The surveyor and the trajectory of land sobriety in France - Part 1 - The prerequisites: Towards a Comprehensive Legal and Practical Framework for Soil Management

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SUMMARY

Urbanization often leads to significant artificialization of landscapes, disrupting natural ecosystems and increasing vulnerability to environmental challenges such as flooding and heat islands. This paper examines a practical case study led by a surveyor, focused on the renaturation and de-artificialization of an urbanized area in a mid-sized European city. The project illustrates the critical role of geomatics and land management in reclaiming ecological balance within developed spaces. The selected site, a former industrial zone, was heavily paved and devoid of vegetation, contributing to urban heat island effects and reducing water infiltration capacity. The surveyor's involvement was pivotal in designing and implementing a transformation plan. The initial phase involved a comprehensive land survey using geospatial technologies, including drone photogrammetry and GIS mapping, to assess topography, surface materials, and existing infrastructure. Based on this data, a renaturation strategy was developed. It included the removal of impervious surfaces such as concrete and asphalt, the creation of green spaces, and the restoration of natural watercourses. The project integrated innovative techniques like permeable pavements and rain gardens to enhance water management while fostering biodiversity. Additionally, native vegetation was planted to ensure ecological sustainability and reduce maintenance costs. A key aspect of the project was stakeholder engagement. The surveyor facilitated collaboration among local authorities, urban planners, ecologists, and the local community. This multidisciplinary approach ensured the project aligned with urban planning regulations, ecological best practices, and the community's needs. The results of the renaturation efforts were remarkable. The site transitioned from a heat-trapping urban desert to a green, multifunctional space. Increased water infiltration rates reduced flood risks, while the introduction of vegetation improved air quality and provided new habitats for urban wildlife. Social benefits included enhanced aesthetic appeal, recreational opportunities, and improved well-being for residents. This case study highlights the strategic role of surveyors in addressing urban

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environmental challenges. By leveraging technical expertise, spatial data analysis, and cross-disciplinary collaboration, surveyors can lead transformative projects that balance urban development with ecological restoration. The lessons learned from this initiative underscore the importance of integrating renaturation and de-artificialization principles into urban planning to create resilient and sustainable cities.