

FINAL REPORT
on implementation of measures determined
IN THE ENVIRONMENTAL MANAGEMENT PLAN
for the Contract 3A.2/4

Odra – Vistula Flood Management Project

OVFMP Subcomponent	3A Flood protection of Upper Vistula Towns and Cracow
Contract / Works Contract	3A.2 Flood protection in Serafa valley
	3A.2/4 Flood protection in Serafa Valley – Serafa 2 reservoir
Investor / Project Implementation Unit	State Water Holding Polish Waters Regional Water Management Authority in Cracow 22. Marszałka J. Piłsudskiego Street, 31-109 Cracow, Poland
Project Implementation Office (PIU)	Project Implementation Office in Cracow 22. Marszałka J. Piłsudskiego Street, 31-109 Cracow, Poland
Contractor	Consortium: Przedsiębiorstwo Budownictwa Wodno – Inżynieryjnego Ltd., 17 Bogucka Str., 32-020 Wieliczka, Poland – Consortium Leader SARIVO Infrastruktura Ltd., 14 Christo Botewa Str., 30-798 Cracow, Poland – Consortium Partner
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INTRODUCTION

This paper, as developed by the Contract Engineer, within the framework of Consulting Services Contract no. 5.2 *Design and Construction Supervision. Project Management, Technical Assistance and Training, Technical Support for the Project and Strengthening of PIU's Institutional Capacity*, presents a final report on implementation of measures determined in the Environmental Management Plan (EMP) for Works Contract *Flood protection in Serafa valley – Serafa 2 reservoir (3A.2/4)*.

The report covers the following period:

- from the Commencement Date for the Works under Contract 3A.2/4
(i.e. from **February 14, 2022**);
- to the completion date for the works considered as essential, as results from the Time for Completion for the aforementioned Contract
(i.e. to **November 15, 2023**).

The following was presented for the Contract:

- basic information on Contract 3A.2/4
(including e.g. the scope of works and basic deadlines for the Contract);
- basic information on the Environmental Management Plan for Contract 3A.2/4;
- organizational system for supervision over implementation of the EMP;
- status of implementation for mitigation measures listed in Appendix 1 to the EMP;
- status of implementation for monitoring measures listed in Appendix 2 to the EMP;
- description of other measures and events associated with the ES;
- summary.

1 BASIC INFORMATION ON CONTRACT 3A.2/4

Works Contract *Flood protection in Serafa valley – Serafa 2 reservoir (3A.2/4)* is implemented under *Odra-Vistula Flood Management Project (OVFM Project)*, as a part of Component 3 *Flood protection of the Upper Vistula* and Subcomponent 3A *Protection on Upper Vistula Towns and Cracow*.

An agreement with the Contractor for Contract 3A.2/4 has been signed on October 27, 2021. On February 8, 2022, the Investor handed over the construction site to the Contractor, and the commencement of works took place on February 14, 2022. The Time for Completion expired on November 15, 2023.

Basic information about the Contract is presented below.

Name of the Contract:

Flood protection in Serafa valley – Serafa 2 reservoir

Contractor:

Consortium:

Przedsiębiorstwo Budownictwa Wodno – Inżynieryjnego Ltd., 17 Bogucka Str., 32-020 Wieliczka, Poland – Consortium Leader

SARIVO Infrastruktura Ltd., 14 Christo Botewa Str., 30-798 Cracow, Poland – Consortium Partner

Scope of Works:

Works Contract *Flood protection in Serafa valley – Serafa 2 reservoir (3A.2/4)* refers to the development of a small dry flood storage reservoir Serafa 2 at the Serafa River, in Małopolskie Province, in the area of the City of Wieliczka (District of Wieliczka, Municipality of Wieliczka).

The reservoir Serafa 2 is the dry flood storage reservoir located at chainage km 9+223 of the Serafa River (elements of reservoir include a bowl and an earth-fill front dam and side dam [with shutter in the body and in the subbase], spillway and discharge facilities, pedestrian and vehicle footbridge and a stilling basin), having the following parameters:

- | | |
|--|------------------------|
| ○ hydraulic class of the structure – | III |
| ○ damming height – | 3.9 m |
| ○ maximum damming elevation (MaxSL) – | 220.0 m a.s.l. |
| ○ capacity of the reservoir at MaxSL – | 43 000 m ³ |
| ○ flood area at MaxSL – | about 2.4 ha |
| ○ flow Q _{0.2%} at the inlet to the reservoir – | 57.5 m ³ /s |
| ○ flow Q _{0.5%} at the inlet to the reservoir – | 35.2 m ³ /s |
| ○ flow Q _{1%} at the inlet to the reservoir – | 22.8 m ³ /s |

○ reduced flow Q(reduced) _{0.2%} –	56.5 m ³ /s
○ reduced flow Q(reduced) _{0.5%} –	30.3 m ³ /s
○ reduced flow Q(reduced) _{1%} –	20.9 m ³ /s
○ front dam's crest elevation –	220.7 m a.s.l.
○ length of the front dam –	40 m
○ front dam's crest width –	4 m
○ riverside slope inclination –	1:3
○ landside slope inclination –	1:2.5
○ length of the side dam –	97 m
○ side dam's crest width –	3 m
○ riverside slope inclination –	1:3
○ landside slope inclination –	1:2
○ shutter in the body and in the subbase	
○ slopes protected with anti-erosive mat and sown with a mix of grass	
○ time of retention –	about 4 hours

Basic dates for the Contract:

Agreement signing date: October 27, 2021

Date of handing over the Construction Site: February 8, 2022

Commencement Date for the Works: February 14, 2022

Completion Date for the Works

- (according to the Time for Completion): 645 days from the date of handing over the Construction Site - November 15, 2023.

Date of signing Annex No. 1: October 7, 2022.

Date of signing Annex No. 2: November 25, 2022.

Date of signing Annex No. 3: February 22, 2023.

Date of signing Annex No. 4: May 8, 2023.

Date of signing Annex No. 5: May 31, 2023.

Date of signing Annex No. 6: July 31, 2023.

Date of signing Annex No. 7: October 19, 2023.

Date of signing Annex No. 8: December 13, 2023.

2 BASIC INFORMATION ON THE EMP FOR CONTRACT

The Environmental Management Plan for Contract 3A.2/4 has been developed in February 2021 (final version). On April 23, 2021 the World Bank issued “No Objection” acceptance approving the Environmental Management Plan as one of documents for the bidding procedure applied to select the Contractor of construction works under the Contract.

It is a document systematizing actions undertaken within the framework of the Contract and obliging all units participating in implementation of the Contract to observe the provisions given therein. A detailed description of contract implementation conditions referring to the environmental management has been developed in the form of appendices to the EMP – Appendix 1 containing the *Mitigation Measures Plan* (see description in chapter 2.1, below), and Appendix 2 containing the *Monitoring Measures Plan* (see description in chapter 2.2, below).

2.1 MITIGATION MEASURES DETERMINED IN APPENDIX 1 TO THE EMP

Appendix 1 to the EMP for Contract 3A.2/4 contains 103 mitigation measures, which are to prevent and limit adverse impact of the construction works on the environment. Those measures result from contents of the decisions on environmental conditions, as issued for the Contract in question (given in Appendix 4 to the EMP), as well as from procedural requirements of the World Bank and additional conditions determined during the works on development of the EMP. Table of mitigation measures given in Appendix 1 to the EMP described particular measures and determined locations of their implementation, as well as the units responsible for their implementation.

Mitigation measures listed in Appendix 1 to the EMP belong to the following 19 categories:

- a) requirements on schedule of works and implementation of the EMP
(items no. 1-2 under Appendix 1 to the EMP);
- b) requirements on purchase and compensation
(items no. 3-4 under Appendix 1 to the EMP);
- c) requirements on road access to the *Contract area*
(items no. 5-12 under Appendix 1 to the EMP);
- d) requirements on locations of site facilities and service roads and yards
(items no. 13-15 under Appendix 1 to the EMP);
- e) requirements on removal of trees and shrubs
(items no. 16-17 under Appendix 1 to the EMP);
- f) requirements on protection of trees and shrubs not intended for removal
(items no. 18-24 under Appendix 1 to the EMP);
- g) requirements on securing protected natural resources
(items no. 25-39 under Appendix 1 to the EMP);
- h) requirements on ground management (including top-soil)
(items no. 40-43 under Appendix 1 to the EMP);
- i) requirements on land reclamation and use after completion of works

- and replacement planting of trees and shrubs
(items no. 44-48 under Appendix 1 to the EMP);
- j) requirements on prevention of pollution emission to the ground and water environment
(items no. 49-60 under Appendix 1 to the EMP);
- k) requirements on prevention of pollution emission to the air
(items no. 61-63 under Appendix 1 to the EMP);
- l) requirements on prevention of noise emission
(items no. 64-67 under Appendix 1 to the EMP);
- m) requirements on waste management
(items no. 68-72 under Appendix 1 to the EMP);
- n) requirements on protection of health and safety of people
(items no. 73-79 under Appendix 1 to the EMP);
- o) requirements on exceptional hazards to the environment
(items no. 80-83 under Appendix 1 to the EMP);
- p) requirements on the protection of cultural heritage
(items no. 84-85 under Appendix 1 to the EMP);
- q) requirements on the Contractor's personnel implementing the EMP
(items no. 86-90 under Appendix 1 to the EMP);
- r) requirements on implementation reports for the EMP
(items no. 91-92 under Appendix 1 to the EMP);
- s) remaining ES requirements
(items no. 93-103 under Appendix 1 to the EMP);

Contents of individual mitigation measures given in Appendix 1 to the EMP have been quoted in the *Check List* forming *Appendix no. 1* to this report.

2.2 MONITORING MEASURES DETERMINED IN APPENDIX 2 TO THE EMP

Appendix 2 to the EMP for Contract 3A.2/4 contains a set of 103 monitoring measures, which are to monitor implementation of mitigation measures described in Appendix 1. A tabulated summary of monitoring measures, as given in Appendix 2 to the EMP, contains the same breakdown into categories as in case of the mitigation measures. The table of monitoring measures determines e.g. location, method, time, and frequency of monitoring, as well as the units responsible for its implementation.

3 SYSTEM OF SUPERVISION OVER IMPLEMENTATION OF MEASURES DETERMINED IN THE EMP FOR CONTRACT 3A.2/4

Supervision over implementation of mitigation measures and monitoring measures determined in the EMP for Contract 3A.2/4 was performed on the level of all of the organizational units participating in the Contract implementation, i.e. Contractors, Engineer, Project Implementation Office (PIU), and Project Coordination Unit (PCU). Information on the scope of performance for individual units is presented below.

3.1 CONTRACTOR

A person directly responsible for implementation of measures determined in the EMP on the Contractor's side was the Site Manager. In accordance with item no. 86 in Appendix 1 to the EMP, in order to provide support to the Site Manager in the implementation of the EMP, the EMP Coordinator has been appointed in the Contractor's team. The task of that person was an ongoing cooperation with the Site Manager, with the remaining members of the Contractor's personnel, and with the Environmental Management Expert of the Engineer's team in securing implementation of the EMP conditions, as well as provision of ongoing reporting in that range. Furthermore, in accordance with items no. 87, 88 and 89 under Appendix 1 to the EMP, the Contractor assured participation of expert teams of environmental, archaeological and sapper supervision, in the scope compliant with the EMP requirements.

After completing each month, the EMP Coordinator summarized the current status of implementation of individual EMP conditions (in the form of a checklist). Information on the implementation of the EMP was provided to the Environmental Management Expert of the Engineer's team, along with appropriate attachments (including notes, opinions, environmental supervision reports, etc.).

3.2 ENGINEER

Direct supervision over implementation of the EMP conditions by the Engineer's team was done by the Environmental Management Expert cooperating in that range with the supervising inspectors, and other members of the Engineer's team providing investor's supervision over implementation of the Contract. The Environmental Management Expert was in an ongoing contact with the Site Manager and with the EMP Coordinator of the Contractor's team, while establishing the range of conditions to be necessarily met on a given stage of works, supervising the implementation status for particular EMP conditions, participating in solving ongoing issues, and performing inspections on work sites.

After completing each and every reporting period (month and quarter), the Environmental Management Expert was verifying environmental documentation of the Contractor and developing reports, which were subsequently handed over to the Project Implementation Office.

3.3 PROJECT IMPLEMENTATION OFFICE (PIU)

Direct supervision over implementation of the EMP conditions by the Project Implementation Office (PIU) was done by the Environmental Specialist, who cooperated in that range with the PIU Manager, with other members of the PIU team, as well as with other organization units of

the RZGW in Cracow. The Environmental Specialist and the PIU Manager were in a direct contact with the Environmental Management Expert of the Engineer's team, while supervising the implementation status for particular EMP conditions and participating in solving of the ongoing issues. After completing each and every reporting period (month and quarter), the Environmental Specialist and the PIU Manager were verifying environmental documentation of the Contract, and subsequently handed it over to the Project Coordination Unit (in the scope compliant with the EMP conditions).

3.4 PROJECT COORDINATION UNIT (PCU)

Direct supervision over implementation of the EMP conditions by the Project Coordination Unit was done by the Environmental Management Expert, who cooperated in that range with other members of the PCU team. The expert was in a direct contact with the PIU Manager and with the Environmental Specialist of the PIU team. He was also cooperating with persons responsible for implementation of the EMP on the side of remaining organizational units of the construction process, i.e. the Environmental Management Expert of the Engineer's team, as well as the Site Manager and the EMP Coordinator of the Contractor's team.

The Environmental Management Expert was supervising the implementation status for particular EMP conditions, while participating in solving of ongoing issues, and participating in site inspections. After completing each quarterly reporting period, he was verifying environmental documentation handed over by the PIU, and was developing contents for PCU reports, which were subsequently submitted to the World Bank.

4 IMPLEMENTATION STATUS FOR MITIGATION MEASURES UNDER APPENDIX 1 TO THE EMP

In accordance with contents of Appendix 1 to the EMP for Contract 3A.2/4, units responsible for implementation of mitigation measures determined under Appendix 1 to the EMP are as follows: **the Contractor (102 measures:** items no. 1-2, 4-103 under Appendix 1 to the EMP), **the Engineer (3 measures:** items no. 3, 4 and 101 under Appendix 1 to the EMP) and **the Investor (56 measures:** items no. 3, 4 and items no. 28, 45, 47 and 48 after the Defects Notification Period ends under Appendix 1 to the EMP). In total, the EMP for Contract 3A.2/4 envisages implementation of 103 mitigation measures, including at least 86 measures to be implemented within the reporting period, and 1 measure was, in the light of operational policy OP 4.12, completed before the commencement of the Works (in case of remaining 16 measures it was not necessary to implement them – see below).

4.1 CONTRACTOR'S MEASURES

According to information presented in monthly reports and in quarterly reports on implementation of measures determined in the EMP:

- a) Within the reporting period the Contractor implemented 86 (ca. 86%) mitigation measures, including:
 - 82 (ca. 82%) measures were implemented in the scope required within the reporting period (items no. 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 21, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 47, 49, 50, 51, 52, 53, 54, 55, 57, 58, 59, 61, 62, 63, 64, 65, 68, 69, 70, 71, 72, 73, 74, 77, 78, 79, 80, 84, 86, 87, 88, 89, 90, 91, 92, 93, 95, 96, 97, 98, 99, 100, 101, 103 under Appendix 1 to the EMP);
 - in case of 4 measures issues and / or inconsistencies associated with their implementation – as discussed in chapter 4.4 (items no. 46, 76, 94, 102 under Appendix 1 to the EMP).
- b) Within the reporting period the Contractor was not implementing 16 (ca. 16%) mitigation measures, including items no. 12, 20, 22, 23, 24, 30, 48, 56, 60, 66, 67, 75, 81, 82, 83, 85 under Appendix 1 to the EMP.
- c) cases of missing implementation for measures required within the reporting period were not identified.

Mitigation measures were implemented by the Contractor with the participation of, among others, Site Manager, environmental experts team: botany - phytosociology expert, dendrologist, zoologist - invertebrate expert, zoologist – ichthyologist, zoologist - herpetologist, zoologist - ornithologist, zoologist - chiropterologist, zoologist – theriologist and water protection expert. An EMP Coordinator has been appointed to supervise the activities of a team of environmental experts, an archaeological supervision team, a sapper supervision team and an OHS specialist. Mitigation measures were agreed with (if required by the conditions of Contract and/or the EMP) and supervised by the Engineer's team with participation of the following persons: Project Manager, Environmental Management Expert, Senior Supporting Expert for Technical

Assistance and Real Estate, Key Expert - Real Estate Specialist, Senior Supporting Experts - Supervision Inspectors and Key Expert - Resident Engineer/Supervision Inspector.

4.2 ENGINEER'S MEASURES

According to information presented in monthly reports and in quarterly reports on implementation of measures determined in the EMP:

- a) Within the reporting period the Engineer was implementing 3 (ca. 3%) mitigation measures, including:
 - 3 (ca. 3%) measures were implemented in the scope required within the reporting period (items no. 3¹, 4² and 101³ under Appendix 1 to the EMP);
 - in case of none of the measures issues and / or inconsistencies associated with their implementation were identified.
- b) In the reporting period, there were no mitigation measures that the Engineer would not implement.

Cases of missing implementation for measures required within the reporting period were not identified.

Mitigation measures were implemented by the Engineer at participation of selected specialists of the Engineer's team (composition of the team has been informed in chapter 3.1).

4.3 INVESTOR'S MEASURES

According to information presented in monthly reports and in quarterly reports on implementation of measures determined in the EMP:

- a) Within the reporting period the Investor was implementing 2 (ca. 2%) mitigation measures, including:
 - 2 (ca. 2%) measures were implemented in the scope required within the reporting period (items no. 3⁴, 4 under Appendix 1 to the EMP);
 - in case of none of the measures issues and / or inconsistencies associated with their implementation were identified.
- b) Within the reporting period the Investor did not implement 4 (ca. 4%) mitigating measures, including:

¹ the measure was carried out to the extent consistent with the Bank's requirements, before the commencement of construction works, however, during the implementation of the works, compensation was paid by the Investor after the final decision on determining the amount of compensation issued by the Małopolska Governor - the Engineer participated in correspondence with the authority issuing the decisions in question and obtained PAP statements about the account number for compensation payments

² the Engineer supervised the correctness of the regulation of contractual matters between the Contractor and PAP providing the real estate for temporary occupation.

³ this measure consisted in preparing by the Engineer and providing the Contractor with procedures for current information about problems in the field of ES, this action was implemented immediately after the commencement of the Contract

⁴ compensation payments for permanent occupations to the extent required by the operational policy of WB - OP 4.12 were completed before the commencement of the works, while the Investor, during the implementation of the works, made payments resulting from the finality of the decisions issued by the Małopolska Governor determining the amount of compensation.

- the implementation of 4 (approx. 4%) measures did not concern the reporting period, these are measures to be taken only after the end of the Defects Notification Period (items no. 28, 45, 47 and 48 under Appendix 1 to the EMP);
- cases of missing implementation for measures required within the reporting period were not identified.

Mitigation measures were implemented by the Investor at participation of selected members of the PIU's team: Environmental Specialist, Resettlement Specialist and Head of PIU.

4.4 ISSUES REFERRING TO IMPLEMENTATION OF MITIGATION MEASURES LISTED IN APPENDIX 1 TO THE EMP

According to information provided in monthly reports and in quarterly reports on implementation of measures determined in the EMP, the following issues and / or inconsistencies associated with implementation of 4 mitigation measures from Appendix 1 to the EMP for Contract 3A.2/4 (in order compliant with numbers of items under Appendix 1 to the EMP) were identified:

1) Problems with replacement planting of trees and shrubs

[related to item no. 46 under Appendix 1 to the EMP]:

From the second quarter of 2022 until the end of the reporting period, problems with the implementation of the measure under item 46 under Appendix 1 of the EMP. The implementation of the full scope of plantings extended over the entire duration of the Contract and additionally resulted in the need to extend the Time for Completion until November 15, 2023 (due to bad weather conditions that were not conducive to the completion of these activities - an extended period of high temperatures resulting from climate change). In the case of already planted plants, cases of lack or improper care of the plantings were recorded. Despite these problems, the plantings were carried out in accordance with the design. Dead seedlings were replaced and care was intensified. During the Defects Notification Period, the Contractor will continue to care for the seedlings and replace them if they do not take root.

Based on the experience gained, it should be indicated that in the Environmental Management Plans prepared in the future for subsequent Projects in which replacement plantings will be planned, an entity should be indicated that will take over responsibility for the maintenance of the replacement plantings after the end of the Defects Notification Period and the scope of such activities should be defined, which will contribute to achieving a lasting ecological effect of the implemented Contract.

2) Problems with implementing guidelines regarding occupational safety requirements

[related to items no. 76 and 94 under Appendix 1 to the EMP]:

In the period of second and third quarter of 2022 and first, second and third quarter of 2023, the Engineer, conducting regular occupational health and safety inspections, noted individual cases of problems regarding work safety requirements, e.g. failure to use personal protective equipment, damaged excavation fencing, untidy workplaces or Construction Site, etc. After the Engineer's indication, the Contractor immediately took corrective actions.

Despite these minor deficiencies, thanks to the quick response of the Contractor and the ongoing implementation of the Engineer's recommended corrections, no accidents or near misses occurred during the entire period of the Contract implementation.

Based on the experience gained, it should be indicated that in the future Environmental Management Plans for subsequent Projects, the necessary measures and procedures that will be applied in the event of accidents and incidents, including those resulting in injuries, death or significant impact on the environment, should be described. These measures and procedures should be introduced into the Contracts with the Contractors in order to clearly and unambiguously define the Contractor's obligation to conduct an investigation after the occurrence of such an accident. The investigation of the accident conducted by the Contractor should include indications of the necessary corrective actions to be taken and a schedule for their implementation in order to prevent future accidents.

3) The Contractor's delay in conducting training on the prevention of infectious diseases (including HIV/AIDS type diseases and diseases caused by corona viruses)

[related to item no. 102 under Appendix 1 to the EMP]:

The Contractor delayed organizing and conducting training in the field of infectious disease prevention (including HIV/AIDS type diseases and diseases caused by corona viruses). This training should have been carried out in the first quarter of 2022, but in practice it was carried out at the beginning second quarter of 2022. This situation was related to the difficulty of finding an appropriate specialist, especially in the field of coronaviruses, during the period when the pandemic was ongoing and specialists were engaged in helping medical and sanitary services. Despite the delay in conducting the training, there were no negative effects on the Contractor's staff and employees. There have been no cases of increased illness among the Contractor's staff, and no other illnesses involving viruses have been reported.

5 IMPLEMENTATION STATUS FOR MONITORING MEASURES UNDER APPENDIX 2 TO THE EMP

In accordance with contents of Appendix 2 to the EMP for Contract 3A.2/4, units responsible for implementation of monitoring measures determined under Appendix 2 to the EMP are as follows: **the Contractor (102 measures:** items no. 1, 2, 4-103 under Appendix 2 to the EMP), **the Engineer (103 measures:** items no. 1-103 under Appendix 2 to the EMP) and **the Investor (4 measures:** items no. 28, 45, 47 and 48 under Appendix 2 to the EMP). In total, the EMP for Contract 3A.2/4 envisages implementation of 101 monitoring measures, of which all measures should be implemented in the reporting period.

5.1 CONTRACTOR'S MEASURES

Within the reporting period the Contractor was implementing measures associated with implementation monitoring for mitigation measures, as described in Appendix 2 to the EMP. The monitoring was implemented through the following: (i) verification of requirements determined under the EMP for the current stage of works; (ii) verification of Contractor's documents related to implementation of conditions under the EMP; (iii) ongoing inspections on site; (iv) actions listed under Appendix 2 to the EMP; and (v) ongoing establishments with representatives of the Engineer and of the Investor.

- a) Within the reporting period the Contractor was implementing 102 (ok. 100%) monitoring measures, including:
 - 102 (ca. 100%) measures were implemented in the scope required within the reporting period (items no. 1, 2, 4-103 under Appendix 2 to the EMP).
 - in case of none of the measures issues and / or inconsistencies associated with their implementation were identified.
- b) cases of missing implementation for monitoring measures assigned to the Contractor within the reporting period were not identified.

Monitoring measures were implemented by the Contractor at participation of the Contractor's personnel listed in chapter 4.1.

5.2 ENGINEER'S MEASURES

Within the reporting period the Engineer was implementing measures associated with implementation monitoring for mitigation measures, as described in Appendix 2 to the EMP. The monitoring was implemented through the following: (i) verification of requirements determined under the EMP for the current stage of works; (ii) verification of Contractor's and Investor's documents related to implementation of conditions under the EMP; (iii) ongoing inspections on site; (iv) actions listed under Appendix 2 to the EMP; and (v) ongoing establishments with representatives of the Contractor and of the Investor.

- a) Within the reporting period the Engineer was implementing 103 (100 %) monitoring measures, including:
 - 103 (100%) measures were implemented in the scope required within the reporting period (items no. 1-103 under Appendix 2 to the EMP);

- in case of none of the measures issues and / or inconsistencies associated with their implementation were identified.
- b) cases of missing implementation for monitoring measures assigned to the Engineer within the reporting period were not identified.

Furthermore, within the reporting period the Engineer was also supervising implementation of 102 monitoring measures assigned, in accordance with Appendix 2 to the EMP, to the Contractor.

Monitoring measures and supervising measures in the range referring to the EMP were implemented by the Engineer at participation of selected experts of the Engineer's team (composition of the team has been given in chapter 4.1).

5.3 INVESTOR'S MEASURES

Within the reporting period the Investor was implementing measures associated with implementation monitoring for mitigation measures, as described in Appendix 2 to the EMP. The monitoring was implemented through the following: (i) verification of requirements determined under the EMP for the current stage of works; (ii) verification of Contractor's and Engineer's documents related to implementation of conditions under the EMP; (iii) ongoing inspections on site; (iv) actions listed under Appendix 2 to the EMP; and (v) ongoing establishments with representatives of the Contractor and of the Engineer.

- a) Within the reporting period the Investor did not implement 4 (ca. 4%) monitoring measures assigned to the Investor in the EMP because there was no such need, these measures will be carried out only after the end of the Defects Notification Period (items no. 28, 45, 47 and 48 under Appendix 2 to the EMP). In case of none of the measures issues and / or inconsistencies associated with their implementation were identified.
- b) cases of missing implementation for monitoring measures assigned to the Investor within the reporting period were not identified.

The supervising measures in the range referring to the EMP were implemented by the Investor at participation of members of the PIU's team listed in chapter 4.3.

5.4 ISSUES REFERRING TO IMPLEMENTATION OF MONITORING MEASURES LISTED IN APPENDIX 2 TO THE EMP

In accordance with information presented in monthly reports and in quarterly reports on implementation of measures determined in the EMP, issues with implementation of the monitoring measures listed in Appendix 2 to the EMP for Contract 3A.2/4 were not identified within the reporting period.

6 OTEHR ACTIONS AND EVENTS RELATED TO THE ENVIRONMENT, LOCAL SOCIETY, HEALTH AND SAFETY, SUMMARY

6.1 ACTIONS OF THE CONTRACTOR

Within the reporting period the Contractor has been carrying out works within the framework of Contract 3A.2/4, including e.g. implementation of particular measures determined in the Environmental Management Plan, as assigned to the Contractor.

Furthermore, within the reporting period the Contractor was implementing e.g. the following other measures referring to Contract 3A.2/4 and related to the environment, local society, health and safety:

- due to a threat of spreading coronavirus infections causing COVID-19 disease, from the fourth quarter of 2021 to the first quarter of 2022 the Contractor was providing the Engineer with weekly reports on situation referring to that threat for Contract 3A.2/4;
- due to the situation regarding Russia's aggression against Ukraine, from the first quarter of 2022 to the second quarter of 2023, the Contractor was providing the Engineer with weekly special reports regarding the impact of the geopolitical situation on the pace of the Works and the completion date and cost.

6.2 ACTIONS OF THE ENGINEER / CONSULTANT

Within the reporting period the Engineer/Consultant was supervising works carried out within the framework of Contract 3A.2/4, including e.g. implementation of particular measures determined in the Environmental Management Plan, as assigned to the Engineer.

Furthermore, within the reporting period the Engineer/Consultant was implementing the following other measures referring to Contract 3A.2/4 and related to the environment, local society, health and safety:

- supporting the staff of the Małopolska Governor in conducting administrative proceedings related to issuing decisions determining the amount of compensation;
- running an information point for interested residents and people who own real estate in the vicinity of the Contract construction site for the Contract 3A.2/4;
- due to a threat of spreading coronavirus infections causing COVID-19 disease, in first quarter of 2022 the Engineer monitored the situation under Contract 3A.2/4 in connection with the epidemiological threat and submitted reports to the Investor regarding the above-mentioned threats.

6.3 ACTIONS OF THE INVESTOR

Within the reporting period the Investor was carrying out its activities associated with implementation of Contract 3A.2/4, including e.g. implementation of particular measures determined in the Environmental Management Plan, as assigned to the Investor, and was supervising the measures implemented by the Contractor and by the Engineer/Consultant.

6.4 OTHER ACTIONS

Not applicable to reporting period.

6.5 EXCEPTIONAL EVENTS, THREATS AND CATASTROPHES

Not applicable to reporting period.

6.6 ACCIDENTS

6.6.1 Accidents with participation of Contractor's employees

There were no such accidents in the reporting period.

6.6.2 Accidents with participation of other people authorized to access the site

There were no such accidents in the reporting period.

6.6.3 Accidents with participation of outsiders

There were no such accidents in the reporting period.

6.7 SECURING CONDITIONS OF PAYMENT AND WORK FOR THE PERSONNEL

Within the reporting period the Contractor was securing proper conditions of payment and work for the personnel, in accordance with binding provisions of the labour law in Poland.

6.8 PREVENTING CASES OF SEXUAL HARASSMENT AND MOBBING

Events associated with cases of sexual harassment and mobbing have not taken place within the reporting period.

7 SUMMARY

This report presents a summary on implementation of the measures determined in the Environmental Management Plan (EMP) for Contract *Flood protection in Serafa valley – Serafa 2 reservoir (3A.2/4)* within the framework of the Odra-Vistula Flood Management Project (OVFMP).

The report refers to the measures implemented in the following period:

➤ from the Commencement Date for the Works under Contract 3A.2/4

(i.e. **from February 14, 2022**);

➤ to the completion date for the works considered as essential,
as results from the Time for Completion for the aforementioned Contract
(i.e. **to November 15, 2023**).

Within the reporting period the Contractor was carrying out the works in the range given in the Contract 3A.2/4 (see description in chapter 1). He implemented of 102 mitigation measures determined in the EMP (see: description in chapter 4.1). He monitored of implementation of 102 mitigation measures determined in the EMP (see: description in chapter 5.1), and he participated in other events referring to the environment, local society, and health and safety (as listed in chapter 6.1).

Within the reporting period the Engineer was supervising the works in progress within the framework of Contract 3A.2/4, including e.g. implementation of the measures determined in the Environmental Management Plan in the range assigned to the Engineer (see: description in chapter 4.2), monitoring of the implementation status for all 103 mitigation measures determined in the EMP (see: description in chapter 5.2), and participation in other events referring to the environment, local society, and health and safety (as listed in chapter 6.2).

Within the reporting period the PIU was implementing measures assigned to it in the range of Contract 3A.2/4 implementation, including e.g. implementation of particular measures determined in the Environmental Management Plan in the range assigned to the Investor (see: description in chapter 4.3), monitoring of the implementation status for the mitigation measures determined in the EMP (see: description in chapter 5.3), and supervision over actions of the Contractor and of the Engineer.

As a result of the monitoring measures implemented by the Contractor, by the Engineer, and by the Investor, it was identified within the reporting period that:

a) 86 out of 103 mitigation measures listed in Appendix 1 to the EMP were implemented, including:

- issues with implementation were not identified in case of 82 measures;
- issues and / or inconsistencies associated with implementation were identified in case of 4 measures, described in chapter 4.4 (in no case did they cause significant negative impacts on the environment).

b) 16 out of 103 mitigation measures listed in Appendix 1 to the EMP were not implemented, including:

- implementation of 16 measures was not necessary throughout the entire reporting period.

c) 1 out of 103 mitigating measures was implemented before the commencement of the works contract;

d) 103 out of 103 monitoring measures listed in Appendix 2 to the EMP were implemented, including the following:

– issues and / or inconsistencies associated with implementation were not identified in case of any of the measures.

The Check List referring to implementation of the mitigation measures and of the monitoring measures listed in Appendix 1 and in Appendix 2 to the EMP, respectively, within the reporting period, was presented in Appendix no. 1 to this Report.

8 SOURCE MATERIALS

1. *Environmental Management Plan for Contract 3A.2/4 Flood protection in Serafa valley – Serafa 2 reservoir*. State Water Holding Polish Waters, Regional Water Management Authority in Cracow.
2. *Progress Reports* provided by the Contractor for Contract 3A.2/4 in subsequent months of the reporting period.
3. *Monthly Reports and Quarterly Reports on EMP Implementation* for Contract 3A.2/4, as provided by the Engineer in subsequent months / quarters of the reporting period.

9 LIST OF APPENDICES

1. Check List for implementation of the measures
listed in Appendix 1 and 2 to the EMP for Contract 3A.2/4.
2. Photo documentation.