



MARSHAL OF LOWER SILESIA VOIVODESHIP

The Marshal Office of Lower Silesia Voivodeship

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Wrocław, dated 17 August 2017

DECISION

Pursuant to Article 122.1.3 and 122.1.4 and 122.2.2, in connection with Article 9.1.19 (a) and (f) and Article 9.2.1(b) and 9.2.2; Article 125; Article 127.1 and 127.5; Article 128.1.6; Article 131.1 and 131.2 item 1 and 3; Article 140.2.2, 5 and 5c of the Act of 18 July 2001 *Water Law* (Journal of Laws of 2017, item 1121) and Article 104 and 108 of the Act of 14 June 1960 *Administrative Proceedings Code* (Journal of Laws of 2016, item 23, as amended) – upon having considered the motion of the Marshal of Lubuskie Voivodeship, represented by the attorney, Ms. Lila Mikłaszewicz, for issuing a water law permission for the performance of water devices and the performance of works on the area with a particular flood risk caused by the Odra River and by the Bóbr River in relation to the implementation of the project “Flood protection of Krosno Odrzańskie City” in Lubuskie Voivodeship, Krośnieński powiat, Krosno Odrzańskie Commune and Dąbie Commune, districts: Krosno Odrzańskie, Stary Raduszc and Połupin

I hereby decide as follows:

- I. I hereby issue to the **Marshal of Lubuskie Voivodeship** based in Zielona Góra (ul. Podgórna 7), a water law permit for the performance of hydraulic devices in connection with the flood protection of the terrains located in the Odra River Valley, at the height of Krosno Odrzańskie, as part of the project “Flood protection of Krosno Odrzańskie City” in Lubuskie Voivodeship, Krośnieński powiat, Krosno Odrzańskie Commune and Dąbie Commune, districts: Krosno Odrzańskie, Stary Raduszc and Połupin, in the following scope:

1. The demolition (liquidation) of the existing hydraulic devices:

a) Embankment No I:

- in km (-) 0+017 ÷ 0+065 sectional demolition of the existing reinforcement from stones on the slope and in the foot in the inter-embankment zone of the Odra River (plot No: 1/1 and 6 Krosno Odrzańskie district),
in km 0+000 ÷ 0+012 demolition of the existing route with concrete and stone steps, and side walls on the slope of the Odra River Valley (plot No 1/1 and 6 Krosno Odrzańskie district),
- in km 0+066 demolition of the route with the side wall within the length of approx. 5.00 m from stone blocks in the inter-embankment zone of the Odra River (plot No 1/1 and 6 Krosno Odrzańskie district), in km 0+208 liquidation of the existing route with steps w/c (plot No 6 Krosno Odrzańskie district),



- in km 0+674 ÷ 0+680 demolition of the concrete slab reinforcement on the right slope covering approx. 45.0 m² in Bypass Channel No 1 (plot No 3/2 Krosno Odrzańskie district),
- in km 0+770 demolition of the existing route with slope steps L=2.75 m on the right slope of Bypass Channel No 1 (plot No 3/2 Krosno Odrzańskie district),
- in km 0+814.5 demolition of the existing route with slope steps L=4.50 m on the right slope of Bypass Channel No 1 (plot No 3/2 Krosno Odrzańskie district),
- in km 0+871 demolition of the existing route with slope steps L=8.00 m on the right slope of Bypass Channel No 1 (plot No 3/2 Krosno Odrzańskie district),
- in km 0+949.4 demolition of the existing route with slope steps L=7.50 m on the right slope of Bypass Channel No 1 (plot No 3/2 Krosno Odrzańskie district),

b) Embankment No II:

- in km 0+640 ÷ 0+700 liquidation of the upper section of the ditch section without a name covering the length of approx. 60.00 m (plot No 171 and 170/2 Krosno Odrzańskie district),
- in km 1+258 demolition of the destroyed abutment of the brick-layered outlet kd200 [K-56] on the slope,

c) Embankment No III:

- in km 0+210 ÷ 0+262 liquidation of the section of the ditch bed without a name covering approx. 120.00 m, including: upper left bank and right bank tributaries (plot No 240/2 Krosno Odrzańskie district and 313/4 Połupin district) and the upper section of the main ditch (plot No 317 Połupin district),

d) Embankment No IV:

- in km 0+000 ÷ 0+009 demolition of the existing upper left bank stone wall covering the length of approx. 9.00 m of Bypass Channel No 3 below the abutment of bridge N-4,
- in km 0+290 ÷ 0+410 liquidation of the section of the bed in Bypass Channel No 4 above km 0+125 of its route, within the length of approx. 100,00 m,
- in km 0+395 demolition of the final section with the length of approx. 12.00 m of pipeline kd800 in the said liquidated section of Bypass Channel No 4 together with the ferroconcrete outlet abutment, as part of the demolition – blocking the remaining section kd800 near the well connected by thin concrete,
- in km 0+690 demolition of the initial section with the length of approx. 38.00 m of pipeline kd800 under the embankment together with the ferroconcrete outlet abutment on the slope of Bypass Channel No 4, as part of the demolition – blocking the remaining section kd800 near the well connected by thin concrete,

e) Embankment No V:

- in km 0+041 ÷ 0+052 demolition of the stone (boulders) slope wall with the length of approx. 20.00 m and the max. height of 2.00 m,

f) Embankment No VI:

- in km 0+002 ÷ 0+010 demolition above bridge N-4 on the left bank of Bypass Channel No 3 reinforcement from open-work concrete slabs of the cone with technical steps,
- in km 0+150 ÷ 0+240 liquidation of the section of the contained ditch bed without a name (ditch mark), within the length of approx. 90.00 m along the foot of the embankment in the inter-embankment zone,



g) Embankment No VII:

- in km 0+700 ÷ 0+769 liquidation of the bed section of ditch R-O above km 0+460 of its course, within the length of approx. 80.00 m,

h) Embankment No VIII:

- in km 0+130 ÷ 0+140 liquidation of the bed section of the ditch without a name covering the length of approx. 6.00 m in the place of the natural gradient breakthrough.

2. The performance of the new sections of flood control embankments meeting the following conditions:

- Embankment technical class -II (second)
- Indicative flow - $Q_m = Q_{1\%} = 2492 \text{ m}^3/\text{s}$
- Controlled flow - $Q_k = Q_{0.3\%} = 2786 \text{ m}^3/\text{s}$
- min. elevation of the crest of embankments/walls above water table Q_m 1.02 ÷ 1.26 m; on average 1.14 m
- min. elevation of the crest of embankments/walls above Water table Q_k 0.42 ÷ 0.66 m; on average 0.54 m

a) The performance of embankment No I:

The construction of a new embankment and walls with the total length approx. $L_c = 1279.00 \text{ m}$, with the following parameters:

- embankment crest width - 3.00 ÷ 4.50 m
- slope inclination - 1: 1.25 ÷ 1 : 3
- service road surface width - 3.00 m
- Shared zone width - 2.50 ÷ 3.50
- footpath width - 1.50 m
- Section structure (TYPE) in the following sections:
 - o km 0+000.0 ÷ 0+357.7 TYPE 6 - L = 357.70 m
 - o km 0+357.7 ÷ 0+409.4 TYPE 3A - L = 51.70 m
 - o km 0+409.4 ÷ 0+479.4 TYPE 1 - L = 70.00 m
 - o km 0+479.4 ÷ 0+548.2 TYPE 3A - L = 68.80 m
 - o km 0+548.2 ÷ 0+702.4 TYPE 4 - L = 154.20 m
 - o km 0+702.4 ÷ 0+752.8 TYPE 6 - L = 50.40 m
 - o km 0+752.8 ÷ 1+084.8 TYPE 4 - L = 332.00 m
 - o km 1+084.8 ÷ 1+134.7 TYPE 3B-1 - L = 49.90 m
 - o km 1+134.7 ÷ 1+200.0 TYPE 3A-1 - L = 65.30 m
 - o km 1+200.0 ÷ 1+234.8 TYPE 3A - L = 34.80 m
 - o km 1+234.8 ÷ 1+262.0 TYP 5 - L = 27.20 m
 - o km 1+262.0 ÷ 1+276,3 TYPE 6 - L = 14.30 m
 - o km 1+276.3 ÷ 1+279.0 TYPE 5 - L = 2.70 m
- Min. ordinate of the wall crest elevation and closures MSOP - 44.00 m a.s.l.
- Min. ordinate of the embankment crest elevation - 44.00 m a.s.l.
- Min. ordinate of the upstream wall crest 44.00 m a.s.l.
- Geographical coordinates:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---|---------------|---------------|
| 1. | The beginning of the wall (MSOP) | 52°02'56.09" | 15°05'51.61" |
| 2. | The end of the wall/the beginning of the embankment | 52°02'58.36" | 15°05'30.74" |
| 3. | The end of the embankment/the beginning of the wall | 52°02'56.23" | 15°05'32.68" |
| 4. | The end of the wall | 52°02'36.70" | 15°05'54.59" |



b) The performance of embankment No II:

The construction of a new embankment and walls with the total length approx. $L_c = 1388.70$ m, with the following parameters:

- Embankment crest width - 4.25 ÷ 4.50 m
- slope inclination - 1 : 2 ÷ 1 : 3
- service road surface width - 3.00 m
- The width of the shared zone - 3.00 m
- The width of the footpath - 3.50 m
- Section structure (TYPE) in the sections:
 - o km (-) 0+001.1 ÷ 0+008.8 TYPE 5 L = 9.90 m
 - o km 0+008.8 ÷ 0+224.1 TYPE 6 L = 215.30 m
 - o km 0+224.1 ÷ 0+501.6 TYPE 3A L = 277.50 m
 - o km 0+501.6 ÷ 0+930.0 TYPE 2D-1 L = 428.40 m
 - o km 0+930.0 ÷ 1+225.1 TYPE 1 L = 295.1 m
 - o km 1+225.1 ÷ 1+287.7 TYPE 3A L = 62.60 m
 - o km 1+287.7 ÷ 1+387.6 TYPE 5 L = 99.90 m
- Min. ordinate of the wall crest elevation

- And closures MSOP - 44.00 m a.s.l.
- Min. ordinate of the embankment crest elevation - 44.00 m a.s.l.
- Min. ordinate of the wall upstream crest elevation- 44.00 m a.s.l.
- Geographical coordinates:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---|---------------|---------------|
| 1. | The beginning of the wall (MSOP) | 52°02'55.64" | 15°05'53.42" |
| 2. | The end of the wall/the beginning of the embankment | 52°02'49.68" | 15°06'17.21" |
| 3. | The end of the embankment/the beginning of the wall | 52°02'35.96" | 15°06'04.07" |
| 4. | The end of the wall | 52°02'36.81" | 15°05'56.27" |

c) The performance of embankment No III:

The construction of a new embankment and walls with the total length approx. $L_c = 454.30$ m, with the following parameters:

- embankment crest width - 3.00 ÷ 4.50 m
- earth embankment crest width - 1.25 m
- slope inclination - 1 : 2 ÷ 1 : 3
- service road surface width - 3.00 m
- footpath width - 2.00 ÷ 3.00 m
- Section structure (TYPE) in the following sections:
 - o km 0+000.0 ÷ 0+092.3 TYPE 7 L = 92.30 m
 - o km 0+092.3 ÷ 0+289.0 TYPE 1 L = 196.70 m
 - o km 0+289.0 ÷ 0+454.3 TYPE 5 L = 165.30 m
- Min. embankment crest elevation ordinate 44.00 m a.s.l.
- Min. wall crest elevation ordinate 44.00 m a.s.l.
- Geographical coordinates:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---|---------------|---------------|
| 1. | The beginning of the wall (MSOP) | 52°02'34.93" | 15°05'55.41" |
| 2. | The end of the wall/the beginning of the embankment | 52°02'33.62" | 15°05'58.91" |
| 3. | The end of the embankment/the beginning of the wall | 52°02'27.97" | 15°06'01.95" |
| 4. | The end of the wall | 52°02'28.56" | 15°05'54.25" |



d) The performance of embankment No IV:

The construction of a new embankment and walls with the total length approx. $L_c = 757.00$ m, with the following parameters:

- embankment crest width - 3.50 ÷ 4.50 m
- bench width - 4.50 m
- slope inclination - 1: 2.5 ÷ 1 : 3
- service road surface width - 3.00 m
- footpath width - 2.00 m
- section structure (TYPE) in the following sections:
 - o km 0+000.0 ÷ 0+006.9 TYPE 5 L = 6.90 m
 - o km 0+006.9 ÷ 0+013.1 TYPE 3B L = 6.20 m
 - o km 0+013.1 ÷ 0+042.6 TYPE 7 L = 29.50 m
 - o km 0+042.6 ÷ 0+159.8 TYPE 3B L = 117.20 m
 - o km 0+159.8 ÷ 0+167.1 TYPE 6 L = 7.3 m
 - o km 0+167.1 ÷ 0+171.6 TYPE 5 L = 4.50 m
 - o km 0+171.6 ÷ 0+285.5 TYPE 1 L = 113.90 m
 - o km 0+285.5 ÷ 0+692.0 TYPE 2C L = 406.50 m
 - o km 0+692.0 ÷ 0+757.0 TYPE 2D L = 65.00 m
- Min. embankment crest elevation ordinate 44.00 m a.s.l.
- Min. ordinate of the wall crest elevation 44.00 m a.s.l.
- Geographical coordinates:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---|---------------|---------------|
| 1. | The beginning of the wall (MSOP) | 52°02'30.70" | 15°05'52.60" |
| 2. | The end of the wall/the beginning of the embankment | 52°02'25.79" | 15°05'52.96" |
| 3. | The end of the embankment | 52°02'17.80" | 15°05'51.62" |

e) The performance of embankment No V:

The construction of a new embankment / wall with the total length approx. $L_c = 123.90$ m, with the following parameters:

- Earth embankment crest width - 1.25 m
- slope inclination - 1: 2 ÷ 1 : 3
- No surface, earth crest - sowing with a grass mixture
- Section structure (TYPE) in the following section:
 - o km 0+000.0 ÷ 0+123.9 TYPE 5 L = 123.90 m
- Min. wall crest elevation ordinate 44.00 m a.s.l.
- Embankment/wall geographical coordinates:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---------------|---------------|---------------|
| 1. | The beginning | 52°02'27.81" | 15°05'54.01" |
| 2. | The end | 52°02'26.45" | 15°05'53.94" |

f) The performance of embankment No VI:

The construction of a new embankment and walls with the total length approx. $L_c = 352.70$ m, with the following parameters:

- embankment crest width - 4.50 m
- slope inclination - 1: 2 ÷ 1 : 3
- service road surface width - 3.00 m
- Section structure (TYPE) in the following sections:
 - o km 0+000.0 ÷ 0+040.3 TYPE 5 L = 40.30 m
 - o km 0+040.3 ÷ 0+287.6 TYPE 2D-1 L = 247.30 m
 - o km 0+287.6 ÷ 0+337.7 TYPE 8 L = 50.10 m
 - o km 0+337.7 ÷ 0+352.7 TYPE 2D-1 L = 15.00 m
- Min. embankment crest elevation ordinate 44.00 m a.s.l.
- Slope resistance wall crest ordinate 43.60 m a.s.l.



- Min. ordinate of the wall crest elevation 44.00 m a.s.l.
- geographical coordinates:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---|---------------|---------------|
| 1. | The beginning of the wall | 52°02'25.32" | 15°05'55.68" |
| 2. | The end of the wall/the beginning of the embankment | 52°02'25.39" | 15°05'53.57" |
| 3. | The end of the embankment | 52°02'17.77" | 15°05'52.37" |

g) The performance of embankment No VII:

The construction of a new embankment and walls with the total length approx. $L_c = 1300.50$ m, with the following parameters:

- embankment crest width - 4.50 m
- Earth embankment crest width - 1.25 m
- slope inclination - 1: 1.5 ÷ 1 : 3
- service road surface width - 3.00 m
- Section structure (TYPE) in the following sections:
 - o km 0+004.2 ÷ 0+321.2 TYPE 5 L = 317.00 m
 - o km 0+321.2 ÷ 0+327.8 TYPE 6 L = 6.60 m
 - o km 0+327.8 ÷ 0+490.0 TYPE 5 L = 162.20 m
 - o km 0+490.0 ÷ 0+541.1 TYPE 6 L = 51.10 m
 - o km 0+541.1 ÷ 0+634.5 TYPE 5 L = 93.40 m
 - o km 0+634.5 ÷ 0+767.0 TYPE 2D-7 L = 132.50 m
 - o km 0+767.0 ÷ 0+780.0 TYPE 2D L = 13.00 m
 - o km 0+780.0 ÷ 1+199.5 TYPE 1 L = 419.50 m
 - o km 1+199.5 ÷ 1+304.7 TYPE 5 L = 105.20 m
- min. ordinate of the wall crest elevation and MSOP closures 44.00 m a.s.l.
- Min. embankment crest elevation ordinate 43.00 ÷ 44.00 m a.s.l.
- Min. wall crest elevation ordinate (steel wall) 44.00 m a.s.l.
- Geographical coordinates:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---|---------------|---------------|
| 1. | The beginning of the wall | 52°02'11.27" | 15°05'50.38" |
| 2. | The end of the wall/the beginning of the embankment | 52°02'02.68" | 15°05'27.50" |
| 3. | The end of the embankment/the beginning of the embankment | 52°02'16.46" | 15°05'46.40" |
| 4. | The end of the wall | 52°02'15.55" | 15°05'51.08" |

h) The performance of embankment No VIII:

The construction of a new embankment and walls with the total length approx. $L_c = 190.30$ m, with the following parameters:

- embankment crest width - 4.50 m
- slope inclination - 1: 1.5 ÷ 1 : 3 (above bottom wall 1:4)
- service road surface width 3.00 m
- Section structure (TYPE) in the sections:
 - o km 0+003.8 ÷ 0+070.6 TYPE 3A L = 66.80 m
 - o km 0+070.6 ÷ 0+128.3 TYPE 3A-8 L = 57.70 m
 - o km 0+128.3 ÷ 0+168.3 TYPE 3A L = 40.00 m
 - o km 0+168.3 ÷ 0+190.3 TYPE 1 L = 22.0 m
- Min. embankment crest elevation ordinate 44.00 m a.s.l.
- Slope bottom wall crest ordinate 42.40 m a.s.l.
- Min. ordinate of the wall crest elevation 44.00 m a.s.l.



- Geographical coordinates:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---|---------------|---------------|
| 1. | The beginning of the wall | 52°02'15.35" | 15°05'51.72" |
| 2. | The end of the wall/the beginning of the embankment | 52°02'13.09" | 15°05'51.92" |
| 3. | The end of the wall | 52°02'13.22" | 15°05'51.24" |

i) The performance of embankment No IX:

The construction of a new embankment / wall with the total length approx. $L_c = 42.50$ m, with the following parameters:

- Earth embankment crest width - 1.00 m
- Upstream slope inclination - 1: 2
- No surface, earth crest - sowing with a grass mixture
- Section structure (TYPE) in the following section:
 - o km 0+034.3 ÷ 0+073.3 TYPE 5 L = 39.00 m
 - o km 0+073.3 ÷ 0+076.8 TYPE 6 L = 3.50 m
 - Min. wall crest elevation ordinate 44.00 m a.s.l.
 - min. ordinate of the MSOP closures crest elevation 44.10 m a.s.l.
- Embankment/wall geographical coordinates:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---------------|---------------|---------------|
| 1. | The beginning | 52°02'34.92" | 15°05'54.57" |
| 2. | The end | 52°02'32.48" | 15°05'54.56" |

Where the section (TYPE) is:

- TYPE 1 Earth embankment with shared zone (service road) on the crest
- TYPE 2C Earth embankment with service road on the shelf on the downstream side
- TYPE 2D Earth embankment with service road on the embankment crest;
- TYPE 2D-1 earth embankment with service road on the embankment crest
- TYPE 2D-7 Earth embankment with service road on the embankment crest and steel wall in the downstream slope
- TYPE 3A Ferroconcrete resistance wall:
 - With the shared zone
 - With a service road from full ferroconcrete slabs;
- TYPE 3A-1 ferroconcrete resistance wall with a service road
- TYPE 3A-8 ferroconcrete resistance wall with a service road (wall in the foot of the upstream slope)
- TYPE 3B ferroconcrete resistance wall with a footpath;
- TYPE 3B-1 ferroconcrete resistance wall with a footpath
- TYPE 4 ferroconcrete resistance walls, double-sided, with a footpath;
- TYPE 5 ferroconcrete resistance wall without a road and footpath;
- TYPE 6 Mobile Flood Protection System
- TYPE 7 Tight wall with a footpath
- TYPE 8 Earth embankment with service road on the embankment crest and ferroconcrete wall in the upstream slope

3. The performance of the reconstruction, development and construction of Bypass Channels covering the total length of approx. $L = 2536.0$ m, including the following structures:

a) Bypass Channel No 1:

- km 0+000 ÷ 0+072 desilting the channel bed with the existing section parameters,



The reconstruction and development of the existing Channel No 1, also called the Municipal Channel, in the section in km 0+072 ÷ 1+257 covering the total length of approx. Lc = 1185.00 m to the channel parameters:

| item | km | Bottom width b [m] | slope inclination 1 : n | Bottom longitudinal gradient (i) |
|------|-------------------------------|-----------------------|--|--|
| 1. | 0+072 ÷ 0+438 | 52.0 ÷ 32.0 | 1 : 2 ÷ 1 : 1.25 In sections left slope 1 : 3 | 0.6 ‰ |
| 2. | 0+438 ÷ 0+847 | existing | 1 : 2 ÷ 1 : 3 Left slope excluded from works | |
| 3. | 0+847 ÷ 1+027 (Bridge N-2) | 62.0 ÷ 34.0 | 1 : 2 ÷ 1 : 1.15 In sections left slope 1 : 3 | 0.0 ‰ |
| 4. | 1+040 ÷ 1+257 | 74.0 ÷ 31.0 | 1 : 2 In sections left slope 1 : 2 ÷ 1 : 3 | |

- Reinforcement of cross section:

- o in km 0+072 ÷ 0+900 in the foot of the right slope – a steel wall depth 10.00 m (immersed by pushing in) which is the permanent bank in the channel bed. On the slope, reinforcing with the break stone rip rap, 50 cm layer, on geotextile, G.S.M. 300, with the horizontal crest, width 1.0 m at the bank level,
- o in km 0+283 ÷ 0+413 on the right slope [1 : 1.25] above the steel wall in the ceiling, wall from break stone on concrete,
- o in km 0+900 ÷ 0+257 in the foot of the left and right slope – a steel wall depth 12.00 m (immersed by pushing in) forming a permanent bank. On the slope, reinforcing with the break stone rip rap, 50 cm layer, on geotextile, G.S.M. 300, with the horizontal crest, width 1.0 m; including filling-up the existing rip rap on the right slope below bridge N-2 in km 0+967 ÷ 1+027,

- geographical coordinates of the beginning of Bypass Channel No 1:

| item | location | φ = N | λ = E |
|------|---------------|--------------|--------------|
| 1. | The beginning | 52°02'59.88" | 15°05'23.95" |
| 2. | The end | 52°02'34.30" | 15°06'06.44" |

b) Bypass channel No 2a:

- The reconstruction and development of the existing Channel No 2a within the entire length in km 0+000 ÷ 0+060 (Lc = 60.00 m) to the channel parameters:

| item | km | Bottom width b [m] | slope inclination 1 : n | bottom longitudinal gradient (i) |
|------|---------------|-----------------------|----------------------------|--|
| 1. | 0+000 ÷ 0+060 | 14.00 | 1 : 2 | 3.33 ‰ |

- Reinforcing in the slopes foot with a concrete kerb on wooden piles forming a permanent bank in the channel bed. Above, both-bank reinforcing of the entire surface of slopes with break stone rip rap, 50 cm layer, on geotextile with G.S.M. 300, along their entire height, with horizontal openwork, width 1.0 m at the bank level,
- geographical coordinates of the beginning of Bypass Channel No 2a:

| item | location | φ = N | λ = E |
|------|---------------|--------------|--------------|
| 1. | The beginning | 52°02'34.99" | 15°05'05.31" |
| 2. | The end | 52°02'33.09" | 15°05'50.40" |

c) Bypass Channel No 2:

- km 0+000 ÷ 0+169 bed cleaning and maintaining, without earthworks,
- The reconstruction and development of the existing Channel No 2 in the remaining section in km 0+169 ÷ 0+552 covering the total length of approx. Lc = 383.00 m to the bed parameters:

| Item | km | Bottom width b [m] | slope inclination 1 : n |
|------|----------------------------------|-------------------------------------|-------------------------|
| 1. | 0+169 ÷ 0+275 | 13.0 ÷ 5.0 | 1 : 2 |
| 2. | 0+275 ÷ 0+312 (bridge N-1) | 5.0 Only below the bridge 5 ÷ 10 | 1 : 2 |
| 3. | 0+320 ÷ 0+400 | 10.0 ÷ 23.0 | 1 : 1.15 |
| 4. | 0+413 ÷ 0+552 (above bridge N-3) | 4.50 | 1 : 2 ÷ 1 : 1.75 |



- bottom longitudinal gradient:

| item | km | bottom longitudinal gradient (i) |
|------|-----------------------------|--|
| 1. | 0+200 ÷ 0+312 to bridge N-1 | 0.35 ‰ |
| 2. | 0+326 ÷ 0+400 | Between bridge N-1 and N-3 a hole in the bottom depth ~ 4.50 m |
| 3. | 0+413 ÷ 0+543 | Above bridge N-3 i = 1.36 ‰ |

- Reinforcement of cross section:

- in km 0+200 ÷ 0+326 to bridge N-1 in the slope foot - a concrete kerb on wooden piles forming a permanent bank in the channel bed. Above the kerb on the right bank to km 0+312.7 and left bank to 0+292.4 reinforcing the slopes with break stone rip rap, 50 cm layer, on geotextile with G.S.M. 300, with the crest, width 1.0 m. On the left bank in km 0+292.4 ÷ 0+312.7 reinforcing on the slope with break stone 20 ÷ 30 cm on concrete C 25/30 with the total thickness of the reinforcement 40cm and on the sand ballast with the thickness of 10 cm. Below bridge N-1 on the right bank, raising the crest of the existing wall to the ordinate of 43.30 m a.s.l.,
- in km 0+326 ÷ 0+400 between bridge N-1 and N-3 on both sides in the slope foot, a steel wall with the depth of 6.0 m ÷ 10.0 m (immersed by pushing in) which is the permanent bank in the channel bed. Above on the slopes, reinforcement with wet concrete. In sections, on the left bank, above N-1, the repair of the existing wall - ferroconcrete coat,
- in km 0+400 ÷ 0+413 under bridge N-3 in the slope foot - a concrete kerb on wooden piles forming a permanent bank in the channel bed. Above, both bank reinforcing of slopes with break stone rip rap connected to the sections above and below the bridge,
- in km 0+413 ÷ 0+466 above bridge N-3 on both sides in the slope foot, a ferroconcrete resistance wall, height H = 1.0 m forming a permanent bank in the channel bed. Above, both bank reinforcing of slopes with the break stone rip rap, 50 cm layer, on geotextile, G.S.M. 300, with the openwork, width 1.0 m — on the right bank, reinforcing with a belt, width 2.0 m,
- in km 0+466 ÷ 0+522 in the slope foot - a concrete kerb on wooden piles forming a permanent bank in the channel bed. Above, both bank reinforcing of slopes with the break stone rip rap, 50 cm layer, on geotextile, G.S.M. 300, with the horizontal openwork, width 1.0 m,
- in km 0+522 on the inlet slope to the channel, break stone rip rap covering the length of approx. 23.0 m, by means of the belt with the total width of 5.0 m (with the openwork, width 1.0 m), 50 cm layer, on geotextile, G.S.M. 300, finished with a concrete kerb on wooden piles and wooden palisade ø 8 ÷ 10 cm, L = 1.20 m,

geographical coordinates of the beginning of Bypass Channel No 2:

| item | location | φ = N | λ = E |
|------|---------------|--------------|--------------|
| 1. | The beginning | 52°02'34.81" | 15°05'40.51" |
| 2. | The end | 52°02'27.04" | 15°06'01.14" |



d) Bypass Channel No 3:

- The reconstruction and development of the existing Channel No 3 within its entire length in km 0+000 ÷ 0+115 ($L_c = 115.00$ m) to the bed parameters:

| item | km | Bottom width b [m] | slope inclination 1 : n |
|------|--------------------------------|-----------------------|----------------------------|
| 1. | 0+026 ÷ 0+086 to bridge N-4 | 4.0 | 1 : 1.5 ÷ 1 : 1.25 |
| 2. | 0+097 ÷ 0+106 above bridge N-4 | 7.40 ÷ 8.30 | 1:2 |

- bottom longitudinal gradient:

| item | km | bottom longitudinal gradient (i) |
|------|---------------|---|
| 1. | 0+026 ÷ 0+079 | Below bridge N-4 bottom longitudinal counter grade 4.7 ‰ |
| 2. | 0+097 ÷ 0+115 | Above bridge N-4, a cone form bottom, hole, depth ~2.00 m |

- Reinforcement of cross section:

- o in km 0+026 ÷ 0+085 to bridge N-4 on both sides in the slope foot, a steel wall, depth 6.0 m ÷ 10.0 m (immersed by pushing in) which is the permanent bank in the channel bed. Above on the slopes, reinforcement with wet concrete.
- o in km 0+085 ÷ 0+097 under bridge N-4 in the slope foot, a steel wall, depth 6.0 m (immersed by pushing in of welded short sections of bulkheads) which is the permanent bank in the channel bed. Above, both bank reinforcing of slopes with break stone rip rap,
- o in km 0+097 ÷ 0+105 above bridge N-4 on both sides in the slope foot, a steel wall, depth 6.0 m (immersed by pushing in) which is the permanent bank in the channel bed. Above, both bank reinforcing of slopes with break stone rip rap, 50 cm layer, also on the slopes of embankment No V (right) and embankment No VI (left) to km 0+165. Furthermore, above the bridge on the left bank, cone encasement with a slope reinforced with stone rip rap and the construction of the route of steps,

- geographical coordinates of the beginning of Bypass Channel No 3:

| item | location | $\varphi = N$ | $\lambda = E$ |
|------|---------------|---------------|---------------|
| 1. | The beginning | 52°02'28.77" | 15°05'52.51" |
| 2. | The end | 52°02'25.36" | 15°05'55.66" |

e) Bypass Channel No 4:

- the reconstruction and development of the existing Channel No 4 in the following sections: lower in km 0+000 ÷ 0+100 and upper in km 0+550 ÷ 0+793, covering the total length of approx. $L_c = 343.00$ m to the designed cross section with reinforcements,
- The construction of the new bed of Channel No 4 in the middle section in km 0+100 ÷ 0+550 covering the length of ca $L_c = 450.0$ m; including the construction (in km 0+519.5 ÷ 0+532.5) of a new double-hole culvert of a ground-surface structure and the span/height of 2.16/1.62 m, with the designed cross section and the reinforcements and bed parameters:

| item | km | Bottom width b [m] | slope inclination 1 : n |
|------|--|-----------------------|----------------------------|
| 1. | 0+000 ÷ 0+515 to the designed culvert | 10.0 | 1 : 2 |
| 2. | 0+550 ÷ 0+638 to bridge N-5 | 10.0 ÷ 20.0 | 1 : 2 |
| 3. | 0+638 ÷ 0+700 below and above bridge N-5 | 15.0 ÷ 6.60 | 1 : 20 ÷ 1 : 2 |
| 4. | 0+700 ÷ 0+732 | 6.60 ÷ 3.00 | 1 : 2 |
| 5. | 0+732 ÷ 0+793 | 3.00 | 1 : 2 |



- bottom longitudinal gradient:

| item | km | bottom longitudinal gradient (i) |
|------|---|------------------------------------|
| 1. | 0+000 ÷ 0+515 to the designed culvert | 0.35 ‰ |
| 2. | 0+533 ÷ 0+550 above the designed culvert | 0.5 ‰ |
| 3. | 0+550 ÷ 0+700 in the vicinity of bridge N-5 | Hole in the bottom, depth -5.00 m |
| 4. | 0+700 ÷ 0+793 | 3.0 ‰ |

- Reinforcement of cross section:

- o in km 0+000 ÷ 0+515 to the designed culvert on both sides in the slope foot - a concrete kerb on wooden piles forming a permanent bank in the channel bed. Above, both bank reinforcing of slopes with the break stone rip rap, 50 cm layer, on geotextile, G.S.M. 300, with the crest, width 1.0 m,
- o in km 0+519.5 ÷ 0+532.5 in the vicinity of a new culvert, reinforcing the bottom and slopes of the inlet/outlet within the length of 5.0 m with break stone on concrete finished with a wooden palisade from the bottom water,
- o in km 0+537 ÷ 0+640 to bridge N-5 on both sides in the slope foot, a steel wall, depth 4.0 m ÷ 12.0 m (immersed by pushing in) which is the permanent bank in the channel bed. Above, both bank reinforcing of slopes with the break stone rip rap, 50 cm layer, on geotextile, G.S.M. 300, with the horizontal openwork, width 1.0 m at the bank level,
- o in km 0+651 ÷ 0+700 above bridge N-5 on both sides in the slope foot, a steel wall, depth 5.0 m ÷ 12.0 m (immersed by pushing in) which is the permanent bank in the channel bed. Above, both bank reinforcing of slopes with the break stone rip rap, 50 cm layer, on geotextile, G.S.M. 300, with the horizontal openwork, width 1.0 m at the bank level,
- o in km 0+700 ÷ 0+793 on both sides in the slope foot - a concrete kerb on wooden piles forming a permanent bank in the channel bed. Above, both bank reinforcing of slopes with the break stone rip rap, 50 cm layer, on geotextile, G.S.M. 300, with the horizontal openwork, width 1.0 m at the bank level,

- geographical coordinates of the beginning of Bypass Channel No 4:

| item | location | φ = N | λ = E |
|------|---------------|--------------|--------------|
| 1. | The beginning | 52°02'33.12" | 15°05'50.09" |
| 2. | The end | 52°02'15.23" | 15°05'59.05" |

4. The performance of hydraulic structures / devices:

a) **The performance of embankment culverts** in ditch R-O crossing with the route of designed embankment No VII, with the following parameters:

| item | Structure No Embankment km | Ditch name km | Designed culvert parameters | | | | Geographical coordinates | |
|------|----------------------------------|------------------|-----------------------------|--------------|----------|--------|--------------------------|--------------|
| | | | Diameter Dn [mm] | Length L [m] | Ordinate | | φ = N | λ = E |
| | | | | | inlet | outlet | | |
| | PW-1 0+769.1 | R-O 0+469 | 600 | 35.0 | 39.90 | 39.72 | 52°02'05.70" | 15°05'32.88" |
| 2. | PW-2 1+224.8 | R-O 0+000 | 600 | 23.0 | 38.47 | 38.35 | 52°02'16.50" | 15°05'47.33" |

b) **The performance of embankment downward slopes and passages and two downward slopes to Bypass Channel No**

4, with the following parameters and structure:

- **The surface of embankment downward slopes/passages from ferroconcrete slabs** (pcs. 28)

- o roadway
lane width - 3.00 m ÷ 4.50 m/6.00 m
- o Surface width - 3.00 m /4.50 m
- o Waysides width - 2 x 0.75 m
- o downward slope longitudinal gradient - 1: 7 ÷ 1 : 10 (exceptionally 1 : 20)



- o Top surface structure Full ferroconcrete slabs
3.00x1.50x0.15 m
- Top layer - filling up the slants between concrete slabs C25/30 thickness 15 cm
- Levelling layer thickness 3 ÷ 5 cm from sand
- Substructure layer thickness 10 cm from aggregate 0 ÷ 31.5 mm with continuous granulation, $I_s \geq 0.95$
- Separation layer from geotextile with granulation min.300 g/m²

Top surface of the downward slope Z I-1 from cobblestone (1 pc., item 1 of the table):

- o Roadway lane width - 4.50 m
 - o Top surface width - 3.00 m
 - o Earth sides width - 2 x 0.75 m
 - o Surface limited by kerbs - 15x30x100 cm on the concrete
 - o bench o downward slope longitudinal gradient - 1 : existing
 - o surface structure - concrete stone thickness 8 cm
 - Cement and sand ballast (1: 3) thickness 5 cm
 - Break stone substructure 0 ÷ 31.5 mm, thickness 25 cm (continuous granulation), mechanically stabilised to $I_s \geq 0.95$
 - Separation layer from geotextile with granulation min.300 g/m²
 - Natural soil G1 at $I_s \geq 0.95$
- **Earth top surface with topsoiling and sowing with a grass mixture (1 pc., item 16 from the table).**

The list of designed embankment downward slopes and passages

| Item No | Symbol | km of the embankment /channel/ | Length L [m] | Roadway lane width [m] | Top surface width [m] | Geographical coordinates | |
|--------------------|-----------|--------------------------------|---------------------------------|------------------------|-----------------------|--------------------------|---------------|
| | | | | | | $\varphi = N$ | $\lambda = E$ |
| EMBANKMENT No I | | | | | | | |
| 1. | Z I - 1 | 0+128.0 | 15.0 | 4.50 | 3.00 | 52°02'56.50" | 15°05'44.99" |
| 2. | Z I - 2 | 0+350.3 | 3.00 | 4.50 ÷ 3.00 | 3.00 | 52°02'58.36" | 15°05'30.74" |
| 3. | Z I - 3 | 0+409.4 | 18.0 | 4.50 ÷ 3.00 | 3.00 | 52°02'57.79" | 15°05'33.79" |
| 4. | Z I - 4 | 0+427.4 | 18.0 | 5.00 | 3.50 | 52°02'57.79" | 15°05'30.01" |
| 5. | Z I - 5 | 0+546.6 | 6.00 | 4.50 | 3.00 | 52°02'54.93" | 15°05'35.51" |
| 6. | Z I - 5A | 0+535.3 | 7.00 | 4.50 ÷ 3.00 | 3.00 | 52°02'56.28" | 15°05'34.91" |
| 7. | Z I - 6 | 1+134.7 | 15.0 | 4.50 | 3.00 | 52°02'39.66" | 15°05'49.75" |
| EMBANKMENT No II: | | | | | | | |
| 8. | Z II - 1 | 0+912.2 | 14.0+27.0 Embankment passage | 6.00 | 4.50 | 52°02'42.17" | 15°06'16.25" |
| EMBANKMENT No III: | | | | | | | |
| 9. | Z III - 1 | 0+092.3 | 15.0 | 4.50 | 3.00 | 52°02'33.62" | 15°05'58.91" |
| 10. | Z III - 2 | 0+278.4 | 32.0 | 4.50 | 3.00 | 52°02'28.73" | 15°06'01.48" |
| 11. | Z III - 3 | 0+291.0 | 34.5 | 4.50 | 3.00 | 52°02'28.73" | 15°06'01.48" |
| EMBANKMENT No IV | | | | | | | |
| 12. | Z IV - 1 | 0+200.0 | 10.0+30.0 Embankment passage | 4.50 | 3.00 | 52°02'30.08" | 15°05'50.08" |
| 13. | Z IV - 2 | 0+397.5 | 21.0 | 4.50 | 3.00 | 52°02'27.46" | 15°05'45.22" |
| 14. | Z IV - 3 | 0+637.3 | 21.0 | 4.50 | 3.00 | 52°02'19.40" | 15°05'47.39" |
| 15. | Z IV - 4 | 0+734.0 | 28.5 | 4.50 | 3.00 | 52°02'17.76" | 15°05'50.62" |
| EMBANKMENT No V | | | | | | | |
| 16. | Z V - 1 | 0+060.7 | 6.50 | 3.00 | 3.00 | 52°02'26.98" | 15°05'56.37" |
| EMBANKMENT No VI | | | | | | | |
| 17. | Z VI - 1 | 0+081.7 | 16.0 | 4.50 | 3.0 | 52°02'24.34" | 15°05'56.45" |
| 18. | Z VI - 2 | 0+236.0 | 30.0 | 4.50 | 3.0 | 52°02'19.39" | 15°05'55.85" |



| | | | | | | | |
|----------------------------|------------|---------|-----------|-------------|------|--------------|--------------|
| 19. | Z VI - 3 | 0+279.6 | 30.0 | 4.50 | 3.00 | 52°02'18.05" | 15°05'56.00" |
| EMBANKMENT No VII | | | | | | | |
| 20. | Z VII - 1 | 0+324.3 | 13.0 | 6.00 | 4.50 | 52°02'03.19" | 15°05'39.61" |
| 21. | Z VII - 2 | 0+643.4 | 20.0 | 4.50 | 3.00 | 52°02'02.73" | 15°05'27.40" |
| 22. | Z VII - 3 | 0+776.5 | 25.0 | 4.50 | 3.00 | 52°02'05.84" | 15°05'32.84" |
| 23. | Z VII - 4 | 1+003.4 | 30.0 | 4.50 | 3.00 | 52°02'11.85" | 15°05'39.57" |
| 24. | Z VII - 5 | 1+174.5 | 28.5 | 4.50 | 3.00 | 52°02'16.16" | 15°05'45.48" |
| 25. | Z VII - 6 | 1+183.0 | 27.0 | 4.50 | 3.00 | 52°02'16.62" | 15°05'44.80" |
| 26. | Z VII - 7 | 1+207.9 | 12.0 | 5.50 | 4.00 | 52°02'16.39" | 15°05'46.37" |
| EMBANKMENT No VIII | | | | | | | |
| 27. | Z VIII - 1 | 0+168.3 | 25.0 | 4.50 | 3.00 | 52°02'13.09" | 15°05'51.92" |
| EMBANKMENT No IX | | | | | | | |
| 28. | Z IX - 1 | 0+036.8 | 12.0 | 4.50 | 4.50 | 52°02'33.92" | 15°05'54.55" |
| Bypass Channel No 4 | | | | | | | |
| 29. | Z K 4 - 1 | 0+055 | 22.5+3.00 | 4.50 ÷ 3.00 | 3.00 | 52°02'31.75" | 15°05'47.92" |
| 30. | Z K 4 - 2 | 0+514 | 18.0+3.00 | 4.50 ÷ 3.00 | 3.00 | 52°02'18.39" | 15°05'45.49" |

c) **The performance of the new sections of ditch beds**, covering the total length of approx. $L_c = 155.0$ m, with the following parameters

- Bottom width $b = 0.60$ m (ditch reconstruction)
- slope inclination $b = 1.00$ m (construction of a new ditch bed)
- Depth $1 : 1.5$
- $h = 0.60 \div 0.95$ m

In sections and in the following

scope:

- The construction of the bed of ditch R-O in the inter-embankment zone of embankment No VII:

| Ditch km | Length L [m] | Bottom width [m] | Slope Inclination [1: n] | Depth h [m] | Gradient [%] | Geographical coordinates | |
|---------------|--------------|------------------|--------------------------|-------------|--------------|--------------------------|---------------|
| | | | | | | $\varphi = N$ | $\lambda = E$ |
| 0+504 ÷ 0+579 | 75.0 | 1.00 | 1 : 1.5 | 0.60 ÷ 0.95 | 1.0 | 52°02'06.27" | 15°05'31.86" |
| | | | | | | 52°02'04.51" | 15°05'29.64" |

- The reconstruction of the ditch without a name (plot No 261 Krosno Odrzańskie district) inter-embankment zone of embankment No VIII

| Ditch km | Length L [m] | Bottom width [m] | Slope Inclination [1: n] | Depth h [m] | Gradient [%] | Geographical coordinates | |
|---------------|--------------|------------------|--------------------------|-------------|--------------|--------------------------|---------------|
| | | | | | | $\varphi = N$ | $\lambda = E$ |
| 0+000 ÷ 0+080 | 80.0 | 0.60 | 1 : 1.5 | 0.60 ÷ 0.95 | 7.8 | 52°02'15.62" | 15°05'56.31" |
| | | | | | | 52°02'13.23" | 15°05'55.04" |

d) **The performance of pipe culverts in the route of ditches and Bypass Channel No 4**, with the following parameters:

| Item | Structure No Embankment km | Ditch name km | Designed pipe culvert parameters | | | | Geographical coordinates | |
|----------------------------|----------------------------|---|----------------------------------|--------------|----------|--------|--------------------------|---------------|
| | | | Diameter Dn [mm] | Length L [m] | Ordinate | | $\varphi = N$ | $\lambda = E$ |
| | | | | | inlet | outlet | | |
| EMBANKMENT No VII | | | | | | | | |
| 1. | PD - 1 0+900 | R-O 0+312 | 600 | 7.00 | 39.65 | 39.61 | 52°02'08.37" | 15°05'39.29" |
| 2. | PD - 2 1+000 | R-O 0+218 | 600 | 7.00 | 38.74 | 38.70 | 52°02'10.91" | 15°05'41.58" |
| 3. | PD - 3 0+324.4 | Ditch without a name (plot 266/2 district Krosno Odrz.) | 600 | 16.00 | 39.35 | 39.30 | 52°02'04.64" | 15°05'42.31" |
| Bypass Channel No 4 | | | | | | | | |
| 4. | 0+519.5 ÷ 0+532.5 | | 2x[2160x1620] | 12.8 | 37.94 | 37.88 | 52°02'17.97" | 15°05'46.30" |

e) **The performance of the reconstruction, rebuilding and construction of the elements or parts of structures and facilities**, as part of the conducted works, in connection with the change in their course and new conditions of the crossing with the designed route of the flood control embankments:



Embankment No I:

- in km (-) 0+017 ÷ 0+065 the reconstruction and rebuilding of the sectional reinforcements from cobblestone on the slope and in the foot inter-embankment zone of the Odra River, after the demolition for the construction of flood control devices, on plot No 1/1 and 6 Krosno Odrzańskie district,
- in km 0+000 ÷ 0+012 the construction of two routes of steps No Steps 1-2 and side walls on the slope of the Odra River Valley, on plot No 1/1 and 6 Krosno Odrzańskie district,
- in km 0+066 the construction of the routes of steps and the rebuilding of the stone wall within the length of approx. 5.0 m from stone blocks inter-embankment zone of the Odra River, on plot No 1/1 and 6 Krosno Odrzańskie district,
- in km 0+208 in the light of the liquidated route of steps, on the bottom of the section with the length of approx. 1.50 m, the construction of the ferroconcrete wall $h = 2.0$ m (anchored to the existing wall) and covering the recess after the steps with soil, on plot No 6, Krosno Odrzańskie district,
- in km 0+710.3 ÷ 0+744.1 the construction of three routes of steps No Steps I-9 ÷ I-11 and the side walls on the right slope of Bypass Channel No 1, on plot No 3/2, Krosno Odrzańskie district,

- Embankment No II:

- in km (-) 0+001 ÷ 0+008 the reinforcement of the upstream slope cone above the bridge on the Odra River with break stone on concrete, on plot No 1/1 and 150/2, Krosno Odrzańskie district,
- in km 0+004 ÷ 0+008 the construction (extension) of the existing concrete slope sewage duct, on plot No 1/1 and 150/2, Krosno Odrzańskie district,
- in km 0+010.7 the construction of the route of steps Steps No II-1 and side walls on the slope of the Odra River Valley, on plot No 1/1 and 150/2, Krosno Odrzańskie district,
- in km 0+640 ÷ 0+700 the encasement of pipeline DN315/12.1 PEHD PN10 SDR17, within the length of approx. 45.0 m of the section of the ditch without a name, on plot No 171, Krosno Odrzańskie district, and the reinforcement, at the inlet and outlet, of the bottom and slopes of the ditch with break stone immersed in concrete,

- Embankment No III:

- in km 0+000 ÷ 0+009 the superstructure to the ordinate of 44.40 ÷ 44.00 m a.s.l. of the left wing of bridge N-2 and rebuilding of the sewage duct, on plot No 3/2 and 233, Krosno Odrzańskie district,

- Embankment No IV:

- in km 0+748 the rebuilding of the drain with the inlet grating and discharge pipeline kd200 from the sewage duct along the steps, to the bed of Bypass Channel No 4, on plot No 3/2 and 233, Krosno Odrzańskie district, in the course of plot No 214, 257 and 258, Krosno Odrzańskie district,

f) the performance of the temporary facilities for conducting works in the course of the ditch beds and in Bypass Channels, i.e. Transport facilities - culverts without abutments, in the form of technological earth embankments (15 pcs.), with the following parameters:

- | | |
|------------|--|
| - Material | - steel pipes or double-wall pipes PP/PEHD |
| - diameter | - $\varnothing 600 \div \varnothing 1200$ mm |
| - length | - $L = 6.0 \div 12.0$ m |



- g) **The performance of the demolition of the temporary facilities for conducting works**, 15 pcs., after the completion of construction works, and recovering the course sections to their original use condition,
- h) **The performance of outlets from the drainage of embankments and the land side of embankment**, discharging storm water and melt water to the existing water courses from the system of drainage courses of the surface of the embankment crest and near-embankment pipe or stone drainage systems, along the downstream slope of the designed embankments, with the following parameters:

| item | Outlet No | Bypass Channel/ channel edge | Embankment km <i>Channel km</i> | Outlet diameter [mm] | Outlet bottom ordinate [m a.s.l.] | Geographical coordinates | |
|---|-----------|---------------------------------|------------------------------------|----------------------------|--|--------------------------|---------------|
| | | | | | | $\varphi = N$ | $\lambda = E$ |
| Embankment I, Bypass Channel No 1 | | | | | | | |
| 1. | W I-1 | - | 0+065.5 - | 160 | 42.26 | 52°02'56.58" | 15°05'48.49" |
| 2. | W I-1a | - | 0+121.1 - | 160 | 42.12 | 52°02'56.57" | 15°05'45.62" |
| 3. | W I-2 | - | 0+195.1 - | 160 | 41.89 | 52°02'57.03" | 15°05'41.71" |
| 4. | W I-3 | - | 0+280.3 - | 160 | 41.67 | 52°02'57.57" | 15°05'37.39" |
| 5. | W I-4 | - | 0+360.3 - | 160 | 41.70 | 52°02'58.04" | 15°05'33.54" |
| 6. | W I-5 | No 1/right | 0+542.5 0+263.5 | 160 | 42.20 | 52°02'54.82" | 15°05'35.00" |
| 7. | W I-6 | No 1/right | 0+552.6 0+278.7 | 200 | 39.80 | 52°02'54.57" | 15°05'35.37" |
| 8. | W I-7 | No 1/right | 0+624.0 0+351.3 | 200 | 39.80 | 52°02'53.59" | 15°05'38.73" |
| 9. | W I-8 | No 1/right | 0+770.0 0+460.8 | 200 | 39.60 | 52°02'50.30" | 15°05'43.11" |
| 10. | W I-9 | No 1/right | 0+851.8 0+544.4 | 160 | 42.60 | 52°02'47.58" | 15°05'42.88" |
| 11. | W I-10 | No 1/right | 0+851.8 0+544.4 | 200 | 39.70 | 52°02'47.58" | 15°05'42.88" |
| 12. | W I-11 | No 1/right | 1+031.8 0+736.6 | 160 | 42.70 | 52°02'42.28" | 15°05'46.33" |
| 13. | W I-12 | No 1/right | 1+031.8 0+736.6 | 200 | 39.70 | 52°02'42.28" | 15°05'46.33" |
| 14. | W I-13 | No 1/right | 1+083.3 0+900.5 | 160 | 42.60 | 52°02'38.03" | 15°05'50.13" |
| 15. | W I-14 | No 1/right | 1+083.3 0+900.5 | 200 | 40.20 | 52°02'38.03" | 15°05'50.13" |
| Embankment II, Bypass Channel No 1 | | | | | | | |
| 16. | W II-1 | - | 0+171.5 - | 160 | 41.81 | 52°02'55.28" | 15°05'57.28" |
| 17. | W II-2 | - | 0+132.5 | 160 | 41.75 | 52°02'54.87" | 15°06'00.20" |
| 18. | W II-3 | - | 0+179.4 - | 160 | 41.83 | 52°02'54.56" | 15°06'02.62" |
| 19. | W II-4 | - | 0+231.8 - | 160 | 42.30 | 52°02'54.20" | 15°06'05.27" |
| 20. | W II-5 | - | 0+322.6 | 160 | 42.60 | 52°02'53.12" | 15°06'09.62" |
| 21. | W II-6 | - | 0+459.9 - | 160 | 42.70 | 52°02'50.54" | 15°06'15.51" |
| 22. | W II-7 | - | 0+619.9 - | 200 | 42.55 | 52°02'48.23" | 15°06'22.14" |
| 23. | W II-8 | - | 0+788.6 | 200 | 42.50 | 52°02'46.35" | 15°06'24.12" |

| | | | | | | | |
|---|----------|------------|---|-----|-------|---------------|---------------|
| 24. | W II-9 | - | 0+843.5 - | 200 | 42.45 | 52°02'43.50" | 15°06'19.08" |
| 25. | W II-10 | No 1/right | 1+212.9 1+208.0 | 200 | 39.65 | 52°02'35.60" | 15°06'04.54" |
| 26. | W II-11 | No 1/right | 1+282.7 1+136.5 | 160 | 41.50 | 52°02'35.50" | 15°06'00.91" |
| Embankment III, Bypass Channel No 1, Bypass Channel No 2 | | | | | | | |
| 27. | W III-1 | No 1/ left | 0+043.3 1+084.7 | 160 | 42.25 | 52°02'34.97" | 15°05'57.56" |
| 28. | W III-2 | No 1/ left | 0+139.9 1+180.7 | 200 | 38.30 | 52°02'33.08" | 15°06'01.30" |
| 29. | W III-3 | No 2/right | 0+325.4 0+547.0 | 200 | 38.90 | 52°02'27.76" | 15°06'01.01" |
| 30. | W III-4 | No 2/right | 0+397.8 0+469.6 | 160 | 42.20 | 52°02'28.16" | 15°05'57.28" |
| Embankment IV, Bypass Channel No 2, Bypass Channel No 4 | | | | | | | |
| 31. | W VI-1 | No 2/ left | 0+117.5 0+360.6 | 160 | 41.75 | 52°02'29.17" | 15°05'51.33" |
| 32. | W VI-2 | No 4/right | 0+291.2 0+113.7 | 200 | 39.00 | 52°02'29.73" | 15°05'47.42" |
| 33. | W IV-3 | No 4/right | 0+655.5 0+501.8 | 200 | 39.00 | 52°02'18.88" | 15°05'47.32" |
| Embankment VI, Bypass Channel No 4 | | | | | | | |
| 34. | W VI-1 | No 4/right | 0+323.6 0+678.8 | 200 | 39.33 | 52°02'16.46" | 15°05'53.59" |
| Embankment VII | | | | | | | |
| 35. | W VII-1 | - | 0+768.0 Outlet to ditch R-O in abutment from D.W. culvert PW-1 | 160 | 39.88 | 52°02'05.40" | 15°05'33.63" |
| 36. | W VII-2 | - | 0+788.5 Outlet to ditch R-O below culvert PW- 1 | 200 | 39.95 | 52°02'05.60" | 15°05'34.68" |
| Embankment VIII | | | | | | | |
| 37. | W VIII-1 | No 4 left | 0+061.6 0+712.3 | 315 | 39.05 | 52°02' 15.69" | 15°05' 54.99" |



- i) **The performance of the rebuilding of the existing networks, crossing with the designed course of flood control embankments, including:**

- power, with the following parameters and structure:

| item | Marking on the map | Embankment km localisation | Description of the existing state Designed solutions for a crossing | Geographical coordinates | |
|---------------------------|--------------------|----------------------------|--|--------------------------|--------------|
| | | | | φ = N | λ = E |
| EMBANKMENT No II | | | | | |
| 1. | E-43 | 0+178.8 | En— LV cable perpendicularly to the footpath. Existing LV cable must be protected with a double-split water-tight pipe 0.5 bar GABOCOM KKHR110, L=10 m. Pipe ends must be sealed with AROT Novoseal MDIII | 52°02'54.59" | 15°06'02.50" |
| EMBANKMENT No III: | | | | | |
| 2. | E-64 | 0+000 + 0+004.5 | eWA — HV cable under the footpath on the embankment crest. The existing cable must be protected with double-split pipe AROT110PS blue, L=10 m | 52°02'34.86" | 15°05'55.39" |
| 3. | E-65 | 0+010.3 + 0+014.5 | eNA — LV cable under the footpath on the embankment crest The existing cable must be protected with double-split pipe AROT110PS blue, L=10 m | 52°02'34.84" | 15°05'55.92" |



| EMBANKMENT No IV | | | | | |
|--------------------|--------|----------------------|---|--------------|--------------|
| 4. | E-81a | 0+756.1 | eNA — LV cable in the pavement in Bohaterów Wojska Polskiego Street. The existing cable must be protected with double-split pipe AROT110PS blue, L=19 m | 52°02'17.67" | 15°05'51.65" |
| Embarkment No VI | | | | | |
| 5. | E-88 | 0+352.3 | eSA — MV cable in the pavement in Bohaterów Wojska Polskiego Street . The existing cable must be protected with double-split pipe AROT160PS red, L=19 m | 52°02'17.81" | 15°05'52.27" |
| EMBANKMENT No VII | | | | | |
| 6. | E-102 | 0+504.5 | eNA — LV cable in the lane in Bohaterów Wojska Polskiego Street . The existing cable must be protected with double-split pipe AROT110PS blue, L=6 m | 52°01'59.99" | 15°05'32.44" |
| EMBANKMENT No VIII | | | | | |
| 7. | E-116a | 0+000 | eSA — MV cable in the pavement in Bohaterów Wojska Polskiego Street . The existing cable must be protected with double-split pipe AROT160PS red, L=17 m | 52°02'15.14" | 15°05'51.61" |
| 8. | E-118 | 0+188.1 | eSA — MV cable in the pavement in Bohaterów Wojska Polskiego Street . The existing cable must be protected with double-split pipe AROT160PS red, L=17 m | 52°02'13.03" | 15°05'51.17" |
| EMBANKMENT No IX | | | | | |
| 9. | E-120 | 0+034.3 ÷ 0+076.8 | eNA — LV cable in the lane in Bohaterów Wojska Polskiego Street . The existing cable must be protected with double-split pipe AROT110PS blue, L=27 m | 52°02'33.89" | 15°05'54.66" |

- telecom, with the following parameters and structure:

| item | Marking on the map | Embarkment km localisation | Description of the existing state Designed solutions for a crossing | Geographical coordinates | |
|-------------------|--------------------|----------------------------|---|--------------------------|--------------|
| | | | | φ = N | λ = E |
| EMBANKMENT No I | | | | | |
| 1. | T-4 | 0+039 | In-ground telecom cable [tA]. The existing cable must be protected with a double-split pipe A110PS in the wall foot above the top part of the bentonite and cement baffle. | 52°02'56.15" | 15°05'50.14" |
| EMBANKMENT No II: | | | | | |
| 2. | T-48 | 0+273.2 | In-ground telecom cable [tA/tB]. The existing cable must be protected with a double-split pipe A110PS in the wall foot above the top part of the bentonite and cement baffle. | 52°02'53.78" | 15°06'07.27" |
| 3. | T-51 | 0+346.2 | In-ground telecom cable [tA]. The existing cable must be protected with a double-split pipe A110PS in the wall foot above the top part of the bentonite and cement baffle. | 52°02'52.71" | 15°06'10.46" |
| 4. | T-53 | 0+884.1 ÷ 0+910.6 | In-ground fibre-optic cable [t - branch from cable T-52 in km 0+884.1]. The existing cable must be protected with a double-split pipe A110PS in the foot of the upstream slope within the range of the Betomat baffle | 52°02'42.36" | 15°06'16.23" |
| 5. | T-54 | 0+907.7 ÷ 0+910.6 | In-ground fibre-optic cable [t - branch from cable T-53 in km 0+907.7] The existing cable must be protected with a double-split pipe A110PS in the foot of the upstream slope within the range of the Betomat baffle | 52°02'41.86" | 15°06'15.85" |
| EMBANKMENT No VI | | | | | |
| 6. | T-86 | 0+349.4 | In-ground telecom cables [5tm]. The existing multi-opening sewage system from concrete blocks must be protected with a ferroconcrete shell type cover with sealing | 52°02'17.79" | 15°05'52.42" |
| EMBANKMENT No VII | | | | | |
| 7. | T-107A | 0+508.7 ÷ 0+520.7 | In-ground fibre-optic telecom cable [t] The existing cable must be protected with a double-split pipe A110PS in the foot of the MSOP wall and under the drainage pipeline | 52°02'00.24" | 15°05'31.86" |
| 8. | T-107B | 0+533.7 ÷ 0+540.7 | In-ground fibre-optic telecom cable [t]. The existing cable must be protected with a double-split pipe A110PS under the entrance (MSOP gate) with DP 1145F | 52°02'00.54" | 15°05'31.16" |
| 9. | T-107C | 0+633 | In-ground fibre-optic telecom cable [t]. The existing cable must be protected with double-split pipe A110PS under the individual downward slope from embankment to DP 1145F | 52°02'02.75" | 15°05'27.09" |



| | | | | | |
|---------------------------|--------|--------------------|--|--------------|--------------|
| 10. | T-111A | 0+537.6 ÷ 0+557 | In-ground fibre-optic telecom cable [t]. The existing cable must be protected with a double-split pipe A110PS under the wall and slope of the flood embankment | 52°02'00.78" | 15°05'30.66" |
| 11. | T-111C | 0+633 | In-ground fibre-optic telecom cable [t]. The existing cable must be protected with double-split pipe A110PS under the individual downward slope from embankment to DP 1145F | 52°02'02.75" | 15°05'27.09" |
| EMBANKMENT No VIII | | | | | |
| 12. | T-117a | 0+000 ÷ 0+003 | In-ground telecom cable [t]. The existing cable must be protected with a double-split pipe A110PS under the individual downward slope from embankment to DK No 29 | 52°02'15.05" | 15°05'51.80" |
| EMBANKMENT No IX | | | | | |
| 13. | T-119 | 0+025 ÷ 0+037 | In-ground telecom cable [t]. The existing cable must be protected with a double-split pipe A110PS under the individual downward slope from embankment to DK No 29 | 52°02'33.89" | 15°05'54.66" |

gas, with the following parameters and structure:

| item | Marking on the map | Embankment km localisation | Description of the existing state Designed solutions for a crossing | Geographical coordinates | |
|----------------------------|--------------------|----------------------------|--|--------------------------|--------------|
| | | | | φ = N | λ = E |
| EMBANKMENT No I | | | | | |
| 1. | G-6 | 0+060.5 | g225+t — under the pavement and the designed wall | 52°02'56.48" | 15°05'48.73" |
| EMBANKMENT No II | | | | | |
| 2. | G-63 | 1+377.5 | g225+t — under the designed wall - perpendicularly | 52°02'36.81" | 15°05'56.04" |
| EMBANKMENT No III: | | | | | |
| 3. | G-66 | 0+008.0 | g225+t — under the designed pavement - perpendicularly | 52°02'34.92" | 15°05'55.70" |
| EMBANKMENT No IV | | | | | |
| 4. | G-71 | 0+003.1 | g225+t — under the designed wall - perpendicularly | 52°02'25.78" | 15°05'52.84" |
| BYPASS CHANNEL No 2 | | | | | |
| 5. | G-71a | 0+397.0 | g225+t — under the designed wall and in the channel bottom | 52°02'28.34" | 15°05'53.22" |
| EMBANKMENT No VI | | | | | |
| 6. | G-87 | 0+351.3 | g225+t — in the pavement of DK No 29 | 52°02'17.84" | 15°05'52.34" |
| EMBANKMENT No VII | | | | | |
| 7. | G-106 | 0+518.08 | g225+t — in the pavement of DP No 1145F | 52°02'00.24" | 15°05'31.86" |
| EMBANKMENT No VIII | | | | | |
| 8. | G-117 | 0+005 | g225+t — under the downward slope from embankment to DK No 29 | 52°02'15.08" | 15°05'51.99" |

- Water supply and sewage system, with the following parameters and structure:

| item | Marking on the map | Embankment km localisation | Description of the existing state Designed solutions for a crossing | | Geographical coordinates | |
|--------------------------|--------------------|----------------------------|--|--|--------------------------|--------------|
| | | | Water supply network | Sewage network | φ = N | λ = E |
| EMBANKMENT No I | | | | | | |
| 1. | K-3 | (-) 14.89 | | kd 500 The installation of the ventilation flap | 52°02'55.79" | 15°05'52.47" |
| 2. | W-7 | 0+62.3 | woA80 Protective pipe | | 52°02'56.50" | 15°05'48.58" |
| 3. | K-10a | 0+128 ÷ 0+340.5 | | ks315, ks 250 Raising the manholes of the existing well | 52°02'57.35" | 15°05'37.56" |
| 4. | W-23 | 0+544.6 | woA100 Extend the installation of the ventilation flap with 14.5 m in the protective flap | | 52°02'54.85" | 15°05'35.13" |
| 5. | K-29 | 0+662.9 | | k200 Extend by L=2.0m the installation of the anti-backwater flap | 52°02'52.90" | 15°05'40.46" |
| 6. | K-39 | 1+060.0 | | ks450 Extend by L=13.8m the installation of the anti-backwater flap | 52°02'41.64" | 15°05'47.32" |
| 7. | K-40 | 1+270.7 | | ks63 tl Protective pipe | 52°02'36.69" | 15°05'54.20" |
| EMBANKMENT No II: | | | | | | |
| 8. | W-41 | 1+377.5 | woA100 Protective pipe | | 52°02'55.16" | 15°05'58.20" |

| | | | | | | |
|--------------------------|-------|--|--|---|----------------------------------|------------------------------|
| 9. | K-42 | 0+115.2 | | ks 500 Protective pipe The installation of the anti-backwater flap | 52°02'54.96" | 15°05'59.18" |
| 10. | W-44 | 0+179.9 | | wo32 Protective pipe | 52°02'54.63" | 15°06'02.55" |
| 11. | K-45 | 0+191.2 | | k225 Protective pipe | 52°02'54.52" | 15°06'03.25" |
| 12. | K-49 | 0+326.4 | | ks 300 to be relocated in the protective pipe, the installation of the anti-backwater flap | 52°02'52.79" | 15°06'10.26" |
| 13. | K-50 | 0+326.7 | | kd 250 to be relocated together with K-49 | | |
| 14. | K-56 | 1+256.3 | | kd 200 extend by L=18.0 m the protective pipe the installation of the anti- backwater flap | 52°02'36.46" | 15°06'02.50" |
| 15. | W-57 | 1+272.5 | woB100 Protective pipe The installation of the anti-backwater flap | | 52°02'36.62" | 15°06'01.51" |
| 16. | W-58 | 1+273.4 | woB100 protective pipe the installation of the anti-backwater flap | | 52°02'36.63" | 15°06'01.55" |
| 17. | K-59 | 1+298.8 | | ks 100 t protective pipe the installation of the anti-backwater flap | 52°02'36.74" | 15°06'00.16" |
| 18. | W-60 | 1+311.9 | woB100 protective pipe the installation of the anti-backwater flap | | 52°02'36.80" | 15°05'59.47" |
| 19. | K-61 | 1+317.7 | | ks 500! repair of the outlet of the anti- backwater flap | 52°02'36.83" | 15°05'59.30" |
| 20. | W-50a | 0+913 | wA32 Protective pipe | | 52°02'42.64" | 15°06'14.86" |
| EMBANKMENT No III | | | | | | |
| 21. | K-67 | 0+082.6 | | ks 100 t protective pipe lead a new route | 52°02'34.48" | 15°05'58.88" |
| 22. | W-68 | 0+310.4 | wo350 protective pipe | | 52°02'27.61" | 15°06'01.12" |
| 23. | W-68a | on the inflow ditch to channel No 2 | wo350 protective pipe lower under the ditch bottom | | 52°02'26.55" | 15°06'01.05" |
| EMBANKMENT No IV | | | | | | |
| 24. | K-74 | 0+050.7 | | ks 100 protective pipe the installation of the anti-backwater flap | 52°02'27.13" | 15°05'51.90" |
| 25. | K-77 | 0+171.6 ÷ 0+189.8 | | ks 100 t Protective pipe | 52°02'30.46" | 15°05'51.63" |
| 26. | K-77a | 0+306.2 Bypass Channel No 2 | | kd 200 Extend by L=2.0 m the installation of the anti-backwater flap | 52°02'30.65" | 15°05'53.16" |
| 27. | K-80 | 0+694.1 | | ks 315 Protective pipe | 52°02'18.03" | 15°05'48.03" |
| 28. | K-80a | 0+683.4 ÷ 0+694.4 | | ks 90 t Protective pipe to be relocated | p.52°02'17.86" k.52°02'15.00" | 15°05'47.09" 15°05'45.89" |



| | | | | | | |
|--------------------------|----------------|---|---|---|----------------------------------|------------------------------|
| 29. | K-80b K-114 | 0+683.4 + 0+694.4 EMBANKMENT VII: km 1+152.9 ÷ 1+196.7 | | ks 90 tt Protective pipe to be relocated | p.52°02'17.86" k.52°02'15.00" | 15°05'47.09" 15°05'44.73" |
| 30. | W-81b | 0+756.6 | woA300 Protective pipe | | 52°02'17.80" | 15°05'51.62" |
| EMBANKMENT No V | | | | | | |
| 31. | K-82 | 0+095.9 | | ks315 Protective pipe | 52°02'26.38" | 15°05'55.39" |
| EMBANKMENT No VI | | | | | | |
| 32. | K-83 | 0+031.2 | | ks315 protective pipe existing manhole sealing the | 52°02'25.35" | 15°05'55.16" |
| EMBANKMENT No VII | | | | | | |
| 33. | K-91 | 0+073.8 | | kd 200 Extend by L=4.4 m the installation of the anti-backwater flap | 52°02'09.53" | 15°05'47.96" |
| 34. | K-92 | 0+124.0 | | kd 160 PCV Extend by L=2.1 m the installation of the anti-backwater flap | 52°02'08.96" | 15°05'47.42" |
| 35. | K-93 | 0+177.8 | | kd 200 PCV Extend by L=1.6 m the installation of the anti-backwater flap | 52°02'06.72" | 15°05'44.95" |
| 36. | K-94 | 0+248.0 | | kd 200 Extend by L=1.85 m The installation of the ventilation flap | 52°02'04.92" | 15°05'42.44" |
| 37. | K-95 | 0+295.7 | | kd 200 bet. Extend by L=3.0 m the installation of the anti-backwater flap | 52°02'03.78" | 15°05'40.67" |
| 38. | K-96 | 0+341.2 | | kd 200 bet. Extend by L=3.4 m the installation of the anti-backwater flap | 52°02'02.85" | 15°05'38.95" |
| 39. | K-97 | 0+392.4 | | kd 250 bet. Extend by L=0.6 m the installation of the anti-backwater flap | 52°02'01.79" | 15°05'36.79" |
| 40. | K-98 | 0+439.6 | | kd 250 bet. Extend by L=2.0 m the installation of the anti-backwater flap | 52°02'00.78" | 15°05'34.98" |
| 41. | K-99 | 0+488.7 | | kd 200 PCV Extend by L=1.4 m the installation of the anti-backwater flap | 52°01'59.84" | 15°05'33.03" |
| 42. | K-100 | 0+494.7 | | ks 315 Protective pipe | 52°01'59.83" | 15°05'32.80" |
| 43. | W-101 | 0+498.5 | woA100 Protective pipe | | 52°01'59.83" | 15°05'32.57" |
| 44. | W-103 | 0+505.1 | woA300 Protective pipe | | 52°02'00.00" | 15°05'32.34" |
| 45. | W-109 | 0+532.17 | wo32 Protective pipe to be relocated | | 52°02'00.49" | 15°05'31.36" |
| 46. | W-110 | 0+538.23 | | ks 200 Protective pipe | 52°02'00.57" | 15°05'31.22" |
| 47. | W-112 | 0+560.4 | | kd 160 PCV Extend by L=1.5 m | 52°02'00.92" | 15°05'30.29" |
| 48. | W-112a | 0+621.3 | | kd 160 PCV Extend by L=2.2 m | 52°02'02.20" | 15°05'27.84" |
| 49. | W-112b | On the left side of The designed downward slope to the embankment from DK 1145F | | kd 160 PCV Extend by L=2.0 m | 52°02'02.96" | 15°05'26.89" |





| Embankment No VIII | | | | | | |
|--------------------|--------|--|---------------------------|--|--------------|--------------|
| 50. | W-116 | 0+000 | woA100 Protective pipe | | 52°02'15.00" | 15°05'51.61" |
| 51. | W-116a | Channel No 4 km 0+765.2 | wo300 Protective pipe | | 52°02'15.35" | 15°05'57.80" |
| 52. | W-116b | ditch without a name km 0+075.2 | wo300 Protective pipe | | 52°02'13.27" | 15°05'55.12" |

II. I hereby issue to the **Marshal of Lubuskie Voivodeship** based in Zielona Góra (ul. Podgórna 7), a water law permit for the erection of structures and the performance of works and activities on the area with a particular flood risk, i.e. within the reach of reservoir $Q_{10\%}$ (10-year water) and $Q_{1\%}$ (100-year water) of the Odra River and the Bób River, in connection with the flood protection of terrains located in the Odra River Valley, as part of the project "Flood protection of Krosno Odrzańskie City" in Lubuskie Voivodeship, Krośnieński powiat, Krosno Odrzańskie Commune and Dąbie Commune, districts: Krosno Odrzańskie, Stary Raduszec and Połupin, in the following scope:
The performance of flood control embankments together with functionally related structures.

III. I hereby issue the water law permit within the scope specified in section I and II of this decision under the following conditions:

1. Conducting works at low water levels - in the period of the lowest flood hazard.
2. Securing, within one's own scope, the building site in the event of the occurrence of a flood hazard.
3. Maintaining a proper technical order of the performed hydraulic devices.
4. Removing all the damage which may occur during the performance of works.
5. Ordering the site under temporary occupation for the purposes of implementing the project, within 14 days upon the completion of works.

IV. This decision shall be enforced immediately.

SUBSTANTIATION

The proceedings was instituted upon the application of 05.04.2017 submitted by the Marshal of Lubuskie Voivodeship with its seat in Zielona Góra, ul. Podgórna 7 (sent by means of the decision of the President of the National Water Management Board of 26.04.2017, sign: BAP-po.026.102.2017.MŁ) for issuing a water law permit for:

- 1) The performance of hydraulic devices, i.e.:
 - The demolition (liquidation) of the existing hydraulic devices,
The new flood control embankments of the Odra River in km 513.5 ÷ 514.7 (the total length of 5 926.3 m) with related devices,
 - The reconstruction, development and construction of the Bypass Channels with the total length of 2 536.0 m,
- 2) The performance of works and activities on the area of a particular flood risk on the Odra River and on the Bóbr River,
in connection with the implementation of the project "Flood protection of Krosno Odrzańskie City" in Lubuskie Voivodeship, Krośnieński powiat, Krosno Odrzańskie Commune and Dąbie Commune, districts: Krosno Odrzańskie, Stary Raduszec and Połupin.
Attached:



1. Water law study "Flood protection of Krosno Odrzańskie City" prepared by Przedsiębiorstwo Projektowo — Wykonawcze Inżynierii Wodnej INWOD Spółka z o.o. with its seat in Wrocław, H. Balzaka 42A, in March 2017 (Volume I-XVI).
2. The description of conducting the intended activity is prepared in a non-technical language.
3. The notarial duplicate of the final decision issued by the Regional Director of the Environmental Protection in Gorzów Wlkp. of 27.02.2017 (sign: WZŚ.4233.1.2016.AN) determining the environmental conditions for the project "Flood protection of Krosno Odrzańskie".
4. The notarial duplicate of the final decision issued by the Regional Director of the Water Management Board in Wrocław No 450/ZU/2016 of 20.12.2016 (sign: ZU/7101/518/3/2016), releasing from the prohibition of performing works and from the prohibition of locating flood control embankments and functionally related facilities on the area with a particular flood hazard, for which the binding prohibitions outlined in Article 88 I par. 1.1 and Article 40.1.3 of the act *Water Law*.
5. The notarial duplicate of the final decision issued by the Lubuskie Voivodeship Conservator of Historical Sites of 09.03.2017 (sign: ZA.5161.40.2017).
6. The excerpt of the list of registered plots.
7. Power of Attorney.

The following is established based on the documentation attached to the application:

1. The Project consisting in the construction of the left bank flood protection from the side of the Odra River of Krosno Odrzańskie City will be implemented in Lubuskie Voivodeship, Krośniński Powiat, Krosno Odrzańskie Commune and Dąbie Commune, districts: Krosno Odrzańskie, Stary Raduszec and Połupin.
The total length of the constructed and constructed as superstructure (9 pieces) sections of the embankment is 5926.3 m. These are totally new structures, running only in some sections along the route of minor bank elevations which will be extended and constructed as superstructure to the required technical parameters of class II embankments.
The area of the city terrain protected against flood waters $p = 1\%$ is approx. 41.15 ha, in total in agreement with the concept approx. 65 ha.
2. The investment will be implemented partially in two Natura 2000 sites, i.e. in the Krośnińska Odra Valley PLH080028 and in the Middle Odra Valley PLB080004. In accordance with the decision issued by the Regional Director of the Environmental Protection in Gorzów Wlkp. of 27.02.2017 (sign: WZŚ.4233.1.2016.AN), establishing the environmental conditions for the permit for the implementation of the project, planned investment, with introducing minimising activities, does not demonstrate any significantly negative impact on the objectives of the protection of the above mentioned Natura 2000 Sites. The anticipated scope of works, i.e. the construction of embankments in the vicinity of development and deepening the water channels will not affect adversely the integrity of the said Natura 2000 sites and the coherence of Natura 2000 network. the hitherto function of the wildlife corridor in the Odra River Valley will not be changed, and the terrain of flooding with natural fluvial processes which are essential for the natural resources of the above mentioned Natura 2000 Sites will not be reduced.
3. In accordance with the classification of the main hydraulic structures contained in the Regulation of the Minister of Environment of 20 April 2007 *on the technical conditions which should be satisfied by hydraulic structures and their localisation* (Journal of Laws of 2007, No 86, item 579) – the parameters of the designed flood control embankments are accepted for:
 - II class hydraulic structures, with the protected area with F area between 150 km² and 300 km².
The significance class is raised due to



the embankments of the Odra River (not lower than II class of significance) and due to raising the structure class by one degree for the reason that the destruction may threaten residential areas,

- Calculated flows for II class of significance:
 - Indicative flow WWQ_{1%} = 2 492 m³/s
 - Indicative flow WWQ_{0.3%} = 2 786 m³/s
 - The minimum reserve of the crest elevation of the permanent hydraulic structures in accordance with Appendix No 6 of the aforementioned Regulation should amount to:
 - For earth flood control embankments: 1.00 m above the water table for the indicative flow 0.10 m above the water table for the controlled flow
 - For flood control concrete structures (walls and embankments): 0.70 m above the water table for the indicative flow 0.10 m above the water table for the controlled flow
 - The top sealing edge should not be lower than the water level with Q_k.
4. The planned investment, pursuant to § 3.1.65 of the Regulation of the Council of Ministers of 9 November 2010 *on investments likely to exert the significant impact on environment* (Journal of Laws of 2016, item 71) - is classified as projects with likely significant impact on the environment for the implementation of which it is necessary to obtain a decision on the environmental conditions, pursuant to Article 71.2.2 of the Act of 3 October 2008 *on the provision of information on the environment and its protection, participation of the society in the environmental protection and assessment of impact on the environment* (Journal of Laws of 2017, item 1405).
- For the needs of implementing the said project, the Regional Director of the Environmental Protection in Gorzów Wielkopolski, by means of decision of 27.02.2017 (sign: WZŚ.4233.1.2016.AN), established the environmental conditions of the permit for project implementation.
5. Project: "Flood protection of Krosno Odrzańskie City" is implemented under the Act of 8 July 2010 *on the particular rules of preparing for the project implementation within the flood structures* (Journal of Laws of 2017, item 1377).
6. On the basis of the flood hazard maps, referred to in Article 88d.2 of the *Water Law*, it is determined that the works as part of the implementation of the project consisting in the left bank flood protection, from the side of the Odra River, Krosno Odrzańskie City, will be conducted on the area of a particular flood hazard posed by the Odra River and by the Bóbr River, within the meaning of Article 9.1 item 6c letters (a) and (b) of the *Water Law Act*, i.e. within the flooding of water Q_{10%} (10-year water) and water Q_{1%} (100-year water).

Since the areas with a particular flood hazard are subject to the special legal protection by means of prohibitions, including but not limited to:

- The prohibition of performing works and activities hindering flood protection or increasing a flood hazard, including the performance of hydraulic devices and the construction of other structures (Article 88I.1.1 of the Act),
- The prohibition of locating new investments with likely significant impact on environment (Article 40.1.3 of the Act),

For the needs of implementing the said project, by means of decision No 450/ZU/2016 of 20.12.2016, the Director of the Regional Water Management Board in Wrocław released the Applicant from the above mentioned prohibitions, under Article 88I.2 and Article 40.3 of the *Water Law Act*.



For the needs of obtaining the water law permit applied for, formal and legal requirements, outlined in the provisions of the valid Act, were satisfied, that is in Article 131.2 of the *Water Law Act*, and the documentation constituting the technical basis of the permit applied for, meets the requirements of Article 132.1, 1a, 2 and 3 of the *Water Law Act*.

The water law permit, referred to herein, does not infringe the provisions of Article 125 of the *Water Law Act*, including but not limited to:

1. The arrangements of the “The plan of water management on the area of the Odra River basin” prepared by the President of the National Water Management Board and published in Journal of Laws of 2016, item 1967.

The area of the investment located within the boundaries of two uniform part of surface waters (JCWP):

- “*the Old Odra River*” with the code RW6000231598, which are qualified as the natural uniform parts of waters with a poor water condition, and the achievement of environmental targets is for this part of water is not threatened.
- “*the Old River from Czarna Struga to Nysa Łużycka*” with the code RW6000211739, which are qualified as the monitored and strongly changed uniform parts of waters with a poor water condition, and the achievement of environmental targets is for this part of water is threatened.

In addition, the planned investment will take place within the uniform part of underground waters (JCWPd): GW600068 No 68, whose quantitative and chemical state was assessed as good, and the achievement of environmental targets is not threatened.

2. The arrangements arising from the conditions of using the waters of the water region of the Middle Odra River prepared by the Director of the Regional Water Management Board and approved of by means of Regulation No 9/2016 of 14 July 2016 (Journal of Laws of Lower Silesia Voivodeship of 20 July 2016, item 3675).

The region in which the project is implemented consisting in the performance of hydraulic devices, whose task will be the protection of Krosno Odrzańskie city against flooding by the Odra River and by the Bóbr River, comprises the balance catchment area of Przyodrze – SO11.

The planned investment comprises two activities which are likely to affect the ecosystems of the river and habitats directly dependant on water – the construction and modernisation of flood embankments and deepening bypass channels.

As part of the investment, no works are planned directly in the bed of the Odra River. The embankment does not change the natural dynamic of flows, does not affect or affects insignificantly on the formation of the riverbed morphometrics. It affects positively water quality to a small extent because it reduces the inflow of the area pollution to the river.

The designed hydraulic devices will not deteriorate the current condition of surface or underground waters.

3. The arrangements of the “Flood Risk Management Plan for the area of the Odra River Basin” prepared by the President of the National Water Management Board and published in Journal of Laws of 2016, item 1938.

The Odra River and the Bóbr River were indicated in the preliminary flood risk assessment (WORP) as areas exposed to a flood hazard and for these areas (catchment areas) flood hazard maps (MZP) were prepared as well as flood risk maps (MRP). The flood hazard was modelled for both catchment areas of the rivers.



For the area of the planned investment, the sheets of flood hazard maps are available and flood risk maps with the range of flooding of the Odra River and the Bóbr River with the flood occurrence likelihood for $Q_{1\%}$ (once per 100 years), for $Q_{10\%}$ (once per 10 years) and for $Q_{0.2\%}$ (once per 500 years), with the following indices: N-33-139-C-c-2, N-33-139-C-c-4.

In the draft Flood Risk Management Plan (PZRP), the area of the planned investment in Krosno Odrzańskie Commune is located on the problematic area - Krosno Odrzańskie Hotspot (HS).

HOT-SPOT - a problematic area with the highest flood risk identified based on the flood risk distribution analysis and the knowledge of the catchment planning teams for which the necessity of applying technical and non-technical activities was determined.

The identification card of Krosno Odrzańskie HS includes the planned investment “The concept of the flood protection of Krosno Odrzańskie, Raduszec and Osiecznica. The study is included in the I planning cycle of the multi-variant concept of protecting the problematic area together with the performance of design documentation for the recommended variant”.

For particular flood hazard areas it is forbidden to perform works and activities hindering flood protection or increasing a flood hazard. These prohibitions arise directly from Article 88I.1 of the Water Law Act.

The Director of the Regional Water Management Board (RZGW) may, by means of a decision, release from binding prohibitions, specifying conditions necessary for flood protection, provided that it does not hinder the management of a flood risk.

For the needs of implementing the said project, by means of decision No 450/ZU/2016 of 20.12.2016, the Director of the Regional Water Management Board in Wrocław released the Applicant from the above mentioned prohibitions, under Article 88I.2 and Article 40.3 of the *Water Law Act*.

4. The arrangements of the decision issued by the Regional Director of the Environmental Protection in Gorzów Wlkp. of 27.02.2017 (sign: WZŚ.4233.1.2016.AN), establishing the environmental conditions for the project implementation permit.

Therefore, the local Body notified the interested parties (under Article 49 and 61 § 4 *APC*) of instituting the proceedings for issuing a water law permit concerning the said case.

According to the notice, the parties had an opportunity to familiarise with the documentation attached to the application and submit possible motions or reservations concerning the case.

As per Article 127.6 and 127.7a of the *Water Law Act*, the information and the announcement about instituting the proceedings was published through:

- 1) Information (for 14 days) on the website of the Public Information Bulletin: *bip.umwd.dolnyslask.pl* and on notice boards in the seats of:
 - The Marshal Office of Lower Silesia Voivodeship in Wrocław – the Water Management Department (Wybrzeże J. Słowackiego 12-14),
The Marshal Office of Lubuskie Voivodeship (Zielona Góra, ul. Podgórna 7),
 - Dąbie Commune Office (Dąbie, ul. Szeroka 4),
- 2) Announcement (for the period of 14 days) on the notice board in:
 - City Hall in Krosno Odrzańskie (Krosno Odrzańskie, ul. Parkowa 1)
 - Stary Raduszec Village Representation (Krosno Odrzańskie Commune),
 - Połupin Village Representation (Dąbie Commune).

In the determined timeframe (14 days), the reservations to the proceedings conducted were filed by Krośnińskie Przedsiębiorstwo Wodociągowe — Kanalizacyjne Sp. z o.o.



KPWK Sp. z o.o. Applied for the effective protection of the strategic pipeline of the water supply mains \varnothing 350 mm for approx. 70% citizens of Krosno Odrzańskie Commune in a proper manner, locating it on the downstream “dry” side and not as currently presented on the upstream “wet” side.

Thus, in the letter of 21.06.2017, the applicant (by agency of its attorney) was called for presenting its standpoint in writing concerning the provision contained in the above mentioned letter.

In the letter of 06.07.2017, the Applicant’s attorney responded to the reservation by attaching a legal opinion.

The Applicant’s attorney informed that in the opinion of the project’s authors, in the technical justification for the solutions accepted on the side of Połupin polder, the route of the designed embankments was led:

- In the manner the least interfering with the polder,
- Guaranteeing the safety of embankments,
- On a load-bearing subsoil,
- As well as, due to the parameters of embankments — in particular, their height – the route was led along the peripheries of the developed area, i.e. as far as possible, along the highest terrain.

Whereas, moving the embankments away towards the polder would entail the performance of, among other things:

- Extending all the outlets of the bypass channel towards the polder - the construction of new beds,
- Joining all the cut-off plots between the embankment and the elevated developed terrain,
- Performing additional drainage devices in the belt of the terrain depression, where - during floods and backwaters, excessive filtration would take place through the body and substratum, a few times larger than with the solutions currently applied,
Eliminating the negative filtration effects (inundations) would entail the installation of a pump chamber in the protected valley on the land side.

Considering the above technical issues, it is far more advantageous when the route of the embankments runs according to the design made, which is also supported by the following environmental aspects:

- The immediate vicinity of Natura 2000 Sites which we do not interfere with currently to any significant extent,
- A positive environmental decision was issued for the designed range of embankments,
- The construction of a new water supply system mains would require obtaining a separate environmental decision for this project.

Furthermore, the design of embankments does not change and does not deteriorate the existing work conditions and the settlement of the water supply mains \varnothing 350 mm, because the embankments are located in a safe distance from the pipeline, and the designed investment does not change the level of flood waters and the frequency of their occurrence.

As the supplementation to the above technical aspects, a legal opinion was attached which indicates that there are no legal grounds for considering the demands submitted by Krośnieńskie Przedsiębiorstwo Wodociągowo-Kanalizacyjne Sp. z o.o. Considering the protection of the said water supply system \varnothing 350 mm, consisting in transferring the designed embankments of Krosno Odrzańskie City from the upstream side to the downstream side.

The other parties to the proceedings did not file any motions or reservations to the case.

Thus, the local Body, upon obtaining the clarifications and standpoints from the parties and upon examining the material collected considering the said proceedings, decided that



there are no impediments for issuing the applied permit within the scope and under conditions stipulated in this decision.

The decision is issued pursuant to the formal and substantive provisions of law cited in the legal basis, in the reading binding as of the date of submitting the application, specifying the detailed conditions of the permit, in order to ensure the proper performance and maintenance of a hydraulic device and secure the legitimate interests of the parties.

In conformity with the application of 14.06.2017, this decision is enforced immediately due to the protection of human health or life, as well as due to the protection of the national property against heavy losses.

The objective of the task is to improve the anti-flood protection on the Odra River, including enhancing the capacity of the river valley for flood waters in the region of Krosno Odrzańskie City and fostering the flood safety on the areas adjacent to the river. The current anti-flood protection system of the terrain situated on the leftbank part of the Odra River Valley between km 513.5 and km 514.7 of the river, is not sufficient in relation to the necessary degree of the protection of residential terrains, historical sites and the cultural property, as well as industrial areas, public roads and technical infrastructure devices of Krosno Odrzańskie City. On the basis of flood hazard maps and flood risk maps it is confirmed that there is an enormous flood hazard and risk on this area. The Odra River and the Bóbr River were indicated in the preliminary flood risk assessment (WORP) as areas exposed to a flood hazard and for these areas (catchment areas) flood hazard maps (MZZP) were prepared as well as flood risk maps (MRP). The flood hazard was modelled for both catchment areas of the rivers. The range of the Odra River backwater model reaches the estuary section of the Bóbr River. The securing of the property and life of people settling the protected places for generations as part of the planned investment is absolutely necessary. The securing of the property against frequent losses is the important social interest. It is important for the citizens of Krosno Odrzańskie, farmers and other owners of the agricultural terrains of the entire Krosno Odrzańskie Commune. Therefore, assigning the decision with the rigour of immediate enforceability is indispensable due to the protection of human life and property, as well as for securing the national property against heavy losses, i.a. through the protection of the material goods of the technical infrastructure, such as: houses, historical value structures, roads, bridges, power appliances, etc. Considering the above justifications, the local body decided that there are prerequisites under Article 108 par. 1 of the Administrative Proceedings Code and on account of the protection of human health and life, as well as for securing the national property against heavy losses, it assigned the decision with the rigour of immediate enforceability.

Prior to the issuing of this decision, as per Article 10 of the Administrative Proceedings Code, the body notified the parties of collecting the satisfactory evidence in order to close the proceedings and decide on the case. At the same time, it informed on the possibility of familiarising with the materials of the case and taking a standpoint concerning the evidence gathered.

Neither party familiarised with the files of the case within the time set (14 days).

The competence of the body for issuing water law permits required for the said project was established under Article 140.2.5c of the *Water Law Act*, according to which the Marshal of the Voivodeship issues all the water law permits referred to in Article 122 of the Act, required for the project, if it is a body competent for issuing at least one of such permits.

On account of including hydraulic devices into the project, whose task is to protect Krosno Odrzańskie against flooding by the Odra River and by the Bóbr River, and considering the related competences of the Marshal of the Voivodeship to issue water law permits

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for the performance of flood control structures (pursuant to Article 140.2.2, in connection with Article 9.1.19(a) — it is decided as in the conclusion.



SILESIA

INSTRUCTIONS

1. The parties may appeal against this decision to the President of the National Water

Management Board in Warsaw by agency of the Marshal of Lower Silesia Voivodeship, **within 14 days** of its service – Article 4.3 of the *Water Law Act*.

2. The water law permit does not grant any rights to the real estate and hydraulic devices necessary for its implementation and it does not infringe any ownership rights or authorisations of any third parties vested towards such real estates and devices – Article 123.2 of the *Water Law Act*.
3. The water law permit expires if a plant fails to commence the performance of hydraulic devices within 3 years of the date on which the water law permit for the performance of such devices became final – Article 135.3 of the *Water Law Act*.
5. This decision does not constitute a construction permit within the meaning of the provisions of the Act of 7 July 1994 of the *Building Law* (Journal of Laws of 2017, item 1332).

Annotation concerning a stamp duty:

Pursuant to Article 7.3 of the Act of 16 November 2006 *on stamp duty* (Journal of Laws of 2016, item 1827, as amended), the water law permit issued by means of this decision was not charged with a stamp duty.

z up. MARSZĄKA
Województwa Lubuskiego
Anna P. Kozłowska
Prezesa Zarządu Głównego Zarządu Melioracji i Urządzeń Wodnych

Copies to:

- 1 Lila Mikłaszewicz — the attorney of the Applicant 52—437 Wrocław, ul. Balzaka 42a
/+ 1 copy of the water law study/
2. Lubuskie Land Melioration and Water Units Board in Zielona Góra, 65-514

3. Marshal of Lubuskie Voivodeship 65-057 Zielona Góra, ul. Podgórna 7
4. The Director of the Regional Water Management Board in Wrocław, 50-950 Wrocław, ul. C.K. Norwida 34
5. The Starost of Krośnieński Powiat
66-600 Krosno Odrzańskie, ul. Piastów 10B
6. Krosno Odrzańskie Commune - Mayor of Krosno Odrzańskie City, 66-600 Krosno Odrzańskie, ul. Parkowa 1
7. Dąbie Commune - Head of Dąbie Commune 66-615 Dąbie, ul. Szeroka 4
8. Krośnieńskie Przedsiębiorstwo Wodociągowo - Kanalizacyjne Sp. z o.o. 66-600 Krosno Odrzańskie, ul. Wiejska 23
9. Jan Majeryk
10. Krystyna Majeryk



11. Polish Fishing Association - District in Zielona Góra, 65-301 Zielona Góra,
ul. Bartosza Głowackiego 1
12. The other parties to the proceedings are notified through the announcement — Article 49 *APC*
(pursuant to Article 127.7a of the Act of 18 July 2001 *Water Law* — (Journal of Laws of 2017, item 1121).
13. DOW-W-I. — aa.
/+ 1 copy of the water law study/

Attn:

1. Lubuskie Voivodeship Conservator of Historical Sites The
Voivodeship Office of Historical Monuments Protection
65-063 Zielona Góra, ul. Kopernika 1
2. Regional Water Management Board in Wrocław, Water Cadastre Department
50-950 Wrocław, ul. C.K. Norwida 34
/legal basis: Article 155.1 of the Water Law Act/

The case is held by: Kamila Tulińska-Bober, ph. 71 770 44 07