

# Legislative opportunities and barriers in stormwater management in urban areas in Poland

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**Abstract:** At present, stormwater management is one of the key issues in urban policy. This is due to the increasing urbanisation, climate change, the growing threat of extreme (weather) events and the need to protect water resources. Legislation plays an essential role in the process of project planning and implementation. The recognition of opportunities and barriers contained in these regulations forms the basis for action by the central government, local authorities and investors. The article aims to analyse legal provisions, administrative decisions and factual circumstances that provide the foundation of administrative court rulings in Poland and regard the legal possibilities of rainwater management in urban areas. The adopted research method allows for/includes the author's interpretation and formulation of *de lege ferenda* conclusions. The results of analyses of both European and national legislation and case law indicate that there is a problem with the interpretation of existing legislation and the lack of legal definitions of basic equipment and solutions in the field of water law, for instance. Such legal circumstances make it difficult to make the required legal decisions, and have a negative impact on the timing of implementation and number of these much-needed projects.

**Keywords:** building permit, dry wells, rain gardens, stormwater, stormwater management, urban area, water permit

## INTRODUCTION

Stormwater management is a very important component of cities' long-term development programmes concerning the modernisation and expansion of sewerage infrastructure and measures enhancing cities' resilience to climate change [PETIT-BOIX *et al.* 2017; ROSENBERGER *et al.* 2021]. The cities, which are home to around 22.8 mln people in Poland [GUS 2021] are the areas in which the adverse events in the form of constantly increasing impervious surfaces result in less and less rainwater seeping into the ground. In this situation, a combined sewer system and open or closed drainage systems play a crucial role in collecting stormwater runoff, that on the one hand, means the obligation to pay for water services, on the other hand, it significantly affects receivers, and in the long term increases the frequency of slight overflows or even floods. It is therefore important to implement systems that infiltrate onsite water from rain and snowmelt or retain it and then use it for intended economic purposes [BOGACZ

*et al.* 2013; BURSZTA-ADAMIAK 2012a; 2012b; BURSZTA-ADAMIAK *et al.* 2014; CZERNIAKOWSKI, GARGALA-POLAR 2020; HERING *et al.* 2010; XU *et al.* 2022]. Such an approach is in line with the objectives of sustainable development [UN 2014; UN GENERAL ASSEMBLY 2015], as well as the assumptions of global strategies, e.g., LID (Low Impact Development) from the United States [DARNTHAMRONGKUL, MOZINGO 2021], i.e., water sensitive urban design from Australia [BACH *et al.* 2015], landscape-based stormwater management from Denmark, decentralized stormwater management from Germany, alternative techniques from France [GAO *et al.* 2018], low-impact development or SCP (Sponge City Program) from China and SUDS (Sustainable Urban Drainage Systems) from the United Kingdom [DHAKAL, CHEVALIER 2017; LI *et al.* 2020; QIAO *et al.* 2019]. The assumptions of these strategies are increasingly often introduced also in the strategies and programmes implemented by Polish cities. Onsite stormwater management reduces the effects of droughts and the increasing scarcity of water, the number of pollutants entering the

water, flood risks and groundwater maintenance. Household retention tanks, drainage wells and rain gardens are among the most simple and commonly implemented solutions for onsite stormwater management on private properties, unlike conventional stormwater management which is most often based on grey infrastructure such as curbs, gutters, and pipes to collect and convey stormwater to wastewater treatment plants [QIAO *et al.* 2019].

The use of sustainable stormwater management systems requires many factors to be taken into account. Apart from location, technological and financial issues, legal aspects are the key ones to be considered at the initial stage of a project [DOMANOWSKA, KOSTECKI 2015; KORDANA, SŁYŚ 2020; LERER *et al.* 2015]. Investors based on these aspects often identify the feasibility of a system in a given area, taking into account the requirements for documentation as well as the time needed to meet them and obtain approvals and permits under the applicable law.

Under European Union law, there are two basic legal acts governing stormwater management, i.e. Directive 2000/60/EC, which aims to protect all water systems and ensure their good ecological and chemical status, and Directive 2007/60/EC, which provides a framework for flood prevention.

COM/2019/95 highlights that proper management at river basin level is an essential precondition for achieving objectives of the [Directive 2000/60/EC]. Recommendations for the future were also formulated, i.e., the need to continue improving stakeholder involvement, with their active involvement in the planning process and the integration of their contribution in the river basin management plans. In conclusion, the European Commission stresses that, while much remains to be done to fully achieve the objectives and the path of Water Framework Directive to full compliance with objectives of the Directive 2000/60/EC by 2027, after which exemptions are limited, seems at this stage very challenging.

Each of the EU Member States, based on previous experience, introduces its own legal regulations for the implementation of the provisions contained in the Directive 2000/60/EC and Directive 2007/60/EC in the field of stormwater management. Obviously, learning about solutions in the other Member States can help bring forward the implementation of EU legislation, improve the effectiveness of stormwater management, and avoid mistakes [ALBRECHT 2013; BLÖCH 2004; KEESSEN *et al.* 2010; LAWRENCE *et al.* 2004; LIEFFERINK *et al.* 2011; ROTKO 2013]. Nevertheless, project implementation based on binding Polish regulations proves to be rather challenging and raises a number of concerns among potential investors.

In the following paper, the authors discuss the legal aspects of stormwater management in urban areas. The objective of the research is to analyse the legal regulations in the field of stormwater management and to answer the question of whether the current legal regulations pose an opportunity or a barrier for the development of projects making rational use of stormwater, mostly in individual households, e.g., by increasing water retention.

The authors attempt to present the legal situation of an investor who intends to use available technical solutions (e.g., retention tanks, dry wells, rain gardens) to manage stormwater within their own property.

## MATERIALS AND METHODS

The research method adopted by the authors is based primarily on self-interpretation of legal provisions (primary data), as well as the use of the interpretation of law by the public administration bodies appointed for this purpose and by the administrative courts.

Numerous factual circumstances constituting the basis for decisions of administrative bodies and subsequently reviewed by the administrative courts were scrutinized. The authors confront the data thus collected by the comparative method with the research conclusions adopted (analytical method).

The article identifies legal solutions for stormwater management at the final planning stage of implementation of the Directive 2007/60/EC]. Emphasis was put on Polish law, primarily seen through the prism of administrative (and court) proceedings for issuing permits for technical solutions promoting sustainable stormwater management (retention tanks, rain gardens, dry wells). An insight into trends and discrepancies in judicial decisions made it possible to diagnose barriers and identify amendments to environmental and construction law regulations.

The authors reviewed the course of 21 administrative proceedings conducted between 2000 and 2022 and continued before the administrative courts. The examined proceedings concerned the issuance of building permits, notification of a construction project, the issuance of a water permit or notification of a project involving the installation of a dry well or a rain garden. Projects were analysed individually (as a separate project) or as part of a larger construction undertaking. The analysed rulings of administrative courts were given by different institutions and covered the whole territory of Poland.

## RESULTS AND DISCUSSION

### BASIC TERMS AND DEFINITIONS

Undoubtedly, in order to interpret the legislation on stormwater management in detail, the first thing to do is to define the basic concepts and therefore become familiar with the legal definitions provided in legal acts. Thus, in accordance with Article 16(69) of the [Ustawa ... 2017] “stormwater and meltwater” should be understood as water resulting from precipitation. The above legal definition categorically excludes stormwater and meltwater from the concept of wastewater, which was in force until 2018. In the cases addressed in this article, i.e., the situation of an investor who intends to manage stormwater, not through water services, i.e., by discharging stormwater or meltwater into bodies of water or water facilities, but as part of a project on their own land, this is, in fact, the only legal definition that does not raise any doubts as to interpretation.

The lack of definition in the legislation of terms such as “dry wells” and “rain gardens” is undesirable because when applying the law, an administrative body may exercise “administrative discretion”, which reduces the certainty of legal transactions under the existing legal system [SOBOTA 2021; SOBOTA, JAWECKI 2019]. Under Art. 35 (1) (3) [Ustawa ... 1994] the administrative authority issuing a building permit verifies whether a land or plot development plan and an architectural-construction design are

complete, including the following: required opinions, arrangements, (water) permits and verifications [II SA/Gd 552/21]. Due to the lack of unambiguous provisions, interpretation discrepancies often occur not only during the phase when the investor has to decide whether to apply for a relevant administrative decision (a building permit, a water permit), but also at the stage of administrative court proceedings.

#### DRY WELLS AND RAIN GARDENS IN TERMS OF BUILDING LEGISLATION

As indicated by the ruling practice regarding the form of commencing the construction of rain gardens or underground stormwater storage tanks for reasonable stormwater management the administrative bodies objected to reporting such works by investors in the cases analysed by the authors. An example of this is the case pending before the Supreme Administrative Court, II AGK 205/20 leading to the judgement of 19 June 2020 [II OSK 205/20] (administrative decision of the first instance of April 2018). In the opinion of the authors, the interpretation made by individual authorities at the administrative and then court stage shows the legal difficulties the investors encounter when intending to manage stormwater on their land.

The focus of the analysis is factual circumstances in which the project involves the construction of an underground rainwater tank along with the installation of a stormwater drainage system supplying water from the roof slopes of a residential building (a non-drainage tank with a capacity of 5 m<sup>3</sup> along with rainfall drainage from the roof of a single-family dwelling). The administrative authorities assume that in such a case, the aim of the completed project is the structure under Article 3(3) of Ustawa ... [1994], which requires a building permit under Article 28(1) of this Act. This is because such a structure is not listed in Article 29 of the mentioned Law containing a catalogue of construction works exempt from the obligation to obtain a building permit [II OSK 199/13; II SA/WR 199/19].

The above position was disputed by the Voivodeship Administrative Court [II SA/Wa 319/21; II SA Wa 988/20; II SA/OL 20/22] primarily on the basis of a teleological interpretation and the inference *a maiori ad minus*. Since the exemption from the obligation to obtain a building permit covers such projects as the construction of: “sewer treatment plant with a capacity of up to 7.50 m<sup>3</sup> daily” – Article 29(1)(5) [Ustawa ... 1994] “non-drainage tanks for liquid impurities with a capacity of up to 10 m<sup>3</sup>” (Article 29(1)(5) [Ustawa ... 1994]), “sewer systems” (Article 29(1)(2)(c) [Ustawa ... 1994]), “sewer connections mauri” (Article 29(1)(23)(c) [Ustawa ... 1994]), i.e. facilities with an undoubtedly greater degree of complexity and impact on the environment than a facility in the form of a non-drainage tank, it should be assumed that a rational legislator intended to exempt the construction of a structure with a much lower degree of complexity and impact, such as a non-drainage water tank, from the need to obtain a building permit (inference *a maiori ad minus*) [NOWAK 1973; WOJCIECHOWSKI 2015; ZIELIŃSKI 2017].

At this point, it should also be noted that the construction of a non-drainage tank along with stormwater drainage from the roof of a single-family dwelling does not constitute non-drainage tanks for liquid impurities within the meaning of Article 29(1)(6) [Ustawa ... 1994], the construction of which only requires a notification, not a building permit [II SA/LD 829/21]. The

stormwater discharged from the roof of a single-family building is not a liquid impurity. However, the constructed object is a typical stormwater reservoir referred to in § 28(2) of [Rozporządzenie ... 2002]. Pursuant to Article 28(2) of this Regulation, in the case of low-rise buildings or buildings that cannot be connected to the stormwater drainage system or combined sewer system, it is allowed to discharge stormwater onto one's own unpaved surface, into absorption wells or retention tanks (§ 126(3) [Rozporządzenie ... 2002]). Thus, the tanks for liquid impurities are sanitary-utility facilities and covered by a separate regulation and cannot be considered equivalent to a stormwater storage tank.

The Supreme Administrative Court (SAC), as a result of a last-resort appeal filed by the Voivodeship Building Inspector of Lower Silesia in Wrocław, has interpreted the regulations concerning the legal regime applicable to the construction of a stormwater storage tank differently. The SAC highlights that, pursuant to Art. 28 (1) of [Ustawa ... 1994], construction works may be commenced only on the basis of a decision granting a building permit, subject to Art. 29–31 of Ustawa ... [1994], moreover the catalogue contained in Art. 29 (1) and (2) of this Law is an exhaustive list and is not subject to any broader interpretation [II OSK 1360/09; II OSK 1283/11; II OSK 199/13]. Thus, due to the fact that Article 29 (1) and (2) of mentioned Act does not include the construction of an underground stormwater storage tank together with a stormwater drainage system discharging water into the category covered by the obligation to submit a notification or excluded from this obligation, it should be considered that in this case, it is necessary to obtain a building permit.

Moreover, as emphasized above, the Supreme Administrative Court specifies that the underground tank itself is a part of the stormwater drainage system, and drainage enables proper use of the residential building – § 28(2) [Rozporządzenie Ministra Infrastruktury ... 2002], proving that the stormwater tank together with the stormwater drainage system discharging water does not constitute a separate structure from the existing residential building. Thus, the tank constitutes a part of the stormwater drainage system and should have been qualified as construction equipment under Art. 3(9) of Ustawa ... [1994]. The building facility is a technical facility connected to a building structure and ensuring the use of the structure in accordance with its intended purpose. Such building facilities shall include an installation for discharging and collecting stormwater from the roof slopes. Such an installation shall include both gutters, downpipes as well as a stormwater storage tank provided the investor has chosen to collect the water by these means. In other words, the construction of an underground rainwater storage tank with a stormwater drainage system carrying water away from the roof slope of the building does not constitute a separate building structure. It is the construction design covering the construction of the main facility, i.e., a residential building, which should include the construction of an underground rainwater storage tank together with a stormwater drainage system carrying water from the roof slope of the building and as a whole such construction should be covered by an approved building permit.

It might be worth quoting the position presented in the judgement of the Voivodeship Administrative Court in Białystok of 8 July 2021 [II SA 283/21 ] (administrative decision of first instance of December 2019), which indicates that a dry well should not be considered an independent building structure. It is

functionally and inseparably connected with the building and aims to ensure drainage of rainwater from the building (constituting a building facility) following the requirements arising from the technical and construction regulations, in particular, due to the prohibition of directing rainwater and meltwater onto adjacent plots. Therefore, a dry well is a building facility under Article 3(9) of Ustawa ... [1994]. And even though a building facility in question is defined separately, this does not mean, from a legal point of view, that it is a separate unit going beyond the definition set out in Article 3(1) of this Act because the construction facilities by their very nature form part of a building structure [II OSK 1974/10]. Thus, the decision as to whether a given type of building work is exempt from the obligation to obtain a building permit is determined solely by whether such work is included in a catalogue of exceptions to the general rule under which any building work may be carried out only on the Białystok basis of a building permit (Article 28(1) of Ustawa ... [1994] as formulated by the legislator in Articles from 29 to 31 of this Act), and not by whether the building work in question is classified as a separate non-building structure or a new building facility. It depends on the specific factual circumstances and the category of work involved whether building a dry well – a stormwater management device – shall require a building permit, notification or whether no legal action to disclose such activities is needed.

#### DRY WELLS AND RAIN GARDENS IN TERMS OF WATER LEGISLATION

A matter directly related to the procedure for obtaining a building permit and raising interpretation doubts is whether the construction of such facilities as dry wells and rainwater tanks used to store water, create rain gardens requires a water permit or notification under the provisions of water law. There is no uniformity in judicial decisions on this matter either.

According to Article 389(6) of Ustawa ... [2017], a water permit is required to construct water facilities. However, under Article 16(65)(f) of this Act, water facilities are defined as devices or non-building structures serving to form or use water resources, including outlets of drainage facilities used to release sewage into bodies of water, into ground or water facilities and outlets used to release water into bodies of water, ground or water facilities. Moreover, according to Article 16(65), “water facilities” include: damming, flood control and regulation devices or structures, as well as canals and ditches (Article 16(65)(a) of Ustawa ... [2017] facilities used to abstract surface water and underground water (Article 16(65)(d) of this Act). And pursuant to Article 17(3)(2) of mentioned Act, the provisions on “water facilities” apply accordingly to water drainage devices not classified as water facilities. On the other hand, the “water drainage” means the regulation of hydrographic conditions to improve the productive capacity of soil and facilitate its farming (Article 195 of Ustawa ... [2017], while the exhaustive list of water drainage includes drainage and pipelines (Article 197(1) (2,3) of mentioned Act).

With regard to the above regulations, it should be noted that the factual circumstances determine whether a given device or structure is a “water facility” as defined in the Water Law. They must serve the purpose of shaping water resources and using them, and therefore, not every non-building structure or device

installed on urban land can be considered a water facility within the meaning of Ustawa ... [2017].

One view indicates that the dry well is part of a drainage system for rainwater and meltwater and should be classified as a water facility, and thus subject to the obligation to obtain a water permit, as a necessary element for obtaining a building permit [VII SA/Wa 1576/20; VII SA Wa 1448/21; Podgórzyn 2021].

On the other hand, the second view assumes that a dry well, which is to drain rainwater from gutters and roofs of building structures, is not a water facility under Article 16(65) of Ustawa ... [2017], the construction of which requires a water permit [II OSK 709/13].

Another point of view assumes the possible necessity to obtain a water permit under the provision of Article 389(1) of Ustawa [2017], i.e., the legal norm which stipulates that water services require a water permit. Pursuant to Article 35(1) of this Act, water services consist in ensuring households, public entities and entities conducting economic activity the possibility of using water in the scope exceeding the common use of water, ordinary use of water and specific use of water, in particular, pursuant to Article 35(3)(7) of Water Law, they include the discharge of rainwater or meltwater contained in open or closed stormwater drainage systems intended for disposing precipitation or in collective drainage systems within the administrative borders of towns and cities to bodies of water or to water facilities. Consequently, it should be assumed that the construction of an individual stormwater storage tank shall not constitute a water service.

On the one hand, the position of the administrative body was expressed in the judgement of the Voivodeship Administrative Court in Gdańsk on 3 February 2022, Case No.II SA/Gd 552/21 (administrative decision of first instance of November 2020) based on the factual circumstances which assume the construction of “rain gardens”, i.e. technical solutions using stormwater management, indicated that the analysis of the provisions of the Water Law Act has not shown that for the project in question, which covered a stormwater drainage system based on rain gardens, it is necessary to obtain from the competent body a water permit or acceptance of a water notification. The management of stormwater from the roofs of single-family residential buildings does not constitute a specific use of water and does not result in the construction of drainage facilities or the disposal of sewage into the ground.

On the other hand, one has to assume that a water permit is required for the specific use of water and land shaping changes on the land adjacent to bodies of water affecting the water flow conditions (Article 389(2) and (8) [Ustawa ... 2017]). And specific use of water is, for example, carrying out work or building structures fixed to or in the ground, affecting the decrease of the natural land retention by excluding more than 70% of the real estate from the biologically active area in the areas not covered by the open or closed sewage systems on the real estate with the area exceeding 3500 m<sup>2</sup> (Article 34(4) [Ustawa ... 1994]) [II SA/Gd 552/21].

The above-mentioned legal situation indicates that each time as part of the investment process, the administrative body (Director of the Catchment Authority or Director of the Regional Water Management Authority – Art. 407 and Art. 421 of Ustawa ... [2017]) decides whether it is necessary to obtain a water permit or whether a water notification shall be sufficient in connection with rain gardens (pursuant to Article 394(1) of this Act, a water notification is required for the construction of drainage facilities



of construction objects, without going beyond the boundaries of the site owned by a facility), which happens within the limits of administrative discretion and in the current legal situation, it's not possible to give a clear answer to this question. It is essential to know the factual circumstances determining the correct classification of a device or a set of devices and structures in terms of their function in shaping water resources, technical parameters or the device location [II OSK 2958/14; II SA/Gd 528/12; II OSK 3375/18; VII SA Wa 2793/17; Odpowiedź Podsekretarza Stanu 2020].

**JUDICIAL PRACTICE ON DRY WELLS AND RAIN GARDENS**

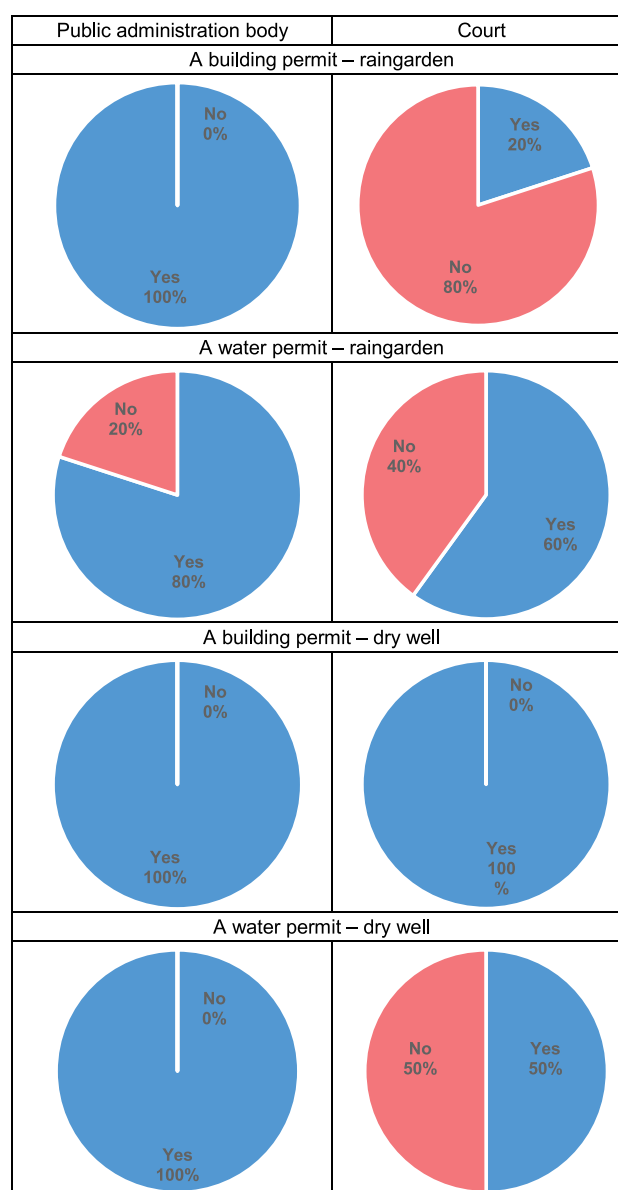
Within the scope of considerations, the authors refer to numerous decisions of administrative courts, which, as a part of judicial decisions, should provide for a correct interpretation of legal regulations. However, as indicated by the ruling practice, in the authors' opinion, at present, it is impossible to unequivocally determine the direction of interpretation since, under the discretion of individual adjudicating panels, these resulting from such rulings are often contradictory but, under pending proceedings, rulings issued by lower-level authorities are subject to change or revocation. However, when interpreting the law, one must assume that the legislator is reasonable. The entity applying the law must assume the above at every stage of the interpretation process. Moreover, the final judgement, and thus the result of the interpretation, must confirm this reasonableness. The above assumption implies various methods of interpretation (textual, systematic, functional, teleological), which, as a consequence, may mean that a legal norm may be other than what would result from the provision *expressis verbis*. Nowadays, more and more often both the views of legal academics and case law point to the importance of overcoming a linguistic unambiguity when the textual interpretation undermines the fundamental assumptions about the legislator [ZIELIŃSKI 2011]. However, it should be highlighted that textual interpretation is limited to interpreting a legal text by following only the rules and meaning of the mother tongue of that legislative act. The text of the law should be interpreted in such a way that the result of interpretation does not create an inconsistency with other binding norms of the legal system (systematic interpretation) and that the determination of the meaning of a provision takes into account the purpose and social role of that provision (functional interpretation). Thus, legal interpretation should not disregard systematic or functional interpretation by limiting itself to the textual interpretation of a single provision. It may be that the meaning of a provision which seems linguistically clear will prove questionable when confronted with other provisions or when the purpose of the legal regulation is taken into account [II FSK 381/12].

Figure 1 shows how the judicial review of public administration bodies' decisions carried out by the administrative courts influenced the final settlement of proceedings for constructing dry wells and rain gardens. The analysis in this regard shows that the administrative authorities, in each case, whether on the grounds of Ustawa ... [1994] or Ustawa ... [2017] have always required the applicant to obtain either a building permit or a water permit. It was only as a result of complaints submitted by applicants to the administrative courts that the appealed administrative decisions were often overturned, with the courts pointing out substantive or procedural errors made by the

administrative authorities. Filing a complaint with an administrative court is connected to additional costs, primarily incurred by the party, and also extends the duration of the procedure conditioning the commencement of the project, which results in the fact that not in every case, a party dissatisfied with an administrative decision decides to defend its rights also through court proceedings.

**BARRIERS AND FUTURE CHALLENGES**

Although the current legal status assumes the implementation of correct assumptions established based on the European law and the implementation of the Directive 2007/60/EC provisions on stormwater management, including land retention and, consequently, the simplification of administrative procedures, it



**Fig 1.** Decisions issued by administrative bodies and courts on requirements for a building permit and water permit for rain gardens and dry wells; Yes – permit required, No – permit not required; source: own study

requires numerous legislative changes. The legislator should consider the following development constraints:

- 1) lack of legal definitions of retention facilities – “dry wells”, “rain gardens”;
- 2) excessive use of “administrative discretion” when qualifying projects and required procedures – in terms of administrative proceedings (a building permit – a notification – Ustawa ... [1994]; a water permit – a notification – Ustawa ... [2017];
- 3) too long period of obtaining the necessary permits, which increases the costs of the planned project and discourages potential investors;
- 4) the lack of a state-wide strategy for stormwater management providing guidelines that can be used in administrative proceedings.

Taking into account the above considerations, the authors formulate the following conclusions *de lege ferenda* by introducing legal definitions of “rain gardens” and “dry wells” as elements of small-scale water retention which should be included by the legislator in the catalogue of projects requiring a building permit (water permit) or only a notification (water notification) depending on the scale of the projects (limits: m<sup>2</sup>, m<sup>3</sup>, % outflow retention).

In the authors’ opinion, provision of legal definitions regarding the scope above shall contribute to increasing the citizens’ confidence in the legal order and reducing officials’ administrative recognition. That, in turn, will enable the investors to estimate the time and costs of the planned project and shorten the administrative procedure, as it will be possible to independently assess the project based on the reading of the legal act. The analysis of the judicial decisions of the administrative courts indicated the dispute between the parties concerned, to a large extent, the interpretation of ambiguous concepts occurring in the provisions of the law, and very often lack of legal definitions, which resulted in different interpretations by each of the parties, as well as by individual administrative authorities and a panel of judges within the rulings of particular instances.

Author’s postulates correspond directly with the findings contained in the Information from the Supreme Audit Office on the results of the audit “Management of stormwater and meltwater in urban areas” of 10 December 2020 [NIK 2020], which highlights that the actions of public administration bodies do not promote the proper management of stormwater in urban areas, e.g. no uniform strategy has been developed on the issue of managing water from precipitation, and the activities of the State Water Management Authority Polish Waters (Pol. Państwowe Gospodarstwo Wodne Wody Polskie) have been limited to charging fees for water services (discharge of rainwater into bodies of water). However, the creation of the Priority Programme “My Water” for 2020–2024 (within the framework of the Programme, funds may be obtained to co-finance the purchase, supply, installation, construction and launching of systems: collecting, storing stormwater and using stormwater retention), budgeted at PLN 210 mln should be considered a positive impulse. In the first month of the programme’s operation alone, 14 000 applications were submitted for a total sum of PLN 60 mln [NIK 2020] which shows how important the issue of managing natural precipitation and the possibility to use it within one’s own property remains for citizens.

In the UK, there are also similar problems associated with the insufficient quality of legal provisions concerning the

implementation of sustainable rainwater management facilities in cities. Improving project implementation requires changes in legislation [Li *et al.* 2020]. The analysis of the problems related to the implementation of such projects has shown that they occur in the form of legal regulations and institutional barriers, including: Australia, the United Kingdom, the United States, China, New Zealand, and Germany. No incentives, absence of appropriate legislation and problems regarding the qualification of the project are considered the main problems with legal provisions in Brazil [Vasconcelos *et al.* 2022]. The US highlights the existence of legal constraints at every level – from national through the state regulations to local (urban) ones [Dhakal, Chevalier 2017]. They can be contradictory and too restrictive regarding contemporary trends and needs, which hampers sustainable urban development.

## CONCLUSIONS

The analysed rulings, which covered the years 2000–2022 and included facts that took place practically in the whole area of Poland, indicate that the average duration of proceedings before administrative bodies in first and second instance is 13 months. The average duration of proceedings before administrative courts (depending on whether the case concerned only proceedings at first instance – Voivodeship Administrative Court, or also included proceedings before a court of second instance – Supreme Administrative Court) was 22 months, so the total average duration of proceedings was 36 months (three years).

The analysis of the data has shown that very often in the course of the judicial review of the administrative bodies’ decisions, the administrative bodies misinterpreted the law and only due to the determination of a particular party to the proceedings, who decided to file a complaint with the administrative court, the legal state of the case was established correctly, and consequently, the law was properly applied.

Noticeable discrepancies in the interpretation of legal regulations by administrative authorities and courts may prove that the legislator has not established clear, coherent and harmonious legal regulations, which would set transparent criteria on which the public administration bodies may issue an administrative decision (building permit, water permit). Such shaping of legal relations does not constitute implementation of the principle of enhancing participants’ confidence in public authority and may intensify barriers to practical solutions regarding local stormwater retention and infiltration. On the other hand, the administrative courts, including the reviewed rulings, emphasize that, due to the specificity of the factual conditions of constructing rain gardens or dry wells, e.g., project location, solution design, and size, the provisions of law may not be case-based and not refer to specific factual circumstances because the use of analogy, interpretation, legal arguments and reasoning is admissible within the interpretation process. And in certain situations, the use of such legal instruments remains necessary.

## REFERENCES

- II OSK 1360/09 – Wyrok Naczelnego Sądu Administracyjnego z dnia 10.09.2010 r. [Judgement of the Supreme Administrative Court of the 10.09.2010] [online]. Lex No. 746486. [Access 11.05.2022].

- Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrrha2tgmrxgy4do>
- II OSK 1974/10 – Wyrok Naczelnego Sądu Administracyjnego z dnia 02.12.2010 r. [Judgement of the Supreme Administrative Court of the 02.12.2010] [online]. Legalis No. 348661. [Access 13.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrrha2tgmrygmzdc>
- VII SA/Wa 1576/20 – Wyrok Wojewódzkiego Sądu Administracyjnego w Warszawie z dnia 10.12.2012 r. [Judgement of the Voivodeship Administrative Court in Warsaw of the 10.12.2012] [online]. Legalis No. 811312. [Access 11.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrsha2toobvgiztq&refSource=search-facets>
- II OSK 1283/11 – Wyrok Naczelnego Sądu Administracyjnego z dnia 20.11.2012 r. [Judgement of the Supreme Administrative Court of the 20.11.2012] [online]. Lex No. 1291890. [Access 11.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3dkojsy4dm&refSource=search>
- II SA/Gd 528/12 – Wyrok Wojewódzkiego Sądu Administracyjnego w Gdańsku z dnia 19.12.2012 r. [Judgement of the Voivodeship Administrative Court in Gdańsk of the 19.12.2012] [online]. Legalis No. 793728. [Access 16.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrshs2tsnrvg3tk>
- II FSK 381/12 – Wyrok Naczelnego Sądu Administracyjnego z dnia 10.01.2014 r. [Judgement of the Supreme Administrative Court of the 10.01.2014]. Legalis No. 77683 [online]. [Access 08.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrsha2tonjgg43tk>
- II OSK 199/13 – Wyrok Naczelnego Sądu Administracyjnego z dnia 26.06.2014 r. [Judgement of the Supreme Administrative Court of the 26.06.2014] [online]. LEX No. 2005831. [Access 09.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgm3dgnbygi3de>
- II OSK 709/13 – Wyrok Naczelnego Sądu Administracyjnego z dnia 14.10.2014 r. [Judgement of the Supreme Administrative Court of the 14.10.2014] [online]. Legalis No. 1187775. [Access 15.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtge3dcmrugm3da>
- II OSK 2958/14 – Wyrok Naczelnego Sądu Administracyjnego z dnia 24.08.2016 r. [Judgement of the Supreme Administrative Court of the 24.08.2016] [online]. Legalis No. 1533915. [Access 11.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3dinrxgmztg>
- VII SA Wa 2793/17 – Wyrok Wojewódzkiego Sądu Administracyjnego w Warszawie z dnia 01.08.2018 r. [Judgement of the Voivodeship Administrative Court in Warsaw of the 01.08.2018] [online]. Legalis No. 2313611. [Access 14.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tenjygi2dm&refSource=search>
- II SA/WR 199/19 – Wyrok Wojewódzkiego Sądu Administracyjnego we Wrocławiu z dnia 15.10.2019 r. [Judgement of the Voivodeship Administrative Court in Wrocław of the 15.10.2019] [online]. Legalis No. 2274113. [Access 08.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3temjyg4zta&refSource=search>
- II OSK 205/20 – Wyrok Naczelnego Sądu Administracyjnego z dnia 19.06.2020 r. [Judgement of the Supreme Administrative Court of the 19.06.2020] [online]. LEX No. 3035703. [Access 10.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tmnbshayds>
- II SA Wa 988/20 – Wyrok Wojewódzkiego Sądu Administracyjnego w Szczecinie z dnia 09.04.2021 r. [Judgement of the Voivodeship Administrative Court in Szczecin of the 09.04.2021] [online]. Legalis No. 2593623. [Access 06.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tiobzha4ds&refSource=search>
- II SA 283/21 – Wyrok Wojewódzkiego Sądu Administracyjnego w Białymstoku z dnia 08.07.2021 r. [Judgement of the Voivodeship Administrative Court in Białystok of the 08.07.2021] [online]. Legalis No. 2609227. [Access 09.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tknjthe4da&refSource=search>
- II OSK 3375/18 – Wyrok Naczelnego Sądu Administracyjnego z dnia 07.11.2021 r. [Judgement of the Supreme Administrative Court of the 07.11.2021] [online]. Legalis No. 2637435. [Access 16.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tkobsgiyds>
- II SA/Wa 319/21 – Wyrok Wojewódzkiego Sądu Administracyjnego w Poznaniu z dnia 11.01.2022 r. [Judgement of the Voivodeship Administrative Court in Poznań of the 11.01.2022] [online]. Legalis 2653884. [Access 12.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tomrtgatzm&refSource=search>
- VII SA Wa 1448/21 – Wyrok Wojewódzkiego Sądu Administracyjnego w Warszawie z dnia 13.01.2022 r. [Judgement of the Voivodeship Administrative Court in Warsaw of the 13.01.2022] [online]. Legalis No. 2673593. [Access 15.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tmnjygydqg&refSource=search>
- II SA/Gd 552/21 – Wyrok Wojewódzkiego Sądu Administracyjnego w Gdańsku z dnia 03.02.2022 r. [Judgement of the Voivodeship Administrative Court in Gdańsk of the 03.02.2022] [online]. Legalis No. 2673281. [Access 10.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tmnjyga4tc&refSource=search>
- II SA/LD 829/21 – Wyrok Wojewódzkiego Sądu Administracyjnego w Łodzi z dnia 03.02.2022 r. [Judgment of the Voivodeship Administrative Court in Łódź of the 03.02.2022] [online]. Legalis No. 2664204. [Access 14.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tmnjxgqytg&refSource=search>
- II SA/OL 20/22 – Wyrok Wojewódzkiego Sądu Administracyjnego w Olsztynie z dnia 03.03.2022 r. [Judgement of the Voivodeship Administrative Court in Olsztyn of the 03.03.2022] [online]. Legalis No. 2673107. [Access 15.05.2022]. Available at: <https://sip.legalis.pl/document-full.seam?documentId=mrswglrtgy3tmzmwgeztg&refSource=search>
- ALBRECHT J. 2013. The Europeanization of water law by the Water Framework Directive: A second Chance for water planning in Germany. *Land Use Policy*. Vol. 30 p. 381–391. DOI 10.1016/j.landusepol.2012.04.009.
- BACH P.M., MCCARTHY D., DELETIC A. 2015. Can we model the implementation of water sensitive urban design in evolving cities? *Water Science & Technology*. Vol. 71(1) p. 149–156. DOI 10.2166/wst.2014.464.
- BLÖCH H. 2004. European Water Policy and the Water Framework Directive: An overview. *Journal for European Environmental & Planning Law*. Vol. 1(3) p. 170–178. DOI 10.1163/187601004X00021.
- BOGACZ A., WOŹNICZKA P., BURSZA-ADAMIAK E., KOLASIŃSKA K. 2013. Metody zwiększania retencji wodnej na terenach zurbanizowanych [Methods of increasing water retention in the urbanized areas]. *Przegląd Naukowy. Inżynieria i Kształtowanie Środowiska*. Vol. 22(1). No. 59 p. 27–35.



- BURSZTA-ADAMIAK E. 2012a. Analysis of stormwater retention on green roofs. *Archives of Environmental Protection*. Vol. 38(4) p. 3–13. DOI 10.2478/v10265-012-0035-3.
- BURSZTA-ADAMIAK E. 2012b. Analysis of the retention capacity of green roofs. *Journal of Water and Land Development*. No. 16 p. 3–9.
- BURSZTA-ADAMIAK E., ŁOMOTOWSKI J., WIERCIK P. 2014. Zielone dachy jako rozwiązanie poprawiające gospodarkę wodami opadowymi w miastach [Green roofs as the solution improving stormwater management in cities]. *Inżynieria Ekologiczna*. Vol. 39 p. 26–32.
- CZERNIAKOWSKI Z.W., GARGAŁA-POLAR M. 2020. Ogrody deszczowe jako sposób retardacji strat wody opadowej w terenach zieleni miejskiej [Rain gardens as the method of retarding rainwater losses in the urban green areas]. *Polish Journal for Sustainable Development*. T. 24(1). p. 17–24. DOI 10.15584/pjsd.2020.24.1.2.
- DARNTHAMRONGKUL W., MOZINGO L.A. 2021. Toward sustainable stormwater management: Understanding public appreciation and recognition of urban Low Impact Development (LID) in the San Francisco Bay Area. *Journal of Environmental Management*. Vol. 300, 113716. DOI 10.1016/j.jenvman.2021.113716.
- DHAKAL K.P., CHEVALIER L.R. 2017. Managing urban stormwater for urban sustainability: Barriers and policy solutions for green infrastructure application. *Journal of Environmental Management*. Vol. 203(1) p. 171–181. DOI 10.1016/j.jenvman.2017.07.065.
- 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. *Official Journal*. L 327 p. 1–73.
- Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the Assessment and Management of Flood Risks. *Official Journal of the European Union*. L 288/27 p. 27–34.
- DOMANOWSKA M., KOSTECKI J. 2015. Ogrody deszczowe w miastach jako jedno z narzędzi wdrażania ekosystemów [Rain gardens in cities as the one of the tools for implementing ecosystems]. *Uniwersytet Zielonogórski. Zeszyty Naukowe. Inżynieria Środowiska*. Nr 158(38) p. 50–58.
- GAO Y., CHURCH S.P., PEEL S., PROKOPY L.S. 2018. Public perception towards river and water conservation practices: Opportunities for implementing urban stormwater management practices. *Journal of Environmental Management*. Vol. 223 p. 478–488. DOI 10.1016/j.jenvman.2018.06.059.
- GUS 2021. Ludność. Stan i struktura oraz ruch naturalny w przekroju terytorialnym 2021 r. Stan w dniu 30 czerwca [Population. Size and structure and vital statistics in Poland by territorial division in 2021. As of the 30<sup>th</sup> June] [online]. Warszawa. Główny Urząd Statystyczny. [Access 10.05.2022]. Available at: <https://stat.gov.pl/obszary-tematyczne/ludnosc/ludnosc-ludnosc-stan-i-struktura-ludnosc-i-ruch-naturalny-w-przekroju-terytorialnym-stan-w-dniu-30-06-2021,6,30.html>
- HERING D., BORJA A., CARSTENSEN J., CARVALHO L., ELLIOT M., FELD C.K., HEISKANEN A.S., JOHNSON R., JANNICKE M., DIDIER P., SOLHEIM A.L. 2010. The European Water Framework Directive at the age of 10: critical review of the achievements with recommendations for the future. *Science of The Total Environment*. Vol. 408 p. 4007–4019. DOI 10.1016/j.scitotenv.2010.05.031.
- KEESSEN A.M., VAN KEMPEN J.J.H, VAN RIJSWICK M., ROBBE J., BACKES C. W. 2010. European river basin districts: Are they swimming in the same implementation pool? *Journal of Environmental Law*. Vol. 2(2) p. 197–221. DOI 10.1093/jel/eqq003.
- KORDANA S., SLEYS D. 2020. An analysis of important issues impacting the development of stormwater management systems in Poland. *Science of The Total Environment*. Vol. 727 138711. DOI 10.1016/j.scitotenv.2020.138711.
- LAWRANCE D., KAMINSKAITE-SALTERS G., MUELLER H. 2004. A challenging road: Implementing the Water Framework Directive in UK. *Journal for European Environmental & Planning Law*. Vol. 31 p. 179–193. DOI 10.1163/187601004X00030.
- LERER S., ARNBORG-NIELSEN K., MIKKELSEN P.A. 2015. Mapping of tools for informing water sensitive urban design planning decisions – questions, aspects and context sensitivity. *Water*. Vol. 7(3) p. 993–1012. DOI 10.3390/w7030993.
- LI L., COLLINS A.M., CHESHMEHZANGI A., CHAN F.K.S. 2020. Identifying enablers and barriers to the implementation of the Green Infrastructure for urban flood management: A comparative analysis of the UK and China. *Urban Forestry & Urban Greening*. Vol. 54, 126770. DOI 10.1016/j.ufug.2020.126770.
- LIEFFERINK D., WIERING M., UITENBOOGAART Y. 2011. The UE Water Framework Directive: A multi-dimensional analysis of implementation and domestic impact. *Land Use Policy*. Vol. 28(4) p. 712–722. DOI 10.1016/j.landusepol.2010.12.006.
- NIK 2020. Informacja o wynikach kontroli „Zagospodarowanie wód opadowych i roztopowych na terenach zurbanizowanych”. LOL.430.003.2020. No. 178/2020/P/20/073/LOL [Information on the results of the audit ‘Management of stormwater and meltwater in urban areas’. LOL.430.003.2020. No. 178/2020/P/20/073/LOL] [online]. [Access 12.05.2022]. Available at: <https://www.nik.gov.pl/plik/id,23434,vp,26160.pdf>
- NOWAK L. 1973. Interpretacja prawnicza. Studium z metodologii prawoznawstwa [Legal interpretation. A study in the methodology of jurisprudence]. Warszawa. Wydaw. Nauk. PWN pp. 39.
- Odpowiedź Podsekretarza Stanu w Ministerstwie Gospodarki Morskiej i Żeglugi Śródlądowej Anny Moskwa na zapytanie nr 1107 Posłów na Sejm z dnia 07.07.2020 r. w sprawie wątpliwości dotyczących obowiązku uzyskania pozwolenia wodnoprawnego na budowę ogrodu deszczowego z dnia 21.07.2020 r. [Reply of Undersecretary of State at the Ministry of Maritime Affairs and Inland Navigation Anna Moskwa to Inquiry No. 1107 of Members of the Polish Sejm of 07 July 2020 regarding doubts about the obligation to obtain a water permit for the construction of a rain garden of 21 July 2020] [online]. [Access 18.05.2022]. Available at: <https://sejm.gov.pl/Sejm9.nsf/InterpelacjaTresc.xsp?key=BRRJFD>
- PETTIT-BOIX A., SEVIGNÉ-ITOIZ E., ROJAS-GUTIERREZ L.A., BARBASSA A.P., JOSA A., RIERADEVALL J., GABARRELL X. 2017. Floods and consequential life cycle assessment: Integrating flood damage into the environmental assessment of stormwater Best Management Practices. *Journal of Cleaner Production*. Vol. 162 p. 601–608. DOI 10.1016/j.jclepro.2017.06.047.
- Podgórzyń 2021 – obwieszczenie w sprawie wydania pozwolenia wodnoprawnego na wykonanie trzech urządzeń wodnych, tj. studni chłonnej SCH1, wykonanej z kregów betonowych o średnicy DN2000mm na dz. nr 163/4, obręb 0004, gm. Podgórzyń, studni chłonnej SCH2, dz.nr 162/14, obręb 0004, studni chłonnej SCH3, dznr159/3, obręb 0004 oraz na usługę wodną w zakresie odprowadzania wód opadowych i roztopowych do ziemi poprzez projektowane studnie chłonne SCH1, SCH2, SCH3 – wydane przez Państwowe Gospodarstwo Wodne Wody Polskie Zarząd Zlewni w Lwówku Śląskim z 16 grudnia 2021 r., WR.ZUZ.3.4210.557.2021.RK [Notice – on the issuance of the water permit for constructing three water facilities, i.e. dry well SCH1, made of concrete circle pit blocks of a diameter of DN2000mm on the plot of land No. 163/4, section 0004, Municipality of Podgórzyń, SCH2 dry well, on the plot of land No. 162/14, section 0004, dry well SCH3, on the plot of land No.159/3, section 0004 and water service for the discharge of rainwater and meltwater to the ground by the dry wells SCH1,



- SCH2, SCH3 – issued by State Water Management Authority Polish Waters Catchment Management Authority in Lwówek Śląski of 16 December 2021, WR.ZZ.3.4210.557.2021.RK] [online]. [Access: 11.05.2022]. Available at: <https://podgorzyn.bip.net.pl/?a=4429>
- QIAO X.J., LIU L., KRISTOFFERSSON A., RANDRUP T.B. 2019. Governance factors of sustainable stormwater management: A study of case cities in China and Sweden. *Journal of Environmental Management*. Vol. 248, 109249. DOI 10.1016/j.jenvman.2019.07.020.
- ROSENBERGER L., LEANDRO J., PAULEIT S., ERLWEIN S. 2021. Sustainable stormwater management under the impact of climate change and urban densification. *Journal of Hydrology*. Vol. 596, 126137. DOI 10.1016/j.jhydrol.2021.126137.
- ROTKO J. 2013. Ramowa Dyrektywa Wodna – analiza prawna [Water Framework Directive – Legal Analysis]. Poznań. WSPiA. ISBN 978-83-60038-41-3 pp. 297.
- Rozporządzenie Ministra Infrastruktury z dnia 12 kwietnia 2002 r. w sprawie warunków technicznych, jakim powinny odpowiadać budynki i ich usytuowanie. [Regulation of the Minister of Infrastructure of 12 April 2002 on the technical conditions to be met by buildings and their location]. Dz.U. z 2019 r. poz. 1065 z późn. zm.
- SOBOTA M. 2021. Obowiązek opłaty za odprowadzania do wód – wód opadowych lub roztopowych (kiedy zapłacimy za odprowadzenie deszczówki) [Obligation to pay for discharge into water – stormwater or snowmelt (when we pay for the discharge of rainwater)]. *Roczniki Administracji i Prawa*. T. 1. Nr XXI p. 15–21. DOI 10.5604/01.3001.0015.2491.
- SOBOTA M., JAWECKI B. 2019. Aspekty prawne procedury ustalania opłat za usługi wodne w nowym prawie wodnym [Legal aspects of the procedure for determining fees for the water services in the new water law]. *Ius Novum*. Vol. 13(4) p. 114–134. DOI 10.26399/iusnovum.v13.4.2019.46/m.sobota/b.jaweck.
- Sprawozdanie Komisji dla Parlamentu Europejskiego i Rady w sprawie wykonania Ramowej Dyrektywy Wodnej (2000/60/WE) i Dyrektywy Powodziowej (2007/60/WE) z dnia 25 lutego 2019 r. [Report from the Commission to the European Parliament and the Council on the implementation of the water framework directive (2000/60/EC) and the floods directive (2007/60/EC) of 25 February 2019] [online]. [Access 11.05.2022]. Available at: <https://eur-lex.europa.eu/legal-content/PL/TXT/HTML/?uri=CELEX:52019DC0095&from=PL>
- UN 2014. World Urbanization Prospects, the 2014 revision [online]. United Nations, Department of Economic and Social Affairs. [Access 12.05.2022]. Available at: <https://esa.un.org/unpd/wup/CD-ROM/>
- UN General Assembly 2015. Sustainable Development Goals” (SDGs) Transforming Our World: The 2030 Agenda for Sustainable Development [online]. [Access 10.05.2022]. Available at: <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication>
- Ustawa z dnia 7 lipca 1994 r. Prawo budowlane [Act of 07 July 1994 – Construction Law]. Dz. U. z 2021 r. poz. 2351 incl. amendments.
- Ustawa z dnia 20 lipca 2017 r. Prawo wodne [Act of 20 July 2017 – Water Law]. Dz. U. z 2021 poz. 2233 incl. amendments.
- VASCONCELOS A.F., BARBASSA A.P., DOS SANTOS M.N.F., IMANI M.A. 2022. Barriers to sustainable urban stormwater management in developing countries: The case of Brazil. *Land Use Policy*. Vol. 112, 105821. DOI 10.1016/j.landusepol.2021.105821.
- WOJCIECHOWSKI B. 2015. Reguły kolizyjne i inferencyjne w interpretacji prawa administracyjnego. W: L. Leszczyński, M. Zirk-Sadowski, B. Wojciechowski. Wykładnia w prawie administracyjnym. T. 4. [Rules of conflict and inference in the interpretation of administrative law. In: L. Leszczyński, M. Zirk-Sadowski, B. Wojciechowski. Interpretation in administrative law. T. 4]. Ser. System prawa administracyjnego [Administrative Law System]. Eds. R. Hauser, Z. Niewiadomski, A. Wróbel. Warszawa. C.H. Beck, Instytut Nauk Prawnych PAN p. 377–397.
- XU Q., JIA, Z., TANG S., LUO W. 2022. The effect of flow partition on storm runoff and pollutant retention through raingardens with and without subsurface drainage. *Journal of Environmental Management*. Vol. 302. Part A, 114038. DOI 10.1016/j.jenvman.2021.114038.
- ZIELIŃSKI M. 2011. Osiemnaście mitów o wykładni prawa [Eighteen myths in thinking about the interpretation of law]. *Palestra*. Vol. 3–4 pp. 28.
- ZIELIŃSKI M. 2017. Wykładnia prawa. Zasady, reguły, wskazówki [Legal interpretation, rules, tips]. Warszawa. Wydawnictwo Wolters Kluwer Polska. ISBN 978-83-8092-950-0 pp. 296.