisition must be preceded by a site inspection in terms of its impact on particular environmental elements.

Location of the site facilities should take into account environmental aspects, including the following:

- favorable soil conditions, geological structure, vegetation coverage and groundwater level for the environment;
- convenient road access, and access to power supply and water supply for social purposes, and favorable location in relation to developed areas;

- exclusion of the embanked area and protected natural habitats as potential locations for that site.

In addition, the Contractor has to prepare a construction site organization plan which, apart from the location of the site facilities, will indicate the conditions of its development, including: the location of parking lots for the construction equipment and other vehicles, the method of soil and water protection against contamination with substances harmful to the soil environment and groundwater, the method of draining rain water, the location of the storage sites for construction materials, and the places for municipal and hazardous waste storage.

From the environmental and social point of view, the site facilities are a place of potentially adverse impact, due to a risk of contamination of land surface, soil, groundwater, and air as a result of accumulation of waste, building materials, as well as hazardous materials (i.e. fuel, diesel), and also concentration of activities including the use of trucks and heavy equipment (loading, unloading, transportation).

The site facilities should comply with H&S regulations valid in Poland and in the European Union regarding provision of tight sanitary facilities for collection of sewage, and management of solid waste and sewage.

Mitigation measures related to organization of site facilities and storage yards are shown in Appendix 1 – Plan of mitigation measures, item in the table: 14 - 20, 46, 62, 64 - 72, 85 – 87, 93.

## **6.11 Health and safety of people**

Basic forms of adverse impact of the planned Contract on the health and safety of people were presented in Section 5.11.

Ensuring protection of human health and life in the case of flooding is the main goal for the implementation of the subject Contract.

The Contractor will be also responsible for implementation of the measures related to protection of health and safety of people during the construction stage. Those measures will be associated with ensuring proper organization of works, as well as fire protection, medical care and preventive care.

It shall additionally be necessary to implement measures to protect neighboring inhabitants against adverse impact of the construction works,

The Contractor's H&S supervision shall be responsible for adequate marking of the construction site according to applicable laws. This marking shall be regularly controlled, in the case of destruction or theft of marking the Contractor shall promptly rebuild or supplement it. The Contractor shall be responsible for any damage to the bulk objects, structures, roads, elements of technical facilities (ditches, culverts, transmission networks), as well as information boards, cultural objects, etc., caused by the Contractor or its subcontractors. That liability shall relate to an obligation of repairing any damage of that type at own expense.

The Contractor shall be obliged to agree with road management authorities on the traffic organization and on the works security plan, and to subsequently organize the traffic in accordance with the agreed plans (marking and securing the site and marking of de-tours and

recommended road signage related to the change of traffic organization, etc.). The Contractor shall respect the legal limitations of speed and loads per vehicle axle during deliveries of materials and equipment to and from the construction site. The Contractor shall also obtain all necessary permits from the authorities for transportation of non-standard loads and shall constantly inform the Engineer about each case of such a delivery.

The Contractor shall provide training on rules of and conditions under the EMP for the managing staff and for the engineering and technical personnel.

Mitigation measures related to human health and safety are shown in Appendix 1 to the EMP – Plan of mitigation measures, items in the table: 5, 9, 10, 12, 13, 60, 82, 89 – 98, 120.

## **6.12 Extraordinary hazards to the environment**

### **Crisis situation**

In the case of crisis situation (other than flood), e.g. fire, accident, serious failure, etc., the Contractor shall be obliged to undertake the following steps:

- a) Immediately inform relevant services:
  - Emergency number (all services) – 112,
  - Medical Emergency – 999,
  - Fire Brigade – 998,
  - Police – 997;
- b) Until relevant services arrive, it shall perform necessary actions limiting the risk of damage to the personnel, the assets, and the environment (as agreed with relevant services, where possible);
- c) Notify the Engineer and the Investor;
- d) After the arrival of relevant services, act strictly in accordance with their guidelines and instructions.

### **Flood**

The occurrence of flood during the construction works related to the development of embankment is a realistic extraordinary threat to the environment resulting from the character of the Works Contract.

For the duration of construction works, Flood Management Plan should be provided, specifying the relation between the time of commencement of the evacuation or protection of the equipment and the occurrence of a certain hydro-meteorological situation. This plan must be approved by the Engineer. The Contractor will be obliged to establish communication with IMGW-PIB to receive current information on weather forecast. In case of a warning on high water level, the Contractor shall immediately notify the Engineer and the Employer, and shall undertake appropriate actions according to the procedures described in the Flood Management Plan.

Mitigation measures related to flood protection are shown in Appendix 1 – Plan of mitigation measures, item in the table: 96.

### **Leakage of diesel derivatives**

A common type of extraordinary risk to the environment on the construction site is the leakage of diesel derivatives causing pollution of soil, ground or groundwater. For this purpose the Contractor is obliged to apply appropriate preventive measures related to appropriate organization of sites and site facilities, constant control of the condition of applied construction equipment, and also to technical measures allowing for neutralization of the effects of such an event in the form of sorbents available at site facilities.

In case of the leakage one shall immediately remove its source and effects, and contaminated soil layers shall be properly treated in a manner safe for the environment.

Mitigation measures related to the protection of ground and water environment against contamination with diesel derivatives are shown in Appendix 1 – Plan of mitigation measures, items in the table: 61, 70, 73, 74, 97.

### **Identification of unexploded shells and misfires**

In the event of discovering unexploded shells or misfires, the Contractor shall immediately stop the works in a given place, evacuate the workers and notify the police, a licensed sapper unit as well as the Engineer and the Employer. It is strictly forbidden to dig unexploded shells or misfires out, bury them, raise them, transfer them, throw them to the fire or water or to places such as rivers, canals, oxbow lakes, ditches, etc. The Investor did not inspect the site for unexploded shells or misfires.

The Contractor is obliged to ensure the sapper supervision throughout the performance of earthworks (Contractor's sapper supervision), which would include an on-going inspection of the site in terms of unexploded shells or misfires presence, and – if necessary – clearance of the site from hazardous objects and their proper treatment.

Mitigation measures related to sapper supervision are shown in Appendix 1 – Plan of mitigation measures, items in the table: 90, 98, 105.

### **Fire**

The Contractor is responsible for fire protection in the area of the Works Contract. Detailed procedure in case of fire will be contained in the BIOZ Plan prepared by the Site Manager.

## **6.13 Waste and sewage**

Proper treatment of sewerage and waste produced within the Contract implementation shall depend on the Contractor's decision. Prior to the commencement of works the Contractor – being a waste producer – shall develop and present for the Engineer's approval the Waste Management Plan (Waste MP) determining proceeding methods for waste to be produced during the performance, and including e.g. the conditions related to the waste treatment determined under the EMP.

The Contractor shall be obliged to manage the waste properly – to minimize the volume of produced waste, to collect it selectively in marked containers on separated and properly

organized sites, in conditions protecting them against the impact of weather conditions and access of third parties and animals, and then to transfer them to units having relevant permits – for taking-over, transportation, recovery, or treatment of waste, respectively. Hazardous waste shall be segregated and stored separately in designated containers placed on a sealed, hardened, marked sites protected against the access of third parties, until their provision to units authorized for further management of such a waste.

Prior to the commencement of works the Contractor shall inspect the *Contract implementation area* for the purpose of illegal landfill occurrence. In case of identifying such landfills, the Contractor shall clear such a site through removing the waste and transferring it to the treatment site. The Contractor shall protect the *Contract implementation area* against the potential production of such a type of landfills within the *Contract implementation period*.

The construction sites must be equipped with sealed sanitary facilities, while assuring that domestic waste would be transported to a sewage treatment plant.

Guidelines for waste and sewage management are contained in Appendix 1 to the EMP – Plan of mitigation measures, items in the table: 23, 39, 83 to 88.

## **6.14 Other ESHS hazards**

Exemplary forms of additional hazards associated with ESHS issues (other than the ones discussed previously in sections 5.1-5.12) were presented in section 5.13.

In order to prevent hazards of that type, except for the measures listed in sections 6.1-6.13, Appendix 1 to this EMP implements additional mitigation measures to e.g.:

- prevent accidents and near misses on work site and in other places related to the implementation of the Contract  
(e.g. items no. 112 - 114 and others listed in sections 6.11 and 6.12);
- combat such unacceptable behavior on work site as cases of sexual harassment or mobbing (e.g. items no. 115, 116);
- assure proper social conditions, and labour conditions and payment to the personnel engaged in implementation of the Contract, in compliance with the law (e.g. items no. 117, 118);
- assure proper procedures for ongoing information provision on issues and hazards associated with the aforementioned subject (e.g. item no. 119).

## **6.15 Requirements for implementation of action plans in the construction phase**

Based upon provisions of the Decision on environmental conditions and upon the description of mitigation measures under this EMP, the Contractor should develop numerous documents necessary for the performance and subsequently obtain approval of the Engineer for them. The documents are as follows:

- Construction site organization plan, which should contain such elements as e.g.:

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- location of the site facilities,
- development of the site facilities,
- protection of the site facilities,
- service roads,
- environmental protection on the site facilities, technological roads, and yards.
- Waste management plan, which should contain such elements as e.g.:
  - encountered and predicted types and volumes of waste,
  - means of preventing adverse impact of waste on the environment,
  - means of waste management considering collection, transportation, recovery and treatment of waste,
  - type of generated waste and method for its storage.
- Quality assurance plan/plans, which should contain such elements as e.g.:
  - works performance organization,
  - organization of traffic at the construction site, including marking of the works,
  - H&S and environmental protection,
  - list of working teams,
  - scope of duties of the key personnel,
  - quality control,
  - laboratory tests.
- Flood protection plan for the site for the performance time:
  - monitoring of hydrological and meteorological conditions,
  - conditions for accommodation of flood flows during the performance,
  - the rules of work for the Contractor's team in the period of flood risk,
  - basic duties of the managing staff during the flood risk,
  - list of managing staff in the period of flood risk,
  - list of equipment and transport means needed to conduct rescue actions.
- BIOZ Plan, which should contain such elements as e.g.:
  - indication of plot or land development elements, which may create a risk to safety and health of people,
  - information concerning expected hazards that could occur during the performance, defining the scale and types of hazards and the place and time of occurrence, including reference to the natural environment,
  - information on designation and marking for construction work sites, according to the type of hazard,

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- information on the method of training for the employees prior to the commencement of particularly hazardous works,
- determining the method of storing and transport of hazardous materials, goods, substances and preparations at the construction site,
- indication of technical and organizational means of safeguarding against hazards connected with the construction works in increased health risk zones, or in their immediate vicinity, including means of safe and efficient communication allowing for quick evacuation in the case of fire, failure, and other hazards,
- indication of the storage location for construction site's documentation and documents necessary for proper operation of machines and other technical devices.

**NOTE:**

At the development of plans for organization of the construction site, including the Health and Safety Plan, the Contractor shall consider appropriate actions as indicated in the Guidelines of the World Bank concerning protection of health and environment, as well as safeguard policies. Organization plans for the construction site that will be drawn up by the Contractor shall be reviewed and then submitted for approval by the Engineer.

## **7 Description of measures related to environmental monitoring**

Appendix 2 to this EMP provides a summary of monitoring measures binding for the Contractor. Those measures have been developed based upon the conditions included in valid administrative decisions, as issued for the Works Contract, along with additional conditions established on the stage of EMP development.

### **7.1 Environmental monitoring during the works**

Prior to the commencement of works the Contractor should develop an own Plan of monitoring measures that should be correlated with the Plan of monitoring measures of the Engineer and of other institutions involved in the Works Contract execution. The plan should focus on such environmental elements as: land surface and landscape, climate, air quality, soils and grounds, water, acoustic climate, nature (habitats, flora, fauna), cultural landscape and monuments, organization of the site facilities and the construction site, health and safety of people, extraordinary hazards for the environment, waste and wastewater, requirements for implementation of action plans in the construction phase.

#### **7.1.1 Surface of land, landscape, and soils and grounds**

Monitoring for the subject Contract shall comprise the following elements:

- Location of temporary acquisition beyond the environmentally valuable areas indicated by the Contractor's environmental supervision;
- Location of roads, yards, parking lots, etc., including limitation of impact on vegetation and on surface of land, and their proper protection and equipping;
- Observation of traffic regulations by vehicle operators on established technological roads;
- Overview of materials/building materials applied for the construction, so they would not contain substances particularly harmful to the water environment in the form of dissoluble compounds;
- Inspection of protection for excavations;
- Proper reinstatement of temporary acquisition sites;
- In case of emergency (e.g. leakage of diesel, grease from the construction equipment to the ground, spilling of substances hazardous to the environment in storage locations) one shall undertake mitigation measures (replacement of the ground, inclusive).

Monitoring measures related to the protection of land, landscape, soil and ground were indicated in Appendix 2 to the EMP – Plan of monitoring measures, items in the table: 4, 6 -13, 14 – 20, 23 – 32, 60 – 62, 64 – 74, 84 – 88, 108 – 110, 121-123.

### **7.1.2 Climate and air quality**

It was stated that it is not necessary to monitor the air quality due to implementation of the Contract. It is however necessary to monitor implementation of mitigation measures.

Monitoring measures shall be implemented in the form of visual assessment during site inspections undertaken at least once a week in places which are subject to monitoring, and especially at the site facilities and service roads. Monitoring will relate to the assessment of protection for the area against potential dusting from dirt roads and yards, as well as storage areas and means of transport for loose materials, and also the use of motor vehicles and equipment.

Monitoring measures related to the protection of air quality are indicated in Appendix 2 – Plan of monitoring measures, items in the table: 79 – 83, 85.

### **7.1.3 Surface water**

Due to the anticipated small scale of Works Contract's impact on surface water there is no need to monitor the quality of water during the construction stage in the usual way, i.e. without the occurrence of unusual events which could cause the pollution. However, one shall monitor proper implementation of measures mitigating the impact on ground and water environment (proper location and protection of yards, parking lots, waste storage sites, fueling sites for vehicles, etc.; providing work sites with neutralization agents for possible leakage of dangerous substances, including diesel derivatives).

Monitoring measures related to the protection of water are indicated in Appendix 2 to this EMP – Plan of monitoring measures, items in the table: 14 – 20, 23 – 26, 60 – 63, 65 – 74, 84 – 88, 121-123.

### **7.1.4 Groundwater**

Due to the anticipated small scale of Works Contract's impact on groundwater there is no need to monitor the quality of water during the construction stage in the usual way, i.e. without the occurrence of unusual events which could cause the pollution. However, one shall monitor proper implementation of measures mitigating the impact on ground and water environment (proper location and protection of yards, parking lots, waste storage sites, fueling site for vehicles, etc.; providing work sites with neutralization agents for possible leakage of dangerous substances, including diesel derivatives) and shall observe bans related to interference in the river bed and to the extraction of soil from the embanked area.

Monitoring measures related to the protection of water are indicated in Appendix 2 – Plan of monitoring measures, items in the table: 14 – 20, 23 – 26, 60 – 63, 65 – 74, 84 – 88, 121-123.

### **7.1.5 Acoustic climate**

The analyzed site is not exposed to excessive constant noise (i.e. everyday traffic, operation of industrial plant, etc.). Based on the conclusions of the environmental impact assessment performed, it is assumed that the analyzed Works Contract, at meeting all requirements and recommendations contained in the Decision on environmental conditions and in the EMP, shall also not cause such nuisance.

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The scope of monitoring for noise protection will include checking of time and manner of execution of works using devices that remain sources of the nuisance noise.

In addition, it is recommended to conduct regular inspections of technical conditions of equipment used for construction works in terms of noise emission, and to undertake rational and appropriate actions, adequate to current assessment of the situation in response to any comments or complaints from residents or users of the adjacent land regarding acoustic nuisance, source of which may be related to the Works Contract implementation.

Monitoring measures related to the protection of acoustic climate are indicated in Appendix 2 to the EMP – Plan of monitoring measures, items in the table: 16, 75 – 79.

### **7.1.6 Nature**

The Contractor should provide the environmental team which will monitor the impact of the construction works on habitats, flora and fauna at the stage of the performance. The monitoring should include e.g. checking of adherence to acceptable dates (periods) for carrying out specific type of works (removal of soil layer, removal of vegetation), control of physical condition of habitat and protection of trees not to be logged, as well as control of security measures to protect small animals (herpetofauna mainly), and control of places conducive to cause danger to animals (depressions, excavations, and other types of traps). It is also necessary to monitor the effectiveness of activities related to the removal of invasive plants, if necessary.

Monitoring measures related to the protection of habitats, flora and fauna are indicated in Appendix 2 to the EMP – Plan of monitoring measures, items in the table: 14 – 17, 26, 27, 31, 33 – 60, 64, 109, 121-124.

### **7.1.7 Cultural landscape and monuments**

The EIA Report and the decision on environmental conditions do not identify impact of the subject Works Contract on monuments and cultural goods. However, the Contractor is obliged to provide permanent archaeological supervision during the earthworks, comprising ongoing inspections of the Site in terms of the presence of objects of historic/heritage value, and proper actions in case of identifying such an object.

Monitoring measures related to this issue are indicated in Appendix 2 – Plan of monitoring measures, items in the table: 99, 100, 104.

### **7.1.8 Organization of the site facilities and the construction site, health and safety of people, extraordinary hazards for the environment, waste and wastewater, requirements for implementation of action plans during the construction phase**

The responsibility of the Contractor is to monitor proper implementation of all mitigation measures related to organization of the site facilities and of the construction site, health and safety of people, extraordinary threats to the environment, waste and sewage, and requirements regarding implementation of action plans during the construction phase.

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Monitoring measures related to those issues are indicated in Appendix 2 to this EMP – Plan of monitoring measures, items in the table: 5, 9, 10, 12 - 20, 23, 39, 46, 60, 61, 62, 64 – 74, 82 - 98, 105, 120.

### **7.2 Monitoring of the environment during the use**

It is not necessary to monitor the environment in case of the subject Contract on the operational stage. Implementation of mitigation measures assures limitation of the scale and intensity of potential adverse impact to the performance time only.

## **8 Public consultations**

### **8.1 Public consultations on EIA stage**

In accordance with the Polish EIA procedure, on the stage of issuing a decision on environmental decision it was necessary to perform public consultations for the Contract. Within the framework of administrative proceeding implemented on the environmental impact assessment stage participation of publics was assured, in accordance with Article 79 of the EIA Act. The Regional Director for Environmental Protection in Cracow provided the public in the announcement (dated 09/20/2016, ref. no.: ST-I.4210.1.2015.MB) with a series of information regarding e.g.: the commencement of proceeding on the issuance of a decision on environmental conditions. On the public consultations stage, which took place – in accordance with an announcement of the Regional Director for Environmental Protection in Cracow – from 09/22/2016 to 10/12/2016, the Regional Director for Environmental Protection in Cracow did not receive any remarks of requests related to Works Contract in question.

Prior to the issuance of a decision on environmental conditions the parties have been informed about the possibility to comment the collected evidence, in accordance with Article 10 of the Administrative Procedure Code, in the Announcement of the Regional Director for Environmental Protection in Cracow dated 10/21/2016 (ref. no.: ST-I.4210.1.2015.MB).

The Regional Directorate for Environmental Protection in Cracow did neither receive related remarks nor applications from the parties, the society, and social and ecological organizations within a legal deadline of 21 days.

### **8.2 Public consultations on Environmental and Social Management Framework (2015)**

The draft ESMF was subject to public consultations conducted in accordance with the World Bank's operational policy OP 4.01. Their purpose was to allow the society to acknowledge contents of that document and to assure the possibility of filing potential remarks, enquiries, and applications to its contents.

Documentation on the public consultations process for the ESMF is available on a website of the Odra-Vistula Flood Management Project Coordination Unit<sup>23,24</sup>.

### **8.3 Public consultations on EMP (2019)**

The draft of this document was subject to the procedure of public consultations conducted in accordance with the operational policy of the World Bank (OP/PB 4.01). The purpose of public consultations was to allow individuals, institutions and all interested parties to acknowledge the document and to have an opportunity to submit comments, queries and requests regarding its contents.

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<sup>23</sup>[http://www.odrapcu.pl/doc/OVFMP/RPZSiS\\_Zalacznik\\_08\\_Raporty\\_z\\_procedury\\_upublicznienia\\_projektu\\_EMAF.pdf](http://www.odrapcu.pl/doc/OVFMP/RPZSiS_Zalacznik_08_Raporty_z_procedury_upublicznienia_projektu_EMAF.pdf)

<sup>24</sup>[http://www.odrapcu.pl/doc/OVFMP/RPZSiS\\_Zalacznik\\_09\\_Raporty\\_z\\_konsultacji\\_spolecznych\\_RAF.pdf](http://www.odrapcu.pl/doc/OVFMP/RPZSiS_Zalacznik_09_Raporty_z_konsultacji_spolecznych_RAF.pdf)

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In accordance with operational policy OP 4.01, the disclosure of the draft Environmental Management Plan (EMP) started officially on August the 7<sup>th</sup>, 2019.

Any interested party could, in the period from **August the 7<sup>th</sup>, 2019 until August the 21<sup>st</sup>, 2019** (inclusive), acknowledge the Draft EMP (hard copy) in the office of the following:

- State Water Holding Polish Waters Regional Water Management Authority in Cracow, Project Implementation Office, 22. Piłsudskiego Str., 31-109 Cracow, room no. 308, on working days between 7:00 a.m. and 3:00 p.m.,
- State Water Holding Polish Waters Regional Water Management Authority in Cracow, Water Inspectorate in Tarnów, 5. Ostrogskich Str., 33-100 Tarnów, on working days between 10:00 a.m. and 1:00 p.m.,
- OVFМ Project Office, AECOM Polska Sp. z o.o., 1. Pokoju Al. (building K1), 31-548 Kraków, on working days from 7:30 am to 3:30 pm;
- Management Board for Family Garden Allotments “Semafor”, 18a. Kassali Str., 33-100 Tarnów:
  - ✓ On 08/09/2019 (Friday) from 5:00 p.m. to 7:00 p.m.,
  - ✓ On 08/13/2019 (Tuesday) from 10:00 a.m. do 12:00 p.m.,
  - ✓ On 08/16/2019 (Friday) from 5:00 p.m. to 7:00 p.m.,
  - ✓ On 08/20/2019 (Tuesday) from 10:00 a.m. do 12:00 p.m.,

or the digital version of the document posted on publicly available websites:

- PGW WP RZGW in Cracow, at - <http://krakow.wody.gov.pl/> (Fig. 1),
- Odra-Vistula Flood Management Project Coordination Unit, at – [www.odrapcu.pl](http://www.odrapcu.pl) (Fig. 2),
- City Office of Tarnów, at – <https://bip.malopolska.pl/umtarnow,m,272582,pozostale-ogloszenia.html> (Fig. 3).

Any interested party could submit remarks and motions referring to the Draft EMP in writing and in oral form to the minutes, using the addresses mentioned above, or in a digital form to the following e-mail address: [krakow@wody.gov.pl](mailto:krakow@wody.gov.pl) on working days between 08/07/2019 and 08/21/2019 (inclusive). PGW WP RZGW in Cracow was a competent institution to consider the remarks and motions, and contact persons were: Mrs. Monika Grzywacz and Mrs. Małgorzata Myrta, telephone: +48 12 628 43 08.

Detailed information on the access to this document and on the possibility of informing conclusions and comments (along with indication of detailed contact data: e-mail address, snail mail addresses, where the draft document was made accessible, office opening hours) were publicly informed in the Announcement (Fig. 4) available from 08/07/2019 to 08/21/2019 in the following locations:

- PGW WP RZGW in Cracow, at: <http://krakow.wody.gov.pl/> (Fig. 1),
- Odra-Vistula Flood Management Project Coordination Unit, at [www.odrapcu.pl](http://www.odrapcu.pl) (Fig. 2),
- City Office of Tarnów, at – <https://bip.malopolska.pl/umtarnow,m,272582,pozostale-ogloszenia.html> (Fig. 3);
- local press – **TEM1** (Fig. 5, Fig. 6);
- information boards in PGW WP RZGW in Cracow, PGW WP RZGW in Cracow - Water Inspectorate in Tarnów, in City Office of Tarnów, and on information boards at Family Garden Allotments “Semafor” (on 12 information boards in total) (Fig. 7-13).

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The aforementioned announcement also included information on the possibility of taking part in a meeting and in a discussion opened for interested people, organizations and institutions, which was planned for August the 21<sup>st</sup>, 2019 (including information on a place, date and time of the meeting).

Due to ambiguous interpretation of the deadline for acknowledging the DRAFT ENVIRONMENTAL MANAGEMENT PLAN and for provision of related remarks and motions, as published in the Announcement in TEMI weekly magazine on 08/07/2019 (Fig. 5), the Announcement has been published again during the consultations – on 08/14/2019 (Fig. 6).

In addition the information (individual invitations) was sent to the following public institutions interested in the Works Contract implementation:

- Mayor of Tarnów,
- Deputy Mayor of Tarnów for Economic Development,
- Deputy Mayor of Tarnów for Infrastructure,
- Environmental Protection Department in the CO of Tarnów,
- Starost of Tarnów,
- Environmental Protection and Forestry Department of the District Starosty in Tarnów,
- President of the FGA “Semafor”.

The publication of the draft EMP, officially launched on **August the 7<sup>th</sup>, 2019**, was completed after 10 working days, i.e. on **August the 21<sup>st</sup>, 2019**.

During the publication period two persons visited the office of the Management Board for Family Garden Allotments “Semafor”, and they acknowledged the draft EMP provided. One of those persons raised a remark to perform the works under the Contract in a way not posing threat to roe deers living in vicinity, especially at the period of offspring rising. Due to the fact that the person raising the remark attended the open meeting, the Consultant referred to that remark during the open meeting of August the 21<sup>st</sup>, 2019. The remark provided does not result in any changes to the document – the performance method not posing risk to the animals, including roe deers, is included in the document.

Until the completion of works on this report neither additional remarks nor questions were provided in relation to contents of the draft EMP.

On the last day of publication process, i.e. on **August the 21<sup>st</sup>, 2019** at 4:00 p.m., in the Mirror Hall of the City Office of Cracow, 10. Wałowa Str., 33-100 Tarnów, the opened meeting was organized for interested people, organizations and institutions, where the draft EMP was publicly presented and discussed (Fig. 14, 15, 16, 17, 18).

29 people participated in the meeting, including representatives of the following: PCU, PGW WP RZGW in Cracow, Engineer/Consultant; as well as local authorities and inhabitants (a list of attendees enclosed in appendix No. 1 to this report).

The meeting was opened by a representative of the Engineer/Consultant, who – after welcoming the guests – presented a purpose and a plan of the meeting and encouraged the attendees to ask questions after the presentation.

Then the representative of the Engineer/Consultant showed the presentation on the draft EMP for *Contract 3D.2/1*. The speaker informed the attendees about basic information on the OVFM Project. Subsequently, general information on the Environmental Management Plan was

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provided. Further on, structure of the document and contents of particular chapters of the EMP for Contract 3D.2/1 were discussed, including the following:

- Project assumptions for Contract 3D.2/1,
- Status of administrative procedures for Contract 3D.2/1,
- The most important conclusions of the environmental impact assessment for Contract 3D.2/1, including impact on the protected sites,
- Description of mitigation measures and monitoring measures, with special consideration of Appendix no. 1 and Appendix no. 2 to the EMP.

In the end the speaker discussed the role of the EMP for the construction works contract – both: on the bidding stage, as well as during the performance.

After completing the presentation the attendees were able to ask questions. Particular questions referring to the consulted document directly, including related answers, are discussed below:

1) *Were decisions issued for the contract? Who was responsible for notifying about them?*

The answer provided clarified that in case of the Works Contract 3D.2/1 the following administrative decisions have been issued:

- Decision of the Regional Director for Environmental Protection in Cracow of 11/30/2016 on environmental conditions for the contract;
- Decision of the Director of the Regional Water Management Authority in Cracow of 02/16/2017 on water-law permit;
- Decision no. 01/2017 of the Małopolski Governor of 08/31/2017 on investment project implementation permit (IPIP).

The current status of the EIA procedure has been described in details in the draft EMP.

On 01/29/2015 the Regional Director for Environmental Protection in Cracow informed in the notification no. ST-I.4210.1.2015.MB about commencing proceeding for the issuance of a decision on environmental conditions for the contract titled: “Construction of the right embankment of the Biala River at local chainage 0+000 – 0+695 in the City of Tarnów”, and about the possibility of acknowledging the provided documentation.

During the proceedings on the issuance of the decision on environmental conditions the Regional Director for Environmental Protection informed the parties in the notification dated 03/07/2016, ref. no.: ST-I.4210.1.2015.MB, that he has implemented an administrative proceeding on the issuance of a decision on environmental conditions for the aforementioned contract. The notification has been published through placing from 03/07/2016 to 03/22/2016 on notice boards of the following: Site Issues Department (SID) in Tarnów of the Regional Directorate for Environmental Protection in Cracow, City Office of Tarnów, 9 notice boards on site of the planned Contract (at FGA “Semafor”), 3 notice boards at Koszyckie Estate in Tarnów – contract impact range; as well as at the website of RDOŚ in Cracow (<http://bip.krakow.rdos.gov.pl>).

Prior to the issuance of the decision on environmental conditions, the proceeding parties have been informed on the possibility of commenting the collected evidence, in accordance with Article 10 of the Administrative Procedure Code, through Announcement of the Regional Director for Environmental Protection in Cracow dated 10/21/2016 (ref. no.: ST-I.4210.1.2015.MB). None of the proceeding parties commented the collected evidence and

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materials, based upon which the decision on environmental conditions was to be issued for the contract in question.

In reference to the issued IPIP decision it was clarified that on 05/23/2018 the Małopolski Governor notified with a notification the applicant, and the owners and the perpetual uses of properties covered by the application on the issuance of the decision in question, as well as the remaining parties – through an announcement placed on notice boards of the following: City Office of Tarnów – from 05/24/2017 to 05/26/2017, Małopolskie Province Office in Cracow – from 05/23/2017 to 05/27/2017, and official IT bulletin – Public Information Bulletin of the following: Małopolskie Province Office in Cracow – from 05/24/2017 to 05/28/2017, and City Office of Tarnów – from 05/24/2017 to 05/26/2017. During the proceeding on the issuance of the IPIP decision, the proceeding parties were able to acknowledge complete materials and to raise remarks and reservations, in accordance with Article 10 of the Administrative Procedure Code.

2) *Does the EMP consider the issue of feral cats handled by gardeners within the allotments to be liquidated?*

The answer provided clarified that the works shall be performed in a way not posing threat to the animals, as results from the provisions of law and from the consulted draft EMP. Furthermore, care for feral cats is regulated by the Act of August the 21<sup>st</sup>, 1997 on the protection of animals, and is executed by communes – Municipality of Tarnów in that case.

In addition, considering importance of the issue for gardeners using allotments to be removed, it was emphasized that the issue of care for feral cats shall be analyzed and agreed with the Management Board for Family Garden Allotments “Semafor” prior to the development of the final version of the document.

After provision of the aforementioned clarification, due to the lack of further questions and remarks, the speaker thanked the participants for attendance and active participation in the meeting.

That was the end of the meeting.

Remarks and motions handed over during the debate were analyzed in terms of necessary adjustments to the final version of the document. As a consequence of a remark related to assurance of proper living conditions for feral cats living within the garden allotments to be liquidated, considering importance of the issue for their previous caretakers, and simultaneously noticing the possible impact of feral cats on protected animal species present within implementation area of Contract 3D.2/1, the Investor obliged itself to undertake one-off and free of charge actions to provide the Management Board for Family Garden Allotments “Semafor” with free-standing insulated kennels and feed for feral cats.

As a consequence of the aforementioned, the final version of the EMP contains a measure obliging the Contractor to one-off purchase and supply of free-standing kennels and dry feed for feral cats to the office of the Management Board for Family Garden Allotments “Semafor”.

After updating the document with contents of a memo on the publication procedure and after implementation of some corrections, the final EMP will be submitted to the World Bank in order to obtain the final acceptance clause, so-called “no objection”.

# ENVIRONMENTAL MANAGEMENT PLAN FOR CONTRACT 3D.2/1 CONSTRUCTION OF THE RIGHT EMBANKMENT OF THE BIALA RIVER IN THE CITY OF TARNÓW

Figure 1. Announcement on public hearings for the draft EMP published at the website of the PGW WP RZGW in Cracow

**Obwieszczenie z dnia 05.08.2019r.**

Utworzono: 05 sierpnia 2019

Zgodnie z wymogami Banku Światowego (polityka operacyjna OP 4.01), instytucji współfinansującej realizację Projektu Ochrony Przeciwpowodziowej w Dorzeczu Odry i Wisły, podaje się do publicznej wiadomości, co następuje:

Państwowe Gospodarstwo Wodne Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Krakowie (PGW WP RZGW w Krakowie), udostępni do wglądu wszystkim zainteresowanym osobom i instytucjom PROJEKT PLANU ZARZĄDZANIA ŚRODOWISKIEM dla Komponentu 3 Ochrona przed powodzią Górnej Wisły, Podkomponentu 3D Bierna i czynna ochrona w zlewni Sanu, Kontraktu 3D.2/1 Budowa prawego wału rzeki Biała w m. Tarnów (powiat Miasto Tarnów, gmina Miasto Tarnów) w województwie małopolskim (nazywany dalej PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM).

Każdy zainteresowany może:

A) zapoznać się z PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM od dnia 07.08.2019r. do dnia 21.08.2019r. (10 dni roboczych), w siedzibie:

- Państwowego Gospodarstwa Wodnego Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Krakowie, Jednostka Realizująca Projekt, ul Piłsudskiego 22, 31-109 Kraków, pokój nr 308, w dniach roboczych od godziny 7:00 do 15:00,
- Państwowego Gospodarstwa Wodnego Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Krakowie, Nadzór Wodny w Tarnowie, ul. Ostrogskich 5, 33-100 Tarnów w dniach roboczych od godziny 10:00 do 13:00,
- Biura Projektu OPDOW, AECOM Polska Sp. z o.o., Al. Pokoju 1 (budynek K1), 31-548 Kraków, w dniach roboczych od godziny 7:30 do 15:30,
- Zarządu Rodzinnego Ogrodu Działkowego Semafor, ul. Kassali 18 a, 33-100 Tarnów:

o w dniu 9.08.2019r. (piątek) od godziny 17:00 do 19:00;  
o w dniu 13.08.2019r. (wtorek) od godziny 10:00 do 12:00;  
o w dniu 16.08.2019r. (piątek) od godziny 17:00 do 19:00;  
o w dniu 20.08.2019r. (wtorek) od godziny 10:00 do 12:00;

lub poprzez stronę internetową:

- PGW WP RZGW w Krakowie pod adresem - <http://krakow.wody.gov.pl/>
- Urzędu Miasta Tarnowa pod adresem - <https://bip.malopolska.pl/umtarnow,m,272582,pozostale-ogloszenia.html>
- Biura Koordynacji Projektu Ochrony Przeciwpowodziowej w Dorzeczu Odry i Wisły pod adresem - [www.odrapcu.pl](http://www.odrapcu.pl)

B) składać uwagi i wnioski odnośnie PROJEKTU PLANU ZARZĄDZANIA ŚRODOWISKIEM w formie pisemnej oraz ustnej do protokołu pod ww. adresami lub w formie elektronicznej na adres e-mail [krakow@wody.gov.pl](mailto:krakow@wody.gov.pl) w dniach roboczych od 07.08.2019r. do dnia 21.08.2019r. (łącznie).

Instytucją właściwą do rozpatrzenia uwag i wniosków jest PGW WP RZGW w Krakowie (osoba do kontaktu: Monika Grzywacz i Małgorzata Myrta, tel.+12 62 84 308).

W dniu 21.08.2019r. o godzinie 16:00, w Sali Lustrzanej Urzędu Miasta Tarnowa, ul. Wałowa 10, 33-100 Tarnów, odbędzie się spotkanie otwarte dla wszystkich zainteresowanych, na którym zostaną przedstawione informacje o PROJEKcie PLANU ZARZĄDZANIA ŚRODOWISKIEM oraz odbędzie się publiczna dyskusja dotycząca tego dokumentu, a także uwag i wniosków złożonych do niego wcześniej lub w trakcie tego spotkania.

Obwieszczenie to zostało podane do wiadomości poprzez ogłoszenie w prasie (tygodnik TEMI – czasopismo o zasięgu lokalnym), wywieszenie na tablicach ogłoszeń w: PGW WP RZGW w Krakowie (Nadzór Wodny w Tarnowie), Urzędzie Miasta Tarnowa, na tablicach ogłoszeń Rodzinnego Ogrodu Działkowego Semafor, jak również na stronach internetowych instytucji wskazanych powyżej.

**Dokumenty do pobrania**

**Załączniki:**

Plik	Opis	Rozmiar	Utworzono	Ostatnia modyfikacja
EMP 3D.2_1 Annoncement.pdf		204 kB	2019-08-07 08:16	2019-08-07 08:16
PZŚ 3D.2_1 Obwieszczenie.pdf		483 kB	2019-08-07 08:16	2019-08-07 08:16

mailto:krakow@wody.gov.pl

# ENVIRONMENTAL MANAGEMENT PLAN FOR CONTRACT 3D.2/1 CONSTRUCTION OF THE RIGHT EMBANKMENT OF THE BIALA RIVER IN THE CITY OF TARNÓW

**Figure 2.** Digital version of the draft EMP and announcement on public hearings for the draft EMP published at the website of the OVFM PCU.

The screenshot displays a web browser window with the URL [http://www.odrapcu.pl/popdow\\_dokumenty\\_PZS\\_3D\\_2\\_1\\_Tarnow.html](http://www.odrapcu.pl/popdow_dokumenty_PZS_3D_2_1_Tarnow.html). The browser's address bar shows the URL and a search field. The website header includes the logo of the Białeżyńskie Biuro Informacji Publicznej (BIP) and the title "Biuro Koordynacji Projektu Ochrony Przeciwpowodziowej Dorzecza Odry i Wisły" (Odra Vistula Flood Management Project Coordination Unit). The main content area is titled "Projekt Planu Zarządzania Środowiskiem dla Kontraktu 3D.2/1: Budowa prawego wału rzeki Biała w m. Tarnów" and lists ten attachments (Załącznik 1-10) related to the project, including plans, reports, and maps. A link to "Pobierz komplet dokumentów (ZIP)" is provided. The footer contains contact information for the project coordination unit, including the address (al. Jaworowa 9-11, 53-123 Wrocław), phone number (+48 71 787 86 90), fax (+48 71 787 86 95), and email (pcu@odrapcu.pl). The browser's status bar at the bottom shows the date and time as 08:24 on 07.08.2019.

# ENVIRONMENTAL MANAGEMENT PLAN FOR CONTRACT 3D.2/1 CONSTRUCTION OF THE RIGHT EMBANKMENT OF THE BIALA RIVER IN THE CITY OF TARNÓW

Figure 3. Announcement on public hearings for the draft EMP published at the website of the City Office of Tarnów.

The screenshot shows a web browser window with the URL <https://bip.malopolska.pl/umtarnow,a,1644576,obwieszczenie-panstwowe-gospodarstwo-wc>. The page is from the 'Biuletyn Informacji Publicznej' (BIP) of the 'URZĄD MIASTA TARNOWA'. The main content is an announcement titled 'OBWIESZCZENIE - PAŃSTWOWE GOSPODARSTWO WODNE WODY POLSKIE RZGW W KRAKOWIE'. The text of the announcement states that the 'Państwowe Gospodarstwo Wodne Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Krakowie' (PGW WP RZGW w Krakowie) is making the 'PROJEKT PLANU ZARZĄDZANIA ŚRODOWISKIEM' for the 'Budowa prawego wału rzeki Biała w m. Tarnów' available for public review. The project is part of the 'Ochrona przed powodzią Górnej Wisły' (Protection against flooding of the Upper Vistula) under contract 3D.2/1. The announcement is dated 05-08-2019. There are two PDF attachments: 'PZŚ 3D.2\_1 Obwieszczenie.pdf' (483.06KB) and 'EMP 3D.2\_1 Annonucement.pdf' (204.57KB). The browser's taskbar at the bottom shows the date 07.08.2019 and time 08:19.

## ENVIRONMENTAL MANAGEMENT PLAN FOR CONTRACT 3D.2/1 CONSTRUCTION OF THE RIGHT EMBANKMENT OF THE BIALA RIVER IN THE CITY OF TARNÓW

**Figure 4.** Announcement on public hearings for the draft EMP published on the web sites and on the bulletin boards.

### ANNOUNCEMENT

In accordance with the requirements of the World Bank (Operational Policy OP 4.01), the institution co-financing the *Odra-Vistula Flood Management Project*,

**the following is made publicly available:**

State Water Holding Polish Waters Regional Water Management Authority in Cracow (PGW WP RZGW in Cracow) makes the **DRAFT ENVIRONMENTAL MANAGEMENT PLAN** for Component 3 *Flood Protection of the Upper Vistula*, Subcomponent 3A *Flood Protection of Upper Vistula Towns and Kraków*, 3D.2/1 *Construction of the right embankment of the Biala River in the City of Tarnów* (District of the City of Tarnów, Municipality of Tarnów) within Małopolskie Province (hereinafter referred to as the **DRAFT ENVIRONMENTAL MANAGEMENT PLAN**) available for reviewing to all interested people and institutions.

Any interested party may:

A) acknowledge the **DRAFT ENVIRONMENTAL MANAGEMENT PLAN** from **08/07/2019** till **08/21/2019** (10 working days), in the office of:

- State Water Holding Polish Waters Regional Water Management Authority in Cracow, Project Implementation Office, 22. Piłsudskiego Str., 31-109 Cracow, room no. 308, on working days between 7:00 a.m. and 3:00 p.m.,
- State Water Holding Polish Waters Regional Water Management Authority in Cracow, Water Inspectorate in Tarnów, 5. Ostrojskich Str., 33-100 Tarnów, on working days between 10:00 a.m. and 1:00 p.m.,
- OVFM Project Office, AECOM Polska Sp. z o.o., 1. Pokoju Al. (building K1), 31-548 Cracow, on working days from 7:30 a.m. to 3:30 p.m.;
- Board of the Family Garden Allotments "Semafor", 18a. Kassali Str., 33-100 Tarnów:
  - on 08/09/2019 (Friday) from 5:00 p.m. to 7:00 p.m.;
  - on 08/13/2019 (Tuesday) from 10:00 a.m. to 12:00 p.m.;
  - on 08/16/2019 (Friday) from 5:00 p.m. to 7:00 p.m.;
  - on 08/20/2019 (Tuesday) from 10:00 a.m. to 12:00 p.m.;

or via a website:

- PGW WP RZGW in Cracow, at – <http://krakow.wody.gov.pl/>,
- Tarnów City Hall, at – <https://bip.malopolska.pl/umtarnow.m.272582.pozostale-ogloszenia.html>,
- Odra – Vistula Flood Management Project Coordination Unit, at – [www.odrapcu.pl](http://www.odrapcu.pl).

B) submit remarks and motions referring to the **DRAFT ENVIRONMENTAL MANAGEMENT PLAN** in writing and inform them orally to the minutes to the addresses mentioned above or in a digital form to the following e-mail address: [krakow@wody.gov.pl](mailto:krakow@wody.gov.pl), between **08/07/2019** and **08/21/2019** (inclusive).

PGW WP RZGW in Cracow is a competent institution to consider the remarks and motions (contact persons: Monika Grzywacz and Małgorzata Myrta, tel.: +48 12 628 43 08).

There will be a **meeting** on **08/21/2019** at **4:00 p.m.** in the Mirror Hall of the Tarnów City Hall at 10. ~~Wałowa~~ Str., 33-100 Tarnów, **open** to all interested parties, where information on the **DRAFT ENVIRONMENTAL MANAGEMENT PLAN** shall be presented, and where a public discussion concerning the document, as well as the motions and remarks submitted to the document both prior to the meeting and during the meeting itself, shall be organized.

The Announcement has been published in the press (**TEMI** - a local weekly magazine), through placing it on notice boards in offices of PGW WP RZGW in Cracow (Water Inspectorate in Tarnów) and Tarnów City Hall, and notice boards of the Family Garden Allotments "Semafor"; as well as on the websites of the institutions indicated above.

# ENVIRONMENTAL MANAGEMENT PLAN FOR CONTRACT 3D.2/1 CONSTRUCTION OF THE RIGHT EMBANKMENT OF THE BIALA RIVER IN THE CITY OF TARNÓW

Figure 5. Announcement on public consultations for the draft EMP published in a local newspaper (TEM) on 08/07/2019.

**OGŁOSZENIA** czynne pon.–pt. 9–20, sobota 9–17
7 sierpnia 2019 **TEM** 33

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**OBWIESZCZENIE**

Zgodnie z wymogami Banku Światowego (polityka operacyjna OP 4.01), instytucji współfinansującej realizację Projektu Ochrony Przeciwpowodziowej w Dorzeczu Odry i Wisły, podaje się do publicznej wiadomości, co następuje:

Państwowe Gospodarstwo Wodne Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Krakowie (PGW WP RZGW w Krakowie), ustepnie do wglądu wszystkim zainteresowanym osobom i instytucjom **PROJEKT PLANU ZARZADZANIA ŚRODOWISKIEM** dla Komponentu 3 Ochrona przed powodzią Górnej Wisły, Podkomponentu 3D Bierma i czynna ochrona w zlewni Sanu, Kontraktu 3D.2/1 Budowa prawego wału rzeki Biala w m. Tarnów (powiat Miasto Tarnów, gmina Miasto Tarnów) w województwie malopolskim (nazywany dalej **PROJEKTEM PLANU ZARZADZANIA ŚRODOWISKIEM**).

Każdy zainteresowany może:

A) zapoznać się z **PROJEKTEM PLANU ZARZADZANIA ŚRODOWISKIEM** od dnia **07.08.2019 r.** do dnia **20.08.2019 r.** (10 dni roboczych), w siedzibie:

- Państwowego Gospodarstwa Wodnego Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Krakowie, Jednostka Realizująca Projekt, ul. Piłsudskiego 22, 31-109 Kraków, pokój nr 308, w dniach roboczych od godziny 7:00 do 15:00;
- Państwowego Gospodarstwa Wodnego Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Krakowie, Nadzór Wodny w Tarnowie, ul. Ostrogskich 5, 33-100 Tarnów w dniach roboczych od godziny 10:00 do 13:00;
- Biura Projektu OPDOW, AECOM Polska Sp. z o.o., Al. Pokoju 1 (budynek K1), 31-548 Kraków, w dniach roboczych od godziny 7:30 do 15:30;
- Zarządu Rodzinnego Ogrodu Działkowego Semafor, ul. Kassala 18 a, 33-100 Tarnów:
  - w dniu 9.08.2019 r. (piątek) od godziny 17:00 do 19:00;
  - w dniu 13.08.2019 r. (wtorek) od godziny 10:00 do 12:00;
  - w dniu 16.08.2019 r. (piątek) od godziny 17:00 do 19:00;
  - w dniu 20.08.2019 r. (wtorek) od godziny 10:00 do 12:00;

lub poprzez stronę internetową:

- PGW WP RZGW w Krakowie pod adresem - <http://krakow.wody.gov.pl/>
- Urzędu Miasta Tarnowa pod adresem - <https://bjp.malopolska.pl/umtarnow.m.272582.pozostale-ogloszenia.html>
- Biura Koordynacji Projektu Ochrony Przeciwpowodziowej w Dorzeczu Odry i Wisły pod adresem - [www.odnapeu.pl](http://www.odnapeu.pl)

B) składać uwagi i wnioski odnośnie **PROJEKTU PLANU ZARZADZANIA ŚRODOWISKIEM** w formie pisemnej oraz ustnej do protokołu pod ww. adresami lub w formie elektronicznej na adres e-mail [krakow@wody.gov.pl](mailto:krakow@wody.gov.pl) w dniach roboczych od **07.08.2019 r.** do dnia **20.08.2019 r.** (włącznie).

Instytucja właściwą do rozpatrzenia uwag i wniosków jest PGW WP RZGW w Krakowie (osoba do kontaktu: Monika Grzywacz i Małgorzata Myrta, tel. +12 62 84 308).

Po ww. 10-dniowym okresie ustepnienia dokumentu do wglądu, w dniu **21.08.2019 r. o godzinie 16:00**, w Sali Lustrzanej Urzędu Miasta Tarnowa, ul. Wałowa 10, 33-100 Tarnów, odbędzie się **spotkanie otwarte** dla wszystkich zainteresowanych, na którym zostaną przedstawione informacje o **PROJEKcie PLANU ZARZADZANIA ŚRODOWISKIEM** oraz odbędzie się publiczna dyskusja dotycząca tego dokumentu, a także uwag i wniosków złożonych do niego wcześniej lub w trakcie tego spotkania.

Obwieszczenie to zostało podane do wiadomości poprzez ogłoszenie w prasie (tygodnik TEM - czasopismo o zasięgu lokalnym), wywieszenie na tablicach ogłoszeń w: PGW WP RZGW w Krakowie (Nadzór Wodny w Tarnowie), Urzędzie Miasta Tarnowa, na tablicach ogłoszeń Rodzinnego Ogrodu Działkowego Semafor, jak również na stronach internetowych instytucji wskazanych powyżej.

Zamieść ogłoszenie w TEMI przez Internet. Formularz na stronie: [REKLAMA.TEMI.PL](http://REKLAMA.TEMI.PL)

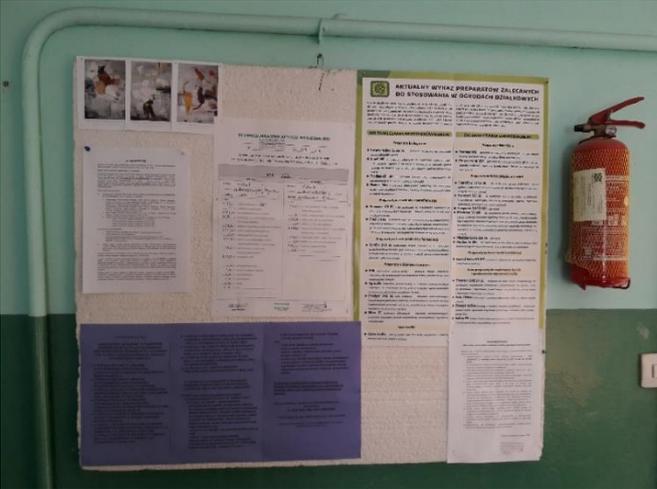
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**Figures 8 - 13.** Announcement on public hearings for the draft EMP placed on notice boards at Family Garden Allotments "Semafor".



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**Figure 14.** Public hearings for the draft EMP held in the Mirror Hall of the City Office of Tarnów, 10. Wałowa Str., 33-100 Tarnów, 08/21/2019.



**Figure 15.** Public hearings for the draft EMP held in the Mirror Hall of the City Office of Tarnów, 10. Wałowa Str., 33-100 Tarnów, 08/21/2019.



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**Figure 16.** Public hearings for the draft EMP held in the Mirror Hall of the City Office of Tarnów, 10. Wałowa Str., 33-100 Tarnów, 08/21/2019.



**Figure 17.** Public hearings for the draft EMP held in the Mirror Hall of the City Office of Tarnów, 10. Wałowa Str., 33-100 Tarnów, 08/21/2019.



**ENVIRONMENTAL MANAGEMENT PLAN FOR CONTRACT 3D.2/1 CONSTRUCTION OF THE RIGHT EMBANKMENT OF THE BIALA RIVER IN THE CITY OF TARNÓW**

**Figure 18.** Public hearings for the draft EMP held in the Mirror Hall of the City Office of Tarnów, 10. Wałowa Str., 33-100 Tarnów, 08/21/2019.



## **9 Organizational structure of EMP implementation**

The subject Contract remaining a part of Subcomponent 3D is a part of the Odra-Vistula Flood Management Project co-financed from the funds of the World Bank, the Council of Europe Development Bank, the European Union Cohesion Fund, and the State budget. Therefore, the structure of supervision over implementation of the EMP must correspond to both: regulations of the Polish law, as well as the requirements of the World Bank.

### **9.1 Odra-Vistula Flood Management Project Coordination Unit**

The Project Coordination Unit (PCU), currently remaining a budgetary unit subordinated to the minister relevant for water management issues, is responsible for the total coordination of implementation of individual EMPs under the OVFMP.

The PCU assignments are as follows:

- cooperation with relevant ministers, State Water Holding Polish Waters, and other governmental or local administration units related to the OVFMP Project implementation;
- coordination of activities of particular Project Implementation Units and supporting those units in EMP implementation;
- monitoring and assessment of the EMP implementation progress;
- ongoing cooperation with the World Bank, including development of quarterly progress reports on the Project implementation.

### **9.2 Project Implementation Unit**

An entity which is directly responsible for implementation of the EMP for the Contract and for monitoring of the progress of its implementation is the Project Implementation Unit (PIU), i.e. State Water Holding Polish Waters, Regional Water Management Authority in Cracow.

Due to implementation of the OVFMP Project, the Project Implementation Office (PIO) was assigned within the PIU structure, which is a separate structure supervised by the President of State Water Holding Polish Waters. This structure is transparent and has a high decisive level, which increases the effectiveness of the Contract implementation.

As a part of EMP implementation supervision, the PIO fulfils the following assignments:

- monitoring of the EMP implementation progress;
- financial management and bookkeeping;
- preparing required reports for the needs of EMP implementation monitoring and coordination of its execution by all services engaged in the EMP implementation.

The scope of PIO employees' duties connected with the fulfilment of supervision over EMP implementation is as follows:

- managing, coordinating, and supervising the EMP implemented by the Designer, the Consultant, and the Contractor;
- direct supervision over the correct Contract implementation;

- cooperation with the PCU;
- conducting an administrative and legal supervision over EMP implementation;
- verifying the Reports and studies on EMP implementation, as prepared by the Consultant and by the Contractor;
- conducting a financial supervision over EMP implementation;
- supervising the proper application of formal procedures during implementation of the EMP, as required by the Building Law, Works Contract, the Environmental Protection Law, and others.

### **9.3 Engineer - Consultant**

The role of the Engineer is to support the PIU (PGW WP, RZGW in Cracow) in an effective conduction of the whole Works Contract process (from preparation of the Contract to its settlement).

The Consultant/Engineer shall be selected using QCBS method (quality and cost based selection), in accordance with the “Guidelines: Selection and Employment of Consultants by World Bank Borrowers”.

In accordance with the scope specified in the Contract Engineer Agreement, the Engineer/Consultant shall be obliged to perform e.g. the supervision over EMP implementation, comprising the following:

- monitoring of EMP implementation by the Contractor;
- monitoring of the Contractor's activities;
- checking the quality of construction works performed by the Contractor and built-in construction products, and especially preventing the usage of building materials which are defective and not accepted for use in the construction industry;
- representing the Investor on site by performing the control of the compliance of the construction process with the design and with the construction permit, and with regulations related to the environmental protection and technical know-how;
- supervision over all issues related to the environmental protection by specialists experienced in the field of environmental protection and by other Engineer's personnel;
- constant monitoring over proper implementation of measures mitigating the adverse environmental impact;
- conduction of additional tests if it would be necessary to verify the reports of the Contractor;
- identifying problems resulting from harmful environmental impact caused by the construction works, and presentation of solutions to those problems;
- verifying and acceptance of construction works being covered or of concealed works, participation in tests and technical commissioning of technical installations and devices, as well as preparation of and participation in performing the commissioning activities for finished engineering objects and handing them over for use;
- confirmation of the works factually completed and of the removal of defects, as well as, at the request of the Investor, verification of site's settlements.

## **9.4 Contractor**

A Contractor shall be selected for the purpose of performance, and it shall be responsible for implementation of individual EMPs. The Contractor's liabilities in that scope are as follows:

- conducting construction works according to the rules specified in the EMP, in accordance with contract conditions and design documentation, pursuant to applicable legal provisions and requirements of administrative decisions issued for this Contract;
- ensuring the permanent environmental, sapper, and archeological supervision;
- ensuring the permanent H&S supervision;
- implementation of the Engineer's recommendations (including environmental supervising experts and the Investor's supervising inspector) concerning implementation of the EMP;
- ensuring – prior to the commencement of works – the preparation of: BIOZ Plan, Waste management plan, Quality assurance plan/plans, Flood protection plan for the site for the performance time, and Draft traffic plan for the construction site;
- if it will be necessary, the Contractor's environmental team would develop necessary materials and applications for the obtainment of permits/decisions for departures from bans to protect species of plants, fungi or animals based upon the rules of and in the mode specified by the NC Act (of April 16, 2004). The above-mentioned decisions issued by RDOŚ/GDOŚ are to be requested for by the Contractor. The Contractor's duty is to implement the provisions of obtained decisions for departure from the protection of species of plants, fungi or animals;
  - keeping the construction site records;
  - drafting monthly reports and inspection reports (commencement report, monthly report, quarterly report, final report, report to RDOŚ in Cracow only in the scope resulting from decisions obtained on the implementation stage, if they would state it necessary to report subject actions);
  - preparing reports concerning the environmental protection;
  - applying to the Investor for modification of design solutions, if it is justified by a necessity of increasing safety for performance of the construction works or improving the construction process related to implementation of the EMP;
- repairing the potential faults/defects, which would be notified by the Engineer and/or by the Client (in case the notification period for defects, guarantee, and warranty would be supported by the Engineer) during the works and during the defects, guarantee, and warranty notification period. The Contractor is obliged to report any actions implemented to remove the faults/defects. The report shall be filed to the Engineer/Client;
- provision of the ESHS Proceeding Code and of ESHS Management Strategy and Implementation Plans - to be developed on the bid submission stage - for the Contract Engineer's acceptance, as described in the Bidding Documents, ItB 11.1 (h), and verification of those documents as a result of periodical CE guidelines.

## **10 EMP implementation schedule and reporting procedures**

Implementation of the EMP shall allow the parties involved in the preparation, performance and supervision of the Works Contract, for:

- identifying different environmental aspects which have a considerable impact on the state of the environment, and therefore allow for controlling, correcting, and reducing them, but which consequently generate economic effects;
- rectifying adverse consequences of the works conducted during the implementation to the benefit of the environment and financial results;
- determining the aims and measures performed within the adopted environmental policy, covered by the EMP, which require expenditures and bring tangible effects;
- identifying and eliminating prospective hazards and failures, preventing and removing the environmental effects, which may be connected with them and which may entail losses disproportional to the preventive costs;
- using the natural resources reasonably, with minimum environmental loss and optimum generation of costs.

Furthermore, implementation of recommendations and measures required under the EMP may reduce or even eliminate a risk of occurrence of adverse social, environmental and economic events and phenomena related to the Contract, and in particular:

- a risk to ignore the environmental protection issues during the process of implementation of measures by the Contractor;
- a risk of escalation of the local community protests as a result of a failure of the Contractor to adhere to technologies for conducting the works and environmental procedures approved by the Engineer;
- a risk of additional environmental penalties;
- a risk of additional damage to the environment.

Taking into account the significance of the aspects specifying the environmental conditions and community conditions, the following EMP implementation procedures are anticipated:

- prior to the selection of the Contractor, the Employer shall submit a draft of this EMP to the World Bank in order to obtain its opinion;
- after obtaining a positive opinion of the World Bank, the draft EMP shall be consecutively subject to public consultations;
- after the public consultations (and supplementing the document with the consultations report), the EMP shall be updated and submitted in its final version for the approval by the World Bank;
- upon the approval of EMP by the World Bank, the final document shall be attached to the Bidding Documents for selection of the Contractor;
- all activities of the Contractor shall be systematically reported (once a month), in Polish and, if required, in English, in paper and in electronic versions, with reference to the

## **ENVIRONMENTAL MANAGEMENT PLAN FOR CONTRACT 3D.2/1 CONSTRUCTION OF THE RIGHT EMBANKMENT OF THE BIALA RIVER IN THE CITY OF TARNÓW**

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obligations required by the EMP and other contractual documents. Those reports shall be subject to the approval of the Engineer and the Employer.

Furthermore, relevant units involved in implementation of the Contract shall be obliged to fulfil additional obligations related to monitoring and reporting of issues associated with the environmental protection, as determined in administrative decisions issued for the subject Contract (see: Section 3.5) and given in Appendix 1 and Appendix 2 to this EMP (Plan of mitigation measures, Plan of monitoring measures).

Monitoring at the works execution stage involves the preparation of summary reports on monitoring of nature by the Contractor, confirmed by the experts of the Contractor's environmental team, approved by the Engineer's environmental team, and submitted to RDOŚ by the PIU. Detailed contents of the report shall be defined by the Engineer (commencement report, periodical reports – monthly, ad-hoc, closure); it shall also determine the due dates.

The progress reporting system under the Project shall also base on monthly reports submitted by Contractors to the PIO through the Engineer, and upon Engineer's monthly and quarterly reports. Monthly and quarterly reports on the EMP implementation (Contractor's and Engineer's) shall be prepared as part of monthly reports or as a separate document.

The PIU shall supply the PCU with quarterly reports in the part referring to measures implemented by them. They shall contain a required set of information and descriptions allowing for the preparation of the Project's quarterly report by the PCU. Furthermore, especially in the case of problems with the Works Contract implementation, the PCU shall expect the PIU to submit summaries and data in the monthly periods.

The following reporting procedures were established:

1. Reporting:
  - a. Reports (commencement, monthly, quarterly, ad-hoc, final) shall be developed by the Contractor,
  - b. Report review by the Engineer,
  - c. Submission of the report to the Employer (for information),
  - d. Submission of a PIU's quarterly report to the PCU,
  - e. Final report on implementation of the EMP prepared by the Engineer (after verification by the PIU and by the PCU, submitted to the World Bank not later than 3 months after the completion of works).
2. Filing system:
  - a. the Contractor: 1 copy of each report in an electronic version for 5 years from the date of the Works Contract completion,
  - b. the Engineer: 1 copy of each report in an electronic version for 5 years from the date of the Works Contract completion,
  - c. the Employer: 1 copy of each report in an electronic version for 5 years from the date of the Works Contract completion.
3. Evaluation:
  - a. ongoing assessment of the outcomes of the planned measures implementation which arise from the EMP;
  - b. ongoing analysis of documentation (Reports of the Contractor) by the Engineer;

- c. providing the Employer with reliable information on the course of the construction process, with special consideration of the implementation of measures limiting the adverse impact on the environment, and recommendations arising from environmental decisions;
- d. development and provision of quarterly reports to the World Bank by the PCU.

The following is planned:

- *ex-ante* evaluation: Report prior to the commencement of the Works Contract implementation (Engineer's Report),
- ongoing evaluation: Engineer's quarterly reports,
- *ex-post* evaluation:
  - Report upon the completion of the works (final reports on implementation of the EMP developed by the Contractor and by the Engineer),
  - EMP Report upon expiry of the Defects, Guarantee and Warranty Notification Period drawn up by the Contractor.

## **11 Source materials**

1. Investment Data Sheet titled: "Construction of the right embankment of the Biala River in the City of Tarnów".
2. Environmental Impact Report with supplementation for the Contract titled: "Construction of the right embankment of the Biala River in the City of Tarnów".
3. Decision on environmental conditions dated November 30, 2016 (ref. no.: ST-I.4210.1.2015.MB) for the subject Works Contract titled: "Construction of the right embankment of the Biala River in the City of Tarnów".
4. MasterPlan for the Vistula River Basin. National Water Management Authority, Warsaw 2014.
5. Construction design for the Works Contract titled Construction of the right embankment of the Biala River in the City of Tarnów at chainage km 0+000 – 0+695 (River Biala register chainage km 5+046 – 6+186), Municipality of Tarnów, District of the City of Tarnów, Małopolskie Province, within the framework of Contract titled: Expansion of Flood Embankments and Construction of the Right Embankment of the River Biala in Tuchów, Tarnów, City of Tarnów.
6. Decision no. 01/207 dated August 31, 2017 (ref. no.: WI-IX.7840.1.1.2017) on permit for implementation of the Works Contract titled: Construction of the right embankment of the Biala River in the City of Tarnów at chainage km 0+000 – 0+695 (River Biala register chainage km 5+046 – 6+186), Municipality of Tarnów, District of the City of Tarnów, Małopolskie Province, within the framework of Contract titled: Expansion of Flood Embankments and Construction of the Right Embankment of the River Biala in Tuchów, Tarnów, City of Tarnów
7. Woś A. Regiony klimatyczne Polski w świetle częstości występowania różnych typów pogody; Zeszyty Instytutu Geografii i Przestrzennego Zagospodarowania PAN, no. 20, 1993
8. Kondracki J., Geografia regionalna Polski, Wydawnictwa Naukowe PWN, Warsaw 2001
9. Hydrogeologia regionalna Polski, Państwowy Instytut Geologiczny, 2007
10. Environmental Protection Programme for the City of Tarnów for the years 2017-2024, including a short-term strategy for the years
11. Report on the environment for Małopolskie Province in 2016, Provincial Inspectorate for Environmental Protection in Cracow, Cracow 2017.
12. Report on the environment for Małopolskie Province in 2017, Provincial Inspectorate for Environmental Protection in Cracow, Cracow 2018.
13. World Bank Operational Policy OP 4.01 – Environmental Impact Assessment (<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPM/ANAL/0,,contentMDK:20064724~pagePK:64141683~piPK:64141620~theSitePK:502184~isCURL:Y~isCURL:Y~isCURL:Y~isCURL:Y~isCURL:Y,00.html>).
14. Environmental and Social Management Framework, final document, April 2015 ([http://www.odrapcu.pl/doc/OVFMP/Ramowy\\_Plan\\_Zarz%C4%85dzania\\_Srodowiskiem\\_i\\_Spo%C5%82eczenstwem.pdf](http://www.odrapcu.pl/doc/OVFMP/Ramowy_Plan_Zarz%C4%85dzania_Srodowiskiem_i_Spo%C5%82eczenstwem.pdf)).

**ENVIRONMENTAL MANAGEMENT PLAN FOR CONTRACT 3D.2/1 CONSTRUCTION OF THE RIGHT EMBANKMENT OF THE BIALA RIVER IN THE CITY OF TARNÓW**

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15. Poland – Odra-Vistula Flood Management Project: environmental and social management framework  
(<http://documents.worldbank.org/curated/en/2015/04/24502899/poland-odra-vistula-flood-management-project-environmental-social-management-framework>).
16. Odra-Vistula Flood Management Project – Project Operations Manual, Wrocław 2015  
([http://www.odrapcu.pl/doc/POM\\_PL.pdf](http://www.odrapcu.pl/doc/POM_PL.pdf))
17. Website: [http://www.odrapcu.pl/popdow\\_dokumenty.html](http://www.odrapcu.pl/popdow_dokumenty.html)
18. Website: [www.isok.gov.pl/](http://www.isok.gov.pl/)
19. Website: [www.natura2000.gdos.gov.pl](http://www.natura2000.gdos.gov.pl)
20. Geo-service GDOŚ <http://geoserwis.gdos.gov.pl/mapy/>
21. Małopolska Infrastructure of Spatial Information <http://miip.geomalopolska.pl>
22. Website: <https://pl.climate-data.org>

## **12 Appendices**

- Appendix 1. Plan of mitigation measures;
- Appendix 2. Plan of monitoring measures;
- Appendix 3. List of national legal acts related to environmental protection;
- Appendix 4. Decisions, resolutions, permits, notices;
  - Appendix 4a. Decision on environmental conditions dated November 30, 2016;
  - Appendix 4b. Water-law permit;
  - Appendix 4c. Opinion of the Provincial Heritage Conservator in Cracow;
  - Appendix 4d. Opinion of the Provincial Heritage Conservator in Cracow, Part 2;
  - Appendix 4e. Resolution of the RDOŚ in Cracow correcting an obvious mistake in the decision on environmental conditions;
  - Appendix 4f. Note of the RDOŚ in Cracow on synchronizing implementation of the Works Contract with development of the left flood embankment for the River Biała;
  - Appendix 4g. Note of the RDOŚ in Cracow on replacement planting;
  - Appendix 4h. Note of the RDOŚ in Cracow on a decision on performance conditions;
- Appendix 5. Map with location of the Works Contract;
- Appendix 6. Map with location of the Works Contract in reference to protected areas and to NATURA 2000 sites;
- Appendix 7. Map with location of the Works Contract in reference to areas of potential flood hazard;
- Appendix 8. Map with location of the Works Contract in reference to areas excluded from land of potential flood hazard.
- Appendix 9. Location of natural habitats and fauna occurrence sites within the Works Contract.
- Appendix 10. Map with location of the Works Contract's elements.

### 13 Summary of drawings

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**Drawing no. 3** Location of the Contract in reference to BSW.....36

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