

**REGIONAL DIRECTOR FOR  
ENVIRONMENTAL PROTECTION  
IN RZESZÓW**

WOOŚ.4233.4.2015.MG.65

Rzeszów, August 18, 2017

**DECISION  
ON ENVIRONMENTAL CONDITIONS**

Acting based upon:

- Article 104 of the Act of June 14, 1960 Code of Administrative Procedure (OJ of 2017, item 1257);
- Article 71 (2) item 2, Article 73 (1), Article 75 (1) item 1 letter i), Article 80, Article 82, Article 85 (2) item 1 of the Law of 3 October 2008 on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments (OJ of 2017, item 1405),

after considering the application dated August 31, 2015 of the Podkarpackie Province Marshal, represented by Mrs. Małgorzata Wajda, Director of Podkarpacki Board of Amelioration and Water Structures in Rzeszów, on the issuance of a decision on environmental conditions for implementation of the contract titled: "Łęg IV - extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce", including attached documentation, e.g.:

- Investment data sheet,
- Site map covering the area, where the investment shall be implemented, and covering the area where it shall exert impact,
- Environmental impact report for the investment, as developed in August 2016 by WTU Sp. z o.o., 10. Karkonoska Street, 53-015 Wrocław – authors: Eng. Andrzej Bobka MSc, Eng. Kamil Banaszek MSc, Eng. Andrzej Czajor MSc, Eng. Piotr Kordula MSc, Eng. Anna Luzarowska MSc, Eng. Tomasz Rajpold MSc, Eng. Ewelina Dębska MSc, Eng. Edyta Resiuła MSc, Eng. Grzegorz Wyskiel MSc, Mariusz Klich PhD, and update of the report;

**I hereby decide to**

determine environmental conditions for the investment titled: "Łęg IV - extension of the left embankment at km 0+082-5+030 in the Gorzyce commune and the right embankment at km 0+000-5+236 in the Gorzyce commune".

**Investor for the investment** – Podkarpackie Province Marshal

**I. Type of the investment and implementation site:**

The subject of the investment is extension of the existing flood embankments for the purpose of providing flood protection for the Commune of Gorzyce located in the Łęg River Valley. The left embankment shall be mainly extended towards the area beyond the embankment, whereas the right embankment – towards the embanked area.

**II. Conditions for application of land in phases of implementation and exploitation or use of the investment, with special consideration of a necessity to protect valuable environmental elements, natural resources and heritage, and to limit nuisance to neighbouring sites:**

1. Permanent refuelling points for construction equipment will be organised on the construction site. For this purpose, the surface of the area where the refuelling will take place will be sealed by using e.g. a geomembrane and covering it with concrete slabs. Rainwater and meltwater from the above-mentioned places should be cleaned in separators allowing for the reduction of petroleum hydrocarbons before being introduced into the environment. Store the fuel in tight containers on a hardened surface.
2. Permanent refuelling points for construction equipment and building materials collection points will be located outside the area of particular flood hazard, outside wetlands, at least more than ten metres from the riverbed.
3. The risk of water pollution by operating fluids from vehicles and machines will be reduced by conducting constant checks on the technical condition of equipment and providing the construction site and vehicles with e.g. sorbents to neutralise leaks.
4. No maintenance works such as changing oil, etc., will be undertaken on the construction site.
5. The construction site facilities will be equipped with portable sanitary facilities, with the provision of sewage collection.
6. Once the embankment has been constructed, it should be sown with grass in such a way that surface erosion is kept to a minimum and the fractions that form suspensions do not get into the water.
7. Construction works will be carried out outside the flood risk period.
8. The earth masses for the purposes of the investment will not be collected from the area beyond the embankment.
9. In connection with the reconstruction of embankment locks and renovation of drainage ditches, partial relocation of ditches is allowed, i.e. the beginnings of ditches will be profiled in such a way that the embankment locks can function properly, both hydraulically and technically. Ditches will be "relocated" in small sections (about 25-40 m).
10. The works for desilting, reconstruction of the existing sections of ditches in the embanked area, their connection to the Łęg River and the partial strengthening of its banks will be performed without the use of heavy equipment.
11. Only trees and bushes growing in the very close vicinity of the extended embankments, up to 821 trees and bushes, will be removed from an area of about 1.176 ha.
12. In order to protect the trees and bushes not intended for felling against damage in the vicinity of which earthworks will be carried out, trunks will be covered with e.g. straw mats, formwork made of wire-covered boards. If it is technically impossible to use the above protection, it is recommended to fence off (for the duration of the works) groups of trees/bushes. The following will be used for the protection of greenery, e.g.: wooden posts about 2.5 m high, polypropylene mesh about 1.8 m high in bright colour, galvanized wire - if this is not technically possible, the fencing will be made with coloured tape. After the works on a given section have been carried out, these safeguards will be removed. It is prohibited to collect any building materials and waste in the vicinity of the tree trunks, i.e. within the range of the tree crown outline and at least 2 m outside the tree crown outline and bushes. Fungicides will be used to protect the wounds of trees and bushes after technical cutting and to care for any greenery damaged during construction works.
13. Construction materials, soil and waste will be stored at a distance of at least 20 m from: woods, wetlands, areas with stagnant water, drainage ditches.
14. Upon completion of the works, the earthworks should be sown with a mixture of plants covering native species currently found in the area, and the areas occupied for temporary technological roads, construction facilities and soil humus accumulation sites should be cleaned up and restored to their intended state.
15. During the performance of construction works, the riparian habitat (91EO) should be protected against the possibility of accidental, mechanical damage to the trees and against the possibility of being driven by construction equipment by means of fences installed for the duration of the

- construction works at km 4+810 - 4+940 in the embanked area of the left embankment.
16. During the performance of construction works, the riparian habitat of oxbow lakes (3150) should be protected against the possibility of accidental, mechanical damage to the trees and against the possibility of being driven by construction equipment by means of fences installed for the duration of the construction works at the following chainage:
    - km 0+880 - 1 +000 in the embanked area of the right embankment,
    - km 1 +050 in the embanked area of the right embankment,
    - w km 0+130 - 0+270 in the embanked area of the left embankment.
  17. During the implementation of the investment it is allowed to destroy about 1 are of the habitat 3150-2, i.e. oxbow lake and small water reservoirs, i.e. the inventoried oxbow lake habitats located in close proximity to the right embankment at km 0+880-1+000 and 1+030-1+200.
  18. Works related to the installation of steel sheet piles will be carried out outside the main breeding period and amphibian wintering period, i.e. outside the period of 15 October - 30 June.
  19. During the performance of construction, the habitats of Cnidium meadows (6440) should be protected against the possibility of occupying an area larger than necessary by marking the area with a warning tape at km 0+120 - 0+420, 1+760 - 2+040 in the embanked area of the right embankment and at km 4+490 - 4+670, 1+700 - 1+980, 0+770 - 0+960 in the embanked area of the left embankment.
  20. The construction site facilities should not be located and earth masses should not be deposited within the reach of natural habitats and other areas of high natural value.
  21. Before starting the works, a fertile soil layer (humus) with a thickness of approx. 20 cm ~ 30 cm shall be removed, which will then be stockpiled on the area beyond the embankment and will be used for embankment formation and land cleaning works, it will be protected against weather conditions and other negative impacts.
  22. A procedure should be carried out to mow the fragments of sites of Scarce Large Blue Butterfly and Dusky Large Blue Butterfly intended for destruction, so as to prevent the blooming of Great Burnet - the host plant and the nectar-giving butterflies in order to induce the butterflies to live on fragments of sites not intended for destruction. Mowing activities should be undertaken before the commencement of the investment, and their date will be determined by nature supervision.

23. The interference in the Dusky Large Blue habitats will take place outside the period of their activity, i.e. after 31 August to the end of February, only and exclusively at km 0+025 - 0+175 of the left embankment and at km 0+000 - 0+925, 2+025 - 2+150, 3+400 - 3+575 of the right embankment, the total area of destroyed Dusky Large Blue habitats will not exceed 1.454 ha.
24. Additional mowing should be carried out before the layer of humus on the embankments is removed, and its date will be determined by nature supervision.
25. Before the Roman Snail and Yellowish Snail (*Helix lutescens*) habitats are destroyed, the individuals of these species should be caught and moved outside the construction site in habitats where they had previously been found to be present by nature supervision.
26. Construction works interfering with the crest of existing larger bodies of water should be carried out after the end of the amphibians breeding period, but before animals reduce their activity, diminish their abilities to escape and bury themselves in the silt for winter rest, i.e. from mid-August to early October.
27. In addition, to discourage amphibians from wintering in water bodies, the fragment of which is to be destroyed in early October, if possible, pump off the water or reduce its level to such an extent that the fragment of the body crest canopy intended for destruction is not flooded. Destruction of fragments of amphibians' habitat should be preceded by lowering the water table with continuous trapping of animals. The dried part of the destroyed (backfilled) water body bottom should be thoroughly penetrated to catch the remaining animals. The backfilled parts of the habitat should be executed with a one-sided front of works to catch all the specimens. Activities related to the destruction of fragments of amphibians' habitat should be carried out in the presence of nature supervision.
28. Works related to interference with the amphibians breeding sites will be performed outside the period from 1 March to 30 June, while works interfering with the breeding and wintering sites of amphibians will be performed from 1 August to 15 October.
29. The works related to the unblocking of drainage ditches' flow will be carried out outside the period of 1 March - 31 July, from the bank positions, and the use of heavy equipment will be limited to the necessary minimum.
30. In order to protect the site from the possibility of amphibians entering the construction site, protective hurdles should be made before the commencement of construction works on the sections and on dates indicated by nature supervision. The fence will be made solid of geotextile or mesh (with a maximum mesh diameter of 0.5 by 0.5 cm) and will be buried at a depth of min. 15 cm. The height of the aboveground part of the fence, along its entire length, will be at least 50 cm. The upper edge of the fence will be gently finished and bent outwards, along the entire length of the fence, at an angle of 45 - 90°, forming a 10 cm wide canopy. The ends of the fences will be equipped with u-shaped "turnstiles" with the of arm length min. 50 cm. Protective fences during the amphibian activity period should be inspected regularly (at least once a week) for leakage and repaired on an ongoing basis. The vegetation along protective fences must be mown. At the ends of the protective fence, holes with the dimensions of approx. 0.5 x 0.5 x 0.2 m should be excavated, which will be lined with foil (instead of holes, buckets of similar parameters and perforated bottom can be tightly buried). Twice a day – in the morning and evening, during the period of amphibians' activity, herpetological supervision will be required to collect amphibians that gather along the fence, also picking those from the pits/buckets, and will transport them to alternative positions.

31. Fencing will encompass the sections of identified amphibian habitats (mainly for reproduction) together with sections at least 300 m long before and at least 300 m behind the above-mentioned places, however, if the nature supervision considers it justified, in order to protect the project sites from the possibility of amphibians entering the construction site, hurdles should also be located on other sections of the works (according to the supervision) before or during the construction works. Temporary herpetological fences will be distributed as follows:

left embankment:

- 0+700 - 1+150, from the side of the area beyond the embankment;
- 1 +220 - 1 +630, from the side of the area beyond the embankment;
- 2+125 ~ 2+720, from the side of the area beyond the embankment;
- 3+700 - 4+500, from the side of the area beyond the embankment;
- 0+000 - 0+600, from the side of the embanked area;
- 1+300 - 2+800, from the side of the embanked area.

right embankment:

- 0+950 - 1+380, from the side of the area beyond the embankment;
  - 1 +760 - 2+350, from the side of the area beyond the embankment;
  - 0+550 - 1+550, from the side of the embanked area;
  - 1+760 - 2+400, from the side of the embanked area.
32. The potholes and other cavities created on the construction site where water can accumulate will be immediately eliminated in order to prevent amphibians from laying their eggs there and settling there. The amphibian habitats created on the construction site, i.e.: deep excavations with stagnant water, deep potholes will be inspected for the presence of amphibians before they are backfilled. If amphibians are found to be present, water should be pumped out, and after lowering the water table, the bottom should be penetrated and the animals should be caught under herpetological supervision. Trapped animals shall be moved to a suitable habitat for the species concerned. The dried excavations and potholes should be backfilled immediately after the animals have been trapped, in the presence of a herpetologist.
33. Before liquidating wetlands being the amphibians' habitats, inspection by herpetological supervision should be carried out for the presence of animals. The wetlands will be eliminated under herpetological supervision, in September. Trapped animals shall be moved to a suitable habitat for the species concerned. If the habitats that are wintering sites for amphibians need to be destroyed, they must be fenced in early September for the duration of the works in order to prevent amphibians migrating there for the winter.
34. Ditches will be unblocked by ensuring that the works are staged, protecting against the formation of an oxygen deficit and ensuring that works are carried out in the water in the correct way and under the right conditions during the desilting. These works must be carried out under the care of the natural supervision inspector who will indicate appropriate intervals, particularly in areas where there is permanent turbidity during the works.

35. No water or aggregate will be collected from the Łęg River.
36. Works in the riverbed of the Łęg, the unblocking of ditches and other works that may adversely affect fish spawning will not be carried out between 1 March and 30 June.
37. Construction equipment will not enter the river. Works in the riverbed of the Łęg River will be carried out from the bank stations.
38. The dates of preparatory works (tree and bush felling) will be adapted to the life cycle of the birds. The removal of vegetation should be carried out outside the breeding period, i.e. outside the period from 1 March to 15 October.
39. Due to the presence of Black-tailed Godwit in the vicinity of the planned embankment, no preparatory works should be carried out in the period from March 15 to July 31, i.e. humus removal, removal of low vegetation and cutting out of vegetation in the following sections: km 2+500 - 3+500 on the right embankment and km 2+000 - 3+000 on the left embankment.
40. Excavations and structures that may constitute a trap for small animals, mainly amphibians, should be adequately protected (e.g. covered tightly after each completed working day). These sites will be inspected on a daily basis and, if animals are trapped, they will be caught and moved to a species-specific habitat outside the worksite.
41. Main construction works will start immediately after the completion of preparatory works (i.e. removal of high, medium and low vegetation and removal of humus).
42. The removal of low vegetation and humus (fertile soil layer) in non-wetlands should be done outside the period of 1 March - 31 July.
43. The removal of low vegetation and humus in wetlands, irrespective of the presence of amphibians in the wetlands, should be carried out between 1 August and 15 October so as to eliminate the possibility of animals using them. Wetlands will be indicated by nature supervision.
44. If invasive plant species appear, they must be eradicated manually or mechanically, depending on the acreage occupied, before flowering and seed dispersal.
45. While carrying out maintenance works at the stage of embankment exploitation, the area covered by the project within the borders of the lines separating the investment, within five years from the time of completion of works, should be inspected for the appearance of foreign invasive plant species. In the event that the maintenance operations (i.e. mowing) of the embankment are not effective in removing the above-mentioned plants, action should be taken, after consultation with the botanist, to remove them effectively.
46. Roads and technical yards should be located in such a way as to preserve all woody and bushy vegetation growing outside the places necessary to occupy the area in connection with the implementation of the project; detailed location of roads and technical yards within the area of the project implementation will be determined in cooperation with specialists in zoology and botany and phytosociology, taking into account the condition of not deteriorating the ecological status of the natural objects inventoried in this zone.
47. The natural supervision team should include such specialists as: ornithologist, botanist, herpetologist, entomologist and chiropterologist - it is possible to combine the functions by one person.
48. Monthly reports should be drawn up on the activities carried out as part of the nature supervision. Within six months after the completion of the works, a report on the conducted nature supervision together with photographic documentation should be submitted to the present Authority.

49. For the nature supervision, at least 8 visits per month are recommended, and during the spring and autumn migration of amphibians, herpetological supervision will be carried out continuously. Each visit will be accompanied by a description of the situation in the form of a Nature Supervision Sheet, possible indications for the contractor together with photographic documentation.
50. The nature supervision in the period of the investment implementation should be primarily responsible for:
- a) checking the current status of habitats and populations of selected species in the investment zone and in the buffer after approx. 50 m on both sides of the delimited belt of flood protection embankments,
  - b) monitor and determine the impact of the investment on the population status of protected species and their habitats - at a distance of about 500 m on both sides of the belt of flood protection embankments,
  - c) verify the methodology of the construction works carried out and their impact on protected species and natural habitats,
  - d) a chiropterologist will be present during felling of trees and bushes,
  - e) react immediately if an observed or highly probable negative impact of the works on the species and habitats to be protected is identified,
  - f) determine the necessity and means of carrying out activities to minimise environmental damage,
  - g) monitor and determine the effectiveness of the minimisation measures taken,
  - h) carry out herpetological monitoring on the whole area of the implemented investment including, among others:
    - to determine the location of temporary hurdles, to issue instructions for their correct installation and to examine the tightness of herpetological hurdles,
    - to keep a log of amphibians' observations,
    - habitat analysis of sites to which amphibians are transferred: the analysis is to include a description of dominant and characteristic plant species, composition of the herpetofauna, anthropopressure risks, characteristics of chemical factors determining good reproductive conditions for the transferred amphibians.
51. Construction works related to the implementation of the project will be carried out only during daytime, i.e. from 06.00 to 22.00.
52. In order to reduce noise emission to the environment during construction works carried out close to existing residential buildings, a portable full fence should be used as an acoustic screen.
53. Efforts should be taken to mitigate the impact of the project on the environment during its implementation through, among others, organisational solutions, including:
- elimination of idling of internal combustion engines of machines and means of transport, e.g. during stoppages, breaks in work, etc.,
  - stopping the work or spraying open (ground) surfaces in dry and windy periods,
  - reduction of speed in the area of the construction site,
  - use of tarpaulins during transport of soil and bulk materials or their storage in order to protect them from spreading and washing out,
  - spraying of bulk materials during storage in dry periods.
54. The waste generated during the project implementation will be stored selectively in sealed boxes or containers or under a canopy on hardened ground at the construction site facilities.

### **III. Environmental protection requirements which need to be considered in the construction design:**

1. The recommendations of Clause II of the Decision will be observed.
2. The width of the left embankment crest shall be 3 - 5 m, the width of the right embankment crest shall be 3 - 4.5 m.
3. The planned steel sheet piles extending the filtration route in the place of the oxbow lake will be constructed in the following chainage:
  - km 1+030-1+055 of the right embankment from the side of the area beyond the embankment - approx. 25 m;
  - km 1+130-1+200 of the right embankment from the side of the area beyond the embankment - approx. 70 m.
4. Embankment culverts (sluices) will be equipped with closures in the form of non-return flaps, allowing water to pass through at low and medium levels and ensuring automatic closure at high levels.
5. When executing the culverts, it is permissible to use prefabricated reinforced concrete pipes, while maintaining the requirement to place them on a monolithic foundation and ensure the tightness of connections between individual prefabricates.
- IV. I do impose an obligation of performing an environment impact assessment within the procedure conducted to issue the investment implementation consent.**
- V. I do not find it necessary to carry out the cross-border impact procedure as part of the procedure conducted to issue an investment implementation consent.**
- VI. The decision in question is made immediately enforceable.**

### **REASONS**

The Regional Director for Environmental Protection in Rzeszów received an application of 31 August 2015 from the Podkarpackie Province Marshal represented by Mrs Małgorzata Wajda, Director of Podkarpacki Board of Amelioration and Water Structures in Rzeszów, on issuing a decision on environmental conditions for the implementation of the project entitled: "Contract 3D.3 Łęg IV – extension of the left embankment at km 0+082-5+030 in the Gorzyce commune and the right embankment at km 0+000-5+236 in the Gorzyce commune".

The application was completed correctly pursuant to Article 74(1) the act of 3 October 2008 on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments.

The aim of the investment is to protect against flooding the areas located along the left and right bank of the Łęg River on the territory of Gorzyce commune (towns: Gorzyce, Sokolniki, Zalesie Gorzyckie, Orliska) - mainly land used for agriculture and housing development. The extended flood embankments, by retaining flood waters in the riverbed of the Łęg River and in the embanked area, will contribute to the reduction of damages caused by the passage of flood waters through built-up areas.

The protection will be mainly focused on agricultural areas and residential buildings. The proposed flood embankments will protect about 13.5 thousand inhabitants of Gorzyce commune, living on 69 km<sup>2</sup>, where 90% of the commune is located in the 100-year water zone,

At present, within the area of the planned investment, within the range of the Vistula backwater effect, there are flood embankments which do not meet the conditions of the second class of hydrotechnical structures for the height above the water table of Q1%.

The investment in question has been classified as projects for which an environmental impact assessment may be required pursuant to article 63(12) in conjunction with article 59(1)(2) of the act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments in connection with § 3(1)(65) (*flood control structures excluding reconstruction of flood protection embankments consisting of sealing of the body of embankments and their subsoil to reduce their potential washout and breaking during transfer of flood water, and also regulation of water of its delivery through channels understood as management of water enabling its use for navigation*) of the Regulation of the Council of Ministers of 9 November 2010 on the types of projects which may significantly affect the environment (Journal of Laws of 2016, item 71).

Considering the classification of flood embankments as flood protection structures, as defined in the Act of 8 July 2010 on special rules of preparation for the implementation of investments in flood protection structures (Journal of Laws of 2017, item 1377, as amended), for which the determination of environmental conditions for the execution of the project takes place before obtaining the flood structure investment implementation consent decision, the Regional Director for Environmental Protection in Rzeszów is the competent authority to issue a decision on environmental conditions for the execution of the project, pursuant to Art. 75.1.1(1)(i) of the act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments.

In accordance with the applicable regulations, information on the submitted application has been included in a publicly available register of data concerning documents including information about the environment and its protection kept by the Regional Director for Environmental Protection in Rzeszów, i.e. in the information sheet no. 1003/2015.

As the number of parties to the proceedings in this case exceeds 20, pursuant to Article 74(3) of the act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments, the provisions of Article 49 of the Code of Administrative Procedure were applied to the delivery of correspondence. The Regional Director for Environmental Protection in Rzeszów, by the announcement of 8 September 2015, ref.: WOOS.4233.4.2015.MG.5, informed the parties about the initiation of administrative proceedings to issue a decision on environmental conditions of the project.

After analysing the collected evidence and considering the provisions of Art. 63(1) of the act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments, mainly due to the natural values of the area in question and the possible consequences of the investment implementation (which may result in the deterioration of habitat conditions, destruction of protected natural habitats and habitats of protected plant and animal species at the place of its implementation and in the adjacent areas, i.e. within the range of impact), the need to assess the impact of the project in question on the environment and to prepare an environmental impact assessment report of the project was found. Therefore, the Regional Director for Environmental Protection in Rzeszów issued the decision of 28 September 2015, ref.: WOOS.4233.4.2015.MG.10 stating in it the obligation to conduct the environmental impact assessment of the planned project and specifying the scope of the environmental impact report, of which the parties to the proceedings were notified by the Notice of 30 September 2015, ref.: WOOS.4233.4.2015.MG.11.

As a consequence of the decision of 18 November 2015, ref.: WOOS.4233.4.2015.MG.18, the conducted proceedings were suspended, of which the parties to the proceedings were also notified by the Notice of 18 November 2015, ref.: WOOS.4233.4.2015.MG.19.

On 28 September 2016, together with the letter of 28 September 2016, ref.: IM.403.35.9.2016, the environmental impact assessment report was submitted to the Regional Director for Environmental Protection in Rzeszów to continue the proceedings. It was informed in the decision about changing the name of the project from the existing "Łęg IV – extension of the left embankment at km 0+000-5+000 in the Gorzyce commune and the right embankment at km 0+000-5+200 in the Gorzyce commune", to "Łęg IV – extension of the left embankment at km 0+082-5+030 in the Gorzyce commune and the right embankment at km 0+000-5+236 in the Gorzyce commune", which was considered in this decision.

With the decision of 3 October 2016, ref.: WOOŚ.4233.4.2015.MG.25, the Regional Director for Environmental Protection in Rzeszów resumed the suspended proceedings, of which the parties to the proceedings were informed by the Notice of Regional Director for Environmental Protection in Rzeszów of 4 October 2016, ref.: WOOŚ.4233.4.2015.MG.26.

Information on the environmental impact assessment report for the said project was included in a publicly available register of data concerning documents including information about the environment and its protection kept by the Regional Director for Environmental Protection in Rzeszów, i.e. in the information sheet no. 1070/2016.

It was found in the course of the proceedings that the submitted materials do not sufficiently present all the issues important from the point of view of environmental protection, resulting from the act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments and the indicated scope of the report. It was requested by letter of 14 November 2016, ref.: WOOŚ.4233.4.2015.MG.35, to complete the report. Relevant supplements to the report were submitted by the Applicant by letter of 13 February 2017, ref.: IM.403.28.1.2017.

It was concluded having analysed the documents and explanations submitted by the Applicant that the completed report satisfies the requirements of Article 66 of the Act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments.

As part of the proceedings, the Regional Director for Environmental Protection in Rzeszów, in a letter of 3 April 2017, ref.: WOOŚ 4233.4.2015.MG.47 applied to the State Poviast Sanitary Inspector in Tarnobrzeg to issue an opinion under Art. 77(1)(2) of the Act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments.

In the opinion of 5 May 2017, ref.: PSNZ.466.2.2017, the State Poviast Sanitary Inspector in Tarnobrzeg stated that the nuisance associated with the implementation of the project will occur at the stage of construction, which may cause deterioration of living conditions for people, and this will be associated with construction works and transport. The adverse impact will cease when the investment is completed, so it will be local and short-term. At the same time, due to the project implementation, excessive dustiness, especially during the rain-free period, and additional noise and vibration caused by construction machinery may occur during the extension execution stage and during the transport of the earth material for the extension of the embankments, therefore the possible nuisance to the surrounding residents should be minimised and these works should be carried out during the day.

In consideration of the findings of the opinion and the technical solutions, land use and protection measures applied during the implementation of the project included in the report submitted by the Investor and its supplement, the State Poviats Sanitary Inspector in Tarnobrzeg, in their opinion, laid down the conditions which, if satisfied at the stage of extension, will contribute to mitigation of the impact on human health and living conditions. These conditions were determined and further elaborated in this decision.

The environmental impact report describes the predicted effects for the environment in case of not undertaking the project, and the scenario selected for implementation by the Investor and alternative scenarios were analysed.

#### A scenario in which the project will not be undertaken

Failure to undertake the project means that the existing state of development and use of the land, as well as the habitats of plants and animals, would be preserved; there would be no felling of trees and bushes. A significant threat to the health and life of the residents will continue to exist in such a situation. Road infrastructure, residential and commercial buildings and crops may be destroyed during impoundments. Failure to implement the investment will not be associated with the deterioration of natural habitats. It will not adversely affect the natural environment, but will expose the residents to the threat of flooding.

As a result of the floods of May and June 2010, 1040 households and about 4.5 thousand people in total were affected by the flood on the area of the commune Gorzyce in the villages: Furmany, Sokolniki, Orliska and Trześń.

#### Scenario I - investment scenario

The investment project will encompass the extension of the existing flood embankments of the Łęg River - at km 0+082-5+030 of the left embankment and at km 0+000-5+236 of the right embankment by raising them by 0.4 - 1.6 m in order to adjust their parameters to the 2nd class of importance of hydrotechnical structures. The investment implementation assumes the extension of the flood protection embankments in the direction of the area beyond the embankment, and where this is not possible (e.g. due to the buildings) - in the direction of the embanked area. The extension of the embankments is planned as follows: the left embankment - from the downstream side, thus leaving the embanked area of the river unchanged, it will allow the use of the existing vertical screen, which will significantly reduce the scope of work in the embanked area, and the right embankment - from the upstream side, thus leaving the area beyond the embankment unchanged, which will allow to preserve the existing road on the embankment bench and ditches draining water to the sluices, as well as avoiding the need for displacement and demolition of residential buildings.

The left embankment will be extended almost at its entire length towards the area beyond the embankment. The exception will be the places where the embankment crest is connected to the bridge along the national road E77 and road no. 100130R "Gorzyce-Orliska", where the embankment will be raised in the axis. The lack of the embankment's extension towards the upstream side will protect the areas currently existing in the embanked area, close to the slope, valuable natural areas and the land hollows. The existing drainage pumping station will be reconstructed, including, notably: inlet and outlet channels, balance reservoir, pressure pipelines. A bench from the side of the area beyond the embankment is planned nearly at the entire length of the embankment, where a road made of broken aggregates will be routed, and in the remaining sections the road will run along the embankment crest, which will protect about 4 m of greenery, i.e. the young forest from felling.

The right embankment will be extended almost at its entire length towards the embanked area, as it cannot be extended towards the area beyond the embankment. Exceptionally, the embankment will be extended in the axis in the places where the embankment is connected with two bridges. Oxbow lakes of the Łęg River are also located on the area beyond the embankment, which will remain intact. A vertical anti-filtration screen at the foot of the upstream slope will be constructed along the entire length of the right embankment. Additionally, sheet pile walls in the form of steel cofferdams are planned from the side of the area beyond the embankment, which are cutting off the reverse filtration from the oxbow lake. It will be necessary to rebuild the elements of the infrastructure

related to the discharge of sewage treated from the sewage treatment plant in Gorzyce. The right embankment will have a transport route (a road with bituminous surface) on the crest or bench. The area beyond the embankment will be drained using ditches by the slope evacuating water to the sluices. These will mainly be the reconstructed existing ditches.

#### Scenario II - alternative scenario

This scenario assumes the extension of the left embankment at km 0+082 - 5+020 almost at the entire length of the embanked area. This solution would make it impossible to use the existing vertical membrane. The extension of the slopes towards the upstream side will result in partial backfilling of the water-logged field depressions and oxbow lakes. In order to protect the slopes from washing away as a result of the variable height of the water table it would be necessary to strengthen it with a stone rip-rap. Embankment crossings would be completely reconstructed, the right embankment at km 0+000 - 5+229 would be extended almost at its entire length towards the area beyond the embankment. Unfortunately, such a solution would not allow to keep the existing road on the embankment bench and the ditches draining water to the sluices. This infrastructure would have to be reinstated. Oxbow lakes of the Łęg River are also located on the area beyond the embankment, which would be partly backfilled. A vertical anti-filtration screen at the foot of the upstream slope would be constructed along the entire length of the right embankment.

#### Scenario III - alternative scenario

The left embankment at km 0+852 - 5+229 would be extended and raised at its entire length towards the axis of the existing embankment. This solution would make it difficult to use the existing vertical screen and in practice a new vertical screen would have to be constructed along the entire length of the left embankment. The widening the embankment body to the upstream and downstream side would result in partial backfilling of the water-logged field depressions and oxbow lakes. In order to protect the slopes from washing away as a result of the variable height of the water table it would be necessary to strengthen it with a stone rip-rap. The pumping station and embankment crossings would also have to be reconstructed.

The right embankment at km 0+000 - 5+229 would be extended and raised at its entire length towards the axis of the existing embankment. Such a solution would not allow to keep the existing road on the embankment bench and the ditches draining water to the sluices. This infrastructure would have to be restored anew by shifting it towards the embankment. Oxbow lakes of the Łęg River are also located on the area beyond the embankment, which would be partly backfilled. A vertical anti-filtration screen at the foot of the upstream slope would be constructed along the entire length of the right embankment.

Scenario I was selected for implementation, which was considered to be the most advantageous of the considered options for environmental, economic and social reasons. The investment will be located close to inhabited areas and will aim to protect these areas from the effects of flooding.

The Łęg River is a right-bank tributary of the Vistula River (the second row watercourse). It is 81.6 km long and has a catchment area of 960.2 km<sup>2</sup>. The river is embanked starting from the town of Krawce. The Łęg River flows into the Vistula at km 274+000, near the village of Zalesie Gorzyckie.

The catchment area of the Łęg River encompasses the area of main groundwater reservoirs (GZWP) no. 425 Dębica - Stalowa Wola - Rzeszów and no. 426 Dolina Kopalna Kolbuszowa. The project in question is located within the boundaries of GZWP no. 425.

According to the report, the aquifer at the investment site is connected with the existing Quaternary sediments. The second geotechnical category was adopted for this investment based on the boreholes made and the investigations carried out. The groundwater table in the investment area is located at approx. 0.5 - about 5.5 m b.g.l.

In accordance with the Regulation of the Council of Ministers of 18 October 2016 on the Water management plan for the river basin of Vistula (JoL of 2016, item 1911) - PGW, the above-mentioned measures will be implemented within the following surface water bodies (JCWP):

- "Łęg from Murynia to the estuary", code: PLRW 200019219899, type: sandy and clayey lowland river (19). The indicated JCWP is a natural body of water, in PGW its status was assessed as bad (including ecological status - moderate, chemical status - good). It is classified as being at risk of not achieving the environmental objectives and has a fixed derogation 4(4)-1 (no technical viability).

In addition, the catchment area of the JCWP "Łęg from Murynia to the estuary" was classified to protected areas designated for the protection of the following sites of protection: Special Birds Protection Area Sandomierska Primeval Forest PLB180005, the areas of Community importance: Lower San Valley PLH180020, Sandomierska Primeval Forest Enclave PLH180055, which are water-dependent. According to PGW, the environmental objective for the above-mentioned JCWP is to achieve good ecological status and prevent the deterioration of good chemical status. The deadline for achieving the environmental objective for JCWP "Łęg from Murynia to the estuary" was extended to 2027.

- "Strug", code: PLRW 2000172198949, type: sandy lowland stream (17). The indicated JCWP is a natural body of water, in PGW its status was assessed as bad (including ecological status - below good, chemical status - good). It is classified as being at risk of not achieving the environmental objectives and has fixed derogations: 4(4)-1 (no technical viability) and 4(4)-2 (disproportionate costs). In addition, the catchment area of the JCWP "Strug" was classified to protected area, designated for the protection of the following sites of protection: Special Birds Protection Area Sandomierska Primeval Forest PLB180005, which is water-dependent. According to PGW, the environmental objective for the above-mentioned JCWP is to achieve the good ecological status and prevent the deterioration of good chemical status. The deadline for achieving the environmental objective for JCWP "Strug" was extended to 2021.
- "Sokolniki", code: PLRW 2000172198929, type: sandy lowland stream (17). The indicated JCWP is a natural body of water, in PGW its status was assessed as bad (including ecological status - below good, chemical status - good). It is classified as being at risk of not achieving the environmental objectives and has fixed derogations: 4(4)-1 (no technical viability) and 4(4)-2 (disproportionate costs). In addition, the catchment area of the JCWP "Sokolniki" was classified to a protected area designated for the protection of the following sites of protection: Special Birds Protection Area Sandomierska Primeval Forest PLB180005, which is water-dependent. According to PGW, the environmental objective for the above-mentioned JCWP is to achieve the good ecological status and prevent the deterioration of good chemical status. The deadline for achieving the environmental objective for JCWP "Sokolniki" was extended to 2021.

In accordance with PGW, the activities within the framework of this project will be carried out within the Groundwater Body JCWPd no. 135 (code: PLGW2000135), in PGW its status was assessed as good (including quantitative status - good, chemical status - good). It is classified as being at risk of not achieving the environmental objectives. The environmental objective for this part of waters is to prevent deterioration of its quantitative and qualitative status in order to maintain its status as condition. In addition, the above JCWPd was classified to protected areas designated for securing the drinking water supply for the population.

The determination of which elements of water quality and their components will be affected by the project was made by assessing the project's impact on the ecological status of waters within the project impact. The project's impact on each element considered when classifying the ecological potential of waters was examined, i.e. on biological elements and the hydromorphological and physicochemical elements supporting them. The impact factors generated exclusively at the stage of investment implementation will be the works in the riverbed of the Łęg River (strengthening of the river slopes) during the revetment of the banks of the ditches flowing to it, in the following location: the left embankment:

- the drainage ditch at km 1+006 of the left embankment - the beginning of the ditch will be strengthened with grating slabs at a distance of approx. 5m and the end of the ditch at the distance of about 10m with mesh and stone mattresses at the bottom and on slopes. The slope of the left bank of the Łęg River in the place where the ditch is connected to the river will be strengthened in the same way about 5 m up and down the river in order to keep the stability of the bottom and slopes. The base of the gabion mattress will be supported by a row of wooden palisades.
- the channel draining water from the pumping station at km 1+235 of the left embankment - its beginning will be strengthened with grating slabs at a length of about 5 m, while the further part will be reinforced with a gabion mattress on slopes and a rip-rap mutually wedged in the bottom. The mattress will be supported by a row of wooden palisades. The slope of the left bank of the Łęg River in the place where the ditch is connected to the river will be strengthened in the same way about 10 m up and down the river in order to keep the stability of the bottom and slopes.

the right embankment:

- the drainage ditch at km 1+605 of the right embankment - the beginning of the ditch will be strengthened with grating slabs at a distance of approx. 5 m and the end of the ditch at the distance of about 10m with gabion mattresses at the bottom and on slopes. The slope of the right bank of the Łęg River in the place where the ditch is connected to the river will be strengthened in the same way about 5 m up and down the river in order to keep the stability of the bottom and slopes. The base of the gabion mattress will be supported by a row of wooden palisades.
- the drainage ditch at km 2+087 of the right embankment - the beginning of the ditch will be strengthened with grating slabs at a distance of approx. 5 m.
- the ditch draining water from the treatment station at km 3+840 of the right embankment - its beginning will be strengthened with grating slabs at a length of about 5 m, while the further part will be reinforced with a gabion mattress on slopes and a rip-rap mutually wedged in the bottom. The mattress will be supported by a row of wooden palisades. The slope of the right bank of the Łęg River in the place where the ditch is connected to the river will be strengthened in the same way about 10 m up and down the river in order to keep the stability of the bottom and slopes.

The investment was assessed as not affecting the achievement of good water status or not deteriorating the water status due to the scope of works. The extension of the embankments (raising the embankments) does not affect the elements of water bodies' assessment. The planned works will not inhibit the migration of water organisms, the river route and morphological continuity will be maintained.

A minor impact on the biological elements is expected during the project implementation phase, due to the works within the watercourse. An increase in the suspension concentration may temporarily deteriorate the living conditions of macrophytes/phytobenthos/macrozoobenthos/phytoplankton. Work within the bed (revetment) may lead to the destruction of local habitats of aquatic organisms. The impacts existing during the implementation phase related to the generation of elevated suspended solids concentrations will be effectively minimised.

The impacts related to the destruction of habitats and deterioration of living conditions of aquatic organisms will be insignificant at the scale of the entire JCWP. These impacts will relate to a section of several metres in length, which cannot be considered a significant impact on the entire JCWP.

Minor changes will relate to the morphological conditions of the watercourse - the interference will include sections of 5-10 m in length near the outlets of ditches draining water into the river from the embankment and channels draining water into the river from the treatment station and pumping station.

During the works carried out, there will be no interference with the bottom of the Łęg River. All works will be carried out from the bank. This will not change the structure of the banks or the nature of the watercourse subgrade. The works connected with the investment implementation will not decrease the hydromorphological quality of the Łęg River, where the investment is carried out, as well as of the entire JCWP. No fundamental changes are expected with regard to the structure of the bank zone. No regulatory works will be carried out under the project.

The planned investment will not change the status of physical and chemical elements of the river's waters. Physicochemical elements (supporting biological elements) - including characterising indicators, thermal conditions, watercourse oxygenation conditions, organic pollutants, biogenic conditions, will be subject to changes, only during the period of direct interference with the banks of the Łęg River. These changes will be negligible.

The crest of the embankments of the extended dams will refer to the ordinate of the national road E77 and the ordinate of the road no. 100130R, therefore it will not be necessary to rebuild the bridges along these roads and thus to carry out works within the bottom, bed and banks of the Łęg River.

The impact of the investment on groundwater at the construction stage may be related to emergency situations (e.g. pollution of the ground-water environment as a result of spillage of hazardous substances). Groundwater contamination may occur indirectly as a result of infiltration of liquid substances into the aquifer, especially in places with high permeability of subsurface formations and in areas of earthworks conducted as a result of infiltration of contaminated rainwater.

The aquatic environment will be protected against potential pollution by indicating the location of the construction site facilities, by determining supply of construction site with safety agents (e.g. sorbents, mats).

The stage of project functioning is not connected with water abstraction or sewage disposal.

As stated in the report, the modernisation of flood protection embankments assumes, in addition to increasing the embankment's cross-section structure itself, anti-filtration protection of the body and subgrade. The designed 10 m deep vertical screens result from the height of the damming water table corresponding to the water ordinate Q1%.

With regard to the water conditions of the area beyond the embankment and the embanked area, the vertical waterproofing membrane will primarily cause a time delay in the water entering from the embanked area to the area beyond the embankment. It is advisable to achieve such a phenomenon in the case of flood protection embankments. A similar phenomenon will occur in the opposite direction, i.e. the passage of water through the subgrade from the area beyond the embankment and the embanked area. The flow in the subgrade will not be completely inhibited, but delayed. The subgrade of the Łęg River valley is almost entirely made up of highly permeable sands. The flow of water in the subgrade will continue as the membrane will not cut through the impermeable layer. The aquifers near the Łęg River reach an average of 20 m. Surface waters will get into the river through sluices (embankment culverts).

As the subgrade was not sealed in the existing state on the right embankment, this has caused seepages and hydraulic punctures on the downstream side, which was noticeable during the impoundments. No such phenomena were recorded on the left embankment - the existing vertical screens.

Due to the small, in general scale of individual JCWP basins, scope of works planned within the project, it was assessed that it will not cause a significant impact in terms of biological, hydromorphological and physicochemical parameters. It was hence found that the investment does not pose a threat to the achievement of the environmental objectives for JCWP.

No measures are planned within the framework of the investment which may deteriorate the chemical and quantitative status of the mentioned JCWPd. The analysis of the submitted documents allows to conclude that the said project does not provide for the activities which may adversely affect the status of JCWPd or prevent the achievement of the set environmental objectives.

Since the project does not affect protected areas, the matter of strengthening the environmental objectives of surface water bodies compared to the areas referred to in Article 4(1)(c) of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy was not examined.

The planned project is located outside surface forms of nature protection, such as national parks, nature reserves, landscape parks, protected landscape areas and Natura 2000 areas referred to in Article 6 of the Act of 16 April 2004 on nature conservation (Journal of Laws of 2016, item 2134 as amended). The closest Natura 2000 site of Community importance is the Lower San River Valley SCI PLH180020 at a distance of approximately 0.2 km and the Tarnobrzeg Vistula Valley PLH180049 of Community importance at a distance of approximately 1.5 km.

The project partly interferes with other areas of high natural value, i.e. the northern part of the extended embankments enters the limits of the bird sanctuary IBA Lower San River Valley IBA PL143.

The northern edge of the embankments is to a small extent part of the main ecological corridor (Southern Corridor GKPd-10 Upper Vistula Valley), designated in the Project of ecological corridors connecting the European Natura 2000 Network in Poland (Jędrzejewski W., Nowak S., Stachura K., Skierczyński M., Mysłajek R. W., Niedziałkowski K., Jędrzejewska B., Wójcik J. M., Zalewska H., Piło M. 2005), and updated in the years of 2010 - 2012 by the Institute of Mammals Biology PAS in Białowieża.

The inventory-taking of the natural environment in the area of project implementation was carried out in the period from April 2015 to May 2016. Its scope included inventorying a total of more than 10 km of flood embankments and the embanked area and area beyond the embankment, located in the immediate vicinity.

The inventory took into account natural habitats, plants, fungi, invertebrates, amphibians, reptiles, fish, birds and mammals, including bats. From the environmental point of view, the investment area is rich in the representatives of the above-mentioned fauna and flora, however, these are species typical for river valley areas and after the project execution, the natural habitats will start succession to the areas occupied during the construction works, thanks to which the investment will not have a significant negative impact on these habitats.

The flora growing in the area under analysis is mainly fresh meadow vegetation and a mosaic of wet meadows and sedge rushes, reed and bulrush rushes at different stages of ecological succession. Among this mosaic, the positions of Great Burnet *Sagittaria officinalis*, the host plant of protected butterflies, have a clearly significant share. The surroundings of the inventory area are mostly used for agricultural purposes. The usage in the embanked area is limited to management of meadows. The rushes are often overgrown with Common Sallow and Almond Willow, while fresh meadows are overgrown with hawthorn, oak, blackthorn, aspen and black poplar.

In the investment area and in the immediate vicinity of the embankments there are 4 patches of the natural habitat 3150-2, i.e. oxbow lakes and small water reservoirs - two of them in the embanked area, one outside the embankment and one at the mouth to the Vistula along the Vistula.

Small patches of the protected habitat of 6440 Alluvial meadows *Cnion dubium* with Mouse Garlic *Alium angulosum*, Heath Dog-Violet *Viola montana* nibypsi and Early Sedge *Carex praecox* were identified amid the mosaic of meadow vegetation at the turn of July and August 2015. These meadows are relatively poor in species and their occurrence depends on river flooding, usually occupying areas amid a mosaic of wet meadows (on small elevations), between wet and fresh meadows or at the embankment itself.

The remaining meadow habitats are dominated by Meadow Foxtail *Alopecurus pratensis* in fresh positions or Great Burnet and Reed Canary Grass in damper habitats.

The existing trees are in large part of anthropogenic origin. Willow thickets *Salicetum thandro-viminalis* have developed along the river. The patches of the natural habitat 91EO Willow-poplar-alder-ash forests, i.e. two fragments of the habitats of poplar forest *Populetum albae* in the early stage with a large number of young generations and a small amount of dead wood and one patch of the habitat of willow forest *Salicetum albae* were discovered in two places.

At the mouth of the Łęg River, along the Vistula, the communities of riverside fringes are distinguished with Hedge Bindweed *Calystegia sepium*, Dodder *Cuscuta lupuliformis* living in the bushes of European Spindle *Euonymus europaea*.

Local land depressions occupied by reed and sedge rushes periodically or permanently filled with water are the remnants of oxbow lakes, providing a valuable habitat for the occurrence and reproduction of amphibians and, in particular, the unprotected crustacean species of Tadpole Shrimp *Lepidurus apus*.

5 types of natural habitats were found in the inventoried area, distributed in 19 locations near the investment and in the places colliding with it:

- 3150 Oxbow lakes and natural eutrophic water bodies with the habitats of *Nympheion*, *Potamion* - the total area of the habitat in the area is 1.55 ha, these are the oxbow lakes of the Łęg River. The condition of all three patches in the embanked area was evaluated as unsatisfactory (U1) due to cardinal indicators: characteristic combination of communities, water colour, transparency, area of patches. The condition of the first patch outside the embanked area was evaluated as bad (U2) due to the decreasing area caused by rapid overgrowth and difficult protection prospects.
- 6430 Mountain tall herb communities *Adenostylion alliariae* and riverside tall herb communities *Convolvuletalia sepium* - 1 patch of the habitat with the area of 0.08 ha was inventoried. The protection status was assessed as U2 - bad due to the small area (not filling the available space). The preservation prospects are unsatisfactory due to the possibility of destruction (by natural phenomena or accidental destruction by man).
- 6440 Alluvial meadows *Cnidion dubii* - the total area of inventoried habitat patches is 5.05 ha. The protection status of the majority of patches was assessed as U2. All the patches have a reduced assessment of the habitat parameter due to characteristic species (cardinal index) and dominant species. Three patches are additionally characterised by a significant presence of invasive plants.
- 6510 Mountain and lowland fresh meadows extensively used *Arrhenatherion elatioris* - the total area of inventoried habitat patches is 5.47 ha. The protection status of the majority of patches was assessed as FV. Two habitat patches have a reduced assessment of the habitat parameter due to characteristic species (cardinal index) and dominant species, and one due to the presence of invasive species (mainly Tall Goldenrod *Solidago gigantea*).
- 91EO Willow-poplar-alder-ash forests *Salicetum albo-fragilis*, *Populetum albae*, *Alnenion glutinoso-incanae* and large bittercress - the total area of habitat patches is 1.23 ha. The protection status of all the habitats was assessed as bad (U2). All habitat patches have a reduced assessment of the parameter "structure and functions" due to: dominant species, dead wood, stand age.

In terms of area, the following habitats dominate: extensively used meadows 6510 occupying 5.47 ha and alluvial meadows 6440 occupying 5.05 ha.

Three patches were occupied by the priority habitat 91E0 Willow-poplar-alder-ash forests (*Salicetum albo-fragilis*, *Populetum albae*, *Alnenion glutinoso-incanae*).

2 species of vascular plants under legal protection were found in the inventory area:

- Fen Violet *Viola stagnina* - a species under strict protection, 1 site, no threats from the investment;

- Mouse Garlic *Alium angulosum* - a species under partial protection, 16 sites and a large population, most sites are not under threat, 5 sites will be subject to fragmented destruction, 2 patches will be completely destroyed - a total of 2.15 ha of the habitat occupied by the species will be destroyed.

No species listed in Annex 2 of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitat Directive) was inventoried. Two of the identified species are on the list of endangered species in Poland, i.e. Fen Violet *Viola stagnina* category of threatened species E endangered species critically threatened and Early Sedge *Carex praecox* category V - exposed.

One species of partially protected moss was also found - Tree Climacium Moss *Climacium dendroides*. No fungi sites under species protection were found in the inventory area.

8 species of insects and 2 species of molluscs under legal protection were found among invertebrate animals as a result of the inventory. Among the insect species occurring in the Łęg River area, 3 belong to the species under strict protection, these are butterflies: Large copper butterfly, Phengaris butterfly, Dusky large blue butterfly. These species are listed on the Red List of endangered and threatened animals in Poland and are also listed in the Polish Red Book of Animals. Other insect species are subject to partial protection, such as: Red-tailed Bumblebee, Buff-Tailed Bumblebee, Large Carder Bee, Shrill Carder-Bee and Sand-coloured Carder bee. The latter is a species listed on the Red List of endangered and threatened animals in Poland.

The occurrence of Roman Snail and Yellowish Snail was found in the area described - the species under partial protection. The Yellowish Snail is a species listed on the Red List of endangered and threatened animals in Poland with the status of lower risk species as close to being threatened and is listed in the Polish Red Book of Animals with the status of lower risk species.

Trees were inspected in the investment area for the presence of holes and cracks. If cracks were found, they were checked for the presence of larvae and traces (larvae faeces, fragments of pupa cover) and remains (especially legs, wing covers and anterior forms of adults). Traces and remains at the base of tree trunks were also searched and inspected. No traces of existence or inhabitation by Hermit Beetle were found in any of the inventoried trees. A dead individual of Hermit beetle was found in one of the inventoried white willow trees at km 0+025 of the right embankment during the nature inventory for the task "Vistula Stage 2 - Extension of the right embankment of the Vistula River at the distance of 14.116 km and the right embankment of the San River at the distance of 2.037 km, in the municipality of Gorzyce and the municipality of Radomyśl nad Sanem, Podkarpackie province (the tree at the limits of the task). The tree is located in relation to the investment in question at a distance of about 30 m from the demarcation belt. The authors of the study estimate that the project will have no impact, because the tree is not intended for felling.

The areas of invertebrates' habitats exposed to destruction due to the project implementation are as follows:

- Dusky Large Blue *Phengaris teleius*, Scarce Large *Phengaris nausitoides*: the identified habitats of 12.532 ha, including those exposed to destruction of 1.236 ha, representing 9.9 % of the inventoried area of the confirmed sites; potential habitats of 7.594 ha, of which 0.218 ha are at risk of destruction, representing 2.8 % of the inventoried potential habitats of the above butterfly species,
- Yellowish Snail *Helix lutescens*: confirmed sites of 0.156 ha, including those exposed to destruction covering 0.074 ha, representing 1.3 % of the inventoried habitats,
- Roman Snail *Helix pomatia*: confirmed sites of 3.136 ha, including those exposed to destruction covering 0.04 ha, representing 1.28 % of the inventoried habitats.

10 species of amphibians and 3 species of reptiles under legal protection were found in the inventoried area, including: 4 amphibian species under strict protection and 6 amphibian species and 3 reptile species under partial protection.

Among the herpetofauna living in the embankment area of the Łęg River, all species are characteristic of lowland areas. European Fire-bellied Toad and Great Crested Newt are listed in Appendix II of the Habitats Directive. In addition, both species are included in the Red List of endangered and threatened animals in Poland (Great Crested Newt has category NT - close to being endangered, being part of the lower-risk species LR, European Fire-bellied Toad defined as category DD, meaning species with a poorly recognised status and confirmed, but indefinite exposure). Great Crested Newt is listed in the Polish Red Book of Animals (category NT - lower risk).

The areas of amphibian habitats exposed to destruction in connection with the investment are as follows:

- Water frogs *Rana esculenta complex* confirmed sites of 12.05 ha, including those exposed to destruction of 0.179 ha, representing 1.5 % of the area of inventoried habitats,
- European Fire-bellied *Helix pomatia*: confirmed sites of 4.216 ha, including those exposed to destruction 0.065 ha, representing 1.5 % of the inventoried habitats.
- Great Crested Newt *Helix pomatia*: confirmed sites of 1.418 ha, including those exposed to destruction of 0.033 ha, representing 2.3 % of the inventoried habitats.
- Moor Frog *Rana esculenta complex* confirmed sites of 1.974 ha, including those exposed to destruction of 0.027 ha, representing 1.4 % of the area of inventoried habitats.

The fragments of habitats of reptile species will be destroyed. It is estimated that as a result of the investment implementation, 0.005 ha of the habitat area of Sand lizard, 0.006 ha of the habitat area of Grass snake and 0.112 ha of the habitat area of Viviparous Lizard, accounting for 0.9%, 8.6% and 26.5% of the area of the inventoried habitats of the above reptile species, respectively, will be destroyed.

In 2015, in Łęg, over the section of last 5.2 km, ichthyofaunistic studies were conducted for two representative sites, each 400 metres long. The occurrence of as many as 19 species of fish were found, the largest number of them being 11 species of the *Cyprinidae family*, 2 species of *Percidae family*, 1 species of *Esocidae family*, 1 species of *Gadidae family*, 1 species of *Balitoridae family*, 2 species of *Cobitidae family* and 1 species of foreign family ichthyofauna (dragged): Brown bullhead.

4 species occurring in the Łęg from those listed are subject to species protection: Spined loach *Cobitis taenia*, Spirlin *Alburnoides bipunctatus*, Weatherfish *Misgurnus fossilis* and Stone loach *Barbatula barbatula*. It should be added that 2 species are listed in Annex no. 2 of the Regulation of the Minister of Environment of 13 April 2010 on natural habitats and species in the interest of the Community as well as criteria for qualifying some areas as Natura 2000 Sites (Journal of Laws of 2014, item 1713), i.e. Spined loach and Weatherfish.

No bird nests were found within the designed permanent and temporary occupancy zone of the project. The majority of the birds nesting there establish their nests in bushes and woods on the river itself (at a considerable distance from the embankment) and on meadows, fields and wastelands adjacent to the embankments. The embanked area is mainly covered with meadows used for agricultural purposes, hence the significant number of birds of the agricultural landscape: Common stonechat, Whinchat, Skylark, Yellow Wagtail, Corn Bunting. Locally, the embanked area is covered with heavily marshy reeds and rushes creating excellent breeding sites for, e.g.: Sedge Warbler, Common Reed Bunting, Marsh Warbler, Great Reed Warbler, Grasshopper Warbler, Thrush Nightingale.

74 bird species were found during all inspections in the area of the planned investment and the adjacent area. The vast majority of them are breeding species of the studied area, however, species of birds feeding in the studied buffer or only flying were also inventoried. These include rook, jackdaw, swift, barn swallow. All the identified particularly valuable and rare bird species in the designed permanent and temporary occupation belt concern feeding, flying or, as in the case of lapwing, scared individuals. It was found as a result of the observation that the nests of these species are at a safe distance from the extended embankments. The breeding species include 3 species listed in Annex I of Council Directive 2009/147/EC of 30 November 2009 on the conservation of wild birds (the so-called Birds Directive), i.e. Western Marsh-harrier (*Circus aeruginosus*), Red-backed Shrike (*Lanius collurio*) and Corncrake (*Crex crex*). The species also listed in the above Annex, found during the inventory, was Common Swift (*Apus apus*). However, it cannot be classified as a breeding species of the area under study. No inventoried bird species is listed in the Polish Red Book.

The following numbers of breeding pairs of species of particular value (listed in Annex I of the Birds Directive) and rare to the local avifauna are estimated in the immediate vicinity:

- Western-marsh Harrier (CIA) - 1-2 pairs (a rare species in the country),
- Red-backed Shrike (LC) - approx. 10 pairs (a numerous species in the country),
- Corn Crake (CX) - 3-5 pairs (a species in the country with medium population),
- Black-Tailed Godwit (LI) - 1 pair (a very rare species in the country),
- Lapwing (W)- 3-5 pairs (a species in the country with medium population),
- Common Rosefinch (CE) - 1-2 pairs (a species in the country with medium population),
- European Penduline (RP) - 1-2 pairs (a rare species in the country).

Among the mammals (other than bats) that are continuously present in the inventory area, the following have been observed: European Roe Deer *Capreolus caprioles*, European Hare *Lepus europaeus*, Marten *Martes* sp, Muskrat *Ondatra zibethicus*, Fox *Vulpes Vulpes*. The following mammal species partially protected were identified: European Mole *Talpa europaea*, European Beaver *Castor fiber*, European Otter *Lutra lutra*, Eurasian Water Shrew *Neomys fodiens*.

Permanent occupation of the area will result in the destruction of fragments of the habitat of the plant Mouse Garlic on the area of 2.15 ha, while the area of habitats of the above-mentioned species in the inventoried area is 9.99 ha. Thus, some of the Mouse Garlic habitats will be destroyed - i.e. 21%. Given the numerous occurrence of Mouse Garlic in the inventoried area, including the anthropogenic site (dam slope), it must be assumed that the investment will not have a significant impact on Mouse Garlic populations and that the impact will only be of short duration and therefore no transfer of this species is expected.

The most valuable elements of the flora, i.e. the position of Fen Violet, will be preserved. The area of inventoried natural habitats is 13.39 ha, 0.80 ha will be destroyed (habitat 3150 - 0.1 ha, habitat 6440 - 0.66 ha, habitat 6510 - 0.13 ha), which constitutes 6% of the area of natural habitats.

In order to implement the project in the selected scenario, it is necessary to cut down up to 821 trees and bushes from the area of about 1.176 ha in the embanked area and on the area beyond the embankment.

During the implementation of the investment, the soil layer will be uncovered, which poses a threat of the entry of synanthropic and invasive vegetation. However, this impact will be short term, as after using the previously removed and properly collected humus, the re-succession of the species from the seed base and rhizomes located in the removed humus will occur.

The most important impact of the project on invertebrates at the stage of project implementation is the reduction of their habitats as a consequence of removing the vegetation within the embankments and due to widening of the embankment base.

The planned hydrotechnical works will disturb the habitats and places of occurrence of protected invertebrate species, as there are food plants within the planned works, which may be a feeding ground for protected species. The fragments of the habitat of Scarce Large Blue Butterfly and Dusky Large Blue Butterfly, Roman Snail and Yellowish Snail and the bumblebee's feeding ground will be destroyed. Considering the scale of damage and compliance with the recommended mitigation measures, the investment in question will not have a significant negative impact on the identified invertebrate species.

The planned extension of the Łęg River embankments brings the project closer to the adjacent wetlands, water reservoirs and convenient sites where reptiles occur. This will result in their partial destruction. It should be assumed that the loss of small fragments of amphibian habitats and reptile sites will not have a significant impact on local amphibian and reptile populations. The scope of planned works connected with the extension of embankments and their operation will not cause drying of damp areas and removal of oxbow lakes, no training of the Łęg bankline is planned. At the stage of river embankment extension, both during migration and during the rest of the activity season of amphibians and reptiles, collisions between individuals and moving machines and construction vehicles may occur. Such impacts will be eliminated or minimised by adapting the timing and ways of conducting works to the requirements of fauna protection.

The lower section of the Łęg River, despite the high species richness of ichthyofauna, is not a valuable habitat for fish. The riverbed and the river valley have been transformed by human activity to a small extent, but the river is rather monotonous, with few heterogeneous parts. The few stands with sunken trees in the lower section improve this situation to some extent. The river is shallow and in the last 4 km very shallow. Nevertheless, an analysis of threats resulting from the planned investment was undertaken. On the basis of the impact assessment carried out for the purpose of the task in question, ichthyofaunistic studies and site visits, it was established that by following a number of mitigation activities and good construction practices it is possible to implement the project without significant negative impacts on fish populations. The species existing here will be able to continue to reproduce and feed, and possible negative impacts can be considered short-term and minor.

Occupation of the site and removal of trees and bushes in the area of planned works may be associated with the loss of habitats for birds. The areas covered with trees and bushes and wastelands of herbal character are potential breeding sites for birds. Noise emissions and increased land penetration by people and machinery can cause the scaring of birds, which can result in the abandonment of breeding during the construction period. Mitigation measures provide for, in particular, the removal of trees and bushes outside the bird breeding period and special measures for Black-tailed Godwit.

Due to the lack of permanent sites of bats in the study area, no direct or indirect impact of the investment on this group of animals is expected. No cumulative impact on chiropterofauna is expected - no bat colonies have been found on the investment site and no other large investments are planned on the same site.

The Łęg Valley is inhabited by a large population of European Beaver. It should be assumed, based on the visible traces of existence and feeding, that the beaver has favourable habitat conditions. The scope of the investment, consisting in enlarging the existing flood protection embankments, will not disturb the existing migration corridor, which is the river valley. As a result of implementing the planned investment, fragments of the habitats of European Beaver (oxbow lakes and drainage ditch with dams) will be destroyed or temporarily transformed. The interference in habitats at the stage of the investment concerns mainly transformed areas (drainage ditch with a beaver dam, which will be preserved as part of the investment, km 1+400 - 1+500 and km 2+000 - 2+100, the embanked area on the right side of the river). A small (0.03 ha) fragment of the oxbow lake (km 1+05 - 1+150) will also be destroyed. In total, 0.24 ha of European beaver's habitat will be destroyed or temporarily transformed, which represents less than 2% of all beaver habitats in the study area (12.07 ha). The long-term impact is difficult to predict, but it can be described as insignificant - no clear changes will be made to the project site apart from the temporary impact at the construction stage, there will be no permanent negative impact. In order to protect the embankment body from inhabitation by European Beaver, no additional safety measures by means of nets will be used as the proposed screen itself will be sufficient protection.

As no significant negative impacts of the investment on mammals (other than bats) have been demonstrated, no mitigation, prevention or compensation measures are envisaged.

When considering the location of the investment in relation to major environmental corridors, the following should be indicated. The northern edge of the embankments is to a small extent part of the main ecological corridor - Southern Corridor GKPd-10 (Upper Vistula Valley), designated in the *Project of ecological corridors connecting the European Natura 2000 Network in Poland* (Jędrzejewski W, Nowak S., Stachura K., Skierczyński M., Mysłajek R., Niedziałkowski K., Jędrzejewska B., Wójcik J. M., Zalewska H., Piło M. 2005), and updated in the years of 2010 - 2012 by the Institute of Mammals Biology PAS in Białowieża. However, the southern edge of the investment is located at a distance of about 650 m from another part of the above-mentioned main ecological corridor - Southern Railway Corridor -7A Sandomierska Primeval Forest - Janowskie Forests.

The ecological corridor is the Łęg River itself, a tributary of the 2nd order, with a length of 81.6 km and a catchment area of 960.2 km<sup>2</sup>. Given that the embankment of the river is an existing element and that the investment foresees the extension of the embankment, during which the interference with the river's waters will be limited, it should be assumed that the impact of the investment on the functions of the ecological river corridor will be small.

The planned project was compared with other projects of similar nature, located in the broadly understood neighbourhood, within the framework of the cumulative impact analysis. It should be pointed out that currently, in the immediate vicinity of the planned investment, the "Łęg III" project has been implemented, while the "Vistula Stage II" task is being prepared for implementation. These investments have a similar scope of activity as the "Łęg IV" project. All the investments are implemented under the so-called "Świętokrzyskie concept".

When comparing the impacts on protected natural habitats, the impact of similar investments located in the vicinity was analysed, i.e.: "Vistula Stage I", "Vistula Stage II", "San I", "San II", "San III", "Łęg III", "Trześniówka III", "Trześniówka V", "Trześniówka VII". It was indicated that as a result of the task implementation there will be no accumulation of impacts of an indirect and secondary nature on valuable habitats, including natural habitats, mainly due to the fact that as a result of the extension of the embankments, these habitats will not be cut off from the area beyond the embankment, and due to the lack of changes in water conditions, as shown in the content of the report.

The cumulative impacts of tree felling were also analysed, covering the tasks: "Trześniówka V", "Trześniówka VII", "San II", "San III", "Vistula Stage II". It was indicated that additionally, in the area of the planned investment, the Regional Water Management Authority in Cracow is carrying out the *"Felling Programme"* for the Vistula Valley. The felling of trees and bushes is planned on a total area of 31.69 ha, on both sides of the river for the Vistula, between 257+900 and 259+900 km (i.e. part of the section from Tarnobrzeg to the mouth of the San). In a given section of the Vistula, the felling will indirectly affect the following natural habitats: 3150 Oxbow lakes and natural eutrophic water bodies, 91E0 Willow-poplar-alder-ash forests. Although the area of the felling in question is small, its local impact will be large due to the location of all planned areas close to each other.

The installation of nesting boxes for birds was envisaged as part of the compensatory measures for the implementation of the Vistula Stage II investment. Similar mitigation measures, i.e. omitting trees in felling with a diameter of more than 50 cm and hollow trees and installing nesting boxes, were proposed during the felling of trees carried out by RZGW in Cracow. It is not necessary to hang nesting boxes or pursue other compensation measures as a result of "Łęg IV" investment implementation, as no hollow trees or any other trees inhabited by birds were found among the trees to be felled.

Given the above-mentioned projects, which have a similar scope of works, nature and date of their execution, considering the scope of tree felling for the projects executed and being executed, and for which the decision on environmental conditions was obtained, it should be stated that the cumulative impact in relation to the investment in question should not occur.

After the completion of the construction works, the area around the extended flood protection embankments will be cleaned up and restored to its pre-construction condition. This will mainly concern land intended for construction facilities, temporary roads and material collection points. Cleaning works will also include beds of ditches, which will be fully unblocked.

No compensatory planting and installation of nesting boxes are planned due to the fact that the felling of trees and bushes will be limited only to those directly within the scope of the investment (the existing embankment), within which no breeding of birds has been found, and due to the lack of interference with the biological structure of the river, and due to the lack of accumulation of impacts resulting from felling, as shown in the report.

When summarising the forecast impact of the planned investment on the natural environment and on the closest Natura 2000 areas it should be stated that the most serious impacts concern the elements of the environment directly related to the existing flood embankments and their closest vicinity, i.e. possible destruction in natural habitats, mainly meadows and habitats of plant and animal species occurring here.

The identified impacts of the planned project on Natura 2000 sites may be completely mitigated through recommendations for design solutions and planned mitigation measures. Moreover, the applied mitigation measures will reduce the investment's impact on the natural environment and natural compensation will not be necessary.

Therefore, it is expected that the technological, structural and organisational solutions presented in the documentation will ensure effective protection of the environment, including surface water, groundwater, soil and air, and that the conditions of this decision will be observed. The planned project will not have a significant negative impact on the resources, creations and components of nature referred to in Article 2(1) of the Act of 16 April 2004 on Nature Conservation (Journal of Laws of 2016, item 2134 as amended).

Moreover, it was considered that the project in question will not have a significant negative impact on the objectives and objects of protection of the above-mentioned Natura 2000 site, its integrity and cohesion of the Natura 2000 network. No relevant impact assessment, as required by Article 6.3 of Council Directive 92/43/EEC of 21 May 1992 on natural habitats and on wild flora and fauna, was required and carried out under the environmental impact assessment.

The fugitive emission of dusts and gases into the air resulting from earthworks, combustion of fuels in engines of construction machines and means of transport, as well as emission of dusts from access roads will occur during the project implementation. The nuisances associated with the implementation phase will be short-term, reversible and will cease as soon as it is completed. The report presents solutions mitigating the scope and amount of fugitive emissions, including notably: elimination of idling of internal combustion engines of machines and means of transport, e.g. during stoppages, breaks in work, etc., stopping the work or spraying open (ground) surfaces in dry and windy periods, reduction of speed in the area of construction, use of tarpaulins during transport of soil and bulk materials, spraying of bulk materials during storage in dry periods. It is expected, based on the presented analysis of the spread of pollutants in the air, that the planned undertaking, at the implementation stage, will not cause the permissible concentrations of pollutants in the air to be exceeded,

Acoustic nuisances will occur at the stage of project implementation, which will be related to carrying out works with heavy equipment (including graders, mechanical saws, bulldozers, excavator-bulldozer, wheel loaders, self-propelled graders, vibrating rollers, etc.) and heavy vehicle traffic (the expected traffic volume is estimated to be about 160 vehicles/16 hours of work (80 vehicles loaded with aggregates and 80 vehicles empty)).

The place of impact will be directly related to the site of works performance. Moreover, at the stage of the planned project implementation, the nuisances related to the construction and assembly works will be short-lived, reversible and will not leave permanent traces in the environment in the acoustic scope. In most of the area covered by the planned project, the planned flood protection embankments are located in areas of agricultural character without acoustically protected buildings, however, in several places the planned embankments will be located close to single-family and homestead buildings, for which, according to the Regulation of the Minister of Environment of 14 June 2007 on permissible noise levels in the environment (Journal of Laws of 2014, item 112), the permissible noise levels for the time of day are 50 and 55 dB(A) and 40 and 45 dB(A), respectively, at night.

In order to mitigate the acoustic nuisances related to this stage, solutions have been proposed, i.e. reduction of work to daytime, use of portable acoustic screens, elimination of the machines' operation on the so-called "idling gear".

Activities related to the project implementation will result in the generation of waste. The general principles resulting from the Act of 14 December 2012 on waste (Journal of Laws of 2016, item 1987 as amended) will be observed, in particular: the works will be organised in a way minimising the weight of the generated waste; the generated waste will be stored in a designated, marked place at the back of construction site and handed over to entities conducting waste collection or processing activities.

Wastes will be stored in such a way (e.g. in containers under a roof, in separated places) so that it will not be spread in the environment. Earth masses (soil and earth, including stones) resulting from earthworks will be used for construction and will not be waste.

The area of Gorzyce commune, where the project are located, is characterised by a lack of diversity of the terrain relief, it is an area of a typical agricultural landscape in a lowland area. However, elements that significantly enrich the landscape exist here. The picturesque view is created by the river valleys of the Vistula and the San with numerous sandbanks, surrounded by riparian vegetation, a chessboard of fields, meadows and pastures. There are many oxbow lakes and ponds here with interesting water and rush plants. An additional element enriching the landscape are mid-field and near-house trees.

Visual impact - the landscape will be affected in relation to the areas directly contiguous to the flood embankments and the pumping station. At the stage of implementation and at the beginning of use of the flood embankments, a temporary adverse impact on the surrounding landscape may occur. It is connected with the necessity to carry out preparatory works - cutting down trees and bushes, as well as earthworks connected with extending the embankments (moving earth masses). After completion, the embankments will be sown with a mixture of native grasses, which medley with the local landscape. The planned project will not change the existing landscape values, as the existing embankments to be extended have been a permanent element of the landscape for more than ten years.

In view of the nature of the planned investment in all the scenarios - reconstruction of the existing embankment of the Łęg River, which does not involve direct or indirect GHG emissions and activities resulting in the absorption or reduction of GHGs that exacerbate climate change - no significant impact of the embankments on the climate is expected.

As indicated in the report, there are no sites entered in the register of monuments in the area in the vicinity and in the direct range of the impact of the project under consideration.

As part of the proceedings conducted, public participation was ensured from 11 April 2017 to 10 May 2017 in accordance with Article 79 of the Act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments. The Notice of the Regional Director for Environmental Protection in Rzeszów of 4 April 2017, ref.: WOOŚ.4233.4.2015.MG.51 was made public about the submitted application and the report on the environmental impact of the project together with information on the commencement of the environmental impact assessment of the project, about the initiation of the procedure, about the subject of the decision to be issued, about the authority competent to issue the decision and about the authority competent to issue the opinion, about possibilities to familiarise oneself with the necessary documentation of the case and about the place where it was made available for inspection, about possibilities and deadline for submission of comments, with a 30-day deadline for their submission and about the authority competent to consider them. It was placed on the notice board and the website of the Regional Directorate for Environmental Protection in Rzeszów, on the notice board and the website of the Podkarpacki Board for Amelioration and Hydraulic Structures in Rzeszów, near the place of project implementation, on the notice board and the website of the Gorzyce Commune Office.

No comments or requests related to the project were received by the Authority during the conducted public participation.

Prior to issuing the Decision, the Parties were informed of the opportunity to comment on the evidence gathered pursuant to Article 10 of the Code of Administrative Procedure by means of

the Notice of the Regional Director for Environmental Protection in Rzeszów of 30 May 2017: WOOS.4233.4.2015.MG.60. In connection with the above-mentioned Notice, none of the parties to the proceedings have familiarised themselves with the collected documentation at the Authority or made any comments.

It was concluded after analysing the scope of the planned project and identifying its environmental impacts and their scale that the planned project will not cause cross-border environmental impacts. For these reasons, it was not necessary to conduct proceedings on the cross-border impacts referred to in Article 104 of the Act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments and to specify in this Decision the conditions related to such impacts.

It is seen from the conducted proceedings, including the analysis of all collected evidence in the case, including the project's environmental impact report that the project execution and operation, while observing the conditions listed in the conclusion of this decision, will fulfil the applicable environmental quality standards, including human health.

The decision is made immediately enforceable. The applicant, by letter of 13 February 2017, ref.: IM.403.28.1.2017 applied to the local Authority to make the decision immediately enforceable, due of the protection of human health and life and important social and economic interests. In accordance with Article 108 § 1 of the Code of Administrative Procedure, a decision against which an appeal can be filed, may be made immediately enforceable if it is necessary for the protection of human health or life, or to protect the national holding against serious losses, or because of another social interest or an exceptionally important interest of a party, which is the case here.

In view of the foregoing circumstances, on the basis of the provisions referred to in the legal basis, it has been decided as in the conclusion.

### **INSTRUCTION**

1. The Characteristics of the Project, being the detailed description of the project, is an integral part of this Decision.
2. If the implementation of the planned investment will involve breaching the prohibitions applicable to plant, animal and fungi species covered by species protection, it will be necessary to obtain the relevant permits referred to in Article 56 of the Act of 16 April 2004 on Nature Conservation (Journal of Laws of 2016, NO. 2134, as amended).
3. The parties are entitled to appeal against this decision to the General Director for Environmental Protection through the Regional Director for Environmental Protection in Rzeszów within 14 days of its receipt.

#### Appendix to the decision:

- Characteristics of the project

#### Appendices to the decision:

- Specificity of the investment.

**Regional Director for Environmental Protection**

**in Rzeszów**

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**Wojciech Wdowik**

**(signed using safe electronic signature)**

#### Recipients:

1. Director of Podkarpacki Board Of Amelioration and Water Structures in Rzeszów, 9. Hetmańska Street, 35-959 Rzeszów – submitted using ePUAP platform;
2. Parties of proceeding in the mode under 49 CAP, due to Article 74 (3) of the Act on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments through the Commune Office of Gorzyce – submitted using ePUAP platform.

#### CC:

1. State District Sanitary Inspector in Tarnobrzeg – submitted using ePUAP platform;
2. WOOS – file.

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WOŚ.4233.4.2015.MG.65

**Specificity of the investment****"Łęg IV - extension of the left embankment at km 0+082-5+030 in the Gorzyce commune and the right embankment at km 0+000-5+236 in the Gorzyce commune"**

The investment project in question will consist in securing the Łęg River valley against flooding. This will encompass the extension of the existing flood embankments - the left embankment at km 0+082-5+030 and at km 0+000-5+236 of the right embankment. The investment implementation provides for the extension of the flood protection embankments in the direction of the area beyond the embankment, and where this is not possible (e.g. due to the nearby buildings) - in the direction of the embanked area and raising the embankments by approx. 0.4 - 1.6 m in order to adjust their parameters to the 2nd class of importance of hydrotechnical structures. The area of the existing flood protection embankments with the nearby area will be occupied for the purpose of the project. The need to implement the project results from the need for flood protection of areas located in the close vicinity of the Łęg. This is mainly land used for agriculture and housing development.

The modernisation of the left embankment will start at its km 0+082 (connection with the embankment implemented within the scope of another project) and will end at km 5+030, by connecting the access road to the crest of the Gorzyce-Orliska bridge (the embankment also extends behind the bridge). The height of the embankment after extension will be 4.5 - 6 m (difference in height between the designed embankment and the existing one is 0.4 - 1.6 m). The embankment will be extended almost at its entire length towards the area beyond the embankment. This will allow the use of the existing vertical screen, which will significantly reduce the scope of works in the embanked area. The exception will be the places where the embankment crest is connected to the bridge along the national road E77 and road no. 100130R "Gorzyce-Orliska", where the embankment will be raised in the axis. The width of the extended embankment crest will be 3 - 5 m, and the width of the bench will be about 4 m. The inclination of slopes shall be 1:2.5 - 1:3. The new vertical screen will be executed in the places where drainage facilities are being rebuilt, such as sluice, outlet abutments from the pumping station or connections of the embankment with the existing road infrastructure. The lack of the embankment's extension towards the upstream side will protect the areas currently existing in the embanked area, close to the slope, valuable natural areas and the land hollows. A leachate drainage is planned for the entire length of the embankment, in place of the existing one, at intervals of approx. 20 m in order to drain the water from the embankment body during periods of prolonged impoundments. In order to ensure proper drainage of water into the Łęg, an approx. 126 m long drainage ditch will be unblocked (desilting, cleaning and improvement of the bottom grade line). The beginning and the end of the ditch and the slope of the left river bank at the ditch inlet will be strengthened. The ditch will not change its current route, nor will the parameters of the cross-sectional area change (bottom width of about 1 m and slope inclination of 1:2). For maintenance purposes, a strip of grassland approximately 2 m wide will be left to the right of the ditch.

The existing drainage pumping station will be reconstructed, including, notably: inlet channel, balance reservoir, outlet to the outflow channel, outflow channel to the Łęg River, pressure pipelines; pumps will be replaced and the building will be renovated. As part of the task, it is necessary to remove a section of the embankment at km of approx. 1+214 - 1+242 and to build a temporary drainage channel passing through the embankment. After building the outlet structure and replacing the pressure pipelines, the embankment body in this section will be rebuilt (inclination of the downstream slope of 1:1.7, of upstream slope of 1:2.5). The downstream slope will be reinforced with concrete openwork slabs. The embankment from the upstream side will be sealed with a slope membrane in the form of foil or a bentonite mat. The slope membrane will be joined with a vertical

screen located in the embankment foot. After the pressure pipelines have been dismantled, new ones will be installed, with the length adjusted to the height of the extended embankment. A membrane sealing the passage of the pipelines through the embankment in the form of a steel-reinforced wall will be executed in the axis of the embankment. The existing outlet of pressure pipelines to the discharge channel will be disassembled and replaced by a new one. The outlet will be sealed to a depth of 10 m b.g.l. The drainage channel from the pumping station (km 1+235 of the left embankment) will be strengthened in its beginning section at a length of about 5 m with grating slabs, while the further part will be reinforced with a gabion mattress on slopes and a rip-rap mutually wedged in the bottom. The mattress will be supported by a row of wooden palisades.

A cross-section bench from the side of the area beyond the embankment is planned nearly at the entire length of the embankment, where a road made of broken aggregates will be located, except for the sections 0+082 - 0+150, 1 + 160 - 1+270 and 4+530 - 5+030, where the left embankment will not have a bench. A road made of broken aggregates will be routed along the embankment crest. In the last of the remaining sections, this will protect about 4 m of greenery, i.e. a young forest, from felling.

It will also be necessary to demolish the existing retaining wall and foundations.

The modernisation of the right embankment will start at km 0+000 and ends at km 5+236, by connecting it to the crest of the Gorzyce-Orliska bridge. Similar to the left embankment, it is located along the existing embankment. The height of the embankment after extension will be 3.5 - 5.5 m (difference in height between the designed embankment and the existing one is 0.5 - 1.4 m). This embankment will be extended almost along its entire length towards the embanked area, as it cannot be extended towards the area beyond the embankment. This will allow to preserve the existing road on the embankment bench and ditches draining water to the sluices. Oxbow lakes of the Łęg River are also located on the area beyond the embankment, which will remain intact. Exceptionally, the embankment will be extended in the axis in the places where the embankment is connected with two bridges. The width of the extended embankment crest will be 3 - 4.5 m, and the width of the bench will be about 4 m. The inclination of slopes of 1:2.5 - 1:3. A vertical anti-filtration screen at the foot of the upstream slope will be constructed along the entire length of the right embankment. A leachate drainage is planned on the slope of the area beyond the embankment, under the flood road, in place of the existing one, at intervals of approx. 20 m in order to drain the water from the embankment body during periods of prolonged impoundments. Additionally, sheet pile walls in the form of steel cofferdams (to the depth of 5m b.g.l.) cutting off the reverse filtration from the oxbow lake are planned from the side of the area beyond the embankment at km 1+030 - 1+055 and 1+130 - 1+200.

The embankment sluices at km 0+965, km 1+605 and km 2+087 will be reconstructed. In order to ensure proper drainage of water into the Łęg, drainage ditches will be unblocked (desilting, cleaning and improvement of the bottom grade line) with the length of, respectively: 24 m, 230 m, and in the case of the sluice at km 2+087, the ditch will be partially moved on a section of about 40 m. The beginning and the end of the ditch and the slope of the right river bank at the ditches' inlet will be strengthened. The cross-sectional parameters of these ditches will not change. For maintenance purposes, a strip of grassland approximately 2 m wide will be left by each of them.

A reinforced concrete abutment from the treatment plant will be rebuilt at km 3+840 of the right embankment. Pipelines from the treatment plant building to the new abutment will be replaced and extended. The existing outlet ordinates will not be changed. The slopes of the new embankment over the pipelines will be strengthened with grating slabs over a section of approximately 27.5 m. A crossing over the abutment in the embanked area and slope stairs are designed. The ditch draining water from the treatment plant, about 26 m in length, will be unblocked and partially moved, the bottom grade line will be corrected and is planned to be desilted and cleaned. The bottom of the ditch, in its initial section, will be extended to about 6.8 m in order to connect with the new abutment. Its beginning will be strengthened with grating slabs at a length of about 5 m, while the further part

will be reinforced with a gabion mattress on slopes and a rip-rap mutually wedged in the bottom. The mattress will be supported by a row of wooden palisades. The slope of the right bank of the Łęg River in the place where the ditch is connected to the river will be strengthened in the same way about 10 m up and down the river in order to keep the stability of the bottom and slopes. It is also planned to leave a belt about 3 m wide on the left side of the ditch for maintenance.

The right embankment will have a transport route (a road with bituminous surface) on the crest or bench. At the section of 3+570 - 3+970 the road will be routed along the embankment crest, in the remaining part along a bench. 7 road passing bays are planned along the entire length of the asphalt road. In order to secure the existing bituminous road, a retaining wall in the form of a steel cofferdam in the form of a reinforced concrete cap will be constructed at km 1+648- 1+740 of the right bank embankment, i.e. at the junction of the embankment with the bridge of the national road E77. The cofferdam will be driven to the depth of approx. 2 - 4 m. This wall will support a raised downstream slope in the place of the embankment extension in the axis.

Ditches by the embankment are planned to ensure that the area beyond the embankment is drained. A ditch from km 0+500 to km 1+450 of the embankment will drain water from the sluice at km 0+965 of the right embankment. Along the most of the route this will be a restored existing ditch. The restored, existing ditch at km 1 +890 - 2+450 of the embankment will drain water to the sluice at km 2+087 of the embankment. Along the transport routes, culverts will be made on these ditches. The cross-sectional parameters of the existing ditches will not change - the width at the bottom approx. 0.5 m and slope gradient of 1:2 and 1:2.5. The falling grade line of the bottom will be corrected. The sluice at km 1+605 of the right embankment currently evacuates water with the existing ditch - this is not a ditch by the embankment.

The revetment of the Łęg banks' slopes will be carried out in connection with the performance of works at a maximum length of up to 10 m upstream and downstream in the places where ditches are introduced.

The reconstruction of the embankments will make it necessary to reconstruct the embankment culverts (at km 1+006 of the left embankment and at km 0+965, 1+605 and 2+087 of the right embankment), which is not connected with changing the ordinates of their inlets and outlets. New, reinforced concrete abutments of the sluices will be executed, together with a return flap on the embanked area's side and gratings on the side of the area beyond the embankment. The sluice elements (abutments, pipeline) will be made under the cover of driven-in steel sheet piles to a depth of approx. 6 m, which after completion of the works in this area will be cut to the ordinates of the embankment cover and will seal the embankment culvert itself. The following was designed within the area of the sluices: a crossing over the abutment in the embanked side, a yard (approx. 35 m<sup>2</sup>) for the pumping station in the period of the impoundments from the side of the area beyond the embankment, a reinforced concrete discharge gutter on the upstream slope and slope stairs.

Roads by the embankment with grass surface, about 3 m wide, will be made along the embankments. They have been planned in such a way as not to interfere with field hollows or oxbow lakes in the embanked area and the area beyond the embankment. In such places they will be interrupted, while the access to the other side will be provided via embankment crossings.

In places of existing ditches, depressions or oxbow lakes, where an upstream and downstream slope will potentially be exposed to variable fluctuations of the water table level, additional protection in the form of a stone rip-rap is designed.

The embankment modernisation requires the execution of anti-filtration membrane to the depth of 10 m from the embanked area side, especially on the right embankment. After executing the embankment membranes, the embankment body on the upstream side will be sealed with foil.

Embankment crossings will be converted on both sections of the embankments and their surfaces will be made of crushed stone. All the descent roads from the crest to the embanked area will have the direction according to the direction of water flow in the river. The existing technical infrastructure will also be reconstructed if necessary. The existing land utilities networks (gas,

electricity) colliding with the investment in question will be redeveloped or protected.

The slopes of the embankments, after reconstruction, will be sown with native grass mixtures. Embankment maintenance procedures will involve mowing them. For a minimum period of 5 years from the completion of construction, the project site will be inspected for the occurrence of invasive foreign plant species and in the event of their occurrence, actions will be taken to remove them on the basis of the results of botanical supervision.

The areas at the construction site facilities on the area beyond the embankment will be occupied in the implementation phase. For the purposes of the planned investment, the network of existing roads will be used and, if necessary, temporary roads paved with approx. 3 m wide reinforced-concrete slabs will be constructed. After the completion of the project execution, access roads will be repaired and the area will be restored to its intended state.