WHOSE CLIMATE-PROOF CITY?

*A river-led, catchment-based critical assessment
of climate justice in South Dublin*

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(Cover source: Anne Devlin People's Park protest WhatsApp group, 2022)

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ABSTRACT

The expansion of urban green and climate policy of the last decades in many regions of the world has been increasingly called out for dramatically reinforcing existing urban inequities. Many urban justice scholars have documented how these inequities are produced through non-inclusive procedural and epistemic governance: a tight control over who makes decisions and who produces knowledge in urban green and climate development results in further unjust urban environmental arrangements.

Building on these findings, the present PhD research project assesses how climate inequities unfold in South Dublin: it asks whose environmental concerns and knowledges count in the making of the climate-proof city. Taking as a starting point one South Dublin river, the river Poddle, it critically assesses four climate change adaptation and mitigation projects to be implemented in its catchment and involving a wide range of public and private stakeholders: a planned flood alleviation scheme, an Amazon data centre powered district heating scheme, two inner-city re-densification initiatives and, finally, a combined river greening and sustainable food production project.

Grounded in a qualitative, inductive methodology approach and drawing on main feminist epistemologies assumptions, the collection and assessment of data pertaining to the four climate projects are conducted through three research methods: walking with the river Poddle, semi-structured interviews and discourse analysis. Findings are consistent with the existing literature on the neoliberalization of urban environmental governance: all four climate projects are found to be heavily private actor, private market driven and as such leading to intensified social and environmental inequities. The privatization of climate governance is largely facilitated by state and local government tight control over decision-making and knowledge production processes. In contrast, the present research project outlines ways to locate and challenge the produced inequities through fairer human and more-than-human spatial-epistemic arrangements.

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LIST OF ACRONYMS & ABBREVIATIONS

ABP: An Bord Pleanála

AEP: Annual Exceedance Probability

BTR: Build-to-rent

CARO: Climate Action Regional Office

CFRAM: Catchment Flood Risk Assessment and Management

DCC: Dublin City Council

EPA: Environmental Protection Agency

FAS: Flood Alleviation Scheme

FOI: Freedom of Information

FOIR: Freedom of Information Request

GHG: Greenhouse Gas

HAP: Housing Assistance Payment

IPCC: Intergovernmental Panel on Climate Change

LAWPRO: Local Authority Waters Programme

LDA: Land Development Agency

OPR: Office of the Planning Regulator

OPW: Office of Public Works

SA: Student Accommodation

SDCC: South Dublin County Council

SDGs: Sustainable Development Goals

SHD: Strategic Housing Development

TDHS: Tallaght District Heating Scheme

TU: Technological University

WFD: Water Framework Directive

THANKS

In loving memory of my grandfather Jacques & little brother Alex

I would like to thank All who contributed to the present research project and who took the time to share with me some of their invaluable knowledge. I know that for many it was a demanding effort to make due to material and time constraints, strong emotional involvement and/or fear of potential negative repercussions. I would like especially to highlight the horrendous living conditions witnessed during the research that many must endure, grounded in decades of state disinvestment, abandonment and discrimination. No one should be made to suffer in their home or wherever they take refuge, especially not children.

I would like to thank the incredibly brave, caring, visionary Anne Devlin People's Park Protesters for showing us how things could be different. Only for wanting to use a vacant public building as a homeless shelter and community centre, some of them now have a criminal record.

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CHAPTER 1: INTRODUCTION

Cities from small to mega size are widely depicted at the heart of our most pressing environmental challenges, seen altogether as the main driver of environmental harm and the most impacted by it. Only looking at carbon emissions, urban areas are said to account for a growing proportion of global emissions which could rise above 80% according to some scenarios (IPCC, 2022b). In terms of land use, urban land use is described as "one of the most intensive human impacts on the planet" and linked to agricultural land loss, deforestation, habitat fragmentation, biodiversity loss and the modification of urban temperatures and regional precipitation patterns (IPCC, 2022b, p880). As for flood hazard for instance, some estimates indicate that, even without accounting for climate change, the extent of urban areas exposed to flood hazards will increase 2.7 times between 2000 and 2030 (IPCC, 2022a, p922).

From there, cities are seen as the most relevant location from which to address these global environmental challenges: they are described as "major catalysts of change (…) to help achieve the objectives outlined in multiple international frameworks and assessments" (IPCC, 2022b, p866) and their rapid expansion becomes a "time-limited *opportunity* to work toward risk reduction and transformational adaptation in towns and cities" (IPCC 2022a, p921, bold italics added). On the ground, it has translated in significant green and climate policy developments in many urban regions of the world (Bulkeley, 2010; Anguelovski et al., 2018a; IPCC, 2022a; IPCC, 2022b; UN Habitat, 2022).

However, on the other hand, these green and climate urban developments are being increasingly documented as a source of acute social and environmental inequities (Anguelovski and Connolly, 2022; IPCC, 2022a; IPCC, 2022b; UN Habitat, 2022), leading to what has been termed a "green paradox" (Anguelovski et al., 2018b). One common example of such urban green development led inequities is forced displacement: in Medellin, Columbia, for instance, the municipal "Green Belt" project resulted in the displacement of thousands of low-income residents (Anguelovski et al., 2018b). From this perspective, Ireland is no exception: in Dublin, expanding

green, climate policy and initiatives (Dublin City Council, 2019a; Mapping Green Dublin website) have been paralleled by the intensification of existing urban environmental inequities (Anguelovski et al., 2019c; Anguelovski et al., 2022).

The present doctoral project is grounded in this particular "green paradox" context as unfolding in Dublin. The project is born out of a few years of engagement in local environmental and social activism in the south part of the city. During this time, I became increasingly frustrated with local environmental governance and particularly with how decisions were made, by whom, and with which effects: many residents found themselves at increased risk of marginalization as a result. Going through the existing urban environmental justice literature during the first year of the project echoed many of my local activist concerns. A main line of analysis of the "green paradox" has been through the lens of procedural and epistemic justice (Anguelovski et al., 2020; Tozer et al., 2020): such a perspective aims to explore how urban inequities are enacted, produced and reinforced through uneven access to decision-making and knowledge production processes. Based on my own local community engagement experience, this is the lens of analysis I have adopted in the present research project. The procedural and epistemic justice focuses of the project were translated as follows in my main research question: whose environmental concerns and knowledges count in the making of the climate-proof city?

The main research question contains in a nutshell the scope of the project: "whose environmental concerns and knowledges", its procedural and epistemic focuses, "count", its justice focus and, "the making of the climate-proof city", its spatial and climate change focuses. Additionally, four sub-research questions were helpful in operationalizing the main procedural, epistemic and spatial justice concerns guiding the project during my empirical data collection and assessment: What are the historical, geographical contexts and related socio-spatial inequities? How are socio-spatial contexts and political agency obscured? Whose concerns and knowledges are ignored and with what spatial effects? How can socio-spatial contexts and political agency be kept visible? These additional sub-research questions have brought in focus the temporal and depoliticization lenses, which are also central to grasping urban inequities. Furthermore, the last sub-question articulates one of the

complementary objectives of the project: in addition to depicting spatial-epistemic inequities and their impact, it is to explore to which extent the epistemological approach adopted in the project may be of use to continue researching and challenging those inequities.

The only dimension of my main research question which was settled in the final stage of the project is its climate change focus: whose environmental concerns and knowledges count in the making of the ***climate-proof*** city? During the four years of the research, I explored different conceptual options that would best transcribe its social justice dimension. The first provisional title of my thesis included "environmental justice" (now replaced by "climate justice") and my first research question "sustainable city" (now replaced by "climate-proof city"). The recent and final shift was made on two grounds: first, the clear climate focus of the finalized empirical delineation of the project and, second, an acknowledgment of the contested nature of all conceptual options under consideration. To begin with, in terms of empirical focus, it became progressively clear that all my empirical cases could be identified as climate change adaptation and mitigation initiatives. In this sense, "the making of the climate-proof city" was an appropriate way to describe and encompass all interventions by different urban actors to either adapt to or mitigate climate change (UN Habitat, 2018). While what counts as adaptation and mitigation for whom is the very object of the thesis, they are loosely defined as a starting point as follows: 'adaptation' as all processes of adjustment to actual or expected climate change and its effects and 'mitigation' as all interventions to reduce the sources or enhance the sinks of greenhouse gases (UN Habitat, 2018). Secondly, although the concepts of 'environmental justice' and 'sustainability' could be seen as more easily encompassing the 'social justice' dimension at the heart of the project, they have themselves always been contested. Historically, environmental justice has been defined very diversely from a focus on legal rights to much broader normative social justice claims (Bullard, 1990). Likewise, sustainability has been at the centre of the strong versus weak sustainability debate and which translates in radically different social and ecological justice scopes and objectives (Neumayer, 2013; Baker, 2016; Kotsila et al., 2023). For these reasons, I made the decision to adopt a "climate

justice" lens in the final drafting phase of the thesis and to fully claim the concept as part of my normative framework centred on social justice. In other words, "climate justice" in my thesis title and thesis at large should be understood as fully inclusive of social equity concerns and objectives.

The overall methodological approach taken in the present research project is qualitative. The initial empirical focus of the research has been climate change adaptation in the form of a flood alleviation scheme for the river Poddle. The river Poddle rises in Tallaght in South Dublin and flows into the main Dublin river, the Liffey, at Wellington Quay (Figure 1.1). Its estimated length is of 11.6km, half of which now culverted, and its catchment area of approximately 16,400ha (Nicholas O'Dwyer Ltd, 2020a). The river itself is part of a much wider network of open and culverted watercourses in and around Dublin (Figure 1.2) amounting to more than 135 (Doyle, 2012) and likely to be of increased concern in a climate change context. I first heard of the planned flood works for the river Poddle during my local community engagement and took part in several public consultation events and local protests relating to the planned flood works which are described at greater length in Chapter 3 and 4. This first empirical focus was inductively completed with three other climate change mitigation projects, all located within the river Poddle catchment: an Amazon data centre heat waste powered district heating project located in the upper catchment of the river, a comparative assessment of two inner city re-densification initiatives located in its downstream part and, lastly, a river greening and sustainable food production project located in its middle part. While all four projects assessed as part of the research are relevant in the sense that they all relate to climate change adaptation and mitigation initiatives involving a wide range of stakeholders, the specific river management focus that connects them all through the catchment allows for a full inclusion of the more-than-human in the present climate justice enquiry.

The thesis structure is organized around four main parts: first, the literature review chapter, second, the methodology chapter, third, the four empirical assessment chapters and, lastly, the concluding chapter. The literature review (Chapter 2) covers first an overview of climate change adaptation and mitigation in urban context,

second the main identified sources of urban inequities and of their persistence and, lastly, some theoretical, epistemological and conceptual tools best tailored to locate and challenge urban inequities and that will be used as a basis for my own epistemological framework. From there, the methodology chapter (Chapter 3) describes the overarching epistemological framework and how it was translated in the main three research methods used to collect data: walks with the river Poddle, qualitative semi-structured interviews and discourse analysis. Next are the four empirical assessment chapters (Chapters 4 to 7), all structured around the main spatial-epistemic concern guiding the project. Chapter 4 assesses some dimensions of flood management as conducted in the river Poddle catchment mainly through the lens of the tragic death of Celia de Jesus, which occurred during the October 2011 flood event. Chapter 5 assesses an Amazon data centre waste heat powered district heating scheme project located in the upstream part of the catchment. Chapter 6 proposes a comparative assessment of two re-densification initiatives located in the Liberties part of the catchment, one led by private developers, and one led by housing activists. Finally, Chapter 7 assesses a river greening and sustainable food production project located in the middle part of the catchment. Although all assessed projects involve public stakeholders and public resources, data analysis reveals their almost entire subjection to private actor and private market interests. As a result, in the last and concluding chapter of the thesis, Chapter 8, I return to catchment scale and beyond to draw a wider picture of the limitations of the current private actor, private market led climate governance approach. In contrast, the last part of Chapter 8 briefly outlines how the epistemological framework adopted in the project has been successful in challenging human and more-than-human urban climate inequities.
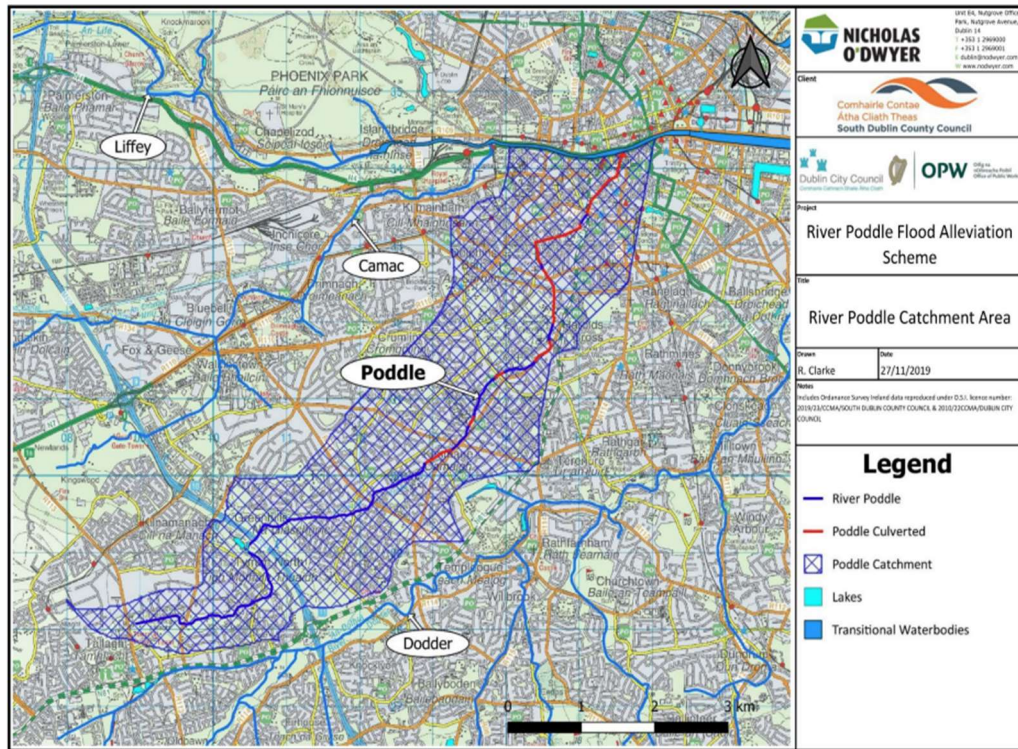
Figure 1.1: The river Poddle and its catchment (Source: Clarke, 2019)
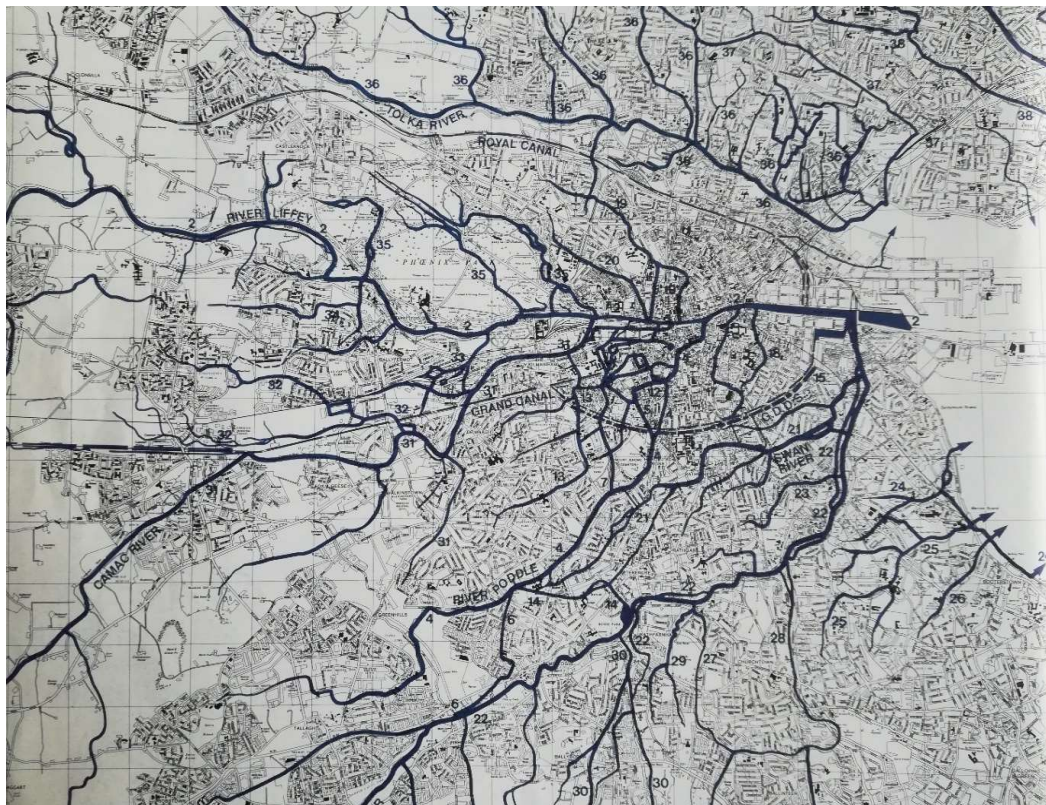
Figure 1.2: Extract from the Dublin watercourses map (Source: Sweeney, 1991, p10)

CHAPTER 2: LITERATURE REVIEW

2.1   Introduction

The following literature review provides an overall theoretical and epistemological framework for the four empirical assessments conducted as part of the present research project. More specific relevant literature is introduced and discussed in later chapters.

The content of the present review was built inductively to reflect the research progression and its evolving focus from urban sustainability to urban climate governance from a river management perspective. In terms of empirical relevance, the review focuses on the four main urban environmental concerns explored in the four empirical studies: housing, green/blue infrastructure management, flood risk management and decarbonization.

The structure of the review is threefold: first, I present, discuss and situate the impact of and responses to climate change in urban context from both an academic and grey literature perspective; second, based on the widespread observations that urban social and environmental inequities continue to grow, I turn to the urban environmental justice literature that sought to locate the main how and why of the inequities and of their persistence; finally, in a third move, I explore in more details some theoretical, epistemological and conceptual framings that might best challenge the described persisting inequities.

2.2   Climate change in urban context: impact and responses

This first part of the review is structured as follows: first, I present the literature that discusses to which extent the urban scale is relevant to both measure the impact of climate change and respond to it; second, I review and discuss the main existing

paths to climate change adaptation in urban context; third, I review and discuss these same paths this time to climate change mitigation.

2.2.1   The centrality of the urban in question

To begin with, it is important to note that the centrality of the urban in climate governance as described in Chapter 1 has not been left unchallenged. Some scholars have observed how it has gained prominence only in recent times. Looking at the IPCC assessments for instance, they didn't include specific urban chapters until their fifth edition in 2014 (highlighted in Bulkeley and Castan-Broto (2012) when the announcement of the forthcoming urban chapters was first made). Bulkeley (2010) describes two "waves" of municipal action on climate change, one which started in the early 1990s, predominantly in North America and Europe through individual municipal actions, and one which started in the early 2000s, encompassing a more geographically diverse range of urban actors through increased intra/inter nation municipal networking. Locating the urban focus of the current climate governance as a specific moment in time calls for a more thorough examination of its genealogy: it outlines the need "to consider how, why, and with what implications other actors (than municipal) are seeking to govern the climate through the city" (p233). Adopting a similar critical historical lens, Angelo and Wachsmuth (2020) retrace the emergence of three urban sustainability concerns and how they have been addressed: the post-war US urban sprawl, informal settlements in the last quarter of the 20th century and climate change from the 1980s onward. They demonstrate how, in each case, non-urban solutions or what they call "non-city solutions" were first considered to address these concerns before being abandoned in favour of "city solutions", going from "the city as a sustainability problem to the city as a sustainability solution" (p3). Whereas "non-city solutions" were oriented towards challenging the economic growth imperative driving unsustainable urban development, "city solutions" have focused instead more narrowly on reforming existing urban development practices and governance: urban sprawl is addressed through the compact city (spatial planning), informal settlements through urban resilience and sustainability models (architecture, design) and climate change through urban governance (such as climate

municipal networks). In other words, in the three cases they describe, urban reforms were used in place of more systemic changes.

The question of the extent of urban environmental harm itself has not been left unchallenged. Importantly, urban emission estimates have been critically assessed (Satterthwaite, 2008; Dodman, 2009). Among others, emission estimates may vary according to how city boundaries are defined and, most importantly, whether and how they take into account production and consumption emissions. A well-known example is the Western world exporting their manufacturing to China and the subsequent emission decrease it entailed for them (Dodman, 2009). This point is all the more relevant at a time when the environmental impact of current modes of urbanization is made increasingly distant from the urban processes they sustain (Satterthwaite, 2008; Wachsmuth, 2012; Kaika and Swyngedouw, 2014; Arboleda, 2015; Brenner and Schmidt, 2015; Angelo and Wachsmuth, 2020; UN Habitat, 2022; Kotsila et al., 2023). In any case, what should be kept in mind is that the different modelling approaches to urban emission estimates are likely to allocate responsibility for emissions differently and this is no doubt a main reason why grounds for a standardized framework cannot be found (IPCC, 2022b; UN Habitat, 2022). By eluding the question of responsibility in a context of highly uneven emission contribution landscapes between cities and between urban stakeholders within and beyond cities, the finger-pointing of 'cities' as major carbon emitters contributes to maintain the status quo. As observed by Satterthwaite (2008, p546) however, "it is not cities that generate greenhouse gases; greenhouse gas emissions are produced by particular (production and consumption) activities by individuals, enterprises and institutions". Along the same lines, Dodman (2009) asserts that "there is no fundamental link between urbanization and high levels of greenhouse gas emissions" (p198).

A last debate widely covered in the literature questioning the relevance of the urban scale to address climate change is centred on the governance capacity of cities: "scholars have recognized that the context within which urban actors are responding to the issue is critically shaped by the structures and processes of governing taking place at other scales and through multiple networks" (Bulkeley, 2010, p236; Bulkeley

and Betsill, 2005). In other words, the ability of urban governance to address globalized issues such as climate change and its effects is questioned. In fact, some scholars have argued that the urban focus of climate governance should be seen as a response to failed state commitment and action on the issue (Bulkeley, 2010; Angelo and Wachsmuth, 2020); that being said, it is unclear whether and to what extent local governments have the resource and governance capacity to position themselves against/beyond state policy. Engaging in new forms of horizontal partnership might be a way for them to counter the lack of state support (for instance through municipal networks); by doing so though, they also run the risk of restricting their scope of action to market mechanisms (McGuirk et al., 2014). As for the ability of transnational municipal networks to strengthen the scope of local climate governance, it remains much contested: while Toly (2008) presents one of the two municipal networks assessed in his paper, 'International Solar Cities Initiative', as successful in advancing new equity norms in the climate governance agenda, Bulkeley (2010)'s overall assessment is that the commitment of these networks to a neoliberal, eco-modernist approach to environmental governance greatly limits their ability to achieve their ambition.

In sum, while the urban focus in climate governance has propagated over the last few decades to make cities an altogether problem and solution of climate change, such a focus has also been increasingly challenged. In 2010, Bulkeley observes that at least the existing literature has provided "very little evidence of the extent to which the growing mass of urban policies and initiatives to address climate change are having an impact either in terms of reducing GHG emissions or through reducing vulnerability to climate risks" (p236). More recently, UN Habitat (2022) states that while "Cities continue to be at the forefront of environmental and sustainability action", "their role in constructing sustainable urban futures is increasingly questioned by the public": "In short, the promise of sustainable urbanization remains unfulfilled" (p141).

2.2.2 Climate change adaptation in urban context

Given the widespread agreement on the centrality of the urban in climate governance at various institutional levels, it is no surprise that climate adaptation is also conceived as an urban problem and solution (IPCC, 2022a). An important specificity of adaptation, however, is that it has been widely described as lagging behind mitigation efforts in terms of projects and investments (Dodman, 2008; Bulkeley, 2010; Bulkeley and Castan-Broto, 2012; Keenan et al., 2019; IPCC, 2022a). Concerning the observed adaptation investment deficit, Keenan et al. (2019) argue that it comes from limited public funds combined with a lack of interest from financial actors due to little opportunity for short-term returns and wider uncertainties on longer-term returns. Indeed, return on investment is primarily generated through "avoided losses from climate impacts, which are difficult to measure" and "are more attractive to funders than financiers" (IPCC, 2022a, p978; Collins, 2010). While Keenan et al. (2019) outline differences between public and private stakeholders in adaptation funding/financing and governance, they also insist on similarities and crossovers between them: both are in some ways subject to global capital markets and, in a growth paradigm and neoliberal context, both "are united in their ambition to create value from adaptation investments" (p300; Collins, 2010; Kotsila et al., 2023). As of now, the IPCC chapter on urban adaptation (2022) seems to indicate that a great part of the already limited adaptation investment is tied to the interests of the real estate market and more generally to the protection of existing high-value physical assets. In a context of unregulated real estate markets, such adaptation developments are likely to lead to increased green and climate gentrification (IPCC, 2022a) and/or the creation of new enclaves of climate privilege (Long and Rice, 2019; Anguelovski and Connolly, 2022).

Closely linked to the interests of real estate markets and the first climate change adaptation approach to be reviewed in this part of the chapter is insurance. Insurance plays a central role in disaster risk governance in the Global North (IPCC, 2022a) and especially flood risk governance, which is of specific empirical relevance to the present research project. While the benefits of insurance as an adaptive

response to climate change have been diversely valued (IPCC, 2022a; Quinn et al., 2023) including from the perspective of lower-income communities very often unable to afford it (Collins, 2010), a central distinction made by O'Hare et al. (2016) is that insurance is a 'risk transfer' rather than 'risk reduction' mechanism. From there, O'Hare et al. (2016) argue that insurance privileges quick recovery and a return to business-as-usual which inhibit change and more transformative adaptation practices, fuelling what they term the "maladaptation cycle". Crucially, the re/insurance industry is an incredibly lucrative market and re/insurers are amongst "the largest and wealthiest global corporations" (p1179). In other words, from their perspective, "catastrophic events become immense business opportunities" (p1179). They "enables recovery, yet the sector has its own aspirations concerned with profit maximisation rather than adaptive capacity, and indeed benefits from this limited iteration of resilience" (p1187). Therefore, re/insurers are imbued with extraordinary risk governance capacity, working to maintain the kind of business-as-usual 'exposure' best tailored to their business model ("Here the 'business-as-usual' terminology reveals a dual meaning, both the speedy recovery after detriment and the normalisation of risk as a business in itself" (p1187)). This is why re/insurers are said to have the same impact as levees by encouraging the overdevelopment of flood prone areas (O'Hare et al., 2016). This is showing even more strikingly in the work of Taylor (2020) on one of the biggest flood risk reinsurance markets, the Florida urbanized coastline. Whereas insurance-linked securitization might be seen "as a way to stabilize crisis-prone property catastrophe insurance markets" (p1132), it first and foremost contributes to maintaining and furthering regimes of vulnerability through high dependency on global financial markets as much as on the development of fragile, highly exposed coastlines (Taylor and Weinkle, 2020). "Faced with the inevitability of retreat, as many coastal communities are likely to find themselves in the face of rising seas, who will pay to write off Florida's multi-trillion-dollar coastal property market?" (Taylor, 2020, p1145). Based on his Florida assessment, Taylor (2020) calls for "transformative rather than extractive practices of climate adaptation finance" (p1145). Indeed, while scholars have highlighted a lack of climate change adaptation investment (Dodman, 2008; Bulkeley, 2010; Bulkeley and Castan-Broto, 2012; Keenan et al., 2019; IPCC, 2022a), they may have overlooked the "extractive

practices of climate adaptation finance" (Taylor, 2020, p1145) and the "maladaptation cycle" (O'Hare et al., 2016) they sustain.

While insurance is part of a larger set of adaptive practices which comes under a wide range of social safety nets and other social measures ("Adaptation through social infrastructure" in IPCC (2022a), p942), in what follows I review the three other approaches to climate change adaptation most relevant to my empirical assessments and therefore most relevant to flood risk management: physical barriers, land use management and nature-based solutions. The most widespread flood adaptation measures are still by far and will likely remain so for the foreseeable future hard physical barriers (such as seawalls and river levees) and other heavily engineered measures seeking to control water flows (IPCC, 2022a). This is so even though such measures are being increasingly challenged on several grounds. A main objection is the well-known "levee effect" (Koslov, 2016; Rusca and Di Baldassarre, 2019; Krueger and Alba, 2022; IPCC, 2022a) whereby physical protections exacerbate the development of flood prone areas and which in turn lead to "increased residual risk" (IPCC, 2022a, p957) and potential flood damages. Another important limitation of all adaptation measures but especially relevant to hard infrastructure adaptation measures is risk transfer from one place to another (IPCC, 2022a): "Current adaptation approaches in cities, settlements and key infrastructure tend to move risk from one sector or place to others" (IPCC, 2022a, p910). The risk transfer from "one sector" to another can be illustrated by the fact that hard infrastructure adaptation "counter mitigation objectives because of reliance on climate-polluting energy sources" for instance (IPCC, 2022a, p952). Additionally, their harmful environmental impact has been widely documented (Tubridy et al., 2020) and which again is in direct conflict with many other adaptation, mitigation, SDGs measures and objectives. Tubridy et al. (2020) also argue that physical barriers and other heavily engineered processes contribute to perpetuate the human/nature divide along with the misrepresentation that nature can be controlled. Furthermore, physical barriers and other forms of 'hard' protection measures are being questioned for their "lack of flexibility post-deployment", resulting in little ability to adapt to "climate and vulnerability change" (IPCC, 2022a, p961). While we saw that adaptation remains

largely underinvested compared to mitigation, "Adaptation finance continues to be directed at large-scale grey/physical engineering projects, neglecting maintenance and reproducing risk of stranded assets if climate change risk accelerates beyond planned-for levels" (IPCC, 2022a, p910; UN Habitat, 2022).

Land use management has long been a way to address flood risk, regulating land use based on flood risk estimates. In a context of climate change, renewed policy efforts are deployed to reduce inappropriate land use such as the extensive development of flood prone areas (IPCC, 2022a). However, in cases where flood prone areas are already extensively developed, two additional land use management approaches can be considered to address flood risk: first, upgrade existing infrastructure in ways that will limit potential flood damage. Concerning residential infrastructure for instance, a wide range of measures can be implemented from improved warning systems to adequate amphibian architectural design: "installing a flood pump", "giving lower floors over to parking" or putting in "tiled floors" and "raised electrical points" (Quinn et al., 2023, p955). Second, at the other end of the spectrum, a particular land management approach increasingly discussed is the (permanent) relocation of residents living in areas at high risk of flooding. What some term 'retreat' has been unevenly valued as adaptation strategy (Koslov, 2016); however, obvious benefits include cost, safety and effectiveness as well as environmental benefits and increased protection provided retreated areas are managed as ecological buffer zones (Koslov, 2016; Tubridy et al., 2020). A main point from the review is that the fairness and effectiveness of relocation processes are greatly determined by the social condition of the residents involved in the processes (including land tenure) as well as by the present and/or potential land value they inhabit (Koslov, 2016; Tubridy et al., 2020; Quinn et al., 2023). As outlined by Collins (2010), entitlement to relocation programs is often "predicated within the capitalist political economy" and so based on property rights (p276).

Finally, the growing popularity of nature-based solutions as climate change adaptation strategy is reflected in the IPCC chapter on urban adaptation to climate change (2022a). Among them, sustainable urban drainage systems (SUDS) are increasingly used to manage storm run-off and water pollution as, for instance, in

Dublin, where street trees have been embedded in extensive pits along the tramway lines to mitigate the effect of stormwater on the tramway infrastructure (Collier and Bourke 2020). One important point made in the literature is that what constitutes 'nature-based solution' is very often contested (Collier and Bourke, 2020; Heneghan et al., 2021). One of Collier and Bourke (2020)'s examples is drawn from soft engineering solution approaches to flood risk management consisting of a combination of hard (gabions) and soft (tree planting) measures to stabilize river banks. While this might be described as nature-based-solutions, they contend that it does not fit their own conceptualization on the basis of both the hard-engineering phase and tree planting phase where trees are too often selected for their engineering more than biodiversity value. Another point to be made about nature-based solutions apart from their contested definition is the scope of these diverging definitions which encompasses an incredibly wide range of potential benefits from environmental to social. As observed by Heneghan et al. (2021), they are credited with the potential to address "climate change, food security, disaster risk, human health, water security, environmental degradation and biodiversity loss, and economic and social development (IUCN 2020)" (p148). Therefore, in conclusion, nature-based solutions might be best seen as Guy and Marvin's sustainable city (1999), "an open or empty concept which is filled by sets of competing claims" about what they are and which purposes and futures they might serve (p273).

2.2.3 Climate change mitigation in urban context

As mentioned before, compared to adaptation, mitigation seems to have received much more attention in terms of policy, investment and initiatives (Dodman, 2008; Bulkeley, 2010; Bulkeley and Castan-Broto, 2012; Keenan et al., 2019; IPCC, 2022a). A main underlying concern guiding excessive mitigation efforts compared to adaptation may be about validating the 'green growth' paradigm rooted in the assumption that economic growth can be decoupled from GHG emissions. Additionally, another major argument advanced by Keenan et al. (2019) is that the mitigation sector is much more investor-friendly: they "can draw on carbon markets and can often expect immediate returns"; as mentioned, it is in contrast with "the

lack of a clear measurement for many potential post-adaptation investment outcomes" (p302). Long and Rice (2019) have conducted a deeper assessment of the shift to carbon focus. They contend that prior sustainable development concerns and objectives ("sustainable urbanism") have been progressively replaced with carbon control ones ("climate urbanism"): "a new political narrative is emerging that simultaneously presents the urgent immediacy of action while reorienting discussions of social and environmental justice toward a global moral imperative" (p1000). Such a shift is clearly seen in the IPCC chapter on urban mitigation (2022b) which contains very few mentions of social justice compared to the urban adaptation chapter, implicitly validating mitigation as necessary and beneficial to all. In contrast, climate justice movements are increasingly "calling out 'false' solutions to mitigating climate change that seek to ease the energy transition for the fossil industry and privileged populations" (UN Habitat, 2022, p164), hence contesting climate mitigation as a common good for all. Furthermore, Long and Rice (2019) locate carbon control at the centre of new, pervasive, powerful (state) governance structures which they argue might become increasingly authoritarian and surveillance-oriented, enabling a shift of carbon reduction responsibility onto individuals for instance (Starosielski, 2021). In terms of municipal climate governance capacity, specific limitations apply to carbon emission governance:

> Most analysts find that municipalities have limited powers and responsibilities with respect to key sectors related to GHG emissions, including energy policy, pricing, and supply; the development of urban infrastructures, such as transport systems; the use of economic instruments, such as taxes and charges; as well as energy efficiency standards for buildings and appliances, though there is more autonomy with regard to land-use planning, education, and voluntary programs. (Bulkeley, 2010, p238)

Before looking in more detail at the main institutionalized urban decarbonisation pathways, a final important point to be made concerning municipal carbon governance is that it tends to focus on "energy efficiency" (Bulkeley, 2010; McGuirk et al., 2014), "with its emphasis on energy demand and consumption (rather than production and supply)" (McGuirk et al., 2014, p2729), instead of "more radical actions aimed at restructuring the energy production system" (p2721). Bulkeley (2010) observes that "energy efficiency is a particularly powerful mobilizing device"

that "can advance diverse (and often divergent) goals in tandem" such as energy poverty and energy security (p235). Besides, it is tied to "clear monetary gains" (p245).

The IPCC chapter on urban mitigation (2022b) identifies four main pathways to mitigation in urban context: first, what comes under "Spatial Planning, Urban Form and Infrastructure"; second, "Electrification and Switching to Net-Zero-Emissions Resources"; third, "Urban Green and Blue Infrastructure" and, finally, what is termed "Socio-behavioural Aspects". In what follows I discuss some aspects of these mitigation strategies which are most relevant to my empirical assessments: first, densification, second, nature-based solutions (mostly their compatibility with other mitigation and adaptation pathways) and last, behavioural change. To begin with, a main assumption guiding the first set of IPCC mitigation measures is that "urban form shapes urban energy consumption and GHG emissions" (IPCC, 2022b, p866), making compact urban form a significant pathway to emission reduction among other benefits (Angelo and Wachsmuth, 2020; McFarlane, 2020; Angel et al., 2021; UN Habitat, 2022). Although the success of compact cities in contributing to emission reduction is reliant on a wide range of conditions, a central one is mixed land use (IPCC, 2022b; UN Habitat, 2022). That being said, such an excessive focus on urban form to the detriment of the social, political, cultural context it evolves in has not been left unchallenged. An earlier mentioned point made by Angelo and Wachsmuth (2020) was that the urban form focus could be seen as a renouncement of more systemic, structural types of reforming. Along the same lines, in his paper on de/re-densification, McFarlane (2020) argues that it would be simplistic to correlate high density development with GHG emission reduction: "The carbon footprint of any high density development depends very much on the nature of the space and people who live there, from the materials used to the socioeconomic profile of inhabitants and the translocal connections of production and consumption that they are immersed in" (p319). This is all the more relevant that, as previously mentioned, the social and environmental impact of urbanization are increasingly distant from the urbanizing processes they sustain (Satterthwaite, 2008; Wachsmuth, 2012; Kaika and Swyngedouw, 2014; Arboleda, 2015; Brenner and Schmidt, 2015; Angelo and

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Wachsmuth, 2020; UN Habitat, 2022; Kotsila et al., 2023). In densification-led development processes, the construction material industry is tied to deep environmental degradation and social oppression processes, as for instance the Cambodian brick kilns, their noxious gases and enslaved labour force (McFarlane, 2020). Importantly, densification is not itself a straightforward process: a study by Angel et al. (2021) shows that, in practice, densification is not so easily achieved. Looking at the evolution of the spatial footprint of 200 cities between 1990 and 2014 in correlation with their population growth, they find that densification (of existing built-up or through new infill) is limited, with no more than one-quarter of the overall new population being accommodated in existing urban footprints. Furthermore, UN Habitat (2022) observes that "weaknesses in planning and institutional frameworks (...) lead to densification that results in overdevelopment and crowding (and its associated adverse health outcomes), gentrification, poor air quality and noise pollution, among other problems" (p66). In fact, a main identified cause of densification and urban sprawl limitation failure is real estate driven urban development: a 2019 World Resource Institute paper quoted in McFarlane (2020) identifies "developers speculating on land on the urban fringe as a way of extending real estate economies into new terrain" (p317) as one of the three main drivers of continued sprawl. To address the gentrification risk associated with densification, Angel et al. (2021) suggest that densification should be accompanied by "the careful monitoring of affordability and related metrics" (p22). Overall, McFarlane (2020) calls for the inscription of de/re-densification processes in "more nuanced and intricate geographical imagination and framework" (p317).

While the combination of urban densification and the second main IPCC (2022b) urban mitigation pathway, urban electrification, shows many synergies, it is less clear how densification is to co-exist well with green/blue infrastructure and the increasingly important adaptation and mitigation functions they are made to fulfill (Kotsila et al., 2023). From a mitigation perspective, green/blue infrastructure has a role to play in both climate change and biodiversity loss. As an example, it plays a significant role in carbon sequestration ("Global urban trees store approximately 7.4 billion tons of carbon, and sequester approximately 217 million tons of carbon

annually" (IPCC, 2022b, p864)) and decreases energy demand and the urban heat island effect through cooling (IPCC, 2022b). However, as outlined in the World Cities Report (UN Habitat, 2022), green/blue infrastructure and their increasing enrolment in nature-based solutions requires "significant provision of land and physical space" (p166), which makes it difficult for them to fully co-exist with densification imperatives, especially when such imperatives are entangled with profit-driven real estate market interests (McFarlane, 2020; Angel et al., 2021). A recurrent example of such a difficult co-existence found in the literature is the resulting precariousness of urban agriculture initiatives (Corcoran et al., 2017; Kotsila et al., 2023). Of specific relevance to the present research project is also how densification processes, by reducing dedicated green/blue space, might negatively impact flood risk: "some mitigation efforts may increase exposure to stressors such as flooding" (IPCC, 2022b, p876). It all asks the wider question of the possibility of various mitigation and adaptation urban development projects being able to co-exist in a productive manner (Pierer and Creutzig, 2019).

The last broad mitigation pathway listed in the IPCC chapter on urban mitigation (2022b), "Socio-behavioural Aspects", is mostly concerned with the potential mitigation impact of behavioural change, or more consumer choice, and how to govern it through policy and other means. Models are produced to estimate emissions reduction that can be achieved through behavioural change: according to a 2020 International Energy Agency report quoted in the IPCC chapter on urban mitigation (2022b, p908), "behaviour change in transport and residential energy use could reduce emissions by 2 GtCO2-eq in 2030 compared to 2019". Maniates (2001) argues that a focus on individual behaviour as a response to global environmental issues can be explained by a sense of powerlessness: instead of feeling overwhelmed by what can seemingly never be resolved, we focus on what is achievable and what gives us a sense of control, namely our individual (consumer) choices. However, such a sense of control is itself socially, politically produced and oriented. In an obvious manner, a consumer choice approach to solving global environmental issues is underpinned by a green growth agenda. As observed by Maniates (2001), "'reducing your environmental impact becomes, paradoxically, a consumer-product growth

industry" (p34) through what he terms "the relentless ability of contemporary capitalism to commodify dissent and sell it back to dissenters" (p38). Arguments outlining the limitations of an individual, consumer choice approach to addressing global environmental issues are numerous. Among them, the approach is said to divert our attention away from the responsibility of the most powerful decision-makers/their institutions and of those profiting the most from and most involved in environmental destruction as well as to close the door to more collective forms of response (Maniates, 2001). In turn, it leads to inappropriately scaled and therefore ineffective responses (Liboiron, 2014). In fact, the approach completely ignores questions of power and social inequities in both its diagnostic and response dimension, blaming "amorphous culprits like 'human nature' or 'all of us'" and making statements about "'all of us needing to work together to solve global problems'" (Maniates, 2001, p43-44). Liboiron's short piece on how best to tackle food waste (2014) is an excellent illustration of these shortcomings: it describes how the great majority of food waste occurs prior to consumption, hence remaining out of reach of the individual, consumer scope of intervention; furthermore, it highlights how the individual ability to not waste food is unevenly distributed: What if "they don't have the resources to use all their leftovers? Or they live in substandard housing where bugs get into their food, forcing them to toss more than they'd like?" In other words, the idea of 'consumer (free) choice' obscures high level of social inequities. However, most importantly, Maniates (2001) contends that the idea of free choice itself should be challenged as part of what he calls "the insidious dynamics of consumerism and manufactured needs" (p47) whereby seemingly free choices are in fact heavily "constrained, shaped, and framed by institutions and political forces" (p50). Finally, Jasanoff quoting Lionel Trilling (1998) outlines how these approaches become integrant part of how we see and know the world: "As (liberalism) carries out its active and positive ends it unconsciously limits its view of the world to what it can deal with, and it unconsciously tends to develop theories and principles, particularly in relation to the human mind, that justify its limitation." (Trilling, quoted in Jasanoff, 1998, p98)

Having presented, situated, discussed the main approaches to climate change adaptation and mitigation through the urban, I now turn to the second part of my review which presents some of the how and why of persisting social and environmental urban inequities.

2.3 A closer look at the persistence of urban social and environmental inequities

The first part of the literature review was dedicated to reviewing the main current institutional governance pathways to urban climate change resilience. A recurring observation from both academic and grey literature is that, despite the urban focus of the climate policy of the last decades, the promise of sustainable urbanization remains unfulfilled (Bulkeley, 2010; Kaika and Swyngedouw, 2014; UN Habitat, 2022; Westman and Castan-Broto, 2022). In fact, many of the works cited in the first part of the review establish a direct link between our current urban climate change adaptation and mitigation policy and growing urban inequities and overall risk exposure for the most marginalized (Collins, 2010; Koslov, 2016; O'Hare et al., 2016; Long and Rice, 2019; Taylor, 2020; Taylor and Weinkle 2020; McFarlane, 2020; Anguelovski and Connolly, 2022; IPCC, 2022a; IPCC, 2022b; UN Habitat, 2022). As a logical step, this second part of the review will therefore delve in more depth into the main how and why of persisting urban inequities as diagnosed by urban justice scholars. The first section presents the main identified root cause of urban injustices, the neoliberalization of urban environmental governance and its resulting disinvestment in social housing and corresponding housing provision marketization and financialization; the second section explores how the neoliberal regime and its unjust outcomes is obfuscated and sustained through various forms of depoliticizing strategies.

2.3.1 The neoliberalization of urban environmental governance

Urban justice scholars have long pointed out neoliberal governance as the main context in which urban inequalities unfold. Neoliberalization is defined as a set of

regulatory responses to the crisis of the Keynesian welfare state and the end of the industrial economy toward the end of 1980s (Angelo, 2021). Main aspects of neoliberal governance include: cutbacks on public funding along with a reorganization of public institutions based on efficiency and profitability imperatives, the progressive retreat of the state from all public services and their corresponding privatization as well as a free-market oriented economy (Soja, 2010; Kotsila et al., 2023). Collins (2010) articulates it in terms of "state power (having been) harnessed to facilitate accumulation for elites, with less powerful groups being marginalized in the process" (p261). In the urban context, neoliberalization has dramatically impacted housing access through severe disinvestment in public housing coupled with increased housing provision marketization and financialization (Hearne, 2020; Kotsila et al., 2023). In Ireland, the financialization of housing provision is largely enabled by the state through investor-friendly policy (Hearne, 2020; Reynolds, 2022; Nic Lochlainn, 2023).

The consequences of neoliberal governance in terms of urban in/equities have long been documented. As mentioned, the increased privatization of the provision of basic needs such as housing compromises their affordability and therefore their access. Concerning urban amenities more widely, which include public (green) spaces, their maintenance and development are increasingly being funded through privatization and commodification (Angelo, 2021; Armstrong et al., 2023), raising similar access concerns: "In the Ruhr, (...) private waterfront homes underwrote the cost of public waterfront recreation, just as, in New York, those who buy apartments in Brooklyn Bridge Park make it possible for the rest of us to buy ice cream there or take in the view" (Angelo, 2021, p151). This is one of many dimensions of what Hodkinson (2012) identifies as the new urban enclosure under neoliberalism. According to him, urban enclosure comes under three main "acts": "privatization", "dispossession" and "capitalist subjectification". Privatization is defined as the fencing off of land, services, ideas, which can itself be material or immaterial, enabling "an exclusive separation to occur between those who have the sole right to own, access, and determine access and use of that thing and to realise exchange-value (and profit) from it (…) and those who have no such rights"; dispossession is

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"the dispossession of those who are now on the other side of this new enclosure line"; and, finally, "capitalist subjectification" is the "encapturing of people, place, space and culture within the commodifying and alienating logic of capital accumulation and the competitive, marketising logic of neoliberal rationality" (p509). In other words, while some scholars have linked processes of enclosure to increased need for securitization in the face of growing inequalities in the neoliberal city ("security-Obsessed Urbanism" in Soja, 2010, p42; Nixon, 2011), Hodkinson (2012) defines them first and foremost as acts of privatization/dispossession and which primary function is "to realise exchange-value (and profit)" through restricted access.

The urban neoliberal regime has profoundly impacted civil society at large. First, in a context of widespread cuts in public funding, public institutions increasingly rely on volunteers to fulfil roles that were previously within their remit. While this gives way to many forms of exploitative practice, it also increases socio-spatial inequities in at least three ways: first, volunteers are unlikely to be as well-resourced and trained to provide social services and this first impacts those most reliant on these services; second, volunteers are most likely to be found in more privileged parts of the city, which means for example that public (green) spaces will be better maintained in those more privileged neighbourhoods (Kotsila et al., 2023); finally, beyond distributive concerns alone, if volunteering is mostly assumed by the more privileged classes, it means in turn that these more privileged classes will have comparatively better access to decision-making in urban environmental development and will be more accounted for and accountable to in these decisions and their enactment (Tozer et al., 2020). On the other hand, community-led initiatives have little choice but to rely on scarce public funding or else turn to private funding, which in both cases requires competing for grants to the detriment of more cooperative practices. Furthermore, grant applications are unlikely to be successful unless mirroring the (neoliberal) values of their funders, resulting in piecemeal, short-termist, result-driven approaches to local environmental projects and the foreclosure of their transformative potential (Bresnihan and Hesse, 2019; Kotsila et al., 2023). Such a "clash of temporalities", values and objectives was particularly apparent in the development of a gardening project on a vacant plot in Barcelona (Kotsila et al., 2023)

where care work and its temporality were given little consideration in the short-termist, (quantifiable) result-driven resourcing and evaluation of the project: "activities (…) such as caring for others and the environment, remain unpaid, invisible, misunderstood and unaccounted for, while they are also in opposition with legally imposed time frames" (p79). Reflecting on the temporality of care, Tronto (2010) retraces the evolution of two different temporalities, the tightly controlled labour/production time (workplace) and reproduction of life time (home) and how they have been historically gendered, divided and differentially valued. From there and in line with Kotsila et al. (2023), she argues that "Time assumes a different aspect from the standpoint of care" and that "Time spent caring is not about mastery and control but about maintenance and nurturance" (p123). In another paper (2017), she concludes more sharply that the work of care is not compatible with neoliberal values and that our efforts should be dedicated to building alternative care-centred ways of being (in time).

2.3.2   The marketization and financialization of housing provision

The second main focus of this part of the review is to assess the impact of the urban neoliberal regime on urban environmental inequities through the lens of one of its most widespread, noxious forms of enclosure: the marketization and financialization of housing provision (Hodkinson, 2012). The increased marketization and financialization of housing provision has greatly fuelled green/climate inequities, most notoriously through green/climate gentrification. Gentrification is the process through which residents of a certain location are displaced due to increased housing unaffordability. At the heart of gentrification is Smith's (1979) rent gap theory: urban development oscillates between cycles of dereliction, abandonment and regeneration, revalorization and the latter occur once the rent gap ("disparity between the potential ground rent level and the actual ground rent capitalized under the present land use", p545) is wide enough for the developer to make significant profit. Under neoliberal governance, the state is actively involved in "creating the economic conditions for gentrification" (Slater, 2021, p65). For Slater (2021), "rent gaps are produced via the activation of territorial stigma" (p69): "neighbourhood

'taint' becomes a target and rationale for 'fixing' an area via its reincorporation into the secondary circuit of accumulation" (p70-71). Taking as an example the social housing regeneration project assessed by Kallin in Edinburgh, he observes that "For Kallin, it is the state-led opening of a reputational gap that facilitates the state-led closure of a rent gap" (p71). In the process, the state is as active in promoting the new vision for the social housing estate as in denigrating its past and present dereliction, itself the result of decades of state neglect. Building up on the rent gap theory, Anguelovski et al. (2019a) describe how green gentrification occurs when municipalities, private investors, and privileged residents are given the opportunity "to bank on an existing 'green gap' and later capture a 'green rent' from the social, environmental, and health benefits of newly created green neighborhoods" (p1079). Indeed, green amenities are shown to have a significant impact on property value. The example of the High Line in New York, the building of a park on a disused viaduct section of the West Side Line in 2009, is particularly striking: between 2003 and 2011, property values near the High Line increased by 103 percent, displacing local residents and historic businesses and leading High Line founder Robert Hammond to observe: "'We wanted to do it for the neighbourhood… Ultimately we failed.'" (Anguelovski et al., 2018b, p1).

A significant body of literature has shown how 'green' gentrification applies to all forms of green improvement and, based on the empirical focus of the present research project, to the various climate change adaptation and mitigation measures described in the first part of the review. In terms of adaptation for instance, Anguelovski et al. (2019b) assess the impact of a large-scale nature-based flood alleviation project in Boston and find that it mainly benefits developers, investors and the privileged residents able to afford housing within close proximity of the climate adaptation infrastructure. As for low-income residents, they were found to be largely excluded from consultation processes, experiencing cultural displacement while faced with the threat of 'physical' displacement and even put at higher risk of flooding outside of the protective zone of the climate adaptation infrastructure (thus illustrating the "risk transfer" impact associated with climate change adaptation projects at large mentioned in Section 2.2.2 (IPCC, 2022a)).

While less research has been conducted on displacement induced through climate change mitigation measures, the work of Bouzarovski et al. (2018) and Grossman (2019) for instance look at retrofitting-induced inequities and displacement, what Bouzarovski et al. (2018) term "low-carbon gentrification". Both research projects highlight strong commonalities with other forms of (green) gentrification processes, including the role of the housing market in determining the social equity outcomes of these projects and the active involvement of the state in producing unequal outcomes (through policy but also by opening a reputational gap via the activation of "territorial stigma" (Slater, 2021)). As rhetorically asked by Grossman (2019):

> If it is a common phenomenon in housing markets steered by and large by market forces that low-income households tend to cluster in low-quality housing, and upgrading of housing stock leads to a change in the social composition of residents, then why should this general pattern not hold true for the case of energy retrofitting? (p92)

While retrofitting-induced gentrification as researched and discussed by Bouzarovski et al. (2018) and Grossman (2019) is in many ways comparable to other forms of 'green' gentrification, the fact that it can be attached to climate change mitigation efforts contributes to make it even less questionable (implicitly underpinned by the assumption that emission reduction benefits everyone (Long and Rice, 2019):

> In the first instance, low-carbon gentrification is discursively justified by the need to improve the energy performance of the housing stock and bring about reductions in air pollution. The process is contingent upon wider understandings of environmental responsibility, surpassing affected neighbourhoods to encompass urban, national and planetary concerns. This allows it to operate at the fulcrum between locally specific politics of urban transformation and globally nested narratives of climate change mitigation; while opening the path for the entrance of consensual and technocratic tools into the debate, and its capture by elite interests (Bouzarovski et al., 2018, p860).

In what comes next, I look in more detail at the processes through which the harmful effects of the neoliberalization of urban environmental governance and its resulting growing inequities have been obscured and sustained as a result.

2.3.3 The depoliticization of neoliberal urban environmental governance

The depoliticization of neoliberal urban environmental governance has long been documented in the environmental justice literature and most famously by Swyngedouw (2009). In the context of widespread neoliberalization of urban governance and the resulting multi-scalar, multi-shape processes of enclosure, depoliticization can be broadly defined as the strategies and technics aiming to dilute, defuse, obscure any form of opposition to the re/production of urban inequalities. In other words, depoliticizing strategies are premised on and work to sustain the assumption that neoliberal capitalism is inevitable (Swyngedouw, 2009; Luger et al., 2023). In this sense, depoliticization has been identified in the literature as a strong vector of socio-spatial inequities. In what follows, I describe some main depoliticizing dimensions which are most relevant to the four empirical assessments conducted as part of the present research project.

Depoliticization techniques are deployed first and foremost during consultation processes: (urban) environmental governance is largely organized around various public consultative processes and their conduction has long been criticized by urban justice scholars and activists alike as 'depoliticized'. Recurring critiques of these processes, whether state or civil society led, are that their scope of engagement (who can take part and what can be discussed) is well-circumscribed in advance in ways that guarantee 'business-as-usual' outcomes (or, in other words, the continuation of the neoliberal regime). This is what Swyngedouw (2009) terms "consensual policymaking":

> Consensual policymaking, in which the stakeholders (i.e. those with recognized speech) are known in advance and where disruption or dissent is reduced to debates over the institutional modalities of governing, the accountancy calculus of risk and the technologies of expert administration or management, announces the end of politics, annuls dissent from the consultative spaces of policymaking and evacuates the proper political from the public sphere. (p609)

"Those with recognized speech" are those who are not to question the hegemonic neoliberal regime and the inequalities it thrives on. They are usually scientists and

other experts whose disciplines are still overly presented as separate from political considerations and who (implicitly) agree to intervene within such a pre-defined, limited scope. These interventions promote "techno-managerial" approaches to urban sustainability which basically are to ensure that "things remain the same" (Kaika and Swyngedouw, 2014). One example given by Kotsila et al. (2023) is the intervention of engineering consultancy firm Kleinfelder in producing recommendations to protect vulnerable areas of East Boston against coastal flooding: while the firm was aware of affordability issues in the neighbourhood under study, they deemed it outside their remit to mention it in their final report, focusing on "'physical components'" rather than "associated socioeconomic and sociocultural ones" (p113). Importantly and as increasingly outlined by (urban) environmental justice scholars, academic research itself is often a vector of depoliticization (Slater, 2021; Westman and Castan-Broto, 2022; Luger et al., 2023).

The 'Boston Kleinfelder consultancy' example discussed in the previous paragraph (Kotsila et al., 2023, p113) points towards another major vector of urban environmental governance depoliticization especially relevant to the present research project. Asked to account for gentrification risk in their report, the Kleinfelder firm argue that it is beyond the scope of their intervention which is only about collecting and assessing "physical" data. In other words, their argument is grounded in the traditional nature/society and material/cultural divides, which many urban environmental justice and urban political ecology scholars contend has major depoliticization effects (Heynen et al., 2006; Angelo, 2021). Indeed, these two ontological divides act as a major constraint in debates around agency (environmental harm) and the distribution of environmental burdens and benefits. On one side, they obscure political agency and, on the other side, they tend to present natural and material goods as beneficial for all and equally accessible. In what follows, I explore in more detail their discursive-material impact in urban climate and green/blue infrastructure governance.

A significant focus of scholars who have sought to critically assess the nature/society divide has been disaster management and particularly extreme weather events. Extreme weather events are easily and often framed as 'natural' disasters. However,

environmental justice scholars have shown how these events, the way they unfold and the way they are being managed, are as much the result of social processes as natural ones. Introducing an *Alternautas*' special issue entitled "The Making of Caribbean Not-so-Natural Disasters", Cruz-Martinez et al. (2018) emphasize how the magnitude of the hurricanes in the region and the recovery ability of local communities is first and foremost human-induced and most importantly inscribed in colonial legacies. In this sense, their analysis echoes those of many scholars who looked at so-called 'natural' disasters from a socio-political standpoint. Katz (2008) among others showed how Katrina impacted New Orleans' residents mostly along class and race lines, unveiling what she terms the "scoured landscape of social reproduction". From there, she argues that the harmful impact of extreme weather events would be best reduced through addressing existing urban socio-spatial inequities. In her analysis, she suggests using five dimensions of the feminist concept of social reproduction: the environment and relief infrastructure, health care, education, housing and social justice. In practice, however, Cruz-Martinez et al. (2018) describe how the 2018 Caribbean Hurricanes and their aftermath have been used by the Puerto Rican government to propel various neoliberal agendas, taking it as an "opportunity" to redefine the role of the government and the market. Along with Marian Moser Jones, they observe that "major disasters 'have rarely sparked significant social changes, other than to solidify the power base of elites and further immiserate the poor'" (p6). In a similar vein, other works highlight how water availability, scarcity and flow are equally 'socially' produced (Heynen et al., 2006; Swyngedouw, 2015; Slater, 2021), for instance how floodscapes are famously produced through flood-prone area development (Collins, 2010), and how very often resulting 'water crises' give rise to further neoliberalization (Kaika, 2006; Slater, 2021). In sum, it is hard to see how urban environmental justice can be progressed in the context of these nature/society and material/cultural ontological divides. As argued by Heynen et al. (2006), "The recognition of this political meaning of nature is essential if sustainability is to be combined with a just and empowering development — a development that returns the environment and the choices inscribed in its myriad possibilities to its citizens" (p36).

Along the same lines, Angelo (2021) provides strong arguments in favour of the thesis that there is nothing inherently good or even neutral about urban greening (which is defined as any form of attempt to "urbanize" nature). Unless the nature/society and material/cultural divides are abandoned to make room for democratic engagement, urban greening is always going to be about the non-inclusive imposing of certain agendas over others (Heynen et al., 2006; Kaika and Swyngedouw, 2014; Tozer et al., 2020). Even more importantly though, Angelo (2021) provides a thorough depiction of how deeply rooted the representation of urban greening as inherently good, literally as a "public good", remains: "the greener-equals-better formula has been naturalized as everyday common sense" and, "to the extent that greening projects are treated as universal public goods", they make it "very difficult to be against them" (p199). One particular case assessed by Angelo is the case of a site of a former steel plant in Dortmund turned into an artificial lake, the Phoenix Lake. First, because of the green-is-good assumption, the decision-making process to turn the site into a lake was almost non-existent. "Had it been treated as a 'social' project—comparable to the construction of a mall, a parking lot, or a new housing complex" (p200), Angelo concludes, the decision-making process would have been very different. As the artificial lake project went on and it became clear that its maintenance would require extensive funding, the municipality made the decision to start selling public land in proximity of the lake to private developers. Further on, views about the lake and its 'universal' benefits became more divided: while neoliberal proponents accepted the land sale as a trade-off to maintain the lake as a public amenity, others started to contest it as a major stressor of displacement of local migrant communities. However, as Angelo observes, both views were still implicitly rooted in the 'green-is-good' assumption. No one went as far as to question the initial planning process and whether the cost of the project and its ecological impact should have been more closely assessed. No one asked whether the lake budget should have been used in other ways, for instance to fund 'grey' infrastructures, be it social housing or public toilets. A last important point worth mentioning is that the 'green' label is also a powerful way to streamline discussions about ecological outcomes; in other words, the 'green-is-good' assumption is also extended to the environmental outcomes of a project. These outcomes are less often discussed or even nuanced in the urban

environmental justice literature (some examples of work including these discussions are Anguelovski (2018) and Argüelles Ramos (2022)).

After depicting neoliberal urban environmental governance and its resulting housing provision marketization and financialization as major vectors of urban inequities and sustained through various depoliticizing strategies, in the third and last part of my literature review I present the works of urban justice and feminist epistemologies scholars that might best challenge these inequities.

2.4   How to challenge persisting urban inequities

This last part of the review presents some theoretical, epistemological, conceptual framings that might best help locate and challenge the described persisting urban inequities and their depoliticization. It is organized around three focuses: the in/equity lens, the spatial-epistemic lens and, lastly, feminist epistemologies for humans and more-than-humans mainly through the work of Haraway (1988), Harding (2015) and Barad (2003). In each case, I briefly present how these approaches have been defined and what dimensions of injustice they aim to address and how. Importantly, they will constitute the basis of my methodology framework and derived research methods.

2.4.1   The in/equity lens

A central component of all (urban) environmental justice frameworks is in/equity. While views might diverge on how to work towards fairer urban environmental processes, there is a consensus among (urban) environmental justice scholars that it cannot be realized without taking the in/equity lens as a starting point (Kotsila et al., 2023). The in/equity lens may be applied to all dimensions of (urban) environmental management, whether distributive or procedural. In their report on public consultation in integrated catchment management in Ireland, Bresnihan and Hesse (2019) define in/equity as follows:

> Inequity is the idea that there are differences in the power, resources, and authorities that individuals and groups have, and that these stem from combinations of historic, social, political, and ecological processes. Individuals and groups may have been ignored, misrecognised, or misunderstood in economic development, spatial planning, and environmental management decisions in the past. These differences mean that members of the public do not begin from the same starting point, have the same ability to participate, or the same power to effect change. (p6)

As they argue, the in/equity lens directly challenges "dominant discourses around equality" (p7) at the basis of liberal worldviews. Insofar as these discourses depict (environmental) consultation processes as fair on the basis that they are equally 'open' to everyone, they actively contribute to obscure socio-spatial inequities and hence further their depoliticization. Indeed, by claiming 'equal access', they obfuscate the fact that "not everyone is equally able to participate or be heard" (p7). Bresnihan and Hesse (2019) find it to be particularly relevant to the Irish context where "dialogue often focuses on equality rather than equity, and on asserting commonalities and agreement among participants, rather than acknowledging and negotiating difference" (p7).

The literature discussing different forms of inequities and their impact in (urban) environmental development is immense. Among the social 'identities' deemed to have been most marginalized are those drawn along the lines of class, race/ethnicity and gender/sexual orientation. However, more than looking at these 'identities' in isolation of each other, urban justice scholars call for the adoption of an intersectional lens (Anguelovski et al., 2020). As stated by Cho et al. (2013), "Intersectionality is inextricably linked to an analysis of power" (p797) and this is why looking at intersectionality must be about looking at "the social dynamics and relations that constitute subjects, displacing the emphasis on the subjects (and categories) themselves as the starting point of inquiry" (p796). Borrowing the words of Tomlinson, they contend that reducing intersectionality to identities does not allow to "see which differences make a difference": only by taking power as an entry point are we able to see "which differences carry significance" (p798). Ultimately, Cho et al. (2013) define intersectionality as an "analytic sensibility", a "way of thinking about the problem of sameness and difference and its relation to power"

which "emphasizes what intersectionality does rather than what intersectionality is" (p795). Supplementing the in/equity lens with intersectionality objectives is to set more clearly the focus away from reified, static, isolated universal social categories onto contextually hierarchized differences *that matter*. A last important point made by Cho et al. (2013) is that decisions about which differences matter are not themselves unmediated but always situated (Haraway, 1988), emerging from particular standpoints, concerns, interests, bodies and so on.

2.4.2   Spatial-epistemic justice

While there is a broad consensus on the centrality of notions of in/equity in (urban) environmental justice work, scholars and activists have approached them through a wide range of justice frameworks (Anguelovski et al., 2020). Some have looked to focus on the causal processes of inequities while others have put more emphasis on their outcomes. This section of the review focuses on three specific dimensions of justice that were found to be more relevant to my assessment of urban inequities.

First, while there probably exists infinite ways of defining justice, an important distinction for the present urban social and environmental inequity assessment is between 'justice' defined within the scope of the legal and 'justice' as a critical, normative framework that goes beyond the scope of the legal (Soja, 2010). Indeed, some scholars contend that 'legal' justice is heavily inscribed in past/existing inequities and therefore cannot but actively reproduce them (Soja, 2010; Cho et al., 2013). In particular, urban land justice scholars and activists have pointed out how the legal apparatus has been conceived to protect private property regimes, sustaining major inequities between property owners and the unpropertied (Mitchell, 1995; Roy, 2005; Blomley, 2008; Yiftachel, 2009; Mitchell, 2017). In Canada, the "Belongings Matter" report's authors argue that the legal apparatus is grounded in concepts of "land ownership and private property that have been used to dispossess Indigenous people of their land" and that, in present times, laws "continue to be enforced against precariously housed and unhoused people" (Blomley et al., 2023). This point is especially relevant in the described context of increased marketization and financialization of housing provision and privatization of

urban space at large which will continue to exacerbate inequities between the propertied and unpropertied. As already described at length, in such a context, access to urban green and climate infrastructure is increasingly dependent upon land tenure (Anguelovski and Connolly, 2022). Or, as previously mentioned, in the case of climate change adaptation relocation schemes for instance, burdens and benefits are drawn along the lines of private property ownership, leaving those with no 'legal' claim to land the most vulnerable (Collins, 2010; Koslov, 2016; Tubridy et al., 2020). Correspondingly, many urban justice scholars have conditioned more equitable urban processes upon alternative modes of (land) ownership (Blomley, 2008; Safransky, 2016; Eidelman and Safransky, 2021). In sum, in order to best capture property-ownership-related inequities, the justice framework grounding the present research project adopts a critical stance towards 'legal' justice.

A second major concern overwhelmingly represented in the urban environmental justice literature has to do with justice frameworks that focus solely on distributive justice. Distributive justice is mostly concerned with what is received by whom, how (environmental) burdens and benefits are spread across space and demographics: an example in urban context would be to look at the repartition of trees across different neighbourhoods (Clavin et al., 2021). The limitations of the distributive justice lens have been outlined by many scholars and, while acknowledging that distributive patterns should never be overlooked, they contend that distributive justice should not be considered in isolation from other approaches to justice (Young, 1990; Soja, 2010; Swyngedouw, 2009; Tozer et al., 2020). For a start, the potential downfall of an approach reduced to distributive justice is that it usually assumes a homogenous idea of what should be distributed: returning to the tree repartition example, the underlying assumption is that urban trees as unanimously wanted. In other words, a justice framework whose scope would be limited to distributive concerns is implicitly rooted in and in turn contributes to reinforce what was previously described as the depoliticization of urban greening as a public good for all (Tozer et al., 2020; Angelo, 2021). However, looking at particular urban tree planting and rewilding projects in the US for instance, they were found to be unwelcomed on the grounds that they reinforced the negative impact of institutional neglect and racism (Brownlow, 2006;

Carmichael and McDonough, 2019; and see "Green LULU", green Locally Unwanted Land Use in Anguelovski et al. (2019a)). On the other hand, giving proper attention to the procedural and epistemic justice dimensions of urban greening has been outlined as a significant entry point into addressing some of the described distributive justice lens limitations (Tozer et al., 2020; Anguelovski et al., 2020). Epistemic justice can be defined as concerned with inequities in knowledge production processes, whose knowledge production is facilitated and valued and whose knowledge production is marginalized and discounted. As for procedural justice, it looks at in/equities in decision-making processes, whose participation in these processes is facilitated and valued and whose participation is marginalized and discounted. Strong connections exist between epistemic and procedural justice in the sense that one without the other would be ineffective: facilitating knowledge production without participation in decision-making or participation in decision-making without knowledge production would not address inequities at all (Scott, 2016; Brigstocke et al., 2021). In sum, procedural and epistemic justice ask important questions that are to help challenge the depoliticizing tendencies of the distributive justice lens: instead of asking who gets what, it asks who gets to decide who gets what.

A third and last point to be made about justice frameworks is in a sense to address the somehow unresolved duality between what was presented as distributive concerns on one side and procedural and epistemic ones on the other side. If anything, such a duality is likely to perpetuate the identified harmful ontological divides 'nature versus society' and 'material versus cultural'. Or, to be more precise, it might acknowledge the society to nature and cultural to material connections but not their reverse causal relation. In this regard, it is useful to have a look at the work of Soja (2010) on spatial justice. Building on the work of earlier spatial theorists such as Lefebvre (1974), Soja highlights the long-time discounting of the spatial dimension of in/justice. As he argues, traditionally equity concerns have tended to adopt a temporal and social lens, overlooking the spatial perspective. However, "Space and time, along with their more concrete and socially constructed extensions as geography and history, are the most fundamental and encompassing qualities of the

physical and social worlds in which we live" (p15). In this sense, as he explains, "seeking spatial justice" is not "a substitute or alternative to other forms of justice but rather represents a particular emphasis and interpretive perspective" (p13). Most crucially, "seeking spatial justice" is about acknowledging the mutually constitutive ontologies of space and in/justice in what he describes as the "spatiality of in/justice" and "in/justice of spatiality" (p13). In other words, the spatial justice lens provides a framework that more tightly links distributional, procedural and epistemic justice by outlining how these different justice dimensions actively co-produce each other. A final point worth mentioning is that, for Soja, to postulate the in/justice of spatiality does not equate with determinist assumptions, which are clearly on the side of the nature/society divide. Taking seriously the "injustice of spatiality" is to fully acknowledge how "the socialized geographies of (in)justice significantly affect our lives, creating lasting structures of unevenly distributed advantage and disadvantage" (p20 and Slater (2021)). However, as argued by Soja, it is also to see how these geographies, in non-deterministic ways, can be socially and politically re-appropriated for more equitable spatial-epistemic arrangements[1].

2.4.3   Feminist epistemologies for humans

Having outlined the relevance and significance of the in/equity and spatial-epistemic lens in locating and addressing urban inequities, I next consider the epistemological process itself in more detail. In what follows, I present some main feminist epistemologies assumptions which were found to best address the human and more-than-human epistemic in/equity concerns guiding the present research project.

One of the main identified causes of continued epistemic injustice has been the persistence of a certain epistemological framework, namely what is termed either logical empiricism or positivism. Put simply, such a framework postulates that the aim of knowledge production is to produce universal knowledge through value-free objectivity, rationality and good research methods (Harding, 2015). In other words,

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[1] In the thesis, based on the described link between the procedural and epistemic (Section 2.4.2), "epistemic" in "spatial-epistemic" justice should be understood as fully inclusive of the procedural justice dimension.

it promotes an epistemological framework whose aim is to depart as much as possible from bodily identity, empirical experience and context (Johnston, 2009). The central issue with positivism outlined by all challenging its validity is that, under the cover of value-free knowledge production, it in fact promotes "certain subjectivities" which then "become dominant and normalized": "for example, white, bourgeois, heterosexual men become defined as the Self and all other subjectivities become 'his' Other" (Johnston, 2009, p327). Another example of an implicitly normalized standpoint especially relevant to the urban context would be the standpoint of private property owners (Mitchell, 1995; Blomley, 2008; Mitchell, 2017; Blomley, 2023). Although logical positivism has been widely contested, Harding argues that it is still today the dominant epistemological paradigm, "invoked not only in philosophy departments but also in the natural and social sciences and used to police academic programs of study and public testimony and debates about, for example, climate change or the eradication of poverty" (2015, p2).

Alternatives to positivism have been most famously theorized by Haraway (1988) and Harding (2015) and I review next the main dimensions of their epistemological framework, which also frames how knowledge is produced in the present research project. In the work of Haraway (1988), the possibility of "objectivity" is defined as the possibility of "situated knowledges". Situated knowledge production is grounded in the assumption that all knowledges are partial, embodied, located "somewhere". From this perspective, objectivity is not about universal truth but "about particular and specific embodiment" (p582). In other words, knowledge's objectivity is increased not by denying its underpinning political and ethical values but by making them as explicit as possible (what Kruger and Alba (2022) call "ontological and epistemological commitments"). What then allows situated knowledge to move beyond relativism are the "webs of connections" it exists within and sustains termed "solidarity in politics and shared conversations in epistemology" (Haraway, 1988, p584). Indeed, as outlined by Haraway, "partial sight" is not sought "for its own sake but, rather, for the sake of the connections and unexpected openings (it) make(s) possible": "Situated knowledges are about communities, not about isolated individuals" (p590). Harding's standpoint theory and strong objectivity (2015) are

equally about exposure and connections: objectivity is "strong" when "fair to all existing evidences and to severest critics" and "weak" when refusing to acknowledge (some of) them. A final important point worth highlighting derived from situated knowledge assumptions is that there is no transcendent social identity that would give access to a full knowledge of all social positionings, whether privileged or subjugated. As Harding (2015, p169) observes, "There are always other locations in structural social relations from which the phenomena and issues reasonably may well look different". In fact, while social identity might provide what Haraway (1988) calls "a visual clue", it does not produce knowledge:

> There is no way to 'be' simultaneously in all, or wholly in any, of the privileged (i.e., subjugated) positions structured by gender, race, nation, and class. And that is a short list of critical positions. The search for such a 'full' and total position is the search for the fetishized perfect subject of oppositional history, sometimes appearing in feminist theory as the essentialized Third World Woman. (...) there is no immediate vision from the standpoints of the subjugated. Identity, including self-identity, does not produce science; critical positioning does, that is, objectivity. (p586)

To finish, I briefly present and discuss a few methodology and method approaches which, in line with situated knowledge assumptions, have sought to disrupt existing positivist hierarchies of knowledge. Although not used as such in the research, they have greatly helped grounding my own methodology reflection and method choices as well as their application. These approaches might be best characterized as 'participatory' in that they aim for more inclusive decision-making and knowledge production processes. However, while they are increasingly mobilized among others in public consultation processes (Bresnihan and Hesse, 2019; Clavin et al., 2021; Brigstocke et al., 2021), a parallel widespread observation is that they all too often fail to deliver on their promise of more equitable knowledge production and decision-making processes (Anguelovski and Connolly, 2022). Bresnihan and Hesse (2019) observe that a recurring issue with participatory processes in water management in Ireland is that they leave unaddressed existing inequities and power imbalance, in turn sustaining a rigid hierarchy of ways of knowing and the positivist assumptions it is grounded in. In particular, they observe that participation is too

often approached through a 'deficit lens': in other words, it assumes a lack of knowledge on the side of communities and participation is then reduced to addressing it through awareness-raising and education. As an example of such a deficit approach to community engagement, the greening project Mapping Green Dublin as described in Clavin et al. (2021) place a lot of emphasis on "scientific evidence" and providing communities with "the skills to engage with professionals in their language and through tools they recognise" (p106). Another related form of participatory approach to producing knowledge is "citizen science". One downside of citizen science and a limitation in terms of participatory scope is that it is too often reduced to mere 'observer' and 'data collector' roles (Allen, 2020), which again is prone to sustaining existing hierarchies of knowledge (Hesse et al., 2023). Conversely, a well-known participatory initiative worth mentioning is the participatory modelling project conducted by Lane et al. (2010) aiming to co-produced flood modelling with communities affected by flood in Pickering, UK. In this case, the academics and scientists involved in the project forced "the redistribution of expertise to other people, things and places" (p18). In the process, "(their) initial (academic) framing became replaced by that of the group so (they) began to co-produce not just outcomes, but the very resources (models) that (they) would use to sustain those outcomes" (p27). In this sense, it can be seen as a successful and productive attempt to disrupt existing hierarchies of knowledge.

2.4.4   Feminist epistemologies for more-than-humans

While there exists a huge body of literature which illustrates various attempts made to account for the more-than-human in academic research and highlight its agency (Heynen et al., 2006; Brice, 2014; Arboleda, 2015; Swyngedouw, 2015; McGraw, 2016; Krieg et al., 2020; Toso et al., 2020; Brigstocke et al., 2021), works that fully posit and enact its role as knowledge producer are relatively fewer. In what follows, I briefly present the main contours of Barad (2003)'s onto-epistemological framework and what might be seen as one of its empirical applications (Bell et al., 2017) as a relevant way to redress the historic discounting of the more-than-human in knowledge production processes.

Taking Haraway (1988)'s situated knowledge as a starting point, it proposes an epistemological ethics that can be applied to research with both humans and more-than-humans. In both cases, the agency of the 'object' of knowledge should be fully acknowledged, breaking the traditional subject/object clear-cut boundary:

> Situated knowledges require that the object of knowledge be pictured as an actor and agent, not as a screen or a ground or a resource, never finally as slave to the master that closes off the dialectic in his unique agency and his authorship of "objective" knowledge. The point is paradigmatically clear in critical approaches to the social and human sciences, where the agency of people studied itself transforms the entire project of producing social theory. (p592)

Acknowledging shared agency in knowledge production is to accept the inevitability and necessity of co-production, co-authorship, co-ownership (and thus knowledge production as a commoning practice): "The world neither speaks itself nor disappears in favor of a master decoder" (p593). It "makes room for surprises and ironies at the heart of all knowledge production; we are not in charge of the world" (p594). Finally, it is to see that "'objects' do not preexist as such" (p595): in this sense, knowledge production is first and foremost boundary making (between subject and object), or, in other terms, world-making.

Now, building on the work of Haraway and various other science studies works, Barad has provided the most thorough account of what they call "posthumanist performativity" (2003) as part of their wider "agential realism" onto-epistemological framework. Following the steps of many feminist epistemology theorists, Barad highlights the contradictions of the two untenable representationalist and Cartesian perspectives which both deny the possibility and agency of material reality. Instead, they suggest knowledge production as ontological enactment, as material-discursive boundary-making practice. From this perspective, "Agency is not an attribute but the ongoing reconfigurings of the world" (p818). Furthermore, "discursive practices are not speech acts", as "they are not human-based practices" (p821). In this sense, non-humans are no less knowledge producers than humans:

> There is an important sense in which practices of knowing cannot be fully claimed as human practices, not simply because we use nonhuman elements in our practices

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> but because knowing is a matter of part of the world making itself intelligible to another part. Practices of knowing and being are not isolatable, but rather they are mutually implicated. We do not obtain knowledge by standing outside of the world; we know because "we" are of the world. We are part of the world in its differential becoming. The separation of epistemology from ontology is a reverberation of a metaphysics that assumes an inherent difference between human and nonhuman, subject and object, mind and body, matter and discourse. (p829)

Finally, for the same reason that there are no pre-existing separate ontological units prior to discursive practices, the boundary between human and non-human does not pre-exist knowledge production, it is enacted through it. Objectivity is made possible through enacting the subject/object boundary ("exteriority within" as there is no pre-existing separate ontological units). Boundary-making is neither deterministic nor contingent but causal, which leaves it open to possibilities and calls for accountability. Echoing to some extent the work of Barad, Neimanis's "hydrofeminism" (2012) provides a rich account of various body boundary-(re)configuring within and through water, where human bodies and waters are altogether containers and contained, what is making and what is made, what is defining and what is defined. Different boundaries call for different relations, scales and accountabilities. By depicting different possible sets of water-human boundary-making, hydrofeminism exposes the non a priori nature of human/non-human boundary-making.

As a final step, a more practical embodiment of Barad (2003)'s agential realism could be seen in the research project conducted by Bell et al. (2017) in the Ku-ring-gai Chase National Park, Australia. Through what they term "engaged witnessing", Sarah, one of the researchers of the project, gives a lace monitor the opportunity to take the lead in the research process. "Engaged witnessing" is a research method which assumes knowledge production as a fully shared practice whereby all participants are altogether subjects/objects of knowledge production. Mutual learning is produced through the ability of all participants to be both emitter and receiver, whether sensually and/or emotionally and/or materially. In this sense, knowledge production is a mutual encounter, a boundary-making encounter. In her research diary, Sarah

describes how the lace monitor influenced her trajectory and was also influenced by hers:

> Walking back to the car I was startled by a lace monitor that took off from its hiding place. I decide to take the 'following the nonhuman' literally.
>
> One tactic I tried was to change my own movements by walking in ways that were not 'normal' – zigzagging across the picnic grounds, walking off the tracks, stopping suddenly and changing direction.
>
> One lone girl following a lace monitor, taking long but exaggerated slow steps, notebook and pen in hand, does not fit with normal Bobbin Head [Picnic Area] behaviour.
>
> The lace monitor moves very slowly when not startled by or trying to get away from a person or car ('Field diary excerpt, 21 March 2013', p139).

In fact, Sarah's field notes provide a rich entry point into reflections on how producing knowledge is about (human and more-than-human) ontological boundary-making. Through her notes, we can see how her knowledge production is at the centre of a tension between re-enacting expected human and more-than-human interactions and departing from them: what she terms the "normal Bobbin Head [Picnic Area] behaviour" might have more to do with the 'normalized' human and more-than-human ontological divide and subsequent interactions (especially in the context of a 'National Park', a place of highly normative human and more-than-human interactions). While attempting to depart from it, she self-locates herself as 'abnormal', outside of the norm. Sarah's notes outline both the pressure to conform to certain socio-spatial human and more-than-human boundary enactments and the possibility of enacting new ones.

2.5 Conclusion

The present review was structured around three main parts. First, I gave an overview of the impact of and responses to climate change in urban context: I started by showing how the centrality of the urban in both the impact of and response to

climate change has been discussed and challenged before reviewing in more details the main current paths to urban climate change adaptation and mitigation, again presenting how they have been discussed and challenged. In a second move, in the face of persisting urban social and environmental inequities, I presented the works of urban justice scholars who sought to better articulate the how and why of these persisting inequities: one of their major root causes identified in the existing literature has been the neoliberalization of urban environmental governance and resulting marketization and financialization of housing provision which are sustained through various depoliticizing strategies, including the harmful nature/society and material/cultural ontological divides. Finally, the last part of the review was to present some theoretical, epistemological and conceptual framings which I thought might best help locate and challenge persisting urban social and environmental inequities: the in/equity lens, the spatial-epistemic justice lens and, finally, feminist epistemologies for both humans and more-than-humans through the work of Haraway (1988), Harding (2015) and Barad (2003). What comes next is my methodology chapter which is fully grounded in the present review and which especially draws on the epistemological and ethical concerns and objectives developed in its last part.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The present chapter is a description of the methodological framework and derived methods adopted in my research project to respond to the main research question: "Whose environmental concerns and knowledges count in the making of the climate-proof city?" and operationalized through the following sub-questions: "What are the historical, geographical contexts and related socio-spatial inequities?", "How are socio-spatial contexts and political agency obscured?", "Whose concerns and knowledges are ignored and with what spatial effects?", "How can socio-spatial contexts and political agency be kept visible?"

The structure of the chapter is as follows: first, drawing on main feminist epistemologies assumptions, I situate myself within the research project and specify the qualitative, critical and inductive nature of my methodology framework. Secondly, I present my overall empirical focus, the river Poddle and its catchment, and how I approached it through the following four empirical entry points: the planned flood alleviation works for the river, an Amazon data centre fuelled district heating scheme upstream of the river, two re-densification initiatives in the Liberties part of the catchment and, finally, a river greening and sustainable food production project. Thirdly, I describe how I conducted my three main research methods: walking with the river Poddle, qualitative interviews and discourse analysis. In a last move before concluding the chapter, I present some of the ethical challenges encountered during the research process.

3.2 Overall methodology framework

3.2.1 Situating myself in the research project

My overall methodology approach is rooted in many of the feminist epistemologies assumptions presented in the literature review, the foundational one being that

knowledge production is by essence "situated" (Haraway, 1988). Documenting such a situatedness is not a complementary process to knowledge production, it is instrumental to it, the condition of possibility of producing any knowledge at all: "The only way to find a larger vision is to be somewhere in particular" (Haraway, 1988, p590). Situating ourselves in the research process starts in the most literal sense with making explicit our socio-spatial "coordinates" (Toso et al., 2020) and what follows are my own: white, straight, French-born woman in her forties, Irish resident for a couple of years prior to starting the research, privileged socio-economic background, non-believer, with no socially defined physical or mental disability.

In addition to making explicit my socio-spatial "coordinates", situating my knowledge production is to explain how I first came to think of putting together the present research project, the personal, contextual, circumstantial rationale of the project. The idea of the present research project is born out of my personal engagement in a number of social and environmental local initiatives in South Dublin. The different community groups I was part of prior to starting my PhD were involved in small-scale projects ranging from weekly clean-ups, greening and social events to working on establishing a network of local environmental groups. These groups had been created by local residents (including myself for two of them) and were receiving some material support from local authorities in addition to the occasional small grant obtained through community schemes. Additionally, I was part of a local group that formed to oppose the proposed river Poddle flood alleviation works, mainly on the grounds of a lack of public engagement and significant impact on two local parks. Objection to the flood scheme took the form of local protests and putting together collective submissions to the Irish planning authority An Bord Pleanála. Being part of these initiatives provided me with some knowledge of local stakeholders, how they interacted with each other, and the power relations guiding these interactions. Over the course of my local engagement, it became more and more noticeable that some stakeholders had eased access to decision-making and knowledge production processes while others were not even part of these processes at all.

One local protest I attended in particular illustrates well those differences of access as well as how I increasingly started to notice them (adopting an intersectionality

lens, Cho et al., 2013) and position myself 'against' them. The protest was held in front of a local Dublin City Council office by social housing tenants residing in a nearby flat complex and demanding better housing conditions. Strangely, it seemed that local council officials had barricaded themselves in the office. The main door was closed, and no one exited the building to meet with the protesters, a small group of men and women accompanied with children of all ages. What is more, a few police officers were stationed across the road, seemingly to keep a close eye on them. Only when one of the protesters knocked at the main door at the end of the gathering did someone open it, only to pass a hand and grab the letter that summarized the protesters' demands. It was in stark contrast with how the same council officers were interacting with local residents working on local community projects (including me). Housing concerns and those expressing them were obviously received and treated very differently. Increased frustration in the face of this uneven level of engagement and the lack of space to challenge it (or, in fact, challenge anything at all) pushed me to work on a PhD research proposal and later strongly influenced my main research question, i.e. "Whose environmental concerns and knowledges count in the making of the climate-proof city?". By starting a PhD, my hope was to both explore those inequities in more depth and give them more visibility. The overall empirical focus itself, the river Poddle and its catchment, and the first entry point into the research, the proposed flood alleviation works for the river, was directly derived from my local community engagement.

3.2.2   Qualitative, critical and inductive

While either qualitative or a combination of both qualitative/quantitative methods could have been used in the research, the qualitative focus responded best to personal skills and affinities while also being relevant to the kind of research question being asked. As processes depoliticizing urban environmental governance and obfuscating inequities have become ubiquitous (Swyngedouw, 2009; Kaika and Swyngedouw, 2014; Luger et al., 2023; Kotsila et al., 2023), case-study based data collection and analysis are an important means of locating, identifying and characterizing them.

For this very reason, I have also adopted a critical perspective in my research as defined by Krueger and Alba (2022): a critical approach "foregrounds the contingency and plurality of knowledges, the role of power and differentiated vulnerabilities and access (to water), and how these are reified by discursive and methodological framings" (p2). Indeed, without critical perspective, "many questions about what occurs in a society and why, who benefits and who is harmed, will not be asked, and social theory is liable to reaffirm and reify the given social reality" (Young, 1990, p5). In the same vein, Luger et al. (2023) argue that the lack of critical perspective in urban sustainability research significantly compromises its ability to locate unequal urban environmental arrangements. Importantly, in line with the "situated knowledge" lens (Haraway, 1988) adopted in the project, such a critical work was first and foremost reflexive: the means and ends of situated knowledge is to live "in critical, reflexive relation to our own as well as others' practices of domination and the unequal parts of privilege and oppression that make up all positions" (p579). "Critical positioning" goes beyond "self-identity" (which was about giving my own socio-spatial coordinates in Section 3.2.1 for instance), it requires "(at least) double vision" (p589), that is the ability to engage in ongoing reflective practices. In the context of the project, a great part of my reflective efforts involved writing, which could be about reflecting on the freewriting of my research diary or on different drafts of a chapter or sub-chapter. Central to these efforts and transversal to all methods were some questions which rapidly became recurrent in the project: "How was my particular experience and vision specific to myself and why?" "How things could be experienced and seen differently by whom and why?" Confronting these questions on a regular basis has been at the heart of my "critical positioning" (Haraway, 1988) in the research project.

Finally, along with Eisenhardt et al. (2016), the inductive approach adopted in my research project has covered both its data collection and data analysis phases. As they suggest, a common trait of inductive approaches is that they include "data gathering with some sort of memoing and adjusting data collection in real time to fit emerging understanding and opportunities" (p1114). Another data collection commonality is that "they all involve deep immersion over time in the focal

phenomena with openness to many types of rich data" (p1114). As for data analysis, borrowing the words of Luger et al. (2023) describing their own inductive analytical framework, I was both "theoretically informed" through some initial readings (echoing Eisenhardt et al. (2016)'s "data gathering with some sort of memoing") and "open to interpretations" (p13). I approached data in an open manner in the sense that I was ready to 'follow' them wherever they would lead me. I was giving them a chance to deconstruct everything, to prove me wrong. Before starting to work on them, I was always excited by the idea that something completely new would become visible, something I had never thought of before or, even better, something that would completely disrupt my existing certainties. Importantly, the inductive approach adopted in my project was consistent with the overall objective of addressing the procedural and epistemic limitations encountered during my community engagement and which gave rise to my research question. Without being 'participatory' in the usual collective sense, an inductive approach to research leaves as much room as possible for human and more-than-human encounters to impact the research and the directions it takes. It attenuates power imbalance by giving research participants, humans and more-than-humans, the opportunity to influence the direction of the research. Again, it does not mean that I conducted fieldwork as a 'blank slate' (Eisenhardt et al., 2016; Luger et al., 2023), but that I accepted the idea that what I knew or, in many cases, what I imagined I knew, could be disrupted along the way. In this sense, an inductive approach can be best understood as an acknowledgment of "meaningful diversity, that is, diversity that might change things" (Tsing, 2015, p38). This approach to assessing data, as many other dimensions of my research, was no doubt heavily influenced by my walks with the river Poddle, which I describe in more depth after a brief presentation of my four empirical entry points.

3.3   The empirical focus and its four entry points

As briefly described in the thesis introduction and Section 3.1, my overall empirical focus has been the river Poddle and its catchment, located south of the river Liffey, in Dublin (Figure 1.1). The river Poddle has a deep historical connection with Dublin. To begin with, it was used by the first Viking settlers as a source of potable water and

remained so up until 1775; most importantly though, it gave the city its name after the 'black pool' ('Dubhlinn' in Irish) it was forming upstream of its confluence with the river Liffey (McEntee and Corcoran, 2016 and Figure 3.1). The river Poddle rises in the town of Tallaght in county South Dublin and flows through various suburban and inner-city neighbourhoods before joining the Liffey at what is now Wellington Quay (Figure 1.1). The river has a long history of being engineered to respond to different concerns over time: potable water access, flood management and sewer and industrial use (McEntee and Corcoran, 2016). Its estimated length is of 11.6km, half of which now culverted, and its catchment area of approximately 16,400ha (Nicholas O'Dwyer Ltd, 2020a).

Choosing the river Poddle catchment as a starting spatial scale of analysis was a deliberate methodological attempt to try to include as much of the 'more-than-human' as possible in the research from the start. While keeping the catchment perspective as a central lens of analysis, I also needed some refined empirical focus to narrow down data collection and specify the theoretical framework of my subsequent analysis. Diversifying the range of my empirical focuses within the catchment boundary was also an opportunity to see how different environmental concerns were intersecting at different scales, both within the catchment and beyond. While the first empirical entry point, the river Poddle flood alleviation scheme, was identified from the start based on my prior community engagement, the three other entry points were delineated inductively (Eisenhardt et al., 2016) at a later stage through the three research methods used in the research, namely walks with the river Poddle, interviews and discourse analysis. I had never heard of these three additional empirical entry points prior to commencing my fieldwork and this is an example of the inductive nature of my methodological framework. What follows now is a brief description of the four entry points, selected primarily on the basis of the diversity of stakeholders and environmental concerns involved (Figure 3.2).
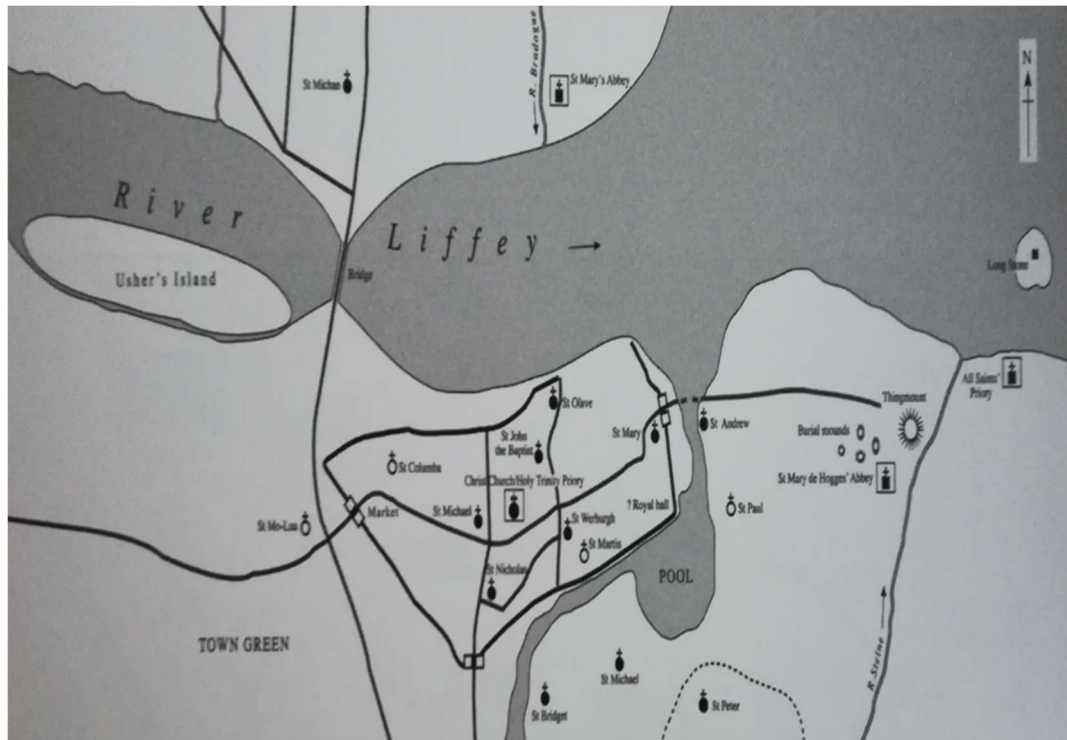
Figure 3.1: The black pool (Source: McEntee and Corcoran, 2016, p53)

The first entry point used to guide data collection is the proposed river Poddle flood alleviation scheme (thereafter approved by An Bord Pleanála in June 2023) which prescribes the implementation of a mix of hard and soft flood defences along the greatest part of the river. The project is led by the Office of Public Works (OPW) in conjunction with the two local authorities traversed by the river, namely Dublin City Council (DCC) and South Dublin County Council (SDCC). As mentioned, the project, which was initially supported by flood victims throughout the catchment, was subsequently met with strong objections from local residents mostly on the ground of excessive tree removal and biased public consultation. Importantly, the flood scheme entry point was progressively re-centred on a flood event in 2011 and subsequent death of Celia de Jesus, a local tenant trapped in her basement flat during the flood event.

The following two empirical entry points have much in common as both include past industrial sites being redeveloped mostly for residential purpose and which are traversed by a mainly culverted river Poddle. The second entry point is located upstream of the river in the town of Tallaght: at this location, the regeneration

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initiative is in great part organized around a newly implanted Amazon data centre which heat waste is to be recycled to provide heating and hot water to nearby public and private buildings through district heating. The district heating scheme is led by Heatworks, a newly created not-for-profit public energy company, in conjunction with Dublin's energy agency Codema and local authority South Dublin County Council. The third entry point is located in the downstream inner-city part of the catchment: at this location, in the midst of the fast-gentrifying Liberties, developers are given free rein to build tourist, student and other rent extraction-oriented infrastructures combined with increasingly privatized green spaces. Data linked to this third entry point were complemented and contrasted with data collected during a nearby local protest demanding access to public built infrastructure and public green space. As for the flood works, these projects and events have been unfolding at the time of fieldwork.

The last empirical entry point used to guide data collection has been the 'Kingfisher Project', a river greening and sustainable food production project located on a small section of the middle catchment of the river, in a historic community garden and nearby public green space. Strongly supported by Dublin City Council, the project has been unevenly welcomed by local residents and community gardeners/allotment holders. As for all other empirical entry points, the river greening project, initiated in 2020, was being developed at the time of the research. What comes next is a description of the three research methods used to collect data pertaining to the four entry points: walking with the river Poddle, semi-structured interviews and discourse analysis.
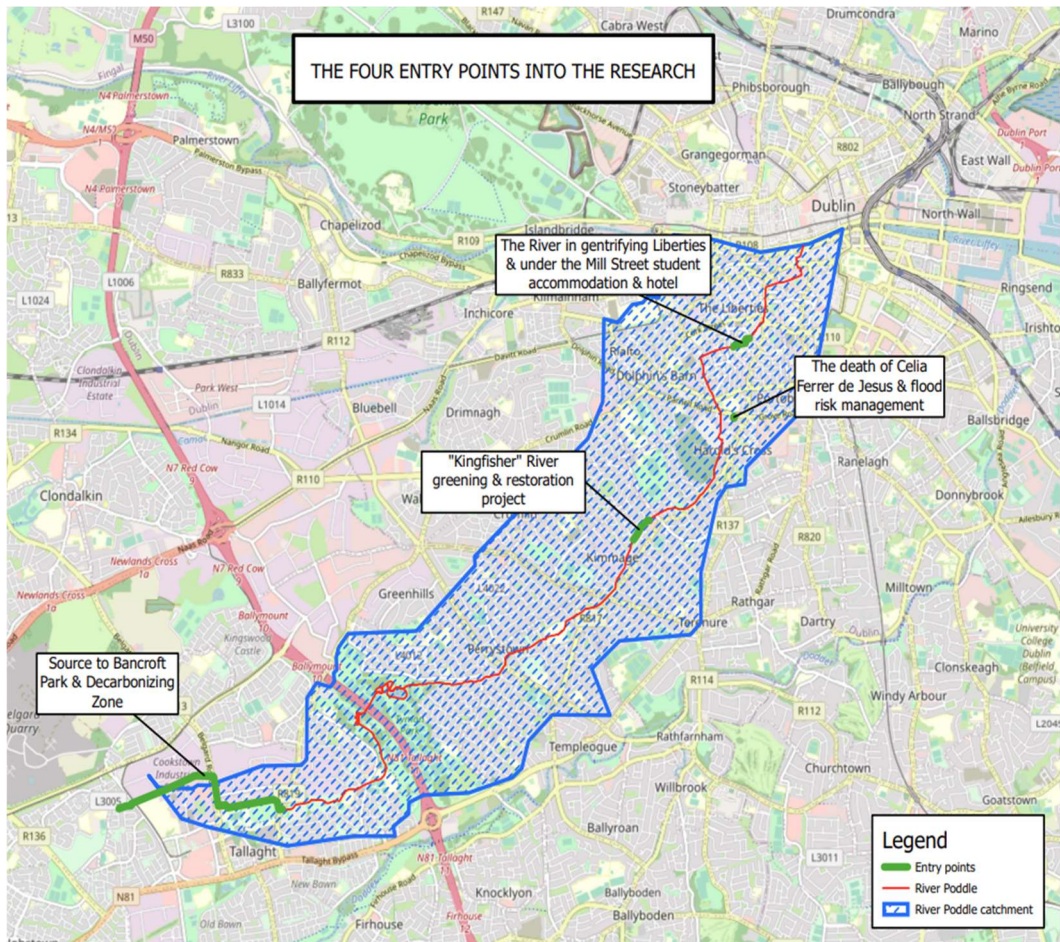
Figure 3.2: The four entry points into the research (Source: Author, 2021)

3.4   Walking with the river Poddle as a research method

3.4.1   Initial why and how of the walking method

Walking the river Poddle as a method was consistent with the main procedural and epistemic equity concerns guiding the present research project: collect data 'in place' and 'in space' to go beyond the existing 'official' sources of knowledge about the river that were mostly elite, expert, bureaucrat led, as in planning documents and local authority published history books. As an example, two very popular sources of information about the river Poddle and which were continuously alluded to during exchanges with research participants were the two books published by Dublin City

Council on the rivers of Dublin (Sweeney, 1991) and rivers Dodder and Poddle (McEntee and Corcoran, 2016), both written by council engineers. Other popular sources of knowledge concerning the Poddle included some *Irish Times* and *RTÉ* published material mostly featuring underground explorations of the culverted river in its inner-city catchment (see for instance, Freyne, 2021; Mullan, 2023[2]). In contrast, my objective was to produce some grounded knowledge of the interactions between the river, its catchment inhabitants and the other public and private stakeholders involved in governing them, paying special attention to the inequities and power relations at play in these interactions (Swyngedouw, 2015; Toso et al., 2020).

Practically, the initial preparatory 'how' of the method had been to try to map the river as much as possible prior to commencing the walk, which proved extremely difficult, firstly because many of its parts were culverted (including the upstream part up to the source) and secondly because the river did not seem to be the focus of much attention apart from flood concern (it was described as a "hidden river" or "forgotten river" in many online blogs and articles). As a result, I ended up consulting several different mappings of the river and, finding many discrepancies between them, it convinced me even further of the importance of checking things on the ground. Some main sources of mapping of the river consulted prior to the walk ranged from Google Maps, the Environmental Protection Agency Catchments website, the river Poddle Flood Alleviation Scheme website, and some written documentation linked to the river that provided information on its location, including online blogs of people who had walked part of it.

In sum, my initial method plan had been to 'find' *the* river, get some sense of its location through looking at maps and reading a couple of blogs and, once on the ground, to follow it from its source down to Wellington Quay, location of its confluence with the river Liffey. Data collection would be in the form of photographs, videos taking and notes in my research diary. It seemed straightforward and

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[2] In Mullan (2023), the red ribbons tied around the trees to be removed as part of the planned flood works are only part of the background (4 min 14 s), local flood work protests are left outside of the *RTÉ* documentary.

practically achievable in a short amount of time. The walking distance between the supposed 'source location' of the river and its flowing into the Liffey at Wellington Quay was roughly 12kms (Figure 3.3). My walking pace was around 4kms per hour and so I had no doubt that, even if accounting for some photograph, video time and breaks, I would complete the walk within a day. As my first empirical entry point into the research was the proposed flood alleviation project, I was planning to pay specific attention to the catchment development and especially to the more recent developments. A main question to be elucidated was: who was still allowed to build near the river and on notorious flood-prone areas in a context of climate change and when €10 million of public money were to be injected in some proposed flood alleviation works for the river? Although some of these data could be found on the online national and local authority planning maps, the unresolved mapping of the river was requiring on-the-ground investigation. Moreover, distances between the newly built developments and the river were sometimes difficult to assess by looking at the planning documentation alone and so again could be best gauged on the ground. In addition to paying attention to the catchment development, I was also planning to keep my mind open to all forms of encounter in line with my inductive approach to collecting data (Eisenhardt et al., 2016).
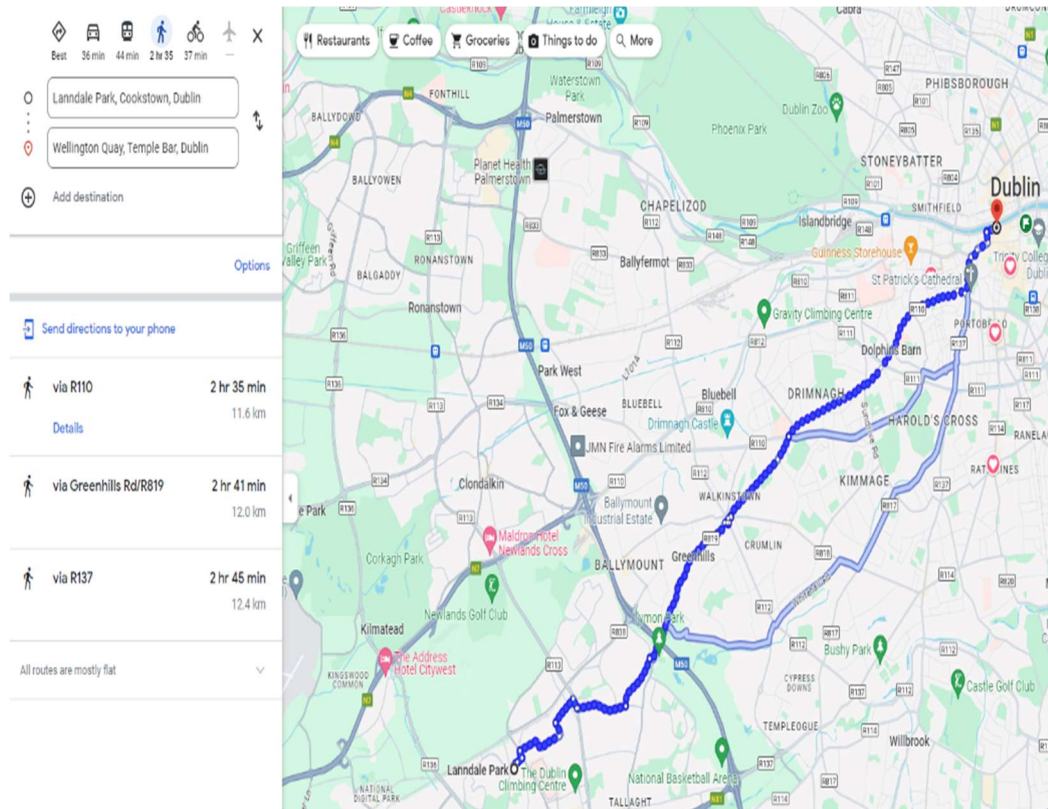
Figure 3.3: Directions between the supposed source location of the river Poddle and Wellington Quay (Source: Google Maps, 2021)

This was in a nutshell my initial objectives, expectations and preparatory work; however, my river walk turned out to be an extremely unsettling experience, which I will describe in what follows. This description is important as the way the river walk experience unfolded in fact heavily influenced the implementation of my other research methods, most importantly the interview method. In this sense, it was fair to say that the way I conducted my fieldwork was in great part guided by the river Poddle.

3.4.2   First ontological shift: from 'walking a river' to 'walking with a river'

Starting my fieldwork with the river walk hadn't been planned as such to begin with, it happened through a series of coincidental events, including some disorganization on my side. I had initially planned to start conducting a couple of interviews during the summer of 2021; however, I had forgotten to check the terms of the ethical approval submission process and discovered just before submitting my ethical

approval application on the last day of June that it would not be reviewed until September. Although I could still make some first informal contact with potential research participants during that time, I was basically mostly stuck with the river Poddle. Indeed, human geographers working 'on' a river do not need ethical approval. It implicitly assumes no major power relation at play between the researcher and the river in the research, no major potential for harm, which is already a sign in itself of the anthropocentrism guiding our research practices. In any case, my disorganization resulted in the river Poddle coming in first in the research process, accentuating further the river-centred dimension of my project that I had tried to instigate through making it a catchment-based research project.
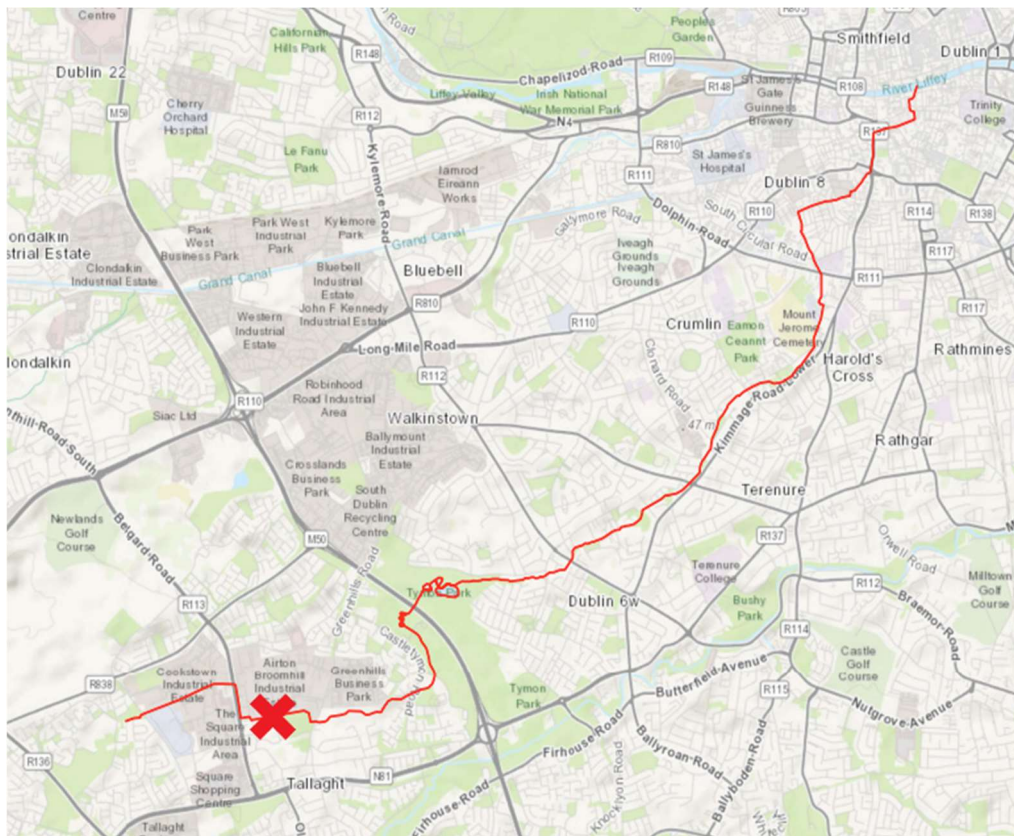
Figure 3.4: Start of the river walk on the Technological University campus in Tallaght (Source: Author, 2023)

On a very hot and sunny day of July 2021, I travelled to the Technological University campus in Tallaght to start my river walk (Figure 3.4). I chose this location as I had heard on a couple of occasions that the river Poddle was flowing in the open there. Additionally, I hadn't been able to find trace of the river after the university campus despite indications that its source was likely located in proximity of the Fettercairn

House. Once on campus next to where the river was flowing, some troubling questions came to mind: what was I supposed to do? How was I supposed to feel? What was this 'thing' next to me that I was supposed to follow all along until it reached the Liffey? Rapidly, I felt uncomfortable saying that I was 'walking a river' or 'working on a river'. The reality was that the river Poddle had a very powerful way of being here, next to me. It felt wrong to talk about it as if it wasn't there at all (like you sometimes do wrongly in the presence of those you consider vulnerable). No matter how transformed the river and its catchment had been, it had its own agency that could still both support life and cause death, a very sensuous way of being here, capturing all senses and the imagination. I am not ashamed to say that I quickly developed an affective relationship with the river Poddle or, more accurately, I became completely obsessed with it. I took the habit of talking to it, or more to her, as I had decided to make it a 'she/her' (arbitrarily projecting my own gender identity on to her). Illustrating the depth of such attachment were the efforts I deployed to locate the river and the intense emotional response it prompted whenever they proved successful:

> A real surprise and the best part of the day is to discover yet another small forgotten section of the river Poddle. A small blue ribbon still shows on most maps at this location and I was really disappointed when I came here during summer and that one of the guys working there said there was no river behind the gates. I had felt a bit scared I remember, there were a lot of trucks driving around very fast and high piles of empty pallets all over the place. I hadn't been able to get close to the gate at the time as pallets were blocking the way. But today, the guy was super nice and we had a brief chat about 'the very small stream' behind the gates. I didn't actually see 'water' but I heard the familiar sound of water flowing. Very discrete, very delicate, very fragile and tenuous, but no doubt there. What a joy, I just wanted to stay there forever and cry and laugh and get people to come in with me as close as possible to the gates and listen to the flowing of the river with me. (Research diary extract, 28/01/2022)

This is how my project to work 'on' a river and its catchment and to 'walk a river' quickly turned into walking 'with' a river, the 'with' becoming a central part of the method. 'Walking with' was signalling an important onto-epistemological shift: from a mere element of background landscape, the river had become a living thing I was

connecting with, interacting with, and learning from. She had her own agency and was doing her own things. From Barad's agential realism perspective (2003), both the river and I were entangled in material-discursive boundary-making practices, or, in other words, in knowledge production/world-making practices. Both of us were making ourselves intelligible to the other.

I kept repeating that I was 'following' the river Poddle; however, I also kept thinking about some local walks I had done with an elderly neighbour and friend and how he was himself defining the best way to 'walk with'. I had taken the habit of 'following' him from a distance while taking photographs and videos of him walking in front of me, but he did not like it. He used to say that the best way to walk with someone was to walk side by side and be friends (inspired by a well-known quote inscribed on his wife's grave: "Do not walk behind me for I may not lead, do not walk in front of me for I may not follow, walk beside me and be my friend"). My focus on a lead-follow relationship was still inscribed in traditional epistemological positionalities concerned with hierarchy, domination and distance: the teacher and the student, the knowledge holder and the knowledge receiver, the river Poddle and I. However, my neighbour was introducing a more nuanced and richer way of epistemological interactions and I think it was closer to what I was experiencing with the river Poddle. 'Walking with' was about being friends. In the words of Barad (2003), "We do not obtain knowledge by standing outside of the world; we know because 'we' are of the world" (p829).

3.4.3   Second ontological shift: from *the* river walk to *river walks*

As mentioned, my initial plan had been to organize my walks from upstream to downstream, even to cover the entire river in one or two days, I was so naïve at the time!, and so imperialist, colonialist in my approach, mostly concerned with 'covering' distance and land surface in a systematic manner without seeing them as what they were first and foremost, 'places'. However, I quickly realized that the military conquest type of river walk I had in mind could not be implemented.

My first inquiry on the campus was laborious and I immediately understood that finding the river Poddle would be far more complicated than I had expected. I had left totally unprepared and disorganized, thinking that I would only have to ask a few people on site to be directed to the river or, better, that there would be obvious signs pointing to the river. I was totally wrong. I asked two university staff if they could direct me to the river Poddle but they obviously had no idea of what I was talking about. A security guard checked his phone and gave me directions to what he thought was the nearest waterway to the campus and I was first really excited about it before realizing that he was actually talking about the Whitestown Stream, a nearby Dodder tributary. (…) I was already exhausted by my long walking to look for the river within the campus surroundings and so I decided to follow it from there for today and to come back to explore the upper part up to the source once I would have gathered more information about the exact location of the river. At that time, I was still naïve enough to think that I would find the information very easily and that my unsuccessful wandering was only caused by a lack of organization from my part. I thought it was just a little misunderstanding that would be very easily cleared. Thinking of it now, I still remember how tired I was, how difficult it was to walk these long distances without really knowing where to go. I had never expected that looking for an 'urban' River would be so difficult, almost impossible, at least it felt that way on the day because of the exhaustion and heat. I was so surprised, I thought everyone would know about the river, the river that had founded Dublin City. I just could not have anticipated that it was so deeply buried. Despite being 'open' on this part of the campus, it was totally forgotten and unseen. This is where I understood that visibility was not just material but that it was socially, culturally produced. (Research diary extract, July 2021)

Hence my river walk project transformed into river walks. I familiarized myself with the idea that there was not 'one' river Poddle but an infinity of river Poddles, an infinity of modes of being the river Poddle, continuously co-produced through individual as much as collective interactions, ever-contested and never-completed. It wasn't to deny the empirical, material ontology of the river which could invade people's homes and kill but to situate such ontology in a wider ontological constellation. The river Poddle could not be reduced to her flowing water.

3.4.4   From ontological shifts to epistemological shifts

The described ontological shifts in turn heavily impacted the development of my walking method, furthering being-knowing's mutually constitutive entanglement (Barad, 2003). In terms of the walking trajectory and walking rhythm itself, I started to slow everything down and to sit back. From a relatively fast-paced walk with only short 'technical' breaks to rest, drink and eat, I went to walking slowly, taking breaks whenever I felt it, observing whatever had drawn my attention for how long I felt like it, opening myself to being distracted by the river and all its surrounding inhabitants and activities at any moment of the walks (strongly echoing Bell et al. (2017)'s "engaged witnessing"). After the rush of the first days to 'get somewhere' before a certain time and to evaluate the progress of my river walk mostly in terms of 'distance covered' (the Google Maps trajectory approach), my walks took a different turn (again strongly echoing Sarah's "zigzagging" and "exaggerated slow steps" in an attempt to adapt to the lace monitor movement in Bell et al., 2017, p139). The idea was not to just walk as close and parallel to the water stream as possible any more as in the first days of the walk and which definitely corresponded to the mainstream idea of walking a river (follow the river as close as possible, march in straight line from the source to the sea); literally, my walks took a very different shape and started to be a lot more about going round in circles, going back and forth countless times, going round in circles again, standing still instead of walking, moving slowly, listening to the river instead of wanting 'to walk it' at any cost.

Going back through the research diary of the first period of my walks, I can see a clear shift in the way I was approaching the walks as days passed. While the first days very much focused on the distance covered, moving forward, going from one location to the other, as time passed it was much more about "going back" to places (and so going backward instead of forward): "Going back upstream"; "Going back to Warrenmount, Sweeney Terrace and Mill St" (research diary entry titles, summer 2021) and then "Going back upstream (15/10/2021)" (post summer walks research diary entry title). It was going round in circles, and in not so rational ways:

I spend a lot of time walking the ground of the Hospice trying to catch a glimpse of the river. At this stage, I do not trust available maps anymore. I believe small open sections of the river could still be seen without being 'mapped'. I spend a lot of time searching near the walls, in the botanic garden, everywhere between walls and hedgerows, am starting to feel a little obsessed about it and not so rationale anymore. In theory, I should just look in the continuation of where the river is located in the cemetery, but I know by now that the river may have been diverted and so I just look everywhere, I start suspecting every row of trees, every row of greens to hide the river. I realize it is totally irrational but I just don't trust maps anymore. (Research diary extract, summer 2021 and Plate 3.1)

Plate 3.1: Searching for the river in every corner of the Hospice ground (Source: Author, 2021)

This changing walking trajectory and walking rhythm was co-shaped and co-informed by a change of positionality as knowledge producer. In the face of this otherness and multiplicity of meanings and modes of being, I started accepting that I could not control everything, encompass everything, complete everything, and understand everything. Translating it into the words of my feminist epistemologies framework, I started to have a feel of what 'situated knowledge production' might mean. From knowing as 'conquering', I went on to see knowing as 'renouncing', as an act of humility (neither "comprehensive" nor "to speak for everyone", "to everyone", "about everything" (Young, 1990, p13)). Parallel to this realization, I started to feel

that producing knowledge could hardly be about seizing 'one' meaning and 'one' mode of being but that it would be very much about grasping some sense of multiplicity, relationality, intersectionality and change and that this could only be achieved through 'going back to things', spending time in places or, in other words, going round in circles (in contrast with spatial-temporal linear imaginaries usually associated with progress and where feminine cyclic temporalities are seen as stationary at best or retrograde).

So now, how did this impact the more practical side of my walking method and the type of data collected? My main focus remained the mapping of the river, its catchment development and flood relief infrastructure. With this new way of walking and seeing, I started spending time at locations along the river where these were most in question, where the mapping of the river was unclear, where a new development was being initiated or where flood relief infrastructures had been developed over time. Spending time in these locations and going back to them numerous times gave me access to data I would have never encountered if walking in a straight line at hiking speed. It was not so much about walking than watching (and stalking at times). I was not considering these wanderings as failure anymore but as a central way of collecting data and even as data themselves: how and why the river and its catchment was made visible/not visible, to whom and by whom.

I had initially prepared for my river walk by looking at some maps and online blogs; after a couple of days of walking, this continuous back and forth between different maps, planning documents, policy documents and some other online sources became part of the walking method itself. This was directly inspired by the discovery of the river as a constellation of meanings and modes of being: the river was flowing in South Dublin but was also flowing in planning documents, flood risk assessments, policy documents, history books and so on. Thus, I would come across some information in a planning application concerning the river and would then check it in place. Conversely, I would notice something about the river during my walks and would come back home and check whether and how it was recorded on different types of material. Once I started interviews, I would likewise go and check in place anything that had been discussed about the river during interviews. In sum, I would

always try to combine in place, on the ground data collection with all other sources of river meanings and ontologies I could get access to. It was to grasp diversity, relational arrangements between these different rivers, which power relations were guiding them and their spatial, material impact. This is why the walking method, which was initially to last a couple of days to a couple of weeks, was in fact continued throughout the entire fieldwork period[3]. There was no point 'learning' something about the river if it couldn't be checked in place and lived, felt in context. A last comment on the practical aspects of the walks is that, despite the 'going back' and 'going round in circles', I was still attentive to cover 'some ground' so as to capture the anticipated unevenness of the urban landscapes the river Poddle was flowing through. Although I hadn't visited all sections of the river, I made sure to visit the river in locations that were a priori relevant to my urban environmental justice enquiry: the historically neglected Tallaght and fast-gentrifying Liberties as prime examples.

A last observation came to mind at a later revision stage of the present chapter concerning mapping practices. In the literature review, mapping practices have been assimilated with boundary-making practices or, in other words, with onto-epistemological practices (Haraway, 1988; Barad, 2003), which clearly shows in the description of my walks with the Poddle. Interestingly, the description of my walking method also shows how it applies to the map produced by Google, which associates a certain quantified distance with a certain quantified time or, in other words, pushes for and normalizes a certain way of world walking-making-knowing (Figure 3.3). In particular, it promotes and normalizes certain bodies over others (those who walk 11.6 km in 2h35 mins) and certain time-spaces over others (2h35 mins/11.6 km; Tronto, 2003; 2017). It disciplines our mobility across urban space by directing us to the 'fastest' trajectory (see the governmentality power of maps in Harley, 1992). In other words, if I had 'obeyed' the trajectory promoted by Google, clearly my research would have enacted very different (human/more-than-human) onto-epistemologies.

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[3] Up until 22 February 2024 when I visited the site of the commencing flood works in Tymon Park to take a few photographs, only days before submitting my thesis.

3.5 Engaged qualitative semi-structured interviews

The following part of my methodology chapter is to give an overview of who took part in my research interviews, how I recruited research interview participants and how I conducted interviews. Additional interview process information specific to each case study will be provided in the relevant chapters.

3.5.1 The research interview participants

Table 3.1: Research interview participants: contacted and interviewed (Source: Author, 2023)

INTERVIEWEES	RATIONALE FOR CONTACT	CONTACTED	INTERVIEWED
Local residents (some of them members of local groups)	Live in Poddle catchment or has some knowledge of the river and its catchment either historically or otherwise	Too many and through too many channels to be counted	36
Public institution representatives	Local authorities and state agencies either directly involved in the management of the river Poddle and its catchment or in waterbody management and planning more broadly	Too many and through too many channels to be counted but main interactions recorded	9
University staff	Researcher involved in water research (flood, water quality, ecology) but also some in GIS/mapping and one maintenance staff	9	6
Elected representatives	Local councillors and TDs whose constitution includes or has included the river and its catchment	34	3

NGOs	NGOs working on waterbody management and civil, human, environmental rights	5	0
Private entities	Mostly involved in one aspect or another of the river Poddle flood alleviation scheme and catchment development or in providing surveys, assessments as part of planning applications along the river Poddle and its close catchment	22	2

Table 3.1 provides an overview of the research interview participants who were all either catchment residents and/or connected to the river Poddle in some other ways and/or involved in water management more widely. The choice of who to send my interview requests to was grounded in the following assumptions. First, as can be seen in the table, research participants are from a wide range of status and backgrounds: this is to reflect situated knowledge as a 'community', "webs of connections" practice (Haraway, 1988, p584) and work towards stronger objectivity through increased exposure to existing evidence and severest critics (Harding, 2015). To this end, I aimed to recruit research participants whom I thought might best challenge my own situatedness: for instance, local residents who had been impacted by flood and were supportive of the proposed flood works or who had a different class, race, gender background than mine among others. This effort was also drawing on my river walks experience highlighting multiple (river) onto-epistemologies away from "purity" (Tsing, 2015) and "simplicity" (Haraway, 1988) and summarized by Harding (2015) as follows: "[t]here are always other locations in structural social relations from which the phenomena and issues reasonably may well look different" (p169). Finally, interviewing research participants from a wide range of backgrounds was also the best way to assess power as a relational process, or in other words, to set the ground for in/equity and intersectionality assessments (Cho et al., 2013; Bresnihan and Hesse, 2019). The remainder of this part of the chapter describes how

I put to work my own situated equity and intersectionality objectives in the recruitment phase and when conducting interviews.

3.5.2 Engaged interview recruitment process: power, in/equity and intersectionality

The equity objective guiding my recruitment process constituted a challenge to the widespread assumption that making a consultation event 'open to everyone' was enough to guarantee its procedural fairness (Bresnihan and Hesse, 2019). In contrast, my own assumption was that accessibility (to decision-making and knowledge production) could only be enacted through intense work and efforts to reach out to potential research participants *on their own terms*. In my research, it translated into diversifying as much as possible the means and channels of recruitment, which took a huge amount of time: starting with my own existing network (and resulting snowballing), I then expanded my recruitment call (and snowballing) through social media, WhatsApp, text messages, emails, phone calls, letters, door-knocking, street recruitment and, finally, through personal engagement in a local protest. However, these efforts were not limited to putting calls out there through different channels: the most-time consuming part of it was to answer questions and address concerns, or, in other words, to build *trust* through *personal interactions*.

In addition to this first equity objective, the second one guiding my recruitment process was a challenge to the other widespread assumption that urban residents constitute one uniform group, very often gathered under 'local residents', 'local communities' or the 'public' (as the 'Irish farmers' in Bresnihan and Hesse, 2019). In this case, I mobilized the intersectionality lens as defined by Cho et al. (2013) to establish "which differences make a difference" (p798) in relation to the specific context and empirical study under assessment. Practically, it means that for each empirical study I attempted to map out social inequities and imbalance of power with a view to determining who was most marginalized and at risk in the particular urban development under study. Meaningful "differences" were mainly drawn along the lines of class, race and gender, which again also reflects my own situatedness since intersectional work is never 'value-free' (Cho et al., 2013). From there, I directed a

great part of my recruitment efforts towards those identified most marginalized, at-risk residents (in ways close to Liboiron (2021)'s Judgmental Sampling but for qualitative methods). Again, it does not mean that I abandoned diversity, but that I put in extra efforts to make sure that some of these identified most marginalized residents would be included in the research process. To this end, targeted door-to-door recruitment proved especially productive.

Finally, in an effort to attenuate power imbalance in the recruitment process as much as possible, I would always be careful not to 'follow up' on interview requests whenever I could sense any reluctance in taking part in the research. I would try to provide as many residents as possible with the research information, consent form and contact details (both email and phone) but I would then leave it up to those contacted to get back to me mostly, unless strong interest had been expressed from the start which I thought would legitimate one follow-up (which would be done 'in writing' as much as possible instead of the more pressuring face-to-face or phone call contacts). Such a cautious approach to recruitment would be applied even more thoroughly when dealing with research participants I was acquainted with prior to starting the research as I felt they might not feel comfortable at all refusing to take part in a research interview.

The other major difference I took into account during the recruitment process for interviews was whether I was contacting research participants in their capacity as an employee of a public institution, be it a state or local government institution. In this case, I would follow up as much as possible on my interview requests, ignoring obvious signs that these public representatives were trying to avoid taking part in a research interview at any cost. Indeed, public institution staff had proved extremely reluctant to take part in any aspect of my research from the outset. However, in their case, power was more clearly located on their side (than on mine or those of residents) and therefore I enacted equity objectives differently, using all means at my disposal (within reason) to make them take part in the research. In addition to equity objectives, I was also enacting a particular normative claim which is that public institutions, their representatives, and their work should be publicly accessible and that they should abide by the rule of transparency and accountability. In the words

of Mitchell (1997), my recruitment process was making a normative claim on the "public" of "public sphere", again highlighting how world-knowing is also always about world-making (Barad, 2003).

From the very beginning of the research, I started documenting my interactions with public institution representatives (Table 3.2) and it quickly proved valuable data in terms of assessing overall access. It took the form of an excel spreadsheet (Figure 3.5) as well as of numerous 'qualitative' entries in my research diary. Importantly, I was always using 'official' channels to send out interview request to public representatives instead of trying to activate more informal networks. In doing so, I was trying to remain as much as possible on the side of the 'general public', or rather that segment of the general public that did not have easy access to public institutions. In practical terms, it means that if no individual contact details were made publicly available for a particular institution, I would always start by sending out my interview request to the general enquiry email address or equivalent. Such an engaged approach to recruiting research participants in public institutions and the data it generated was especially meaningful in the described context of widespread neoliberalization of (environmental) urban governance (Soja, 2010; Angelo, 2021; Kotsila et al., 2023) and its multi-scalar, multi-shaped processes of privatization/enclosure (Hodkinson, 2012).

Table 3.2: Public institutions contacted for interview request (Source: Author, 2023)

PUBLIC BODY	MAIN ROLE IN RELATION TO THE RESEARCH
OFFICE OF PUBLIC WORKS (OPW)	Flood management infrastructure (national)
ENVIRONMENTAL PROTECTION AGENCY (EPA)	Water management (national)
AN BORD PLEANALA (ABP)	Planning board (national)
OFFICE OF THE PLANNING REGULATOR (OPR)	Planning bodies supervision (national)

IRISH WATER	Water supply infrastructure (national)
LOCAL AUTHORITY WATERS PROGRAM (LAWPRO)	Water management and water community work (national)
INLAND FISHERIES	Water management/fisheries and sea angling (national)
CLIMATE ACTION REGIONAL OFFICE (CARO)	Local climate action coordination/support (Dublin)
CODEMA	Energy agency (Dublin)
DUBLIN CITY COUNCIL (DCC)	Local environmental management (Dublin)
SOUTH DUBLIN COUNTY COUNCIL (SDCC)	Local environmental management (South Dublin)

Figure 3.5: Extract of recorded interactions with public institution representatives during interview recruitment process (Source: Author, 2021-2023)

As can be seen on Table 3.1, other research participants were contacted and many without success, including a few environmental and human rights NGOs as follows: Irish Wildlife Trust, An Taisce, The Sustainable Water Network, Transparency International Ireland and The Irish Council for Civil Liberties. Concerning my inability to secure an interview with any of the NGOs contacted, a few did not reply to my interview request and one research interview was postponed and never rescheduled. The only response worth mentioning was from the biggest Irish environmental NGO An Taisce whose contacted representative stated that they "were not in a position to give an interview on this subject" but without further explanation. That being said,

for the reasons expressed in the present section, my main (situated) recruitment efforts remained focused on both residents and public institution staff.

3.5.3 Conducting research interviews: the subject/object boundary in question

My reflection on how to lessen 'epistemic inequities' in the research process was obviously extended to the ways I conducted research interviews. In this case, my walks with the river Poddle were a huge source of inspiration. They made me reflect on how to enact the subject/object boundary in the interview process in more equitable ways. During my local engagement in greening projects, I had taken part among others in one of the Mapping Green Dublin workshops during which local residents were asked to co-produce a greening map for the Dublin 8 area. While the overall objective of the project was clearly "co-creation" (Mapping Green Dublin website), I found that the participants' scope of intervention was in fact tightly controlled: on this day, the mapping process was reduced to pinning small coded labels to locations where green improvements were deemed needed. Later on, one of the project's papers discussed in the literature review confirmed that the project was still very much grounded in traditional hierarchies of knowledge and which took the form of a deficit approach to the co-creation process (Clavin et al., 2021).

Obviously, my own methods design, mostly reduced to one-to-one interactions, away from more collective types of participation including multidisciplinary work, had significant limitations. However, my own experience of participatory processes in conjunction with the literature discussed in the review made me think that 'apparent' forms and statements of co-production were not in themselves enough to lessen epistemic inequities and power imbalance. For Lane et al. (2010), participatory modelling wasn't participatory because some local residents had attended the modelling process. Rather, it was participatory in the sense that Lane et al. (2010) had offered them the space to radically disrupt their own academic ways of modelling flood risk. In this sense, I was hoping that I could still try to set the ground for such possibilities in my own one-to-one interactions with research participants. I felt that, in many ways, this is what had happened during my walks

with the river Poddle. Because my view of how to interact with the more-than-human had been somehow uncertain and floating at the start of the research ("what was I supposed to do? How was I supposed to feel? What was this 'thing' next to me that I was supposed to follow all along until it reached the Liffey?" in Section 3.4.2), it had given space to the river to become active knowledge producer in the research (Barad, 2003). Hence I tried to reproduce such an uncertain, floating space during my interactions with the research participants and when conducting interviews.

In practical terms, it means that I left it entirely up to research participants to decide about the time, location and means of interviews, which ranged from online meetings, phone calls, river walk conversations as well as in-person meetings in public as well as private spaces. Additionally, the type of data they could mobilize on, during, after the interview was left completely open, from audio, video recorded contributions to written contributions and all sorts of reference (fiction/non-fiction, visual, artistic, historical and so on). I found that it was a productive way to disrupt the subject/object boundary within the limits of my own research design. In fact, such an arrangement was attuned to various social inequities at a time: for instance, being offered the option to do interviews in the evening or at weekends means that those working full-time, including those assuming full-time care roles, were able to take part in the research. One research participant, who was clearly intimidated by the research process, regained confidence when starting to walk me through a flood-prone area while showing me photographs of past flood events at the same location. They didn't seem so confident with words, and it is unlikely that they would have agreed to take part in an interview without the opportunity to lead a walk at a location they knew a lot about (in this case, knowledge was first and foremost produced and shared through walking, moving and pointing). On the other hand, some research participants felt comfortable just talking to me, but not so comfortable to meet in person for many reasons and, in this case, phone call interviews worked perfectly. Another example (among many various others) would be of a research participant who didn't want to sign a consent form and take part in a formal interview process but still wanted *to contribute to the research*: they spent a couple of hours with me at a local library, showing me relevant references and

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telling me about local histories and local contexts (which I obviously didn't record but kept in my mind to guide further local research). As a final comment, although the same approach was applied when conducting interviews with public institution staff, again it didn't include taking into account obvious signs that they didn't want to take part in a research interview or answer certain questions for the reasons explained in 3.5.2.

3.6   Discourse analysis

In addition to walking with the river Poddle and conducting interviews, the third and last most significant data collection method used in the research process has been the critical analysis of a wide range of written and visual content. Luger et al. (2023) have highlighted "the usefulness of discourse analysis as a method that can reveal dominant power dynamics" (p9), especially in relation to procedural and epistemic justice in urban sustainability research. A wide range of documents were critically assessed and will be listed in detail in each relevant empirical chapter. They include among others: planning documents, maps, newspaper articles, email correspondence, a coroner report, some relevant climate and environmental policy documents as well as documents pertaining to local environmental projects. That being said, planning documents remain by far the type of content most used for critical analysis throughout the research in recognition of their central role in urban environmental governance. Within planning documents and beyond, maps have also been important material for critical analysis, again based on their governing power which is often obscured through rhetoric of apparent neutrality (Harley, 1992).

While a great part of the content used for discourse analysis was publicly available either online or offline, some content had to be obtained (or at least requested and only partially obtained) through Freedom of Information (FOI) requests. In Ireland, the Freedom of Information Acts grant residents the right to request copies of records held by any publicly funded body. Having recourse to FOI requests hadn't been planned as such from the outset, it emerged out of significant difficulties to obtain access to content relating to one of my case studies, the Kingfisher Project

(the process itself will be described at greater length in Section 7.2.1). A couple of additional requests were subsequently made whenever I was struggling to get access to specific information or in my interaction with those supposed to grant me access to that information: one concerning the upstream mapping of the river Poddle and some earlier flood works conducted in Tymon Park, one concerning the Tallaght hospital power outage that occurred in November 2021 (located in proximity of the Airton road Amazon data centre) and, finally, one asking for documents pertaining to the Tallaght district heating scheme. FOI requests were not just sent out to access information, they were also sent out to make the point that basic environmental information was widely unavailable to some members of the public in Ireland. So, again, FOI requests were a way to reclaim environmental information as "public" information and public institution representatives as "public" servants, especially in the described context of widespread neoliberalization of (environmental) urban governance (Soja, 2010; Angelo, 2021; Kotsila et al., 2023) and its processes of privatization/enclosure (Hodkinson, 2012).

3.7 Ethical considerations and research limitations: resolved and unresolved

Doing research in the area I was living in and on campaigns I was involved in as a local resident and activist meant that more than once I asked friends, neighbours and other acquaintances whether they would be willing to take part in a research interview. As mentioned, one important concern was to try to avoid as much as possible making them feel they had to do so. It was based on the recognition that these prior relationships did matter when it came to feel comfortable refusing taking part in the research. Such an 'imbalance of power' came most strikingly to my attention when I learnt one day from a friend that at least one of our neighbours, who kept postponing their interview, did not really want to take part in the research but obviously felt a little uncomfortable telling me. I of course immediately stopped following up and tried to just mention things casually when we met again to make them as comfortable as possible. This particular experience taught me to be more

attentive to such signs and I became even more careful when making the decision to follow-up on interview requests with people I knew.

Another concern was to signal my 'researcher hat' as much as possible: whenever engaged in community activism, I was trying to mention it and refer to it as often as possible and be transparent about what stage of the research I was at and so on. In the particular case of the protest I took part in the Liberties, which forms part of the data collected for the re-densification analysis described in Chapter 6, it was a little more chaotic. I was engaged in the action for at least a month before I made the decision to include data on the protest in my empirical study; however, as soon as I started thinking about it, I talked about it openly to the other protest participants. I was also completely transparent about my PhD research and my research interests from day one so everyone knew I was working on urban environmental justice in the area. I would also be transparent on the fact that it was because of my research that I had made the decision to take part in the protest action. I was very open about my personal need to link theory and practice.

As described, based on certain assumptions about inequities, imbalance of power and a wider set of normative reflections on the gap between what "public" meant in practice and what it should mean in theory, my position had been to ignore public institution staff reluctance to play an active role in my research. As explained, I followed up on my interview and information requests as far as possible (within reason). On the other hand, it does not mean that I felt comfortable adopting such a stance. Two quotes from my research diary best illustrate the many ethical dilemma I felt myself burdened with:

Interviews of fear (05/02/2022)

Here we go again. So I meet them on the banks of the Poddle in Tymon Park. They say that they really would like to help with the research but that their colleagues said that they shouldn't because I could trap them into saying something they did not mean or turn something they said into something else and that it could turn against them and that they could get fired. It's now the second person working for local authorities telling me this this week.

(…)

Should I 'accept' to use an interview that was obviously heavily censored through editing? Should I 'accept' to talk to a research participant who was obviously 'forced' into taking part in an interview? (despite having ticked the 'I am participating voluntarily' box on consent form) Should I 'accept' to carry out an interview with someone who says that taking part in such interview could make them lose their job? And if so, what does it make me?

(Research diary extract)

What made things worse is that I quickly came to get a grasp of the power imbalance at stake in the institutions themselves. In these institutions, power/knowledge was also undoubtedly pyramidal in shape. As a result, public institution interviewees were always the most junior in position despite the fact that they knew the least. It felt like they were 'sent to me' because they had the least 'power' to refuse to take part in a research interview. In some instance, I sent an interview request to three males working for local government agencies and they 'sent to me' a female colleague from a non-EU migrant background who, again, knew the least about what was relevant to my research topic. I felt really angry and sorry for whoever was forced to take part in my research against their will. It was the sign of very dysfunctional institutions.

The last ethical dilemma I would like to mention here, and maybe the most important one, is whether or not I, as a PhD researcher, fuelled existing inequities through the research process. As described in the literature review, academic research is no discreet agent in contributing to reproduce social inequities (Slater, 2021; Westman and Castan-Broto, 2022; Luger et al., 2023). From the perspective of my own 'situated knowledge' framework, research could never be about giving a voice to everyone (Haraway, 1988; Young, 1990). In making the choice to aim to work with certain urban residents, it means that I left others outside of the research and in some ways decreased their visibility. However, more widely, I have asked myself about the role of academic research in addressing social inequities: to what extent collecting data from a researcher position reinforced the status quo rather than questioned it? ('Open the door, observe children being cramped in mouldy homes, close the door and leave') Wasn't producing research and reports just part of the

'tick box' exercise that allowed more harm to be done under the façade of good governance? On the ground, residents were asking for concrete, immediate change, not the kind of change that could be brought in by academia (alone?): they wanted access to a decent home, they wanted to protect their river and its green corridor, and they wanted fairer consultation processes. Despite having tried to combine research and activism throughout my PhD project and having seen other researcher-activists at work, it is not clear to me how to address these contradictions and if they can be addressed at all.

3.8   Conclusion

In the present chapter, I covered the following: first, drawing on feminist epistemologies assumptions, which constitute the basis of my epistemological framework, I situated myself as well as my research project and defined my methodological approach as qualitative, critical and inductive. Second, I presented my overall empirical focus, the river Poddle and its catchment, and the four empirical entry points into the research: the flood alleviation scheme, the Tallaght district heating scheme, the Liberties re-densification initiatives and, finally, the Kingfisher Project. In a third move, I described how I conducted my three research methods: the walks with the river Poddle, the qualitative interviews and the discourse analysis. I ended the chapter by presenting some of the ethical dilemmas encountered during the research process.

The main concern that guided my methodology approach and its operationalization has been to try to address some existing inequities in urban environmental governance and I have attempted to describe as explicitly as possible how I did so. From this perspective, the river Poddle has been a great helper: my own uncertainty at the start of the walks on how I should 'behave' with the river as a more-than-human research participant has left the necessary space for the river to make herself known to me (Barad, 2003) and disrupt existing subject (as knowledge producer)/object (of knowledge production) boundaries. It inspired me to try to reproduce such an 'open-to-disruption' space in my interaction with research

participants during and beyond interviews. It helped me make more sense of what 'inductive' in inductive research might mean. Building on the present methodology chapter, what follows are my four empirical chapters which gives a summary of the data collected for each of them and their analysis.

CHAPTER 4: THE RIVER PODDLE FLOOD ALLEVIATION SCHEME: WHOSE CLIMATE CHANGE ADAPTATION PROJECT?

4.1 Introduction

The reason for selecting the proposed river Poddle flood works as a first empirical entry point into the thesis is twofold: first, in terms of planned spatial impact, the proposed flood works are going to affect most of the river and its catchment; second, the chapter draws a detailed picture of some dimensions of flood risk management in the catchment, which will have to be kept in mind when going through the other three empirical studies of the research project. It is in line with one of the starting objectives of the project: assessing the intersectionality of multiple environmental concerns and projects in the river catchment, paying attention to synergies, frictions and contradictions. A strong commonality between all four empirical studies and the different environmental concerns that animate them is how they have all been kept carefully separated in their conception and implementation phases. However, as highlighted in the literature, there are strong concerns about how climate change mitigation and adaptation efforts might work against each other (Corcoran et al., 2017; Pierer and Creutzig, 2019; UN Habitat, 2022; Kotsila et al., 2023), with mitigation efforts and flooding being a case in point (IPCC, 2022b, p876). One of the goals of the present project is to give visibility to these trade-offs in the hope that they will be brought back into public debate.

To begin with, I will briefly sketch out the main empirical dimensions of the present chapter. The proposed river Poddle flood alleviation scheme has been presented as a response to past flood events in the catchment but more specifically to the most recent major flood event in the area which occurred in October 2011. On the night of 24th October 2011 during which the flood event unfolded, Celia Ferrer de Jesus, 58, Filipino-born Irish citizen, Dublin 6W resident and Household Assistant at a nearby hospice, was trapped in the basement flat she was renting at the time and

died as a result. Her death was only pronounced the following morning, at 10.45am, when the local Fire Brigade managed to pump out the water from her flat, which allowed access to her body. After the tragic event, a series of public consultation sessions were held by the Office of Public Works (OPW), the state body responsible for the design and implementation of flood relief infrastructure at national level, and which gave rise in 2018 to the proposed flood alleviation scheme for the river Poddle. Along with the OPW, the other major stakeholders leading the project are the two local authorities Dublin City Council (DCC) and South Dublin County Council (SDCC) as well as the council-appointed environmental consultancy firm Nicholas O'Dwyer. The flood scheme consists mostly of a combination of increased water retention capacity in existing upper-catchment Tymon Park flood ponds and increased hard defences along some sections of the river down to Mount Argus (Figure 4.1; An Bord Pleanála planning application reference: 306725[4]; River Poddle Flood Alleviation Scheme website). Additional measures include the creation of an integrated constructed wetland in Tymon Park and some channel realignment in Whitehall. In the last months before planning application for the flood works was submitted to the national planning authority An Bord Pleanála, the project, which was initially supported by flood victims throughout the catchment, was also met with strong objection from local residents mostly on the ground of significant tree removal and biased public consultation. In June 2023, after a three-year assessment process by An Bord Pleanála, the scheme was finally approved, and works are due to start during the second quarter of 2024. The most recent estimated cost of the state-funded scheme is €10 million (Kelly, 2024), already up by €2 million compared to the initial estimate.

In terms of literature, the present chapter draws on all three parts of the literature review: the literature on climate change adaptation, the urban environmental inequities literature in light of widespread neoliberalization and associated marketization of housing provision and, finally, the spatial-epistemic justice

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[4] Planning application references are provided throughout the PhD thesis with a view to facilitating access to quoted/discussed planning documents. An Bord Pleanála applications can be found at: https://www.pleanala.ie/en-ie/home; Dublin City Council applications can be found at: https://planning.agileapplications.ie/dublincity; South Dublin County Council applications can be found at: https://www.sdcc.ie/en/services/planning/planning-applications/search-and-view/.

literature. The overall approach is grounded in works that challenge the nature/society and material/cultural divides in the way flood events and their responses are known and assessed (Katz, 2008; Collins, 2010; Lane et al., 2010; Revez et al., 2017; Cruz-Martinez et al., 2018; Rusca and Di Baldassarre, 2019; Angelo, 2021; Krueger and Alba, 2022). In contrast, it unveils the strong social and political charges that have long underpinned flood knowledge production in the river Poddle catchment. From this perspective, the described widespread neoliberalization of urban environmental governance and associated marketization and financialization of housing provision, especially as unfolding in the Irish context (Hearne, 2020; Reynolds, 2022; Nic Lochlainn, 2023), is of specific relevance: it is to show how flood risk management in fact enacts various forms of public and private enclosure (Hodkinson, 2012; Angelo, 2021), on one side facilitating profit-making and value-grabbing for the elite and, on the other side, actively producing increased exposure to multiple forms of harm for the most marginalized (Collins, 2010; O'Hare et al., 2016; Andreucci et al., 2017; Anguelovski et al., 2019b; Taylor, 2020; Taylor and Weinkle, 2020; Ward and Brill, 2023).

The chapter is structured around the main spatial-epistemic justice concern grounding the present research project. In a first move, I present data pertaining to knowledge production: first, I situate my own flood knowledge production and then describe how flood knowledge has been produced in the Poddle catchment. In a second move, I present data relating to the flood risk management measures either already implemented or to be implemented in the Poddle catchment. Finally, in a last move, I present data relating to the material as much as social and political circumstances of the death of Celia de Jesus, which as I will show qualifies as a "social murder" (Medvedyuk et al., 2021; Ward and Brill, 2023).

To be clear, what follows is not an exhaustive account of how flood risk has been managed in the Poddle catchment since flood concerns and their responses have been mobilized there for centuries (Sweeney, 1991; Doyle, 2012; McEntee and Corcoran, 2016). Based on the wide range of material described in Section 4.2.2, the present chapter highlights some data which best allow a critical assessment of the death of Celia de Jesus, of the unfolding of the 2011 flood event, of the current

proposed flood alleviation works and of the way they have been linked in narratives sustaining the harmful nature/society, material/cultural divides.

4.2 From where and how flood knowledge has been produced in the research project

4.2.1 Situating my own flood knowledge production

As previously mentioned, I had a personal connection with the proposed flood alleviation scheme prior to starting my PhD research. As a local resident and local activist, I took part in some of the public consultation events on the flood works and most importantly in a small local campaign opposing the proposed flood works. Within the defined "situated knowledge" (Haraway, 1988) epistemological framework adopted in the present project, it is essential to acknowledge such an initial positioning. However, most importantly, flood knowledge production requires that we situate ourselves in relation to flood:

> Rosalind Shaw has elegantly shown how men and women, urban and rural, and rich and poor each conceptualize "floods" differently in Bangladesh, because they are differentially affected by rising waters; for each group, the rise exceeds what is bearable—and thus becomes a flood—at a different point. No single standard for assessing disturbance is possible; disturbance matters in relation to how we live. (Tsing, 2015, p161)

As demonstrated by Collins (2010), flood knowledge production in urban context may be highly contingent on class, race and land tenure. Therefore, giving my own initial "coordinates" (Toso et al., 2020) in relation to flood is also essential and they are as follows: prior to my PhD up until the completion of my fieldwork, I was a tenant residing in one of the areas to be significantly affected by the proposed flood works. However, the place I was living in was not located in the immediate catchment of the river and as such outside existing flood maps. Furthermore, I have never experienced a flood event myself. As throughout the PhD, delineating my own situatedness ("be somewhere in particular") is a necessary condition to produce knowledge and to "find a larger vision" (Haraway, 1988, p590) through engaging in in/equity and

intersectionality assessments (Cho et al., 2013; Bresnihan and Hesse, 2019). In terms of flood exposure, "which differences" was making "a difference"? (Cho et al., p798). Despite Celia de Jesus and I being both tenants, what made her more vulnerable to a flood event than I?

4.2.2   Data collection and assessment

Building on my personal experience of the public consultation process and local debates about the flood works, here is a summary of which data were collected and how during the fieldwork period. First, 15 of the semi-structured interviews conducted during fieldwork were considered for this particular empirical entry point (selected for their relevance to either the death of Celia de Jesus or flood risk management or both): 2 with academic researchers, 1 with a Water Framework Directive catchment scientist, 1 with a planning authority official, 2 with Filipino-born Dublin residents including a journalist who covered the death of Celia de Jesus, 1 with a representative of a local not-for-profit institution supporting the proposed flood works, 1 with a resident affected by flood and supportive of the scheme, 1 with a resident non-affected by flood and supportive of the scheme, 2 with local councillors supportive of the scheme, 4 with residents who objected to the proposed flood scheme either formally (through a submission to the planning authority) or during informal conversations. My main concern was to collect as many perspectives as possible both in terms of flood knowledge production and views on the proposed river Poddle flood alleviation scheme. The main limitations were my inability to contact Celia de Jesus's family despites numerous attempts and to obtain an interview with a Dublin City Council staff member from their planning department or directly involved in the management of the river Poddle.

Furthermore, a wide range of content was consulted and some of it more closely assessed through critical analysis. A main piece of information which the chapter is based on is the coroner's report on the death of Celia de Jesus obtained through a request submitted to the Dublin District Coroner's Court accompanied with a payment of €105 (€7 per document). Concerning planning, a large number of planning applications within the catchment and especially on flood prone areas were

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examined as well as GIS mapped to get an idea of land use tendency in the catchment flood prone areas since 2009 (online digitized planning archives are only available from this date). All planning applications relating to 4 Parnell Road (Celia de Jesus's address) and 1 relating to both 4 and 5 Parnell Road were consulted (archived ones were made available to me as a researcher with proof of college registration and by copying my PhD supervisor in my request; all other members of the public would have been asked to pay €45 per plan file to obtain them). Finally, the River Poddle Flood Alleviation Scheme planning application was also assessed in great detail (available on the River Poddle Flood Alleviation Scheme website) along with different flood maps in great part produced by the Office of Public Works (available on the Office of Public Works Flood Information website). In addition to the coroner's report and planning documents, the following content was consulted and critically assessed: 4 council meeting webcasts during which the proposed river Poddle flood alleviation scheme was discussed (one also attended in person prior to the start of the PhD), flood reports mainly of the 1986 and 2011 flood events (Dublin Corporation, 1986; RPS Consulting Engineers, 2011) and, finally, a wide range of newspaper articles mainly linked to the death of Celia de Jesus and planned river Poddle flood works.

Finally, consistent with the justice lens adopted in the present project as described in the literature review, the point of view taken in the following critical climate justice assessment is not of a flood engineer or legal expert. The question is not about whether the coroner that produced Celia De Jesus's death report fulfilled his role as prescribed by the law or whether errors were made in specific flood estimate modelling. The questions that are of interest in this chapter are whose main assumptions, concerns, knowledges have been guiding the narrative built around the death of Celia de Jesus, the 2011 flood event and their response and which (deadly) socio-spatial inequities it then sustains or creates for whom.

4.3 Flood knowledge production in the river Poddle catchment

Flood risk knowledge in Ireland is first and foremost produced and informed by state agencies, the Office of Public Works (OPW) being at the forefront of publishing flood maps and designing flood alleviation schemes at national level, and other public bodies as local authorities. Whenever in-house resources are not available, private consulting firms are appointed to produce specific flood modelling and associated flood maps, from county development plan to smaller-scale masterplan flood maps. For instance, in the case of the river Poddle flood alleviation scheme, although the project was led by the OPW in conjunction with the two local authorities Dublin City Council (DCC) and South Dublin County Council (SDCC), it is the multinational consulting firm Black & Veatch who undertook the hydrological and hydraulic modelling that underpinned the scheme. Likewise, other major stakeholders in the project include multinational consulting firm Nicholas O'Dwyer, who managed and coordinated the bulk of the flood alleviation project, and UK-based consulting firm CBEC eco-engineering, whose water framework directive (WFD) screening assessment was crucial in responding to the planning authority concerns about the scheme and securing its approval. In this case at least, the WFD screening assessment was produced as a "desktop study" (CBEC eco-engineering UK Ltd, 2022), which is in stark contrast with methods used by local state appointed WFD catchment scientists for instance:

> Our approach is we actually get into the river and we start with the river and then we look we, in, in, in some of our presentations we have like, we're detectives, we're water detectives, you know, that we're there, and so we look to see what is the issue with the river. So you really focus on the river. And then you look out and you see, OK. Where is the problem coming from? Is it coming from? We know what the, the specific issue is, is it nutrients? What is the, the problem? Then we understand how that might get into the river. Then we start looking to see where the possible sources are. And, to me that makes us much more in tune with the river. We walk the river like you, you do, or have done and, I feel that it's, that's the, the difference in approaches is that we start from the river, and we see what is going on with the river and we talk about telling the story of the river. (WFD catchment scientist, recorded interview)

Furthermore, at more localized level, private consulting firms also play a central role in local planning by providing flood risk assessment for all development projects to be located in flood-prone areas. The outsourcing of flood knowledge production to private entities, many of them with international profile and increasingly distant corporate headquarters, is bound to raise legitimate concerns in terms of both the kind of flood knowledge produced (likely away from the grounded, context-based, community-led flood knowledge produced in Lane et al., 2010 for instance) and accountability of the flood knowledge producers (Haraway, 1988; Turnhout, 2018). During fieldwork, I sent interview requests to twelve consulting firms involved in producing either development-specific flood risk assessments in the Poddle catchment or plans to divert the river channel but none of them even acknowledged my request. Additionally, I sent a request to Nicholas O'Dwyer, the Poddle flood works lead, but did not receive any response either. Furthermore, as already mentioned, on the public institution side, despite my interview requests being acknowledged, they were in great part either blatantly refused or caught in endless strategies of avoidance. OPW for instance responded (after one initial request and one follow-up email) by redirecting me to their website and the Poddle flood scheme website, stating that I could send any further query by email; however, when I did some time later (21/01/2022), it was never answered. My interactions with the Dublin City Council (DCC) planning department are summarized in Table 4.1.

Table 4.1: Summary of interactions with Dublin City Council planning department (Source: Author, 2023)

RESEARCH INTERVIEW ATTEMPT WITH DCC PLANNING DEPARTMENT: A SUMMARY	
ACTION	RESPONSE
Interview request sent by email to DCC planning email (23/09/21)	Email forwarded to X next day (24/09/21)
Follow-up email to X (14/10/21)	Response from X that directs me to SDCC/DCC engineers next day (15/10/21)
Respond to X email: I want to speak with someone from DCC planning too (15/10/21).	Response from X same day (15/10/21): direct me to another colleague Y.
Y writes to me to ask me what I want (15/10/21).	My response after weekend (18/10/21) is that I want to conduct an interview with someone from Planning.

Y respond to me to say that they prefer to receive questions in writing and respond in writing (18/10/21).	I don't respond, I give up.

An academic researcher attempting to engage with policy makers on the subject of flood risk management tells a similar story:

> That person happens to be on holiday but they will be in on Tuesday and then when you get in on Tuesday, oh they've just gone off for a meeting and they will call you back but never call you back and then, blablabla, oh, it's horrendous, (nervous laugh), it's just like, yes.

> I've spoken to the Minister for the OPW (...) he was sending me to the Department of Land and they were sending me to the Department of Climate Action and, I'm going like, no, stop. Because everybody was telling me 'this is not our responsibility'. (Academic researcher, recorded interview)

Once produced, this engineer, expert-led flood knowledge is in some cases subjected to public scrutiny and discussed by various (elected) decision-makers and/or by ordinary residents. In the case of the proposed river Poddle flood alleviation scheme, some initial public consultation events were held in the immediate aftermath of the 2011 flood events and were thereafter re-initiated when appointed firm Nicholas O'Dwyer put together a first proposal for the flood works in 2018. Two main points should be made about the Poddle flood scheme consultation process that was reactivated in 2018: first, it was highly contested as heavily biased, in the sense that only a few flood victims had been initially consulted and that most of the catchment residents learnt about it somehow 'by chance' when a local resident watched a recorded council meeting during which it was debated (based on personal observations and multiple recorded interviews). A local resident describes how they felt during a recorded interview: "I was like how come I'm only hearing about this now? I'd never heard about it (...) but when I found out, I knocked in to all my neighbours, and, none of them knew about it. (...) No, it just made my blood boil. The lack of respect for people." Outrage was so strong among local residents that some of them (including me) decided to come together to form a group that would oppose the proposed flood works. What became clear during subsequent research

interviews is that even those flood victims who had been informed about the flood scheme at an earlier stage of the design process were not considered legitimate knowledge producers: flood knowledge was to remain the domain of engineers and other experts in what was a strictly top-down knowledge production process.

Secondly and most importantly, flood risk management debates were almost exclusively framed in terms of damage to properties and loss of flood insurance, or in other words in terms of property owner concern (and so implicitly in terms of insurer concern). This was particularly flagrant during council meeting debates, even in the words of councillors in favour of a motion that was to allow more time for public consultation on the proposed flood works: "I know how costly and disturbing house insurance is so this motion is not about banning a flood alleviation scheme" (Dublin City Council, 2019b). In fact, many of these councillors seemed to be property owners themselves and/or supportive of further residential development in the immediate proximity of the river. During the same council meeting, one councillor blankly states: "I live right across the road myself so potential flooding would impact myself as well so, I do have a bit of a vested interest in the scheme going ahead" (Dublin City Council, 2019b). Two other councillors who had also taken part in the flood works debates were more recently caught up in landlord malpractice scandals while renting part of the properties they own (Power, 2023; The Ditch, 2023). A third one, the most vocal supporter of the scheme and involved in it from its inception, was found to have officially supported the planning application of developer Stephen Murray (planning application reference: SD18A/0327) who turned his own back yard, on the bank of the river Poddle, into two luxury villas (Plate 4.1) at a 2020 starting selling price of €895,000 and €950,000 for the one "with a large garden bordering the river" (The Irish Times, 2020). On the other hand, the memory of the death of Celia de Jesus, who had been the tenant of a basement flat in the last two months of her life, was enlisted to advocate for flood works conceived to best respond to property owner and insurer concerns. As shown in Table 4.2, the evocation of the death of Celia de Jesus became part of a wider strategy deployed by council staff to silence growing opposition to the flood scheme.

Table 4.2: Discursive strategies employed to silence growing opposition to the flood works (Source: Author, 2023)

DATE	EVENT	SCHEME FRAMING	COMMENT
October 2018	Scheme presentation at south central area committee meeting	Pictures of 2011 flood event are shown and "Fifty properties flooded and unfortunately one loss of life" (DCC and SDCC engineers in Dublin City Council (2018a))	At the start of the presentation
September 2019	Scheme update at south east area committee meeting	*RTÉ* headlines from 2011 flood event shown and "unfortunately, there was two fatalities, there was a lady in Parnell Road and there was a guard down in Blessington", "with over a thousand property affected", "The estimated claim, insurance claim (…) almost two hundred millions" (DCC and SDCC engineers in Dublin City Council (2019c))	This time engineers start presentation by mentioning overall 2011 flood damage and loss of life, not just Poddle related, which no doubt increases pressure to go ahead with scheme (without making it clear that it is overall impact)

November 2019	Public meeting organized by local community group in local pub in conjunction with local councillor, council engineers invited to give presentation of the scheme	"it started off with the emotional, I was shocked, that's when I learnt about that, poor girl who died and, you know, her face was put up, the newspaper article that reported the tragic event was put up and like and you know so it went off very much on the, started on an emotional, you know, and this footage of and photographs of the carnage, you know, that was caused, at Poddle Park, you know, so the, the pictures did look awful, of the flooding, and some local recollected it, you know" (local resident, recorded interview)	Local resident describing the start of the council presentation during a recorded interview; article featuring a photograph of Celia de Jesus is projected at the start of the meeting
December 2019	South east area committee meeting: discussion on proposed motion to pause the flood alleviation scheme project to allow for more public engagement, DCC engineer invited to discuss motion	"There was one fatality in Harold's Cross' flooding in 2011 but there were three other near misses where people were nearly killed so, this, this is, this is a, you know, we're kind of a level above flooding." "The funding is another problem, if we delay it, we, the OPW have so many schemes around the country that we, we may not get the funding for it for quite a while." (DCC engineer in Dublin City Council (2019b))	This time not just 1 fatality but 3 other near misses and threat to lose funding is putting additional pressure not to extend public consultation by a couple of months

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January 2020	Public meeting organized by local community group in local pub, council engineers invited to take part in discussion	"Note: DCC engineer does a small presentation (recap) of the project following requests from residents who ignore it and starts again with the death of the poor nurse." (Extract from personal notes)	More informal presentation of the project starts again with mention of Celia de Jesus; one attendee asks DCC engineer a question and another attendee says something about Celia de Jesus and how dare anyone question the scheme after she died; the attendee who asks the question looks embarrassed and abandons question

Plate 4.1: Stephen Murray newly built luxury villas on the bank of the river Poddle (Source: The Irish Times, 2020)

Obviously, this is not to say that these topics were not relevant to discussions on flood risk management in the river Poddle catchment. What was questioned by residents was how they were used and the impact it had on discussions about the flood works:

> I mean that was carefully orchestrated or managed or planned, you know, it's very, like it's very obvious, you know, you can't, how do, how can you, it's very awkward, if you are seen to criticize a flood alleviation scheme after being told that somebody died in a flood, well then, straightaway, that makes you look like you don't care about the person who died, it makes you callous and it's a quick way as well of dismissing you. So you're callous, you're cruel, and you would be prepared to put people at risk again and it shuts down the conversation because you would be so afraid to say the wrong thing and to come across that way (Local resident, recorded interview).

Because of the intense focus on the issue of flood insurance for property owners, a local tenant explains how they didn't feel entitled to express concerns about the proposed flood works:

> Like, yes, I guess, anger, upset, really upset, it still upsets me to this day. And can I also just say I don't actually, I'm a renter here. I've been living here for years, so then you have this kind of complex about do I have the right to be upset or do I have the right to actually be objecting? Because I technically don't, I'm not a resident here, so like these issues, like not getting house insurance won't impact me. So there's conflict there as well, also, you know, the way this flood alleviation scheme was put forward was like, a woman has died a few years ago because her own apartment flooded after the river burst its banks. So then it leaves a conflict, it's like, as in danger, you know, if, if, if, I could be the cause of something bad happening if I object. (Local tenant, recorded interview)

As the now approved flood works are due to start in April 2024, the death of Celia de Jesus is still evoked to promote them as in a recent *Irish Times* article announcing the commencement of the works and featuring a large photograph of her funeral (Kelly, 2024). The next section looks in more detail at some of the ways flood risk has been addressed and is to be addressed in the Poddle catchment in light of the described procedural and epistemic context.

4.4 Flood risk management in the river Poddle catchment

4.4.1 Hard engineering approach to flood risk management

Starting with the hard engineering approach to managing flood risk, it has been the dominant approach in the Poddle catchment and elsewhere in Ireland (as globally, in IPCC, 2022a):

> [T]he Office of Public Works, and I've spoken to them recently, have said to me that they only hire engineers. There is nobody from any other disciplines background. So they will take an engineer approach to dealing with floods and that traditionally in Ireland has been hard engineering approach. (Academic researcher, recorded interview)

While Bulkeley (2010) argues that political leaders may have been less able to create political capital through adaptation projects, an academic researcher observes that the completion of these heavily engineered, high-visibility adaptation projects still

play an important role in political career advancement in Ireland: "they're all on four-year terms (...) each of them needs to have these markers and I saw this very clearly with the Minister of the OPW (...) He needed to have a certain number of his projects gone through and successfully completed so that his political career could be moved on" (recorded interview). The researcher goes on to explain how such a mode of governance is hostile to envisioning and implementing change:

> [T]hey're there for four years and they're not even there for four years in that ministerial position, they could be there for two years, so, they're not there to, to, to enact effective change, they inherit something, and they have to move forward with that and not really change it. There is no time for change in a four-year cycle in the government (Academic researcher, recorded interview).

Concerning the river Poddle flood alleviation scheme, as described in the introduction, it is still based on a heavily engineered approach to flood risk management from increasing flood storage in Tymon Park South, channel realignment in Whitehall, new flood containment areas and flood walls in Ravensdale and St Martin's Park to increasing the height of existing flood walls (Figure 4.1). Importantly, throughout the consultation process and especially in a context of growing opposition to the scheme, the proposed infrastructure has been overwhelmingly presented in a triumphalist manner, as a one-stop final solution to all flood problems in the catchment:

> From talking to a local stakeholder recently along the scheme, who have been affected before, and they are just thrilled that something has been happening, on the scheme, because they just don't want anything to happen again, obviously (Council engineer in Dublin City Council (2018b))

> But the real tragedy of that night is that that lady died in Harold's Cross, and it didn't have to happen, because flood attenuation will stop that. We won't stop the rain, the climate change is as it is, well we have to try and rock on that and not saying it is what it is. (Local councillor, recorded interview)

> So, the attenuation scheme that is proposed, that is going to be a game-changer too. (Local resident affected by flood, recorded interview)
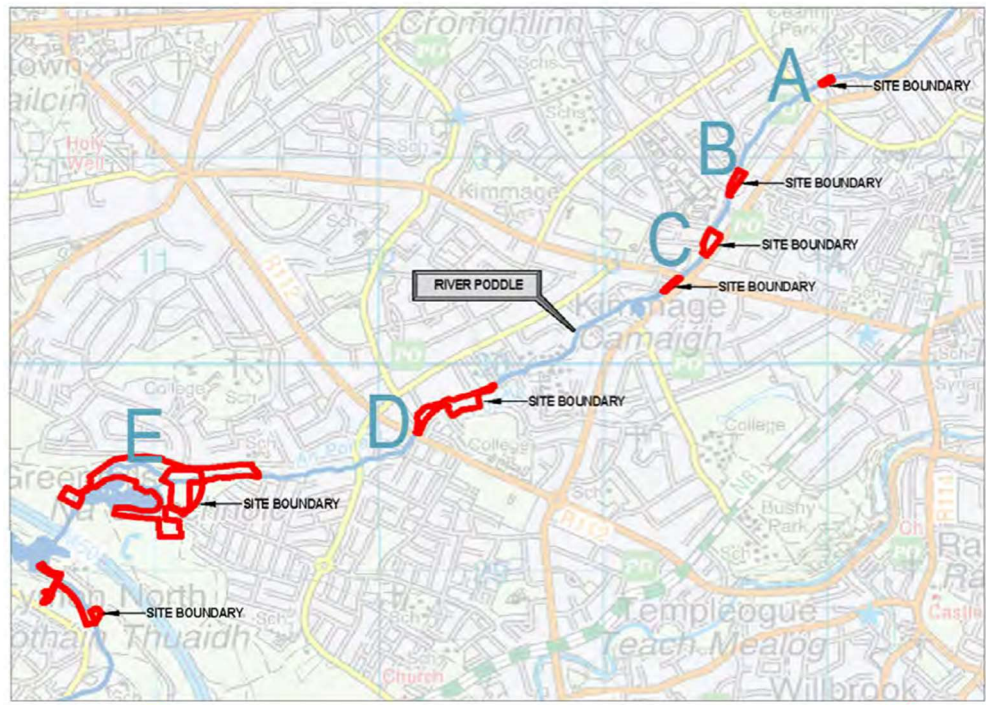
Figure 4.1: Planned hard/engineered intervention on the river Poddle from Tymon Park down to Mount Argus (Source: Chris Shackleton Consulting, 2019)

On the other hand, the academic researchers subsequently interviewed as part of the research had a far more nuanced take on the anticipated success of the proposed infrastructure: "this idea that (...) we have the power to stop floods is BS, that is a lie and telling anybody by building a wall that they're not going to be flooded is irresponsible. And suable as far as I'm concerned because that's not a promise that can be kept" (recorded interview).

Importantly, as outlined by another researcher, heavily engineered, hard defence approaches to flood risk management fuel the well documented levee effect (Koslov, 2016; Rusca and Di Baldassarre, 2019; Krueger and Alba, 2022; IPCC, 2022a) which in turn is likely to increase residual risk and its impact in case of failure:

> You know as that perception that engineering can deal with flooding, you get increased development in flood prone areas. Hurricane Katrina in New Orleans, you see it very much so in Dublin, ultimately, again what happened with fatalities in the Poddle in recent years, it's a failure of that infrastructure. So when it does fail, it becomes far more catastrophic. And I think that's not appreciated. (Academic researcher, recorded interview)

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Additional limitations of hard infrastructures of flood risk management presented in the literature review are relevant to the Poddle catchment: risk transfer (IPCC, 2022a) and a lack of flexibility post-development which is at odd with the inherent uncertainties of flood estimates, especially in highly urbanized catchments (Lade et al., 2014; Krueger and Alba, 2022; IPCC, 2022a). What can also be observed through past and planned engineered and hard infrastructure arrangements in the Poddle catchment is how they inevitably lead to 'locks-in': existing flood walls have to be heightened and existing flood ponds have to be made deeper.

Only looking at the infrastructures of flood risk management in place at the time of the 2011 flood event brings important perspectives that were never part of the most recent public debates regarding the proposed flood works. For instance, flood storage was already in place in Tymon Park South and had been so since 1997 but, on the night of 24th October 2011, storage capacity and flow control there proved insufficient. Hard infrastructures are also prone to human errors and one instance of such errors played a significant role in the unfolding of the 2011 flood event and subsequent death of Celia de Jesus:

> What happened ten years ago, remember that serious flooding, was caused, it wasn't so much that happened there, the wall in Gandon Close, in Gandon Close there is a wall that borders the river channel, it's about, it's a brick wall, (…) they didn't use solid blocks, they used hollow blocks, and hollow blocks were not tied to the foundations they put down, on the first blocks. Basically the wall was strong as a deck of cards, in terms of the river channel. So the water couldn't get into Gandon Close channel, so the water pulled behind this high wall about two and a half, three metres high, and basically, the wall, the wall became like a dam, and the wall then could not take the weight, burst (…) so this wall caused a tsunami of water to run through Harold's Cross and that has done all the damages and that killed that poor lady. (Local resident, recorded interview; see Figure 4.2)

Instead, the breaking of the Gandon Close wall (Plate 4.2) was attributed to "the power of the water" and the "power of the flood" during council meetings (council engineer, Dublin City Council (2018b); council engineer, Dublin City Council (2018a)), illustrating how infrastructure failures are obfuscated through naturalization. Additionally, in a report on the flood event commissioned by the OPW, no mention

is made of culvert blockage or of a wall "strong as a deck of cards". Issues at the Gandon Close location are formulated in terms of "insufficient (culvert) capacity" or the "upstream end of culvert [bursting] its banks" (RPS Consulting Engineers (2011), now part of Tetra Tech, multinational consulting and engineering services provider with a $5B annual revenue). In other words, great efforts are deployed to obfuscate infrastructure failure, which in turn prevents us from asking what happens and to whom when they do fail, as inevitably happens.

Plate 4.2: Photograph of the Gandon Close wall after the 2011 flood event (Source: Dublin City Council, 2019c)
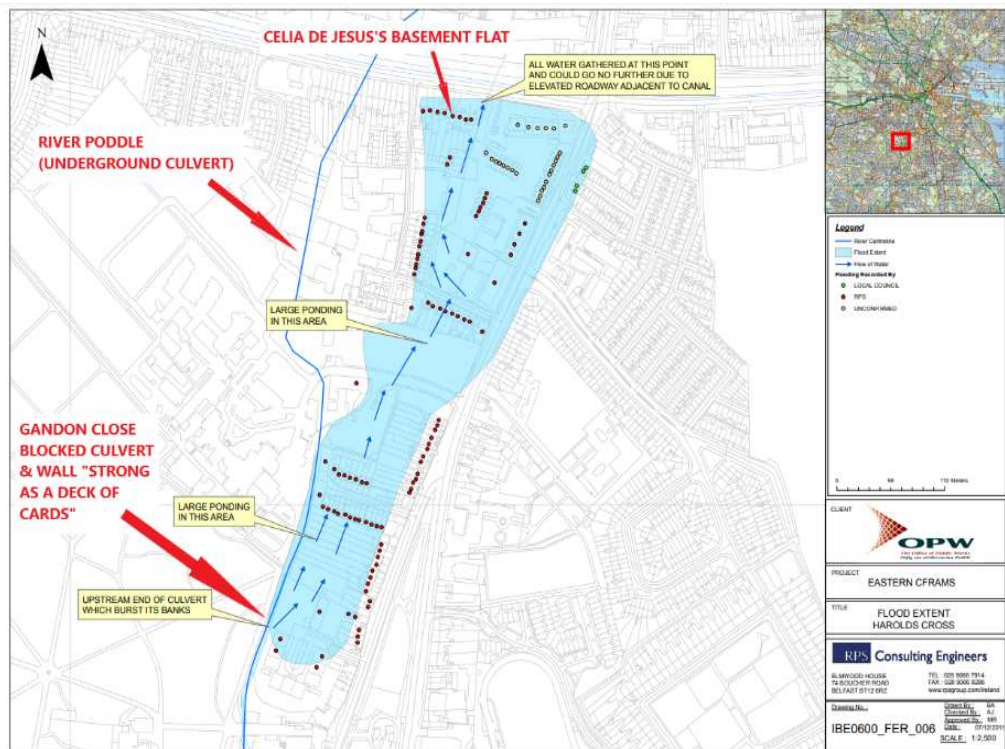
Figure 4.2: 2011 flood extent in Harold's Cross from the blocked Gandon Close culvert entrance down to the canal (Source: RPS Consulting Engineers, 2011, added red text & arrows)

Some last important points to be made are concerning another flood control infrastructure in place on the night of the death of Celia de Jesus, namely the underground culverting of the river Poddle. Culverting of the river was long seen as a way to alleviate flood risk. For instance, in 1986, after the Hurricane Charley flood event, Dublin City Council (Dublin Corporation at the time)'s direct response to the event had been to culvert more sections of the River Poddle (Dublin Corporation, 1986). This is surprising already at the time as the same flood report that prescribes more culverting also describes significant issues with existing culverting from capacity to blockage (Dublin Corporation, 1986). In fact, the same culvert failures would occur again in 2011, this time also affecting the more recent post-1986 culverts and with the deadly consequences that we know of for Celia de Jesus. Today, as culverting is no longer seen as a viable way to address flooding and is also criticized for its harmful environmental impact, the material legacy of culverting is still present and will still no doubt heavily influence the way flood events unfold in the future (Plate 4.3). While the proposed flood scheme is in ways 'addressing' the culvert legacy through improved trash screen and CCTV/alarm systems as well as a scheme

design accounting for a 60% blockage scenario, again it can be seen as a conservative approach to responding to the multi-shaped risks posed by these culverts. Additional risks include infrastructure collapse as in 1985 on Lower Kimmage Road (again, one year before other plans were made to increase the Poddle culverting after Hurricane Charley):

> I remember the time the gardens on the opposite of the road collapsed into the Poddle. The first signs of something strange was when the occupants of no. 5 complained that their sliding doors were not closing (were out of line). Then one morning I noticed that a hydrangea bush in the garden of no. 9 had got smaller and next day it had disappeared into the river with a good portion of the garden. (…) No. 11 also sank and I can't remember how many more. (…) Wooden bridges were put in place to allow residents access to their houses. (Written testimony submitted by local resident)

Or how they actively and dangerously contribute to decrease risk awareness, which is again so tragically relevant to Celia de Jesus's death since the river Poddle was nowhere to be seen in the area she was living in (but culverted less than 150m from her place of residence):

> I mean I remember like in 2011, like a woman was killed because of the floods and I was saying 'there is no Poddle there what are they talking about, there is no river there', but there is but it's just been, it's been, it's been buried, so the poor lady who rented that flat and eventually drown because the landlord didn't allow any escape hatch, she probably didn't know there was a river there. You know, she was completely unaware that she was living right by a river and it killed her. (Local resident, recorded interview)

While an academic researcher interviewed during fieldwork argues that "in a place where you can't even see the watercourse", "risk perception needs to be consistently and constantly raised with the communities that live there", on the contrary as will be extensively shown in Chapters 5 and 6, local authorities and state agencies are trying by all means at their disposal to keep the location of the Poddle culverts as confidential as possible. In the process, decision-making about the future of these culverts is handed over to private actors such as Amazon and a wide range of student accommodation and build-to-rent developers.

Plate 4.3: River Poddle overflow culvert blocked by vegetation in Wainsfort Manor (Source: Waterman Moylan Consulting Engineers Limited, 2016)

4.4.2   Land use management

From what has been said of the dominant heavily engineered, hard defence approach to flood risk management in the Poddle catchment and its resulting 'levee effect', it is no wonder that land use management as a flood risk management approach was unanimously described as failing. As summarized by an academic researcher during a recorded interview:

> [W]hat you end up with is planning and building is very much privately run for profit and developers can do essentially what they want to do and you get in expensive urban areas like that, those guidelines just become ignored and the, yes, you get more exposure in flood prone areas.

While the issue of inappropriate development and infilling in flood prone areas has long been raised by residents of the Poddle catchment, for instance in a post-2011 flood event public consultation session (Table 4.3), a detailed assessment of the catchment development before and after 2011 indicates that land use management has remained unchanged. As an example among many, Plate 4.4 shows a luxury build-to-rent development initiated in 2018 on a greenfield traversed by the river, now owned by global real estate fund Patrizia, and where the developer was given

permission to modify the river channel to suit their plans (planning application reference: 2870/17; Figure 4.3). Even their basement car park, located much below river level and only meters away from the river bank, was approved. Plate 4.5 shows a property flooded in 2011, only separated from the river Poddle by a car park, and where a build-to-rent residence is now being erected (planning application reference: 4735/18): in this case, the flood risk assessment conducted by JBA Consulting (one of the consulting firms who did not respond to my interview request) explicitly mentions the proposed river Poddle flood works and how they will help protect the property from future flood events (in other words, a classic illustration of the "levee effect"). That being said, the development was initiated months before the river Poddle flood alleviation scheme was even approved by the national planning authority An Bord Pleanála. The project is led by UK-Irish real estate fund Rivergate Developments, which mission statement is to maximize "development potential and return for investors" (Rivergate Developments Ltd website). Consistent with such an objective, after their initial planning application was approved, they later applied to increase the size of the development from 34 to 40 units (planning application: 3420/21), which was also approved. In addition to being a regularly flooded site and on the 0.5 to 1.5m depth 1% AEP flood map, the site is also part of what was termed by a local resident during a recorded interview "the flood pond for the Poddle".

Table 4.3: Extract from Eastern CFRAM post-2011 flood event public consultation report (Source: RPS Consulting Engineers, 2012)

ISSUES RAISED	RESPONSE/ACTION	RESPONSIBILITY
There is development throughout the floodplain of the Poddle River. Permission continues to be granted for more development which is likely to exacerbate the issue.	The outputs of the CFRAM process will influence National Planning Guidelines and Development Plans and will therefore help to ensure that development is sustainable and not likely to lead to, or exacerbate, flooding issues.	OPW, local authorities

Plate 4.4: Luxury build-to-rent development and its river Poddle channel realignment
(Source: Krystallas, 2017)
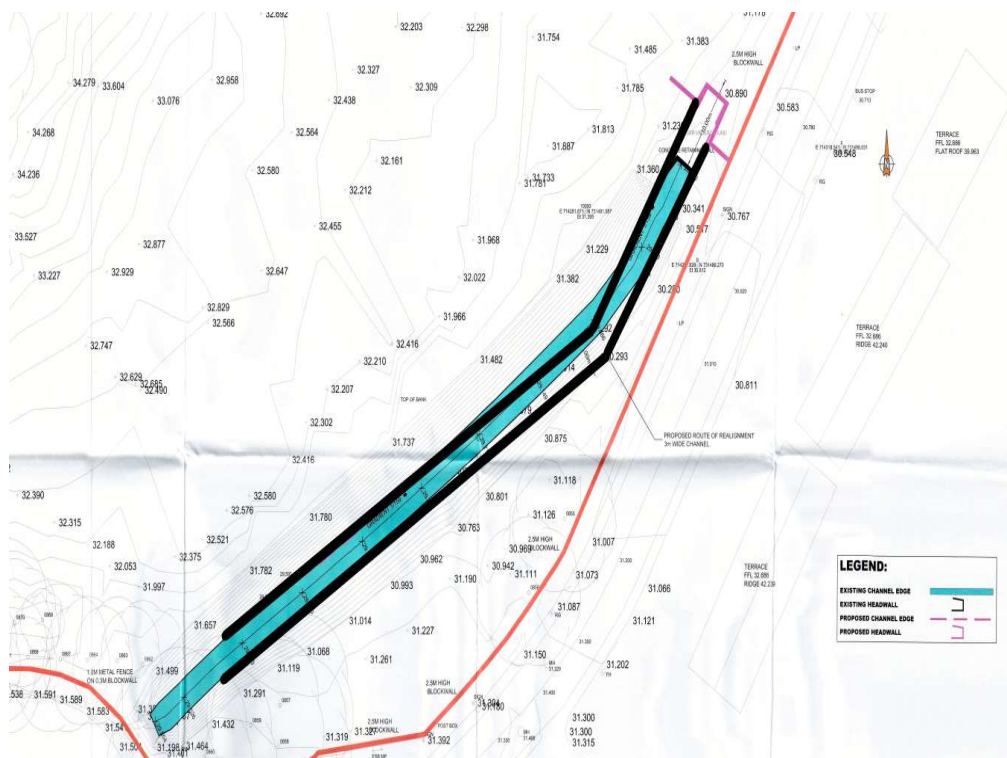
Figure 4.3: River Poddle diversion plan (black) to make room for the build-to-rent development (Source: OCSC, 2015, black highlighting added)

Plate 4.5: UK-Irish real estate fund Rivergate Developments site as flooded in 2011 (Source: Dublin City Council, 2018b)

The main regulatory framework for land use in relation to flood risk is the *Planning system and flood risk management* guidelines produced by the Office of Public Works (2009). As observed by an academic researcher during a recorded interview, these guidelines are not "rules", "they don't have to be respected". Even though, during another recorded interview, a planning authority official explains how the wording of these guidelines was made even weaker after 2019, rendering in effect the legal challenging of statutory planning with regard to flood risk management malpractice even more difficult (Table 4.4). The change of wording coincides with the establishment of the Office of the Planning Regulator (OPR) on foot of recommendations made by the Tribunal of Inquiry into Certain Planning Matters and Payments (the Mahon Tribunal). While the OPR's role is to ensure planning policy compliance by planning authority An Bord Pleanála and local authorities, the institution was said to lack teeth in two recorded interviews, one with a planning authority official and one with a former local councillor now senator.

Table 4.4: Change of wording in flood risk management guidelines after 2019 (Source: Author, 2023, bold italics added)

PREVIOUS WORDING	CURRENT WORDING
"Planning authorities and An Bord Pleanála are required *to **have sufficient regard** to* the Guidelines in carrying out their functions under the Planning Acts."	"Planning authorities and An Bord Pleanála are required *to **have regard** to* the Guidelines in carrying out their functions under the Planning Acts."

At ground level, an examination of flood risk assessment processes does not show whether and how they account for the uncertainty inherent to all hydrological modelling (Krueger and Alba, 2022) and even more so in urban settings (Lade et al., 2014). In many cases, flood maps were found to be taken literally, as for instance in a flood risk assessment conducted as part of a planning application for the now completed new Technical University building on their Tallaght campus (planning application: SD18A/0435). While the building site is located upstream of the river on what used to be a greenfield directly adjacent to the river, because it is located outside the flood extent boundaries of the flood map that was used at the time as part of the flood risk assessment, even a justification test was deemed unnecessary. However, as observed by Ran and Nedovic-Budic (2016): "Misunderstanding these (flood map) boundaries may result in absolute planning or development boundaries with a low level of awareness of flood risk in the 'safe areas', which is located outside of the hazardous areas but still with probability of being flooded" (p72). As emphasized by an academic researcher during a recorded interview:

> [T]he uncertainties that are involved, in terms of understanding flood extent, whether it's from, you know, uncertainties over the catchment itself, the urbanization, the models use, can be extremely large and to reduce that down to a single black and white line, you're on one side or the other, is not representative of actually the uncertainties that are involved.

Additionally, characterizing flood events in terms of probability is also misleading: "a 300 year flood can occur twice this year, it's just on average happens once every 300 years". However, as explained by the same academic researcher during a recorded interview, (academic) flood knowledge that emphasizes a complexity that cannot be reduced to a single binary right/wrong line is not welcome in urban planning: "give us a number, that's what people want but actually understanding the complexities

behind it, not interested. Just give me a number so I can get on with doing things the way they've always been done. That's it."

A last point to be made is that flood risk assessment conducted by local councils was not found to be more rigorous, as for example in the case of the construction of the Castletymon Library on the banks of the river Poddle in 2019 (planning application reference: SD168/0003). In the planning report, the county architect's flood risk assessment, which does not mention the river Poddle by its name, is two sentences long: "There is no history of flooding on the site. While the building is designed to overlook the existing stream and pedestrian walkway it is sufficiently set back from this boundary to avoid interference with the river bank." Plate 4.6 shows the actual distance between the river and the built library and Figure 4.4 the aerial photograph of the building site used in the county architect report which does not signpost the site boundary or the river Poddle, itself easily mistaken for a mere hedgerow at such a height. What does not show on the aerial photograph either are the white egrets, herons and mallard ducks regularly encountered at this very location during my walks and who, according to a local resident, have been there for several years (recorded interview).

Plate 4.6: Distance between the newly built Castletymon Library and river Poddle (Source: Author, 2022)

AERIAL VIEW OF THE PROPOSED LIBRARY SITE AS FEATURED IN THE COUNTY ARCHITECT REPORT	AERIAL VIEW OF THE PROPOSED LIBRARY SITE WITH ADDED SIGNPOSTING

Figure 4.4: Aerial photograph of the proposed library site as featured in the county architect report (left) and with added signposting (right) (Source: County architect report, planning application reference: SD168/0003, 2016)

4.4.3 Flood insurance

Concerns about access to flood insurance for property owners were at the forefront of discussions on the proposed Poddle flood works. In Ireland, flood insurance is provided exclusively by private insurers. In 2014, the OPW signed a memorandum of understanding with Insurance Ireland, the representative body for insurance companies in Ireland (no interview could be secured with them despites multiple follow-ups of my initial interview request by email and by phone). In a nutshell, the memorandum establishes the conditions under which insurers may be willing to "take into account" OPW's flood data, especially concerning the addition of new flood relief infrastructures. While the memorandum dictates significant obligations to be fulfilled by the OPW including what type of event flood relief infrastructure should protect against to be taken into account (a hundred-year return period), commitment to maintenance works on existing infrastructure and full information sharing, obligations to be fulfilled by insurers in return are comparatively non-existent. Most importantly, it generates no obligation for insurers to provide flood

cover nor cap their level of premiums in any way, which was reaffirmed during the Poddle flood works council debates:

> Insurance Companies did not pay any attention to them (river Dodder flood works) in spite of the work being almost completed, there is only a very small section to be done, so I wouldn't hold your breath on that one. (Local councillor in Dublin City Council (2019c))

> Insurance companies take into consideration new context after works but are by no means forced to grant flood cover. They have the final word. (Council engineer in Dublin City Council (2019c))

Put it simply, in the light of the works discussed in the literature review (O'Hare et al., 2016; Taylor, 2020; Taylor and Weinkle, 2020), the described allegiance of state institutions to the insurance industry constitutes another significant 'privatization' of the public means of managing flood risk and of the resulting longer-term adaptation strategies (although the estimated cost of the Poddle flood works is €10 million, a €1.3 billion budget has been allocated to the building of flood relief infrastructures throughout the country between 2021 and 2030 (Michael McGrath, Minister for Finance, 23 November 2023)). As puts by Collins (2010, p282), "These responses to flood hazards by the local state are predicated on the redistribution of the social surplus to facilitate the interests of elite geographical groups of people at the expense of marginal ones." Literally, the insurance industry dictates what kind of flood event matters, what kind of flood adaptation measures should be considered and what kind of risky behaviour is acceptable, reproducing in many ways the "levee effect" (O'Hare et al., 2016; Taylor, 2020; Taylor and Weinkle, 2020):

> A key challenge I think in terms of shifting the policy nationally has been the importance of the role of insurances and their, their willingness to recognize nature-based solutions and alternative methods rather than the hard, grey infrastructure that's there and is very visible as a means of reducing risks. (Academic researcher, recorded interview)

> [I]f you're also getting the insurance companies coming in and insuring those houses for floods, that's giving people permission to, it's giving them the safety net of 'what sure even if I get flooded, sure, I'll get the money' and so, it will be an inconvenience

maybe for two years, but it will be an, you know, there's, it's, it's not the end of the story so I think that the insurance companies have a major role to play by funding these developers. (Academic researcher, recorded interview)

Arising from this approach, data indicates that average flood insurance coverage levels here are higher than across the EU, and has indeed increased since 2015. However, it is acknowledged that some households are still experiencing difficulties, particularly in areas with demountable flood defences. These are systems which require human intervention in terms of their deployment. (Michael McGrath, Minister for Finance, 23 November 2023)

In sum, the alignment of national flood risk management policy with insurer interests strongly contributes to sustaining the focus of the policy on certain flood alleviation measures, grey infrastructures, and certain flood events, those with a hundred-year return period. It contributes to locating and defining 'safety' on the side of those grey infrastructures which protect us against the hundred-year flood event. It depicts those grey infrastructures as safer than demountable flood defences which "require human intervention" for instance, implying that grey infrastructures do not require "human intervention" and thus deepening the material/social divide lens they are often seen through. However, as developed in the literature review, what it means is that we are then locked in certain forms of risk exposure, what O'Hare et al. (2016) term the "maladaptive cycle": insurers, which are amongst the largest and wealthiest global corporations, make profit on certain forms of risk exposure and therefore they have no interest in addressing those forms of exposure they profit from.

The ambitions of insurance as a mode of resilience are overwhelmingly stability orientated, rebounding to a pre-shock 'normality' where risk is absorbed by a system, but rarely avoided or reduced. (...) Recovery is thus prioritised over prevention: rather than insurance engendering transformative resilience, it normalises societal risk and recovery from the consequences of risks. (O'Hare et al., 2016, p1185 and p1188)

Returning to the death of Celia de Jesus, the "maladaptive cycle" will increase the invisibility, vulnerability and flood risk exposure of basement tenants and other marginalized urban residents: indeed, tenants as much as homeowners unable to afford insurance are of no business interest to insurers. In a literal sense, on the

hundred-year flood map produced as part of the proposed Poddle flood works, Celia de Jesus's basement flat, which was flooded at least in 1986 and 2011, is not included in the flood extent, and as a result is also not included in the benefitting areas of the proposed flood works (Figures 4.5 and 4.6). Hence, it becomes less and less clear how the planned river Poddle flood works are to prevent events like the tragic death of Celia de Jesus to occur again, which is to be further questioned in light of the data presented in Section 4.5.2.
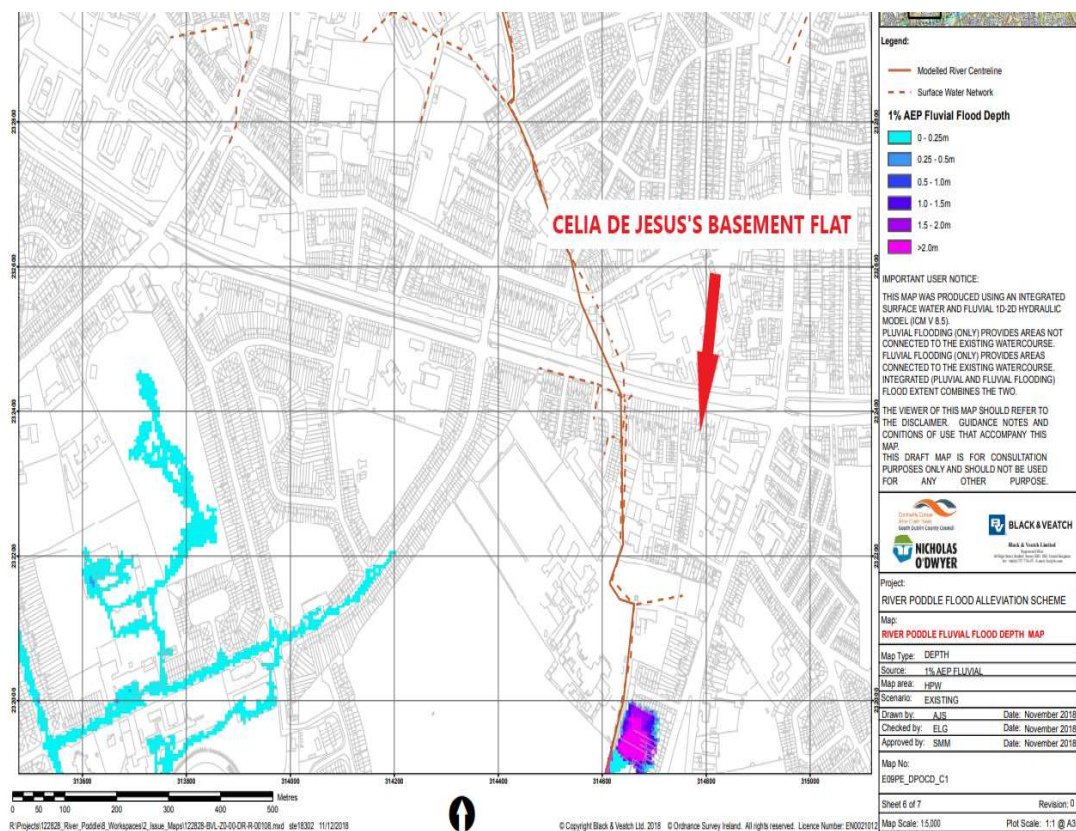
Figure 4.5: Celia de Jesus's basement flat location on the 100-year flood map produced as part of the planned river Poddle flood works (Source: Black & Veatch Ltd, 2018, red text and arrow added)
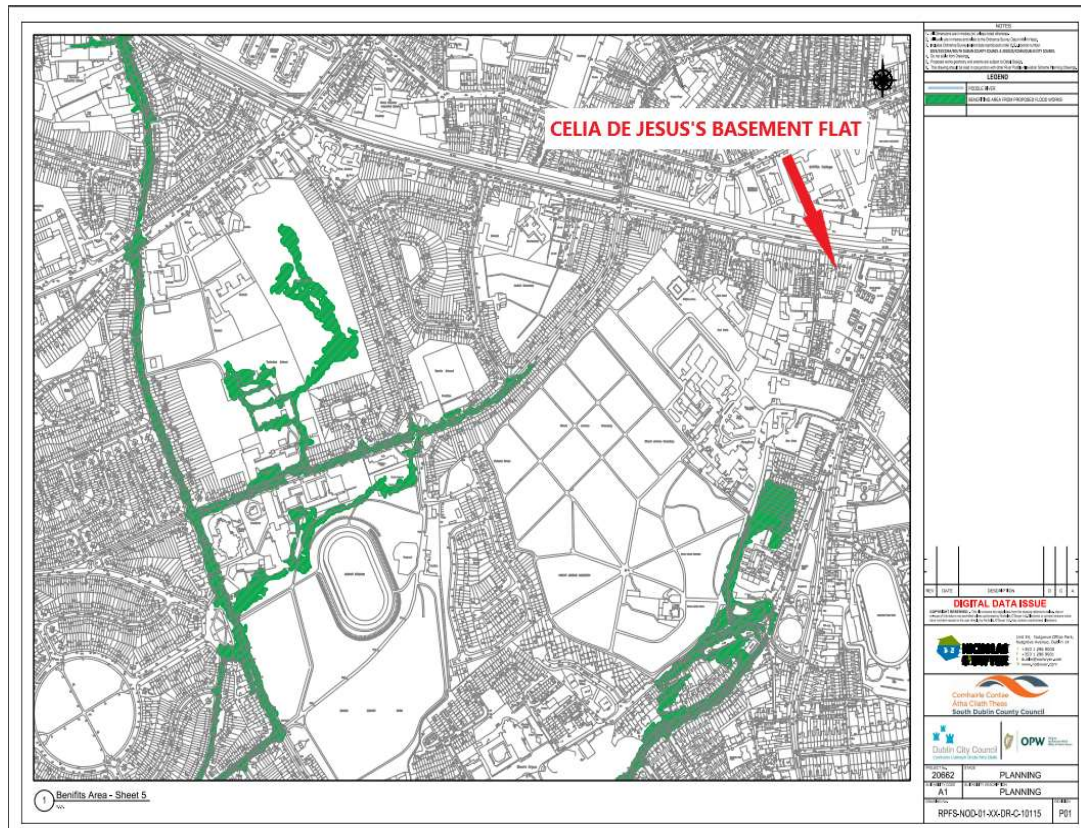
Figure 4.6: Celia de Jesus's basement flat location on the flood works benefitting area map produced as part of the planned river Poddle flood works (Source: Nicholas O'Dwyer Ltd, 2020b, red text and arrow added)

4.4.4   Nature-based solutions

To finish with, I will show how 'nature-based solutions' to flood risk have been discussed in the context of the proposed river Poddle flood works. In fact, 'nature-based solutions' have been claimed by different stakeholders in almost incompatible ways, illustrating what was observed in the literature review about their multiple contested and sometimes contradictory conceptualizations (Collier and Bourke, 2020; Heneghan et al., 2021). On one hand, the public institutions who had put together the plans of the proposed flood works claimed that the Poddle flood alleviation scheme was innovatively conjuring a number of nature-based solutions to flood risk, namely the increased upstream storage capacity which would limit the implementation of hard defences in the lower catchment of the river and the creation of an integrated constructed wetland in Tymon Park South, which was to

naturally slow down water flow and improve water quality. However, on the other hand, such claims have been widely contested by residents in different parts of the catchment on several grounds: first, the number of trees to be removed, which in the latest estimate amounts to 217 (Plate 4.8); second, the negative impact of the implementation of flood defences in different public parks and public green spaces; and, finally, the overall quality of the environmental surveys (including the tree survey) which have been highly contested by local environmental professionals. Additionally, the planned location of the integrated constructed wetland was determined based on flood risk management concern and will leave important upstream water quality concerns unaddressed (Plate 4.7). Most importantly, data presented so far, which highlight how flood risk management in the catchment has been mainly led by the agenda of the real estate and insurance industries, also cast significant doubt on the 'nature-based solutions' claim of the public institutions involved in the flood scheme project: If anything, data show how public green/blue infrastructures are privatized and enclosed through their enrolment in various private market agendas.

Plate 4.7: The river Poddle in Tymon Park North (Source: Friends of Tymon Park Facebook Group, 2023)

Plate 4.8: Tree removal in Tymon Park South as part of the planned flood works (Source: Author, 2024)

4.5   The social murder of Celia Ferrer de Jesus

Data so far have exposed how flood risk management in the river Poddle has been enrolled in serving various private elite interests. Flood events in the Poddle catchment and the way they unfold are not the result of extreme rainfall events alone: they are strongly influenced by the agenda of the real estate and insurance markets. By assessing the living conditions of Celia de Jesus at the time of her death, I will show how the marketization of housing provision, actively encouraged by successive governments in power in Ireland in the last decades (Hearne, 2020), has transformed her home into a flood trap that caused her death[5].

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[5] See Appendix (Deposition of the diver who attempted to save Celia de Jesus on the night of the 2011 flood event) for important insight into the deadly conditions created by a profit-oriented approach to housing provision.

4.5.1 "Trapped by flood waters"?

The main lines of the dominant narrative that surrounded Celia de Jesus's death was that she was killed by a 'flash' flood during a major flood event. A lot of emphasis was placed on the period of heavy rainfall that preceded and somehow set the ground for the 2011 flood disaster. The toxicology report's clinical details and final verdict of the coroner are no exception:

> Found dead in her flat by DFB (Dublin Fire Brigade) following flash flooding in which her flat was flooded up to the ceiling level. (Clinical details in Toxicology report)

> Celia de Jesus was pronounced dead on the 25th October 2011 at Flat 1, 4 Parnell Road, Dublin 12 from: Drowning as a result of a surge of water and flooding over a short period of time on the evening of the 24th October 2011, following two days of heavy rain. Death by misadventure. (Coroner's verdict)

Newspapers headlines are also telling in this regard and did not change much from 2011 up until 2020:

> "Floods Horror" in the Independent (Stack, 2011), "flooding victim" in the Irish Times (Nihill, 2011), "care worker who died in Dublin flood" on Extra.ie (Bracken, 2018), "river that cost mother her life" in the Independent (O'Doherty, 2020)

Furthermore, in a 2011 flood report put together by OPW appointed consultants working on the CFRAM project for the region (Catchment Flood Risk Assessment and Management), it's "flood waters" that trap Celia de Jesus in her basement flat (which in the process becomes "the basement of a house"):

> Impacts to people: This flooding event resulted in the loss of life of one person who was trapped by flood waters in the basement of a house, which fronted on to the canal. (RPS Consulting Engineers, 2011)

In sum, the death of Celia de Jesus was significantly 'naturalized' or, in other words, depoliticized. The last section of the present chapter will outline on the contrary the social and political causes of the tragic event, unveiling it as a true "social murder" (Medvedyuk et al., 2021; Ward and Brill, 2023).

4.5.2 The rental property of Andrew Donohoe

Two months prior to the 2011 flood event, Celia de Jesus moved in Andrew Donohoe's rental property located at 4 Parnell Road. After living in shared accommodation for years, she had moved there to prepare the venue of her son and husband who at the time were planning to relocate in Ireland permanently. The flat she was living in was part of a larger house divided into five flats. Data collection reveals a number of irregularities concerning the development of the property. First, no record of planning application was found that could explain how the house had come to be divided into 5 rental units. The only planning record found about the dividing of the house is from 1980-1981 when Andrew Donohoe, who had just acquired the property, applied to convert it into 3 separate units (planning applications references: 3973/79, 345/80, 342/81(A)). Permission for such conversion was first refused by Dublin Corporation (presently Dublin City Council) and then granted in appeal by planning authority An Bord Pleanála.

The other pre-2011 planning record for the property is an application that was submitted to Dublin City Council in 2009 (planning application reference: 3066/09) for the building of a single dwelling unit spanning the back of the house and the next-door house (5 Parnell Road) owned by Andrew Donohoe's brother, Simon Donohoe. The planning application was refused. However, what is important to note is that, during the planning process, both properties were described as unlawfully sub-divided. Concerning Simon Donohoe's property, local residents observe in their objection to the planning application (planning application reference: 3066/09):

> Regarding enforcement, it is further submitted that the applicant appears to be in breach of the planning laws by letting no.5 in multiple units when permission was granted for single occupancy unit on 11 April 2005 (Plan No. 4792/04).

As for Andrew Donohoe's property, it was depicted by his own architect as follows: "the property, which is in multiple occupancy, is not of a habitable standard" (Don Harrold MRIAI Architect, planning application letter sent to Dublin City Council, planning application reference 3066/09). A last point to be made concerning the 2009 planning application is that, despite outlining significant institutional

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shortcomings in need of being addressed as a matter of urgency, it was not part of the 4 Parnell Road planning history compiled for the coroner's report and not mentioned at all in the report.

Finally, after the flood event, an inspection conducted at 4 Parnell Road by a Fire Prevention Officer revealed that it was in breach of numerous fire safety regulations:

> [T]he layout of the premises was not in compliance with the recommendations of the Guide to Fire Safety in Flats, Bedsitters and Apartments in that: bedrooms on the lower ground floor, upper ground floor and first floor were inner rooms with no access to alternative means of escape; compartmentation, if any adequate had existed, had been breached between lower ground and upper ground floors; adequate fire detection and alarm system was not visible; adequate emergency lighting system was not visible; any power supply or lighting system with which the building is provided is defective, inadequate or inadequately maintained. (Coroner's report)

BASEMENT FLOOR PLAN
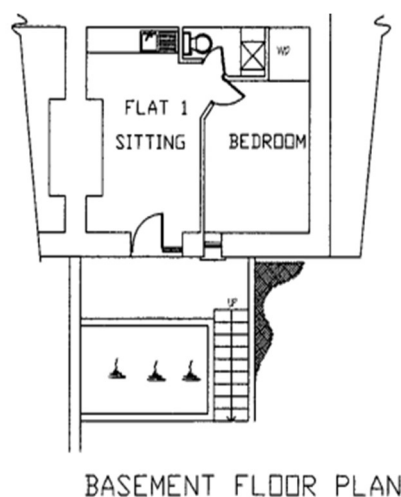
Figure 4.7: Floor plan of Celia de Jesus's flat (Source: Planning application 3772/11, 2011)

In fact, as Figure 4.7 shows, Celia de Jesus's basement flat was by far the least safe since it had only one exit, the entrance door (Plate 4.9): the small window located at the right of the entrance door on the basement floor plan was secured with metal bars. However, most importantly, the inspection of a flooded house by a "Fire Prevention Officer" and which safety compliance is assessed through the lens of fire safety regulations conversely points to a lack of institutionalized flood safety standards and procedures. In terms of identified flood risk for the property, they were known by both the landlord and state institutions after the 1986 Hurricane

Charley flood event (Dublin Corporation, 1986). However, as mentioned earlier when discussing underground culverting as a flood alleviation measure, after 1986 flood risk was again addressed through more culverting (Section 4.4.1). In this sense, the question of the safety of tenants living in basement in flood prone areas was dismissed first in 1986, second in 2011 and up until today when proposed flood risk management measures in the catchment are to increase existing upstream flood storage capacity and erect a few more flood walls along the river.

The flats at Parnell Road in Harolds Cross. Pic: John Cogill

Plate 4.9: Photograph of the entrance to Celia de Jesus's flat (basement boarded door and window) after the 2011 flood event (Source: John Cogill in Bracken, 2018)

4.5.3   The social murder

In this last section, I bring together some of the data presented in the chapter along with some arguments developed in the existing literature to make the case that the death of Celia de Jesus should be seen as a social murder. Indeed, contradictions between the marketization, financialization of housing provision and ensuring a safe, secure and healthy home for all urban residents have long been documented in the literature, most notably in the Irish and UK contexts (Hodkinson, 2012; Slater, 2021; Hearne, 2020). Contrary to main neoliberal assumptions, the distant, low-probability threat of potential loss associated with renting out dangerous places is not enough to deter these risky practices (Ward and Brill, 2023). As shown in the case of the tragic

death of Celia de Jesus, the economic risk associated with renting out an unsafe basement did not weight much against the opportunity for increased profit it offered. Indeed, it turned out to be a profitable enterprise overall: while the landlord was said to have settled with the family before his case reached court for the sum of €180,000 (Bracken, 2018), rent accumulated over the years and the money obtained from the sale of the house in 2015, €535,000 (Property Service Regulatory Authority website), largely made up for it. Moreover, on the side of those seeking accommodation, awareness of these dangerous practices and the risk they pose cannot deter them from residing in unsafe homes. As observed by a research participant interviewed by Collins (2010) during his research on the 2006 Paso del Norte floods, "What they (migrants) can afford is what they get. So what do they do? The necessity of finding a place to live means any place with cardboard and a roof made of whatever becomes a home. There is nothing else for them" (p276). Likewise, Celia de Jesus did not 'choose' to live in an unsafe basement, she was constrained to live there by Dublin market-driven housing shortage and unaffordability (Hearne, 2020). What is more, it was also shown how the location of the river culvert is carefully kept under the radar, which strongly contributes to decrease flood risk awareness in the catchment and might have left Celia de Jesus completely unaware of it.

Engel's concept of "social murder" was recently revived as an analytical lens to assess the Grenfell tragedy, which illustrates how "privatized, unaccountable and deregulated housing provision system" prioritizes "the greed of the private sector over resident's safety" (Medvedyuk et al., 2021, p6). As argued by Ward and Brill (2023), "social murder" or "the violence of forcing people to live and work in dangerous conditions (...) reveals the structural nature of such violence": it does not result from "individual malice or incompetence – although these are often proximate causes" but "is systematically produced through the incentives and contradictions of the capitalist political economy" (p3 and see similar intentionality argument in Pulido (2000)). Most crucially, what follows is that the threat posed by such a structural violence cannot be addressed through regulations alone: in the case of the UK cladding scandal, "value-grabbing" by freeholders is pursued in compliance with new regulatory frameworks, which in turn continue to intensify and diversify risk

exposure. Structural inequities, power imbalance and the resulting endless 'informalities' guiding property relations are such that 'regulations', legal or otherwise, are unable to work towards the safety of the most marginalized. Similarly, the tragic death of Celia de Jesus was not caused by individual greed, malpractice or corruption *alone* although data presented in this chapter highlight them as "proximate causes". The overarching cause of the death of Celia de Jesus is a highly deregulated housing market which incentivizes life-threatening behaviours while making it impossible for the most marginalized to escape their harmful, murderous consequences. While data point towards a lack of institutionalized flood safety standards and procedures in Ireland, it most importantly shows how existing planning regulations were in fact unable to ensure the safety of Andrew Donohoe's tenants. It shows how the planning breach was outwardly facilitated and then obscured by all state and local authority institutions up to the OPW appointed private consulting firm who produced a 2011 flood event report stating that Celia de Jesus had been "trapped by flood waters" (RPS Consulting Engineers, 2011). As in the described flood risk management strategies adopted in the catchment, the state is decidedly on the side of the private (housing) market. In sum, based on the data and arguments presented in this last section as much as on the wider flood risk management context previously described, the death of Celia de Jesus must be seen as a social murder.

4.6   Conclusion

The overall objective of the present empirical assessment was to enquire about the social and political context of flood risk management as conducted in the river Poddle catchment with a view to challenging the nature/society and material/cultural divides underpinning existing dominant flood risk management narratives (Katz, 2008; Collins, 2010; Lane et al., 2010; Revez et al., 2017; Cruz-Martinez et al., 2018; Rusca and Di Baldassarre, 2019; Angelo, 2021; Krueger and Alba, 2022). Data presented in the chapter outline the capture of flood risk management knowledge production process and resulting socio-spatial floodscapes by various elites profiting directly and indirectly from land and property ownership. As in the case of the Paso

del Norte floods, responses to flood hazards by the local state in the Poddle catchment are "predicated on the redistribution of the social surplus to facilitate the interests of elite geographical groups of people at the expense of marginal ones" (Collins, 2010, p282). As in the case of the 2006 Paso del Norte flood events, the 2011 Poddle flood event was exploited to further neoliberal agendas (Cruz-Martinez et al., 2018) and increase the wealth and 'safety' of those most advantaged by current highly uneven property relation arrangements. Ultimately, it goes back to Blomley (2008)'s point that hegemonic knowledge systems are strongly imbued with private property assumptions, values and representations.

This chapter highlights some of the multiple contradictions of these property and insurance market centred flood risk management practices as enacted in the Poddle catchment. While claiming to address the dangers of future flood events, they in fact increase the risk exposure of the most marginalized residents of the catchment including its more-than-human inhabitants. Most importantly, they obscure the question of what happens when grey infrastructures fail and how so many might then face life-threatening conditions in the current context of housing provision marketization and financialization. If anything, it makes clear that successful climate change adaptation cannot be realized without a radical reassessment of the role played by these markets in its conception and implementation phases.

CHAPTER 5: GREENING AN AMAZON DATA CENTRE THROUGH DISTRICT HEATING: WHOSE CLIMATE CHANGE MITIGATION PROJECT?

5.1 Introduction

After having described at length some important dimensions of flood risk management as conducted in the river Poddle catchment, I now turn to a decarbonizing project being developed in the upper-catchment of the river, where it is in great part culverted underground. As mentioned in the introduction of Chapter 4, data pertaining to flood risk management and their assessment should be kept in mind throughout the reading of all subsequent empirical chapters. In particular, it should be kept in mind that the present decarbonizing project is located upstream of the river and on one of its longest underground culverted sections, which has likely implications in terms of flood risk and other river management dimensions as will be explored in more depth in later parts of the chapter. As stated in Sections 3.3 and 4.1, a question underpinning the four empirical studies of the project is whether and how different environmental concerns might coexist (at catchment scale and beyond), here climate change adaptation and mitigation ones. As seen in the literature, making climate change adaptation and mitigation work together and not against each other is a significant challenge in itself (Corcoran et al., 2017; Pierer and Creutzig, 2019; Anguelovski et al., 2019c; Anguelovski et al., 2022; UN Habitat, 2022; IPCC, 2022b; Kotsila et al., 2023).

In this chapter, I shift focus to a district heating project to be powered by the waste heat of an Amazon-owned data centre located in the city centre of Tallaght, in the midst of a former industrial estate to be redeveloped mainly as residential neighbourhood (Figure 5.1). Although I first came across the project during my initial river walks in the summer of 2021 when reading a notice put up on the Technological University campus where district heating pipes were being installed, the project had

been in talks for many years. In 2016, Amazon, who had bought the site of the former Jacobs Factory at the corner of Belgard Road and Airton Road, received planning permission to erect a first data centre in place of the old factory (planning application reference: SD16A/0093). Two years later, they applied to build a second data centre on the site of the former factory; however, this time, the local authority South Dublin County Council's approval was granted on the condition that Amazon would allow access to their waste heat to power a local district heating scheme (planning application reference: SD18A/0219). 'Waste heat' is generated by data centres through the process of cooling their processors and electrical equipment, which can be realized through air-cooling or water-cooling as in the case of the Tallaght data centre. In the case of the Tallaght District Heating Scheme (subsequently TDHS), hot water from the data centre is sent to the adjacent district heating energy centre (located on Amazon land) whose heat pump is to boost it to a usable temperature before it is circulated to produce heating and hot water (O'Shea et al., 2019). As a final step, the 'cooled' water is sent back to Amazon (Ramboll, 2018). In April 2023, the finalized new district heating energy centre was inaugurated in the presence of Minister for the Environment Eamon Ryan (O'Sullivan, 2023). As of December 2023, connections to the TDHS are mostly circumscribed to public buildings but with a view to be extended to private residential/commercial buildings. As mentioned, the data centre and district heating energy centre are located in the midst of former industrial estates to be redeveloped mainly as residential neighbourhoods and it is hoped that many of these new developments will connect to the TDHS. Indeed, the economic viability of district heating is reliant upon a high number of connections, thus calling for high density developments in close proximity of the district heating infrastructure. In terms of funding, the initial infrastructure (the energy centre and initial connections) was erected at a cost of €8 million, half-state and half-EU funded. Finally, in terms of governance, the project was first initiated by local authority South Dublin County Council (SDCC) with the support of Codema, the Dublin energy agency set up by Dublin City Council in 1997 as one of 14 local energy agencies around Ireland helping local authorities to meet their energy performance targets. Additionally, the Dublin Climate Action Regional Office (CARO), part of four regional offices set up in 2018 at the request of the County and City Management Association

to support local authorities' climate change action, also participated in putting together the TDHS roadmap. As for the district heating scheme itself, it is run by Heatworks, Ireland's first not-for-profit energy utility fully owned by local authority South Dublin County Council; although first created to run the TDHS in 2020, its remit will be extended to the management of other similar projects when additional "heat sources" become available (Heatworks website).

Grounded in the literature review framing my research project, the present chapter is to provide further critical evidence challenging climate change mitigation projects as universal, public good for all (Bouzarovski et al., 2018; Grossman, 2019; Long and Rice, 2019; McFarlane, 2020; Angelo, 2021; UN Habitat, 2022; Kotsila et al., 2023). As described in the literature review, the IPCC chapter (2022b) on climate change mitigation in urban settings contains few mentions of social equity concerns, further fuelling the assumption that mitigation efforts can only be beneficial to all. As outlined by urban justice scholars, climate change mitigation is presented as responding to "a global moral imperative" (Long and Rice, 2019, p1000) or "planetary concerns" (Bouzarovski et al., 2018, p860), which among all greening projects makes it "very difficult to be against them" (Angelo, 2021, p199). However, as demonstrated by Angelo (2021), such a view is always misleadingly rooted in the harmful nature/society and material/cultural divides. Mitigation projects as greening projects are always in essence the enactment of certain world views and futures, to the detriment of others. What follows illustrates the many limitations and contradictions of a *public* climate change mitigation initiative driven/captured by state and corporate neoliberal agendas.

The chapter is structured around the specific spatial-epistemic justice concern guiding the project: first, I look at how knowledge about the TDHS and its underlying mitigation framework is being produced; second, I present data describing how the TDHS, as a not-for-profit publicly owned energy entity initiative, is nevertheless deeply entangled with Amazon and private developer interests; finally, in a last move, I describe some of the observed socio-spatial inequities already resulting from the TDHS and which are likely to intensify if no step is taken to reassess the inclusiveness of its decision-making and knowledge production processes.
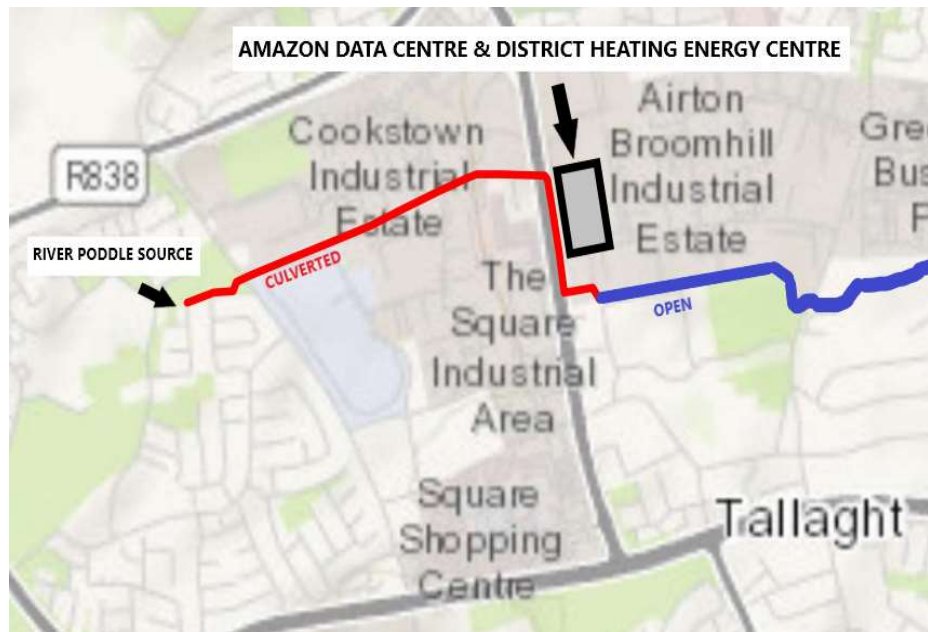
Figure 5.1: Empirical study location showing the Amazon data centre and Heatworks district heating energy centre in the midst of industrial estates with the Poddle culverted (red) and open sections (blue) (Source: Author, 2024)

5.2 How knowledge is produced about the Tallaght District Heating Scheme

5.2.1 My own knowledge production

As always, I begin by situating my own knowledge production (Haraway, 1988). In terms of interviews first, I conducted qualitative, semi-structured interviews with the following: South Dublin County Council, Environmental Protection Agency and Codema officers; one academic researcher with extensive knowledge in GIS and mapping practices; one staff member from the Technological University (TU) campus in Tallaght and, finally, local residents including one local historian as well as residents recruited through targeted door-knocking (the door-knocking recruitment process is further detailed in Section 5.4). Importantly, access to information pertaining to the district heating project and data centre powering it as well as to officers involved in their management proved extremely difficult. While I managed to secure one interview with a Codema officer, as often the case, they had very little knowledge of the TDHS project itself (the two Codema officers and CARO officer more closely involved in the project were contacted but responded negatively to my

interview request). Additionally, an interview request was sent by post to the Facility Manager of the Amazon data centre with my email address and phone number and, although reception of my request was confirmed (through registered post), no further contact was initiated from their part. Finally, Irish Water was also contacted regarding a number of subjects relevant to the present chapter but provided very little if none of the requested information and responded negatively to my interview request (12 emails were exchanged with them between the months of January and May 2022).

Given such a limited access, the main source of data collection pertaining to the TDHS used in the chapter and subject to thorough discourse analysis have been the following publicly available documents: the Codema district heating roadmap (O'Shea et al., 2019) and Codema/CARO/local authority produced paper on 'decarbonizing zones' (Dodd et al., 2020). Additionally, I sent a freedom of information request (subsequently FOI request) to South Dublin County Council to obtain all documents linked to the economic and technical rationale of the TDHS as well as the leasing contract securing access to the Amazon site hosting the district heating infrastructure: among the material received through the request, two documents were assessed more closely, one being the economic and technical analysis of the project produced by Codema and the other a peer review of the analysis (Ramboll, 2018). That being said, significant parts of these documents were redacted before being sent to me. Other content consulted includes many local planning applications, local development plans, maps and newspapers articles. Finally, as throughout the project, data collection was also conducted through uncountable hours of river walks in the area.

A last important point to be made is that, as for the proposed flood works, the purpose of my assessment is not to engage with the project as a technical or financial expert. My objective has been to identify whose assumptions, concerns, interests have been guiding the conception and implementation of the TDHS and whose concerns have been ignored and with which socio-spatial inequity effects.

5.2.2 The TDHS founding assumption: the inevitability of data centres and their expansion

The central premise tightly circumscribing knowledges and debates underpinning the conception and implementation of the TDHS is the necessity of data centres and their expansion. Indeed, at national level, the data centre industry has been massively growing in Ireland since the 2010s (see Figure 5.2, the construction investments between 2009 and 2025) and has been widely supported by successive governments. In 2018, a government statement outlines "the role data centres play in Ireland's ambition to be a digital economy hot-spot in Europe" (Government of Ireland, 2018). In 2022, another government statement reiterates the central role played by data centres in Ireland: "Data centres are core digital infrastructure and play an indispensable role in our economy and society" (Government of Ireland, 2022). However, in the face of growing contestations mostly articulated around their gigantic energy consumption (see Figure 5.2, 18% of Ireland's electricity in 2022), the same statement also acknowledges the need for what they call a "'twin transitions' of digitalisation and decarbonisation of our economy and society", clearly inscribed in a digital green growth paradigm.
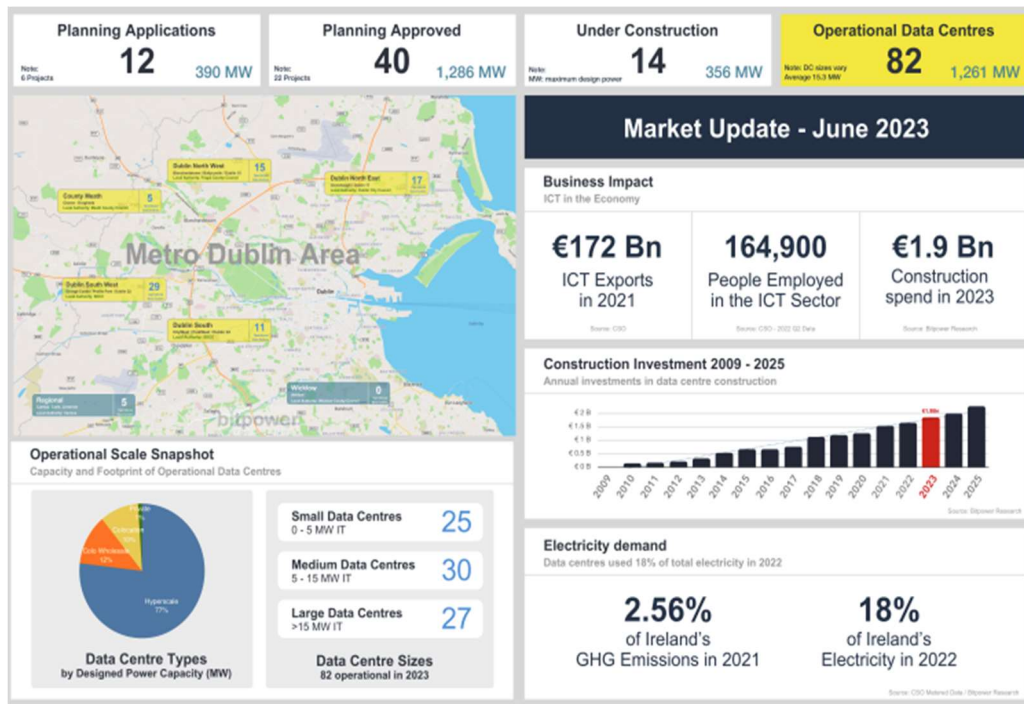
Figure 5.2: June 2023 data centre market dashboard (Source: Bitpower, 2023)

Furthermore, it is no coincidence that the first data centre powered district heating scheme was implemented in South Dublin as the county currently hosts around 50% of all operational data centres in Ireland (Figure 5.2, 82 to date in total). In response to such a rapid locally concentrated expansion, local elected representatives voted to ban the construction of further data centres in the constituency in March 2022 (Brook, 2022). However, the moratorium, which was to be part of the 2022-2028 county development plan, was subsequently overturned by the government (O'Flaherty, 2022). Plate 5.1 shows a protest organized to denounce the government's authoritarian involvement in local democracy (O'Flaherty, 2022).

Plate 5.1: Protest against the government's cancellation of the moratorium banning further data centres in South Dublin (Source: O'Flaherty, 2022)

In sum, the necessity of data centres and their expansion is strongly supported by state policy, here to the detriment of local democracy. As shown by a quote from a recorded interview with a Codema officer, such assumption is fully integrated by local state energy actors, whose role is not to question state policy but "to make the best of a situation":

> When it comes to data centres I suppose, it's really up to the planning departments in each local authority areas to decide if data centres should go in the area or not. I suppose from our side, what we, what we can do is help reduce their energy use and emission, we can try to source waste heat from these data centres, it's not really Codema's role to say where data centres can go and if they're, if they should be planned in an area over another. I suppose yes we'd really, we'd really be the one that would be trying to advocate for renewable energy, making use of low-carbon heating technologies if there is, if there is, a data centre being planned. We'd make, try to make the best of a situation I suppose.

Now, in terms of producing knowledge and making decisions about the TDHS, the premised unavoidability of data centres and their expansion significantly constrained these processes. Leaving out the question of data centre expansion and their energy demand and whether district heating projects should be used to offset a tiny fraction of their gigantic energy consumption and make them even more indispensable to us

constituted a significant means of depoliticization (Swyngedouw, 2009). First, as mentioned, it left unquestioned the endless growth pursued by digital economy players like Amazon (Bresnihan and Brodie, 2023) as well as the corresponding proposed green growth paradigm envisioned by the Irish governments of the last decade to address its incredibly harmful environmental impact. Moreover, it enacted significant "junctures" (Krueger and Alba, 2022) in terms of the approach to district heating, prioritizing one way of doing district heating while leaving many others behind such as considering other spatial drivers (than data centre location) to initiate a district heating project or considering other types of energy supply (than data centre waste heat) to power it. In fact, many other types of district heating energy supply are mentioned in the Codema roadmap (Figure 5.3); however, apart from stating that data centre waste heat has the "greatest heat capacity" (O'Shea et al., 2019, p40), which should not come as a surprise given their energy consumption, the roadmap does not provide any evidence of genuine engagement with all types of energy supply and their respective pros and cons. Colour coding itself is used to give more weight to the 'data centre waste heat' option, which appears in red, a colour traditionally associated with warmth (Starosielski, 2021), while the deep geothermal option, second in terms of capacity and number of source, appears in grey (Figure 5.4).

Commercial Sources:

- Flue gas heat recovery
- Industrial process heat recovery
- Commercial CHP excess heat
- Excess heat from existing biomass installations
- Commercial building cooling system waste heat (e.g. data centres, cold storage facilities)

Infrastructural Sources:

- Power plant waste heat (Energy from Waste (EfW) and conventional power stations)
- Electrical transformer waste heat
- Landfill waste heat
- Landfill biogas
- Waste water treatment works (WWTW) waste heat
- WWTW biogas/sludge incineration
- Sewage pipe waste heat

Environmental Sources:

- Air-source heat pumps
- Surface water (rivers, lakes, canals)
- Seawater
- Ground source heat pumps (shallow)
- Deep geothermal
- Mine water

Figure: 5.3: List of potential district heating energy supply (Source: O'Shea et al., 2019, p39)
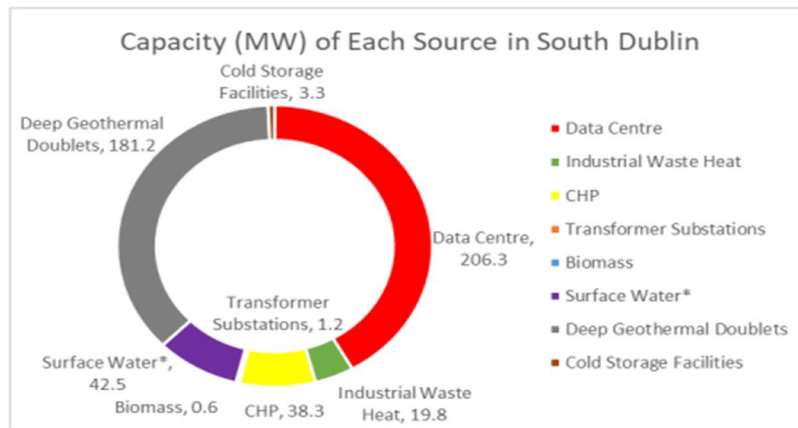
Figure 20: Heat Sources Identified by Capacity (MW)

The number of heat sources grouped by type are shown in the figure below. This helps to give an indication of the replicability of adopting certain heat sources. It should be noted that this is not a fully exhaustive list of the potential heat sources in South Dublin and only shows sources for which details could be found.
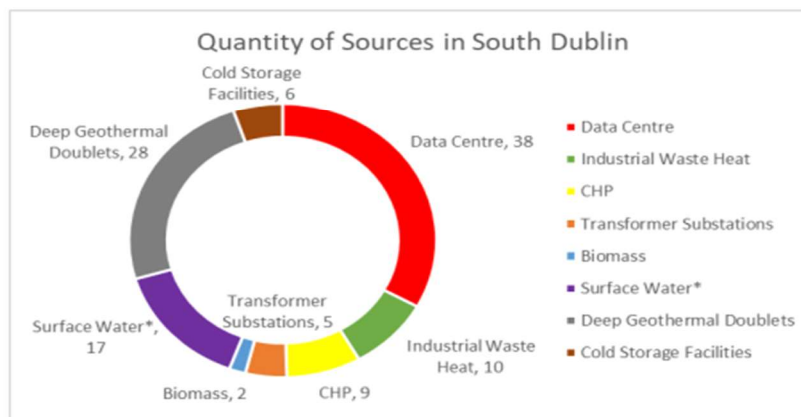
Figure 21: Number of Heat Sources Sites Identified - Grouped by Type

Figure 5.4: Energy supply colour coding (Source: O'Shea et al., 2019, p41)

5.2.3   Controlled engagement

From there, it is no wonder that engagement about the TDHS, who can engage and how, was found to be tightly controlled (Swyngedouw, 2009). First of all, district heating projects go through Part 8 planning approval processes which apply to most projects conducted by local authorities in Ireland and are organized as follows: first, local authorities publish a development notice in an approved newspaper and put up the same notice on the site of the development. Second, after a period during which public observations concerning the project can be submitted to them, a report summarizing these observations is produced and presented to local elected representatives during a council meeting. As explained in the Codema roadmap

(O'Shea et al., 2019), the report "outlines whether or not it is proposed to proceed as originally planned or to proceed with a modified proposal" (p69), which is another way to say that Part 8 projects might be modified but not refused. Furthermore, what was made clear through the case of the overturned moratorium on data centre expansion in the county is that in reality local councillors have little power to oppose state energy policy. Among others it supports arguments made in the literature about the limited ability of local government institutions to challenge national energy policy (Bulkeley and Betsill, 2005; Bulkeley, 2010; McGuirk et al., 2014). Questioned about the TDHS public consultation process, a local resident observes: "There was a public meeting once but it was *fait accompli*, you know" (recorded interview).

In the Codema roadmap (O'Shea et al., 2019), the type of engagement they prescribe on district heating projects is further restricted. Legitimate knowledge producers are those with key skills and expertise in "procurement, legal, engineering, marketing and finances" (p74) and district heating projects are mostly described in terms of technical steps, milestones and challenges, which altogether further their depoliticization (Swyngedouw, 2009; Angelo, 2021). In fact, Codema are very explicit about the necessity for local authorities to prioritize stakeholder engagement and they are very specific about how such prioritization should be conducted: "One way of prioritising stakeholders is to rank each one on the ***level of influence*** they could have on the project and also on the ***level of interest and enthusiasm*** they display for being involved" (O'Shea et al., 2019, p58, bold italics added, and see p55-62 for full stakeholder engagement guidelines). Engaging with stakeholders according to their level of influence, interest and enthusiasm is unlikely to address the procedural inequities widely documented in environmental consultation processes and here in Ireland in water management for instance (Bresnihan and Hesse, 2019). Furthermore, it explicitly excludes all forms of dissent from these processes, which again cannot but lead to their complete depoliticization (Swyngedouw, 2009). The inability to account for dissent in consultation processes actually came up several times during the project: one example was concerning the proposed river Poddle flood works and how local residents felt they had been excluded from initial consultation processes because they "could be an obstruction to their development

going ahead" (local resident, recorded interview); the issue was also mentioned during a recorded interview with a Local Authority Waters Programme (LAWPRO) officer who observed that local authorities seemed to be reluctant to work with groups coming "from an activist point of view, which can be difficult to deal with" (recorded interview).

5.2.4 Climate change mitigation in the context of the TDHS and beyond

In turn, the state green growth agenda pushing for a combined data centre expansion and their decarbonisation produced specific forms of climate change mitigation discourses and configurations in the TDHS context and beyond. First, the publicly funded TDHS signals a transfer of mitigation responsibility from the biggest energy consumers in the country (among them, some of the wealthiest corporations in the world) onto local public institutions and private citizens. While the growth and consumption of the data centre industry remain unchecked, local authorities are put under increased pressure to meet their emission reduction targets. As public services only account for 5% of the Dublin region emissions (Codema officer, recorded interview), they have to turn to other fields of mitigation intervention to try and meet those targets and the data centre powered district heating project represents such an opportunity. However, most importantly, a central aspect of Codema's mitigation strategy seems to be about fostering (consumer) behavioural change (IPCC, 2022b):

> [W]e also work on citizen engagement and for us it's very important to have that engagement role with citizens and making sure that, I suppose, we do realize that there's a limit of, to how much we can do and that it's really important to have the citizen buy-in, that they are engaged through the whole process, for us to actually meet our decarbonization pathways, you know so, it is important for us to have that consumer buy-in. (Codema officer, recorded interview)

The quote illustrates a clear shift from "citizen engagement" to "citizen buy-in" and finally "consumer buy-in", mobilizing modes of governmentality that focus on orienting, educating and disciplining the energy consumption of those citizen-consumers (Long and Rice, 2019; Starosielski, 2021). As an example, they propose an

"Energy Saving Kit" available to borrow, free of charge, from selected libraries across Ireland: among others, these kits contain thermostats that can be placed in fridges to check "if you're cooling your fridge too much" (Codema officer, recorded interview). As argued by Velkova (2021), data centre waste heat powered district heating mobilizes similar modes of citizen-consumers governmentality: it reveals "how large populations of citizens are silently integrated into a common infrastructure through which they become differentiated as producers of data or consumers that valorize the exhaust of this production" (p678). In this case, citizen-consumers are not tasked with reducing their energy consumption but on the contrary they are asked to consume waste heat so it can be valued: their consumption labour becomes instrumental in the waste to value transition or, in other words, in the creation of "new frontiers of capitalism" (Bresnihan and Brodie, 2023). Indeed, as observed in the Codema (2018) outline business case, waste heat so far has not yet been "utilised" and "has no current value" (p21). It illustrates well Maniates (2001) point about "the relentless ability of contemporary capitalism to commodify dissent and sell it back to dissenters" (p38). In sum, data highlight how local authorities, in an attempt to resolve inherent contradictions between a state-led growth agenda and their own emission reduction targets, turn to these existing/new forms of citizen-consumer modes of governmentality. However, as developed in the literature review, these modes of governmentality are far from unproblematic: among others, they obfuscate inequities in terms of both responsibility and burden while also focusing our mitigation efforts on inappropriately scaled responses (Maniates, 2001; Liboiron, 2014).

Contradictions derived from unchecked data centre growth at national level are also addressed in the TDHS through a specific spatial framing and focus of mitigation, whose objective is clearly to obfuscate the wider energy supply chain it is part of. To begin with, based on my review of the main IPCC urban mitigation pathways (2022b), it should be noted that district heating itself only represents a small enabler of these pathways which are first and foremost focused on the following broad fields of intervention: "Spatial Planning, Urban Form and Infrastructure", "Electrification and Switching to Net-Zero-Emissions Resources", "Urban Green and Blue Infrastructure",

"Socio-behavioural Aspects". In fact, the mitigation concerns addressed through district heating revolve in great part around "energy efficiency" in contrast with "more radical actions aimed at restructuring the energy production system" (McGuirk et al., 2014, p2721) or even the energy consumption landscape itself in the case of Ireland given that one industry alone consumes 18% of all electricity (Figure 5.2).

Concerning the waste heat itself, great efforts were made to disconnect it from its wider fossil-fuel-dependent energy supply chain, which illustrates the point made by Velkova (2021) that "the thermopolitics of data is crucially contingent on the practices of dematerialization and disconnection" (p665). In the Codema roadmap (O'Shea et al., 2019), disconnection is produced through certain forms of spatial scale and focus which makes waste heat become a "zero-carbon" heat supply (O'Shea et al., 2019). Indeed, throughout the document, district heating is depicted as powered by a "local" and "indigenous" heat supply: "The heat network will be supplied by a local, low-grade waste heat source from a data centre" (p21) and "This ability to utilise indigenous heat sources helps to reduce Ireland's dependence on imported fossil fuels" (p20). In the roadmap, 'Data centre waste heat' becomes "heat source", which reinforces the idea of a local geographical origin. Furthermore, they are also part of the industrial heat sources put together on a map along with more natural and definitely more local/indigenous heat sources (such as surface water), which again has the effect of consolidating/naturalizing their local originating (Figure 5.5). Cherry on the cake, the newly completed district heating energy centre, painted in green, is now mapped on Google maps as a "Green energy supplier" while the adjacent Amazon data centres themselves do not appear on Google Maps anymore (Figure 5.6).
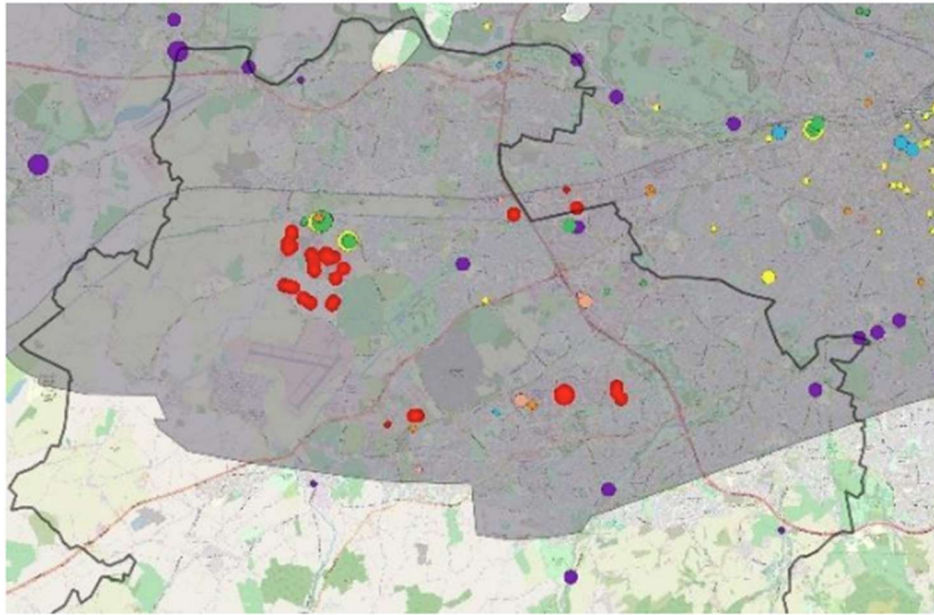
Legend

Cold Storage (kW)	Ind Waste Heat Sites (kW)	Data Centres (kW)
40 - 1000	50 - 1000	50 - 1000
1000 - 10000	1000 - 10000	1000 - 10000
10000 - 100000	10000 - 52200	10000 - 15246
Electrical Transformers (kW)	CHP (kW)	Dublin Basin
0 - 100	50 - 1000	SDCC Boundary
100 - 250	1000 - 10000	
250 - 504	10000 - 73600	
Biomass Heat Sources	Surface Water (kW)	
50 - 1000	42.0 - 1000	
1000 - 10000	1000 - 10000	
10000 - 50000	10000 - 31080	

Figure 3: Heat Source Map

Figure 5.5: Heat source map in South Dublin (Source: O'Shea et al., 2019, p11)
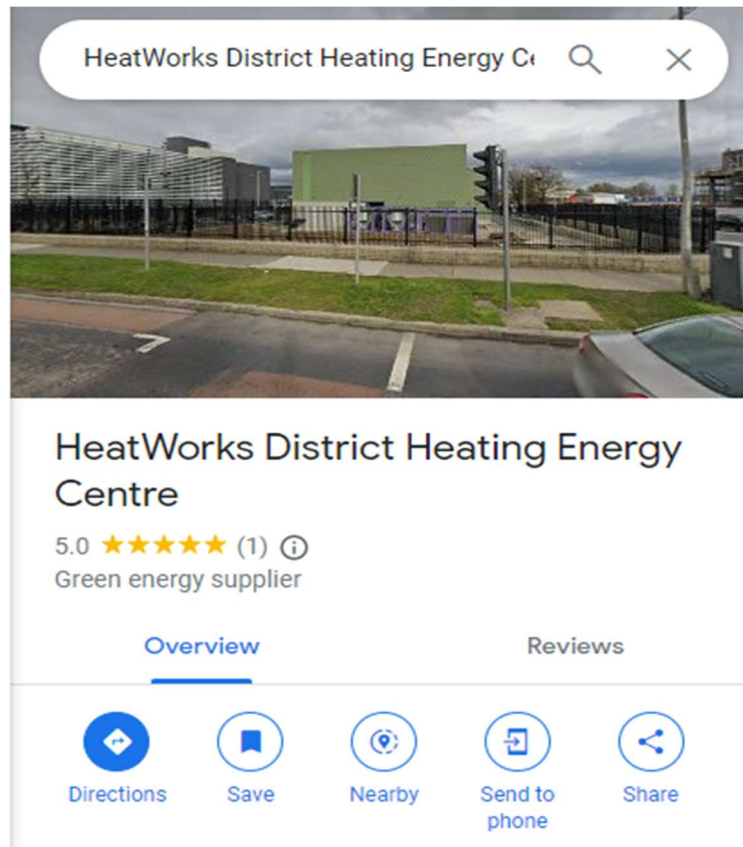
Figure 5.6: The district heating energy centre (Source: Google Maps, 2024)

A last important spatial scaling strategy obfuscating wider fossil fuel dependent supply chains and which the TDHS is fully part of is the implementation of 'decarbonizing zones'. Action 165 of the Government's Climate Action Plan (Government of Ireland, 2019) requires Local Authorities to identify and develop plans for one decarbonizing zone in their constituency and the TDHS was presented as the starting location and centre of one such zone for South Dublin County Council in the CARO/Codema/SDCC co-produced paper on the subject (Dodd et al., 2020). In their paper, decarbonizing zone is very ambitiously defined as follows:

> A Decarbonising Zone is an area spatially identified by the local authority, in which a range of climate mitigation measures can co-exist to address local low carbon energy, greenhouse gas emissions and climate needs.
>
> A Decarbonising Zone should also address the wider co-benefits of air quality, improved health, biodiversity, embodied carbon, agricultural practices, sustainable land management, lower noise levels, waste, water, circular economy etc., and should integrate with smart data and 'smart cities' initiatives (as relevant).

A Decarbonising Zone can also explore the co-benefits of climate adaptation, and examine a range of local measures such as climate proofing, afforestation, green and blue infrastructure, reducing heat island effects, citizen awareness and behavioural change. (Dodd et al., 2020, p4)

When asked about decarbonizing zones, the Codema officer interviewed as part of the research confirms that their aim is to focus on what is more readily achievable:

I suppose for Ireland it's 51% across all sectors to decarbonize by 2030 but when you're looking at specific zones it might be harder to decarbonize just because there are a lot of synergies in the area and it might be difficult to decarbonize all zones so, yes I think it's, it's good that we have these decarbonizing zones where you really pile these things, all these different actions and measures and really working and thriving to meet your, your emission reduction.

As seen in the literature, the scaling of the mitigation lens is hugely contested already at city level and many urban scholars highlight how carbon emissions from production to consumption are in fact planetary in scale (Satterthwaite, 2008; Dodman, 2009; Wachsmuth, 2012; Kaika and Swyngedouw, 2014; Arboleda, 2015; Brenner and Schmidt, 2015; Angelo and Wachsmuth, 2020; UN Habitat, 2022; Kotsila et al., 2023). From this perspective, the spatial determination of decarbonizing zones is always going to reinforce socio-spatial inequities within and between different administrative territories. Importantly, given the described depoliticization potential of all mitigation intervention scaling, it should be asked who decides about the scale of an intervention and in response to which context (who is "seeking to govern the climate through the city" in Bulkeley (2010) and "Why does everyone think city can save the planet?" in Angelo and Wachsmuth (2020)). In this case, the decarbonizing zone imperative is directly derived from state policy (Government's Climate Action Plan 2019 (Government of Ireland, 2019)) and helps obfuscate the inherent contradictions of its green growth agenda.

5.3 Limitations and contradictions of a publicly-owned energy project in the context of neoliberal urban environmental governance

The following section describes the limitations and contradictions of a publicly owned, publicly funded energy project in a context of neoliberalization of urban governance (Soja, 2010; Angelo, 2021; Kotsila et al., 2023), especially in the light of the marketization and financialization of housing provision (Hearne, 2020; Reynolds, 2022; Nic Lochlainn, 2023). While the TDHS is claimed to be a 'public' project, I will show how its viability and benefits are deeply entangled with (state sponsored) private actor and private market interests.

5.3.1 Amazon

The viability of the TDHS as a data centre powered district heating project first depends on Amazon willingness to supply its waste heat and they do so at no cost (O'Shea et al., 2019). Additionally, access to the Amazon parcel (adjacent to the second data centre on site) where the district heating infrastructure was erected is also provided at no cost (Codema, 2018). While these conditions seem to be overwhelmingly in favour of publicly owned energy company Heatworks, their benefits nonetheless need to be nuanced. To begin with, such a dependency on Amazon's willingness to provide us with waste heat reinforces further their already privileged position in subsequent negotiations of any kind with local authority and state actors (and with the wider climate mitigation governance impact described at length in the first part of the chapter). The 'green' dimension of the project is also beneficial to their corporate image, otherwise contested at so many levels from environmental to social (the TDHS is advertised on their EU website (Amazon, 2020)). Finally, another potential benefit of the TDHS for Amazon identified in the Ramboll (2018) outline business case peer review, while not confirmed in other documents, would be the cooling of the water which is sent back to the data centre at the end of the heating circuit at seemingly no cost. Furthermore, in terms of control over the waste heat supply at the heart of the project, it should be assessed with caution.

While the Codema roadmap (O'Shea et al., 2019) insists that the TDHS will bring "security of supply", research on data centres shows that despite their "monumentality and spectacularity", they nonetheless "relocate as capital demands" (Velkova, 2019, p2):

> The infrastructure manager of a large telecom company explains this short term planning as a function of the cycles of planned obsolescence: 'Even if the facility is really expensive, most of the money is in the servers. And if they get replaced every three years, this means that they can actually move the whole site at a minimal migration cost to somewhere else, by building a new site and doing all installations there'. He also notes that data center companies are constantly reevaluating the economic profitability of particular locations in synchrony with server replacement cycles and new legislative frameworks that come into force. Should tax regulations, electricity prices, legislation or geopolitical dynamics shift, even a hyper-sized data center like Google's in Finland or Facebook's in Sweden could make a corresponding move to a place with more economically favourable conditions within three years. (p5)

In fact, the "security of supply" boasted by Codema is premised on the earlier mentioned misleading disconnection process making the waste heat a "local", "indigenous" heat source: "This ability to utilise indigenous heat sources helps to reduce Ireland's dependence on imported fossil fuels and ensure security of supply for customers into the future" (O'Shea et al., 2019, p20). Finally, concerning access to the Amazon land on which the district heating energy centre is built, which is also obviously central to the durability of the TDHS, I requested a copy of the land lease as part of my FOI request but was informed that the legal agreement was not yet fully completed as of 17/08/23 (whereas the project had officially been launched in April 2023): "We anticipate the completion of this document in the coming weeks and if you wish to make contact in 2-3 months we can advise whether a redacted version of the executed document may be available, subject to third party approval" (Extract from response to FOI request received on 17/08/23). The completion of the €8 million infrastructure whose central piece is located on Amazon land without a finalized lease agreement signals a risky 'no-matter-what' approach to completing the project consistent with the high prioritization of the state-driven (green) growth agenda; most importantly, the conditioning of the access to the land lease to "third

party approval" signals the privatization of (information pertaining to) the project, which had already shown through significant parts of the documents obtained through FOI request having been redacted, and again consistent with neoliberal governance and its various forms of enclosure (Hodkinson, 2012).

5.3.2   Private developers

Apart from Amazon, the success of the TDHS is also heavily reliant on the willingness of land developers to connect to the scheme. Indeed, as stated throughout all consulted documents on the project, the number of connections is crucial in determining its viability. As a result, developers are key stakeholders to engage with (they have their own tailored marketing brochure, "The Tallaght District Heating Scheme (TDHS) A Guide to Connecting for Developers (Codema)), reproducing in many ways the already observed procedural inequities affecting the 'unpropertied' (Blomley, 2008). In the context of a deregulated property market and reliance on the private sector to provide housing and other urban services (Hearne, 2021; Reynolds, 2022), developers are in position of strength and local authorities have no legal means at their disposal to secure their engagement. While O'Shea et al. (2019) argue that "to mitigate the risk of customers not connecting once installation of the network has begun, it is vital that a Heads of Terms (HoT) agreement be signed between the DH company and the key customers", in practice the HoT "does not legally compel the parties to conclude the deal on those terms or even at all" (p67). As an example of this volatility, a great part of the initial TDHS seems to have been conceived based on the projected connection of a nearby planned development led by Irish developer Marlet that would have guaranteed 1,700+ customers. The planned connection is mentioned in the county development plan 2022-2028 (South Dublin County Council, 2022, p382) as well as in the Codema roadmap (O'Shea et al., 2019):

> The new private residential development at Belgard Gardens will comprise of 1,423 apartment units, 339 student units, and 12,250m2 of commercial space. This forms a significant part of the plans for a new redeveloped Tallaght town centre and will be home to more than 3,000 people. All of these dwellings will be supplied by the

However, while the planning application for the development was approved in April 2019 (planning application reference: SHD3ABP-303306-18), it seems to have now been abandoned or at least put on hold as the site and its industrial warehouse are currently available for rent (as of February 2024, Plate 5.2).

Plate 5.2: The site of the planned Belgard Gardens development currently available for rent
(Source: Author, 2023)

As if to respond to the private developer defection, the local authority thereafter announced that a new 133 cost rental apartment complex, to be completed by 2025 on a nearby public land, would be connected to the TDHS (planning application reference: SD208/0007). While this announced development might be seen as a positive and 'public good' oriented advancement of the project, again it is in great need of being nuanced and put into context. First, it is important to note that 'cost rental housing schemes', aimed at middle-income households and not open to social housing tenants nor those in receipt of the housing assistance payment (local authority private rental sector rent support), are very unlikely to address the most acute housing-related environmental inequities as experienced in the area (Tallaght Drug & Alcohol Task Force, 2022). Furthermore, only looking at the mentioned put-on-hold Belgard Gardens private residential development project, which is to host more than 3,000 people in build-to-rent apartments and student accommodation

and is only one such development project among many similar to come in the area, it is easy to see how 133 cost rental apartments will be proportionally ineffective in preventing the benefits of the TDHS being captured by private developers. Among others, the development of the TDHS in a context of housing provision marketization and financialization is greatly likely to lead to green, low-carbon gentrification (Bouzarovski et al., 2018; Anguelovski et al., 2019a; Grossman, 2019; Hearne, 2020). Only looking at one of the 'decarbonizing zone' examples cited in the CARO paper (Dodd et al., 2020), the "Malmo Western Harbour", it was found to have gentrifying effects (Urfels, 2019).

Concerning fuel poverty, while the Codema roadmap (O'Shea et al., 2019) lists the alleviation of fuel poverty as one of the objectives of the TDHS and acknowledges that it could benefit residents of the older apartment complexes of the city centre ("high-rise apartments built circa 2006, which are currently heated by old, inefficient electric storage heaters" p21), there is no sign of concrete plans being made to retrofit and connect those older buildings. On the contrary, all documents outline the costly nature of such retrofitting and connection works and mostly focus on new developments. In fact, the outline business case produced by Codema (2018) explicitly articulates the limitations and contradictions of the TDHS objectives to bring about social benefits, including alleviating fuel poverty, in a context of marketization and financialization of housing provision:

> There are a number of high-density apartment blocks on Belgard Square, which would typically be ideal customers in terms of heat demand density, but are not included in this analysis as the majority of these apartments are rented (CSO data). As the apartment owner does not pay the heating bills, there is no incentive to make heat savings, and there are currently no incentives for landlords to improve the energy ratings of their properties. This is a barrier to energy efficiency in the rental sector in general, and is a particular barrier for DH systems, as it is apartment blocks that are more economically feasible to connect rather than individual housing units. It is also a barrier to alleviating fuel poverty in the Tallaght area, as these electrically heated apartment blocks have the highest energy bills, due to the high cost of electricity and the older less efficient electric storage heating systems installed. (p18)

The quote clearly illustrates how the private rental sector is "incentive" led to the detriment of social and environmental benefits (Medvedyuk et al., 2021; Ward and Brill, 2023). However, most importantly, it clearly shows how state institutions are willingly aligning themselves with such market mechanisms, making the call to just drop off the map a well-identified vulnerable group of private rental sector tenants in their analysis of the TDHS on the basis of anticipated lack of economic interest from private housing market actors.

5.4   A grounded, in-place assessment of the TDHS inequity impact to date

The TDHS and its climate change mitigation objectives have been caught up in various neoliberal agendas, most importantly those of the state, big tech and real estate actors. While significant realized and potential spatial-epistemic inequities enacted through the TDHS have already been outlined in Sections 5.2 and 5.3, in this last section I present data collected with a view to assessing the more 'on-the-ground' spatial-epistemic inequity effects of the project so far. As a result, data presented in this part were collected mostly through river walks in the area surrounding the Amazon data centres as well as through recorded interviews and informal conversations with local residents recruited mainly through door-knocking. Door-knocking was conducted in the two closest residential areas to the data centres and district heating energy centre (see Figure 5.7): one consists of a small local-authority-managed housing estate aimed at residents from the Traveller community and the other one, larger in size, is a private residential estate inhabited by both homeowners and tenants. Interviews were conducted with social housing tenants from the Traveller community as well as with homeowners and tenants from the private estate. The first rationale behind the geographical door-knocking targeting was the proximity to the data centres and district heating energy centre; however, it became rapidly clear that the targeting was also allowing access to the voices of some of the most marginalized groups in the area, which responds well to the overall equity objective of the project (Bresnihan and Hesse, 2019). This part is divided into three sections: the first two sections describe the immediate effects of the second Amazon

data centre and district heating energy centre construction, namely the demolition of the Jacob's social club and diverting of the culverted river Poddle; the last section looks at some of the existing energy/infrastructure inequities experienced by local residents directly/indirectly intensified through the ongoing implementation of the TDHS.
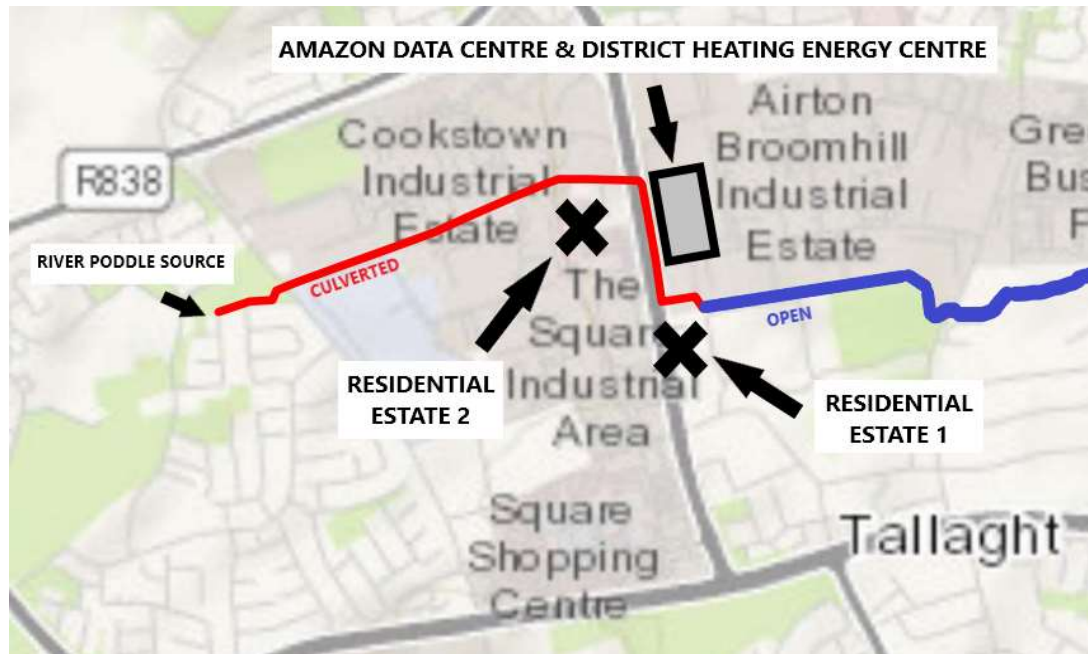
Figure 5.7: Location of the residential estate 1 and 2 where door-knocking recruitment was conducted (Source: Author, 2023)

5.4.1 The demolition of the Jacob's social club

In March 2019, the Jacob's social club, erected on the site of the former Jacob's biscuit factory acquired by Amazon in 2015, was demolished to make room for the new TDHS district heating energy centre. In what follows, I give a brief account of the history of the social club and of its demolition. In 1980, some five years after the factory started operating in the area, employees came up with the idea of building the social club on a small unused parcel of the factory site (Plate 5.3). They would own the bricks and mortar and pay a rent to Jacob's for the land. "Life Members" invested in a brick of the club each to fund its construction and thereafter other members joined in for a small annual membership fee. Initially for Jacob's employees, the club subsequently opened to other local residents through word-of-mouth. Maintenance was funded through membership fee and drinks money and gas

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and electricity bills were paid by Jacob's (Lyne, 2015). A former employee and social club committee member describes the functioning of the club:

> On a Sunday and Saturday mornings, they used to meet up, play pool, play cards, it was just social gatherings, you know, to meet up with one another, Saturday nights and Sunday nights they used to have music on, the rest of the week, Monday to Friday, they wouldn't have music on but, it was just social gatherings, it was originally members only but then, they let people from outside or kind of you had to know somebody, you had to know a member to get in to it and then, that was open to, they just let regulars in. (Recorded interview)

Plate 5.3: Photograph of the social club before its demolition (Source: Google Maps street view, 2014)

When the Jacob's factory closed down in 2009, subsequent landowners maintained access to the social club and continued to pay the energy bills (Lyne, 2015). However, when Amazon took over the site in 2015, things went very differently (Plate 5.4):

> 'The Monday following the story in The Echo about Amazon taking over, I went to the club and found that the electricity and water was cut off. We can't get a hold of anyone in Amazon. There have been people in surveying the site but we have been unable to speak to any of them, and the security guards have no information – they're just working for a company and doing their job. (…) The club is just getting left behind and bullied out of the building.' (Quoted in Lyne (2015))

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Plate 5.4: The site of the social club under surveillance after Amazon's takeover (Source: Google Maps street view, 2017)

At the time of the takeover by Amazon, the social club was still very much in use: it included 230 life members and 100 active members. "Up to 50 old age pensioners used the site on a weekly basis and took part in art classes every Thursday, played pool on Sunday and met up for social nights every second Tuesday and Thursday" (Lyne, 2015).

In the same *Echo* article covering the social club brutal closure, Maria Breen, secretary of the social club, explains how it happened: "We've been forced to close the gates because markings have been made by surveyors on the car park of the club. Nobody informed us of the sale, we learned about it in *The Echo* and we've had no contact from anyone – we just want to talk to someone in Amazon to discuss this" (Lyne, 2015).

Once gates were closed, no one was allowed in again: "we weren't allowed back into it. Like the gate was locked, they, they, we originally had a lock on it, and they took the lock off and they changed the lock and, like they just destroyed it then" (former Jacob's employee and social club committee member, recorded interview). As a result, no memory of it could be saved:

> [T]here was a mirror in the social club, they had a, a, what did they call it, a stage, now it was very small stage, where the band would sit, behind the bands there was actually a mirror up on the wall, which had Jacob's social club engraved on it and I would have loved if, before the factory or before it had been demolished, (…) we've got that, but nobody could get near anything and I'm sure there was a few bits people would have loved to get, got out of it, you know, (…), but you weren't able to, they just locked the gates and no one else was able to go back into it. (Former Jacob's employee and social club committee member, recorded interview)

While the detail of the talks between Amazon, who had finally made contact after the publication of the article, and the club members, is not fully known, the outcome of the negotiations itself was widely publicized: Amazon paid the social club members a lump sum of €400,000 and members voted in favour of donating it to two children's charities (Dennehy, 2019).

During a recorded interview, it was nevertheless confirmed that the committee had tried to obtain Amazon's help in relocating the social club but that this particular aspect of the talks had not been successful. It was also confirmed that many members wanted to obtain something for the founding life members, which was a little at odds with the vote to donate the received lump sum to charities. As a former employer and social club committee member observes: "it did make them look good because it was public knowledge that Amazon donated for the social club rather than giving out money to the members, so it did make them look good" (recorded interview).

Subsequently, the social club was kept vacant and unused for another three years: as mentioned at the start of the section, its demolition only occurred in March 2019 (Dennehy, 2019). The permission for its demolition was only granted as part of the second Amazon data centre planning permission (planning application reference: SD18A/0219), which was to power the TDHS District Heating Energy Centre. In fact, the demolition of the social club was to make room for the new District Heating Energy Centre itself. In 2019, South Dublin County Council applied to build the new Energy Centre on the site of the social club. This is how things are described in their Part 8 planning application: the site of the social club is called a "brownfield site" and the social club itself is depicted as "out of use" and in "a state of poor repair" (Part 8

planning application reference: SD188/0010, county architect report), which also resurfaces in the Codema (2018) outline business case where the site is called a "unused plot" (p22). The only photographs of the site and social club in the report are aerial ones and with no site boundary nor signposting (Figure 5.8), which furthers its material erasure (in the same manner as the river Poddle had been unmapped in the county library planning application SD168/0003, see Figure 4.4). Although small scale, these practices resonate with Maguire's observation that "the work of frontier making is oftentimes that of erasure" (2020, p36) or with Slater's description of the "state-led opening of a reputational gap [facilitating] the state-led closure of a rent gap" (2021, p71).

Figure 5.8: Aerial photograph of the Social Club site in the District Heating Energy Centre planning application (left) and with added red signposting (right) (Source: County architect report, planning application reference: SD188/0010, 2018)

The demolition of the social club (Plate 5.5) is not just about the social club. Through its demolition, orchestrated by Amazon in collusion with various state representatives, the erasure of a whole local working-class way of life and cultural heritage is enacted, described at length in an interview with a former Jacob's employee: the many hardships associated with some factory roles ("very hard, mentally and physically"), the gendered approach to the work ("men were so much more laid back than the women were"), but also its social and cultural fabric:

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[T]hat's when, I forgot the year, the pitch and putt club went, but my father was heavily involved in that, when that started. And I remember going there as a kid, you know, like my Dad had to take us off to leave my Mum get a bit of peace, so he had three girls with him, hanging out with him, and we would stand in front of the golf ball and everything, you know. But they had that and then they, then I think they came up with the idea of the social club. So, yes, for my father it was a great part. My father's life was Jacob's. Pitch and putt, and the social club. Well pitch and putt at the beginning and then, golf. That was his life. (Recorded interview)

Plate 5.5: The former site of the social club during the new district heating energy centre construction works (Source: Author, 2021)

5.4.2   Unmapping the upper catchment of the river Poddle

In the same planning application allowing Amazon to build a second data centre on the site of the former Jacob's factory and to demolish the Jacob's social club, they also received permission to divert a culverted section of the river Poddle to make room for the second data centre (planning application reference: SD18A/0219; Figure 5.9). However, the river is never mentioned by its name in the application but designated as a "1050 mmo surface water drain" (in "Drainage and Water Services Report" produced by Ireland-based consulting firm Clifton Scannell Emerson Associates).
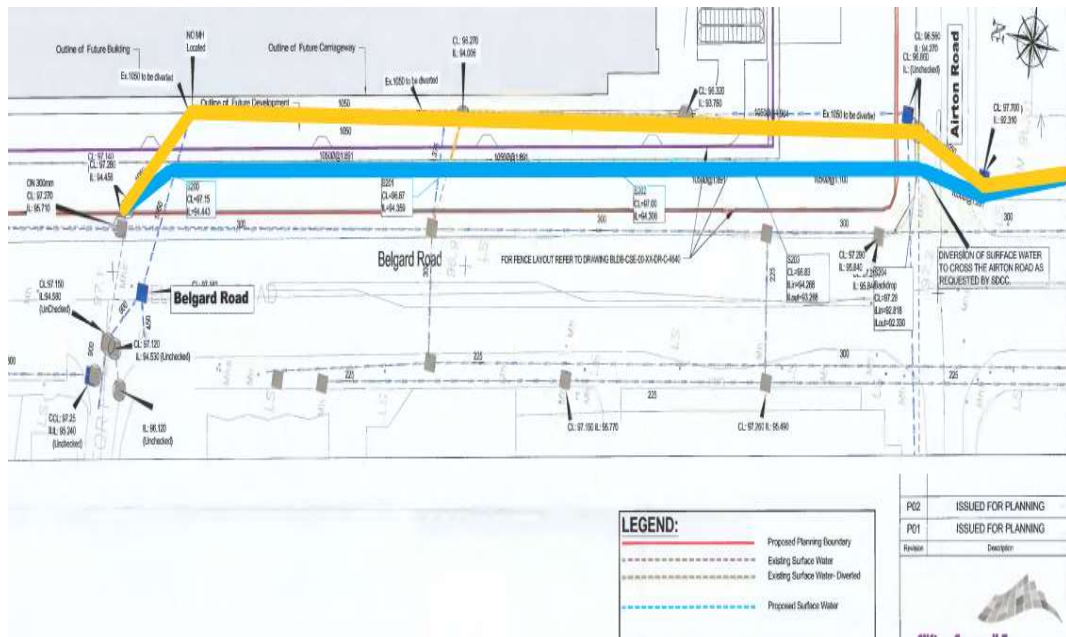
Figure 5.9: River Poddle culvert diversion plan (yellow: existing; blue: planned) to make room for the second Airton Road Amazon data centre (Source: Clifton Scannell Emerson Associates, 2017, yellow/blue highlighting added)

Fieldwork revealed that the unmapping of the river as part of the construction of the second Amazon data centre is in fact part of a wider unmapping process encompassing the river from its source down to Bancroft Park and which results in different co-existing mappings of this particular section of the river (see Figure 5.10). The Environmental Protection Agency mapping (red) ends at Greenhill Road (Environmental Protection Agency Catchments website; Plate 5.6), the flood works mapping (blue) on the Technological University campus (River Poddle Flood Alleviation Scheme website) and the drainage one (green), which in effect only maps the culverted river as a "gravity surface water sewer", goes up to its supposed source location (received from South Dublin County Council, Figure 5.11). Finally, the pink section represents a section of the culverted river as mapped by Irish Water in one planning application (planning application reference: SD20A/0050) but which could not be confirmed as my request to access their online map was not granted on the motive that it contains "information of a confidential and *commercially* (*financial*, *commercial* and technical information) sensitive nature" (extract from email exchange, 05/05/2022, bold italics added), signaling the further neoliberal enclosure of our water/bodies resources (Hodkinson, 2012).

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The additional yellow section shows how the river was mapped in one ongoing build-to-rent development (Plate 5.7) which initial approved plans (planning application reference: SHD3ABP-305763-19) state that the river does not flow through the development site; in the same approved application, it is then proposed to divert a "1050 mm surface water drain" to make room for the huge build-to-rent infrastructure, which is in fact the culverted river Poddle (Plate 5.8). One of the effects of such unmapping is that the development flood risk assessment for instance does not mention once the river Poddle, whether culverted on site or even its nearby open section on the TU campus (Lohan and Donnelly Consulting Engineers, 2019). As with many flood risk assessments, it is based on a literal reading of existing flood maps (see Section 4.4.2), which becomes even more problematic when we know that the development site under assessment is traversed by a culverted river which poses major downstream flood risk. Similar data were gathered concerning two other approved developments located upstream of the data centres: the first one (planning application reference: SHD3ABP-309916-21), whose boundary is contiguous to the culverted Poddle, states in its flood risk assessment that the "closest existing watercourse is Whitestown Stream which is located approximately 1.4km south of the site" (Curtins Consulting Limited, 2020, p3); the other one (planning application reference: SD20A/0050), traversed by the culverted river and which is again mapped as a surface water sewer, states in its flood risk assessment that "there are no known fluvial watercourses in the general area of the site" (AKM Design, 2019, p13).

Figure 5.10: Different mappings of the upper catchment of the river from the supposed location of its source down to Bancroft Park (Source: Author, 2022)

Plate 5.6: The river Poddle on the TU campus beyond the Environmental Protection Agency mapping (Source: Author, 2022)

Figure 5.11: Surface Water Drainage System map where the culverted river Poddle appears circled in yellow by council staff (Source: South Dublin County Council, received 2021)

Ultimately, these divergent mappings of the river and their associated misleading flood risk assessments are made possible and sustained by an obvious public institution consensus on the matter: these planning documents are signed-off by various public servants at all hierarchical levels from both local government and state institutions. It took me a month and many follow-up emails to receive the drainage network map by South Dublin County Council showing the Poddle culvert from the TU campus up to its source (Figure 5.11). Far more concerning though is the fact that two council staff, one from the planning department and the other from drainage services, confirmed they had no access to the mapping of the culvert, indicating that such a knowledge is concentrated at the higher level of these institutions.

While I received no direct explanation on the why of the unmapping, it is easy to see how it facilitates the TDHS oriented regeneration process of the area. First, thanks to the 'below-the-radar' mapping of the river on the Jacob's factory site, Amazon was able to divert the culvert to make room for the second data centre that in turn opened up the possibility of the district heating project. Second, the district heating project requires dense development in close proximity to the district heating energy centre and so the unmapping of the river Poddle will also be convenient to allow for

these dense residential developments to be approved (as is already the case, Plate 5.7). Finally, beyond the district heating immediate 'catchment', the unmapped culverted river traverses other former industrial estates and, here again, the unmapping will be convenient to allow for dense, lucrative, private-market-led redevelopments. As observed by a planning officer during a recorded interview: "[S]ometimes, that which is referred to as a river is referred to as a drain or a ditch by, often I suspect by applicants who don't want to have to bother, you know, uncovering a river." Indeed, in addition to making it easy to build on the river culvert or divert it or expedite flood risk assessments, the unmapping of the river also greatly facilitates the eschewing of daylighting obligations, which again are linked to important flood, water quality and river ecology concerns. Although the daylighting of the river in this part of the catchment is not legally mandatory as such, it is recommended in the local area plan:

> It is proposed that the river would be reopened where possible in Cookstown, which will bring a tangible link between new development and the history of this area. It is proposed that the source of the Poddle be uncovered and incorporated into open space. (South Dublin County Council, 2020, p114)

Plate 5.7: Build-to-rent development erected on the culverted Poddle mapped as a 1050mm surface water drain in the planning application (Source: Google Maps, 2023)

Plate 5.8: Marking of the culverted river Poddle as a 1050mm surface water drain on the construction site of the new build-to-rent development (Plate 5.7) (Source: Author, 2022)

In addition to all the issues mentioned, such an approach to the river Poddle management also directly contradicts the earlier described vision of a decarbonizing zone which would address multiple climate change mitigation and adaptation concerns at a time. It does not mean that it can never be the case, it means that the current approach, which is dictated by the state-sponsored (green) growth imperatives of big tech and real estate actors, does not achieve it. Failure of an all-encompassing decarbonizing zone is reflected in the responses to the interview requests I sent to Codema and CARO (Climate Action Regional Office) officers:

> You state in your email that you want to discuss river management and the Tallaght district scheme, we would not have information regarding this as we are experts in Energy and not habitat management. (Extract from an email correspondence with a Codema officer)

> I think it may be more appropriate for you to speak with another colleague on the Water Framework Directive side of DCC (…) Good luck with the research. (Extract from email exchange with a CARO officer)

In all this unmapping mess, one local resident did not give up on the river Poddle: a couple of years ago, they asked a TU staff to put up a Poddle walk sign on the university campus (Plate 5.9). As they explain: "I thought it was important to, you know, to make it more visible" (Recorded interview).

Plate 5.9: Poddle walk sign on the TU campus (Source: Author, 2021)

5.4.3   Energy and infrastructure inequities

This last section of the chapter briefly outlines energy and/or infrastructure inequities as described by interview participants recruited during door-to-door in the immediate proximity of the data centres and district heating energy centre (Figure 5.7). These inequities are linked either to the implementation of the data centres and/or unaddressed by the current TDHS and therefore likely to be further intensified. As described at length throughout the chapter, the TDHS is heavily guided by the (green) growth agenda of state and private stakeholders. In this sense, it is hardly a surprise that the project and its objectives were found to be very much out of sync with local residents' most pressing concerns, or even working against them in likely scenarios of (low-carbon) gentrification (Bouzarovski et al., 2018 ; Grossman, 2019). Tallaght and its surroundings host a high concentration of disadvantaged to very disadvantaged areas and with a high proportion of social housing tenants: 17%

of the population live in local authority rented housing and up to 23% in the nine most disadvantaged electoral divisions and in some cases close to 80% in the most disadvantaged areas (Tallaght Drugs & Alcohol Task Force, 2022). As a result, residents of these areas have been the most affected by the drastic neoliberal disinvestment in public services and public housing of the last decade (Hearne, 2020; Tallaght Drugs & Alcohol Task Force, 2022; Plate 5.1), although a local resident makes the point during a recorded interview that the area has always been institutionally neglected since the beginning of its rapid expansion in the 1980s. During another recorded interview, a local resident explains what they think is most needed for the area: "They need a lot more for families, they need a lot more for, for people's mental health (…). It was needed before covid but it's absolutely needed a hell of a lot more now, for families, for people that haven't got a lot of money and haven't got the support."

Plate 5.10: Social housing tenants protesting their housing conditions in a South Dublin County Council (SDCC) managed apartment complex in Tallaght (Source: Author, 2023)

Such a historic neglect is felt even more acutely by the social housing tenants of the small residential estate aimed at residents from the Traveller community. As mentioned, the estate is one of the two closest residential estates to the district heating energy centre and data centres, which nonetheless will not be connected to it. Institutional racism there is felt very strongly: "we've no one to do anything for us,

to be honest with you, now, and the council here they'll do nothing, they'll do nothing for Travellers. They're completely, I don't know, I don't think they do it for the locals (…) to be honest with you, never mind the Travellers" (Estate resident, recorded interview).

In 2017, a resident of the Estate was asked to move out for eighteen months so their house could be refurbished: "They put me out for eighteen months, and I was in that little small damp house, a very damp little house, it was. In Jobstown." When they were finally allowed back in the house, "I thought when I was coming back in, I was coming back to a brand-new house, after spending 50, 51 or 52 years living here." However, "when I come back down, I come in to the same house". The resident was told that "they had no money to do the houses", "the council said they had no money to build the house" (all quotes from a recorded interview).

Another resident of the Estate lives in a caravan and has been on a housing waiting list for almost two years. The caravan is leaking at several locations and when it rains most of the caravan gets damp or even wet. There is no water access from the caravan and heating is through a small gas heater which must be left on at all times ("you have to leave it on because it's so cold, you know", recorded interview) and refilled every two weeks for €50: "It's so cold, like, this is, this is gone up now 45, 55 a bottle, you know what I'm saying, this is very hard for me, like, you know what I'm saying" (recorded interview). During the interview, a family member calls the research participant on their phone and asks to talk to me: they say that if no accommodation is provided, the caravan occupant will die from pneumonia. In one of the houses of the Estate, a research participant starts the interview as follows: "It's freezing, it's freezing in this house and I am very, very cold in it, now, I think that's all I have to say to you" (recorded interview). However, the interview continues, and other issues are then described at length: apparently all bathroom facilities are connected to one unique pipe, meaning that it often gets blocked and that when it does, the smell is unbearable, and wastewater comes back into the bathtub. The resident has long been complaining to the council about it but nothing is done to address the issue:

One fellow told me keep throwing buckets of water down the sink you see. Keep throwing buckets of water down into the shower. He said keep throwing buckets of water into it (…) I'm 88 years old (…) and why should I have to do it. Why should I have to throw buckets of water down into the shower like? You know what I mean. (Recorded interview)

This is all the more at odds with how trenches and pipe works for the district heating project were conducted literally metres away from the Traveller residential estate, making infrastructures simultaneously overwhelmingly present and overwhelmingly absent for them (Plate 5.11).

Plate 5.11: The district heating pipe works (right) adjacent to the Traveller residential estate (left) (Source: Author, 2021)

This feel of infrastructural presence/absence is also apparent in interviews conducted with residents of the second residential estate. This time, however, it has more to do with the data centres themselves. While also left outside of the district heating connection, residents are more preoccupied with some of the issues they have been facing since the erection of the two data centres across the road. A main issue is water pressure, which has never been great in the area, but which has become worse since the construction of the data centres. A resident put it in very practical terms:

> Our toilets won't fill because of the Amazon, across the road. (…) It's when Amazon is on, our toilets won't fill. (Recorded interview)

The local authority and Irish Water were solicited but without much success; they only seem to have time and resources to meet with Amazon and accommodate their water needs: "Liaison has taken place with Mr. Conor McCarey of Irish Water in respect of available capacity. Irish Water have confirmed that 11.1 l/s of capacity is available to serve both the Building A and Building B developments" (Second Amazon data centre planning application, planning application reference: SD18A/0219). In fact, the commercially-oriented nature of the support offered by Irish Water, which makes ordinary citizens' issues the least of their concerns, was also apparent in the way they interacted with me during the research (as mentioned, 12 emails were exchanged between January and May 2022 but with little result, see also Section 5.4.2) and more generally consistent with the company's stance on research: "Irish Water is amenable to facilitating third parties in research projects and testing of pilot or demonstration scale systems **_which address core business needs on Irish Water assets_**" (extract from the written response to my original question "What are Irish Water stances on academic research?", bold italics added).

Residents are also concerned about how the new massive build-to-rent infrastructures being planned for the area will impact their already limited water access:

> We can tell you exactly when Amazon turn on, now after spending millions, they've done a big project up to increase the water flow from Blessington and when Amazon turn on, these twenty little houses won't fill in with water. And yet they got the certified, so then they come and they put six hundred houses on top of that, it's, you know, it's a joke, it's a game, it's a mockery of a game they're playing with people. (Recorded interview)

Other data centre related complaints focus on noise disturbance:

> The people in that road have terrible problems, the one or two neighbours then, locals, they have terrible problems (…) you have noise in your house, you know, they can't open the window either.

> In the summer you have to leave your windows to keep the sound out, you know, you understand, and they say it's alright, it's wonderful. (Local residents, recorded interview)

Most residents relate how local authority staff have been coming in following complaints, but always as if to discredit them in some ways, convincing them that there is no issue, that they are imagining it or that they do something wrong that creates the problem. It feels that they are more coming in to silence complaints than to address them. One resident explains how they challenged a local authority staff coming in to check the noise issue:

> [A]s the council fellow said, they said over there, are you sure the noise is coming from there? Right?
>
> I said hold on, I'll just, I'll just make it clear to you. I'm not going to argue with people that's liars because I called them that, they've even contradicted me before we've even had the discussion. They know where the noise is coming from, they can come out and hear for themselves.
>
> I was talking to him and I said whose side are you on? I said whose side are you on because at the end of the day, I said you seem to know all these people over here, and not only that I said, you the council up on that road gave these people permission to go ahead with this, so I said why would you be taking my side when you're not against them? (Recorded interview)

In sum, the data centres and TDHS project are reinforcing existing local socio-spatial inequities either directly or indirectly through making them even more invisible. The TDHS is to foster a sense of green modernity and technological achievement that will certainly not improve the visibility of the inequities experienced by the residents of the Traveller residential estate; additionally, the greening of the data centre is to obscure further its harmful environmental impact as directly experienced by its closest residents. If anything, what becomes evident in this last part of the chapter is that state and local government institutions, in their pursuit of a big tech led (green) growth agenda, are even more turning their back on their own citizens and on their own river.

5.5 Conclusion

The overall aim of the chapter was to present data challenging the assumption that climate change mitigation, here in the form of a project aiming at greening an Amazon data centre through district heating, is 'good for everyone' (Bouzarovski et al., 2018; Grossman, 2019; Long and Rice, 2019; McFarlane, 2020; Angelo, 2021; UN Habitat, 2022; Kotsila et al., 2023). The first part of the chapter outlined how the district heating project was first and foremost to respond to state and big tech (green) growth concerns and what sort of top-down state involvement, restricted public engagement and limited scope of mitigation it called for as a result. The second part of the chapter explored in more details the limitations and contradictions of a public energy initiative in a context of neoliberal urban governance, highlighting further the capture of the public project by Amazon and real estate developers. Finally, the third part of the chapter presented a brief assessment of the on-the-ground impact of the TDHS project in terms of socio-spatial inequities so far, which proved to affect both the river Poddle and many of its historically marginalized upper-catchment inhabitants. In sum, data clearly demonstrate how mitigation initiatives, as any other greening initiatives, are inherently social, cultural, political endeavours (Angelo, 2021). In particular, their ability to create and reinforce unequal material living conditions is no less extensive. Finally, in its current private market driven configuration, the TDHS does not explore the mitigation potential of the river Poddle and of its catchment as a green/blue infrastructure; what is more, it is clearly at odds with the adaptation efforts deployed everywhere else in the catchment. In a nutshell, the chapter clearly illustrates a lack of integrated approach to climate change mitigation as implemented in the TDHS and resulting in inherent contradictions between different mitigation, adaptation and social objectives.

CHAPTER 6: DEVELOPMENT INITIATIVES IN THE LIBERTIES: WHOSE RE-DENSIFICATION?

6.1 Introduction

From looking at planned flood works for the whole river Poddle catchment to a decarbonizing initiative conducted in its upper-catchment, I next discuss the re-densification processes unfolding in the lower inner-city part of the catchment. In this part of the catchment, as in its upstream part, the river is mostly culverted underground with only small open sections. As previously, while going through the present empirical chapter which assesses yet another path to climate change mitigation, readers are asked to keep in mind previously described adaptation and mitigation strategies and how they might all dis/connect.

The empirical focus of the present chapter is twofold: the first is the private-developer-led redevelopment of a former industrial site in Mill Street in the Liberties, a prominent historic working-class neighbourhood of inner-city Dublin (Figure 6.1). The site is traversed by the river Poddle, mostly culverted at this location with only a small open section at the south west end of the site. As will be described at length in the chapter, the redevelopment of the Mill Street site has been enacting specific visions of housing provision and of public green/blue infrastructure management. The second empirical focus is a local homeless, activist and resident-led protest (thereafter Anne Devlin People's Park protest) that unfolded in a nearby river Poddle catchment location in the same historic working-class neighbourhood (Figure 6.1). Although in the form of a protest, strong claims were made and enacted concerning the use of a vacant public building for housing and community space provision and of an adjacent public green space. In this chapter, it is proposed to look at the two initiatives through the lens of an important dimension of climate change mitigation, namely re-densification (IPCC, 2022b; UN Habitat, 2022). Although the two initiatives were led by radically different actors and enacted through radically different means, they are both considered re-densification initiatives in the sense that they are both

centred on the rehabilitation of an unused parcel and building within Dublin's existing footprint for residential and other purposes.

Obviously, re-densification is not a simple, linear process but on the contrary one that can take multiple forms from infilling, vacant site redevelopment to building higher, denser residential infrastructure and located at the intersection of various urban development management dimensions from housing to employment, transport, energy, green/blue infrastructure and their carefully balanced spatial arrangements (IPCC, 2022b; UN Habitat, 2022). In this sense, the present chapter only focuses on the mostly residential and public green/blue infrastructure rearrangement dimension of densification processes. However, most importantly, based on the critical urban scholarship grounding my theoretical framework, re-densification in this chapter is to be considered as any other greening project and so detached from the depoliticizing material/cultural, nature/society divides that would make it commonsensically 'good for everyone' (Angelo and Wachsmuth, 2020; McFarlane, 2020; Angel et al., 2021; Angelo, 2021; UN Habitat, 2022). As argued by McFarlane (2020), de/re-densification "is not a neutral geography of remaking space" but "the valorisation and prioritisation by states and markets of some urban spaces and forms over others (including some forms of density over others)". We must ask "what kinds of images, models, approaches and stories of density are being told, and what alternatives ought to be documented and foregrounded" (p318). Indeed, in a neoliberal context (Soja, 2010; Angelo, 2021; Kotsila et al., 2023), it is very much expected that "aesthetics and models of densification are made to serve restricted real estate economies and commercial developments" (McFarlane, 2020, p318; Indorewala, 2019). The following comparative assessment casts light on these two dimensions: first, looking at two re-densification initiatives led by very different actors outlines the highly situated, social, political and cultural dimension of re-densification processes (Angelo, 2021). Second, the comparative assessment is to highlight the neoliberalization of the state and local authority modes of governance by depicting how, on one side, they facilitate the maximization of private developers' re-densification profit through both legislative and informal processes ("Facilitation" in Collins (2010)) and how, on the other side, they repress the voices of those

articulating alternative paths to re-densification through violent police, legal and informal means ("Marginalization" in Collins (2010)). Importantly, data cast further light on the continuous reconfiguration of the public/private divide through greening initiatives (Angelo, 2021; Armstrong et al., 2023) and how, in the case of the Anne Devlin People's Park protest, public resources were reclaimed as commons (Blomley, 2008).

The structure of the chapter is based on its dual empirical focus. To begin with, I present and assess data pertaining to the private-developer-led Mill Street redevelopment: after a brief presentation of the redevelopment and of my own data collection, I discuss some of its procedural and epistemic dimensions before assessing how it then translates in terms of housing provision, access to public space and management of public green/blue infrastructure. In a second move, I present and assess data pertaining to the Anne Devlin People's Park protest in a similar fashion: after a brief presentation of the protest and of my own data collection, I discuss some of its procedural and epistemic dimensions before assessing how it then translates in terms of housing provision, access to public space and management of public green infrastructure. In a final step, the concluding part of the chapter will recap the main findings of the two assessments and briefly sketch out some of their wider implications.
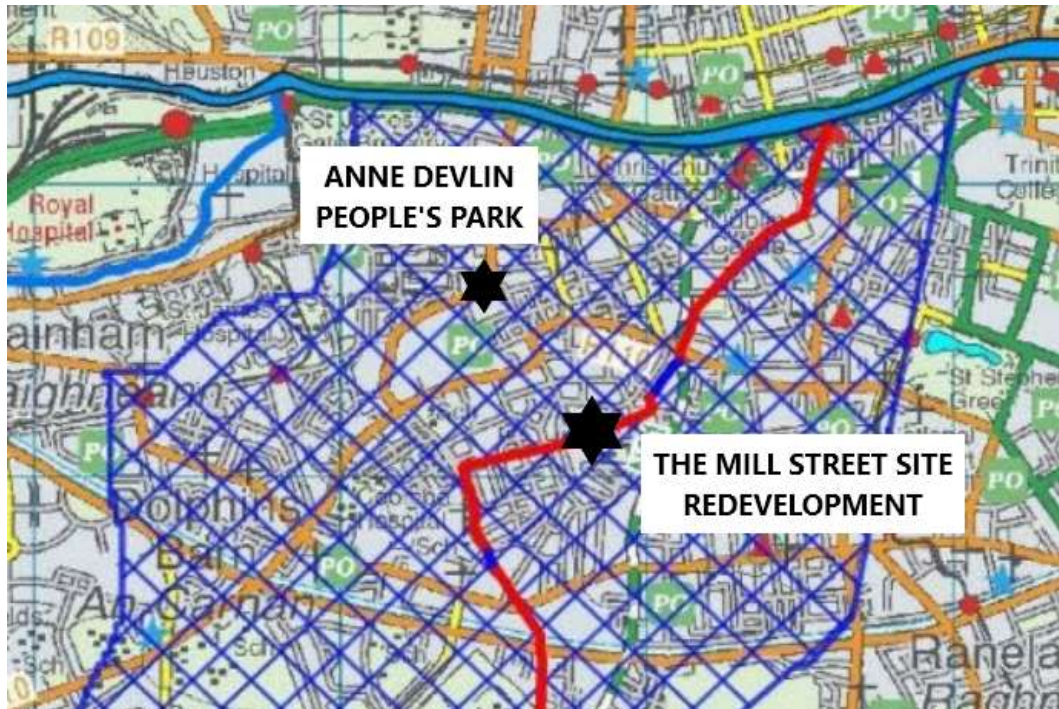
Figure 6.1: Location of the Mill Street redevelopment site and Anne Devlin People's Park in the Liberties with the river Poddle line in red and river Poddle catchment in blue (Source: Clarke, 2019, signposting added)

6.2 The Mill Street redevelopment: a private-developer-led re-densification project

6.2.1 A brief presentation of the redevelopment project and of my own data collection

What is designated as the Mill Street site in this chapter is in fact an area composed of multiple contiguous former industrial sites bordered by Blackpitts, Mill Street and Sweeney's Terrace (Plate 6.1). The sites were acquired by different private developers who, at least based on planning applicant names, are: BAM Property Ltd, an Irish construction and development company; GSA, a UK-based international real estate management company specialized in the student housing market and Creedon Group Ltd, an Irish development company (co-applicants in two developments of the site); and, finally, Irish company Clarman Developments Limited, whose director is Mr. Creedon and so potentially also linked to the Creedon Group (Figure 6.2). Main developments on the different sites consist of a hotel, the

Aloft Hotel, build-to-rent apartments and various student accommodations such as The Tannery and New Mill; additional services run by the hotel and student accommodations are a pub and café and small office facilities including one hosting the Staycity Dublin Head Office. The redevelopment of the Mill Street site started in 2016 with the construction of New Mill student accommodation and the other developments followed thereafter. The development of the last Mill Street vacant plot, if approved, will consist of more build-to-rent studios and apartments along with some office space (still at appeal stage as of January 2024). As mentioned, the entire Mill Street site is traversed by a mostly culverted river Poddle except for a small open section at the south west end of the site (Figure 6.3).

Plate 6.1: The Mill Street site (Source: Google Maps, 2023, red boundaries added)
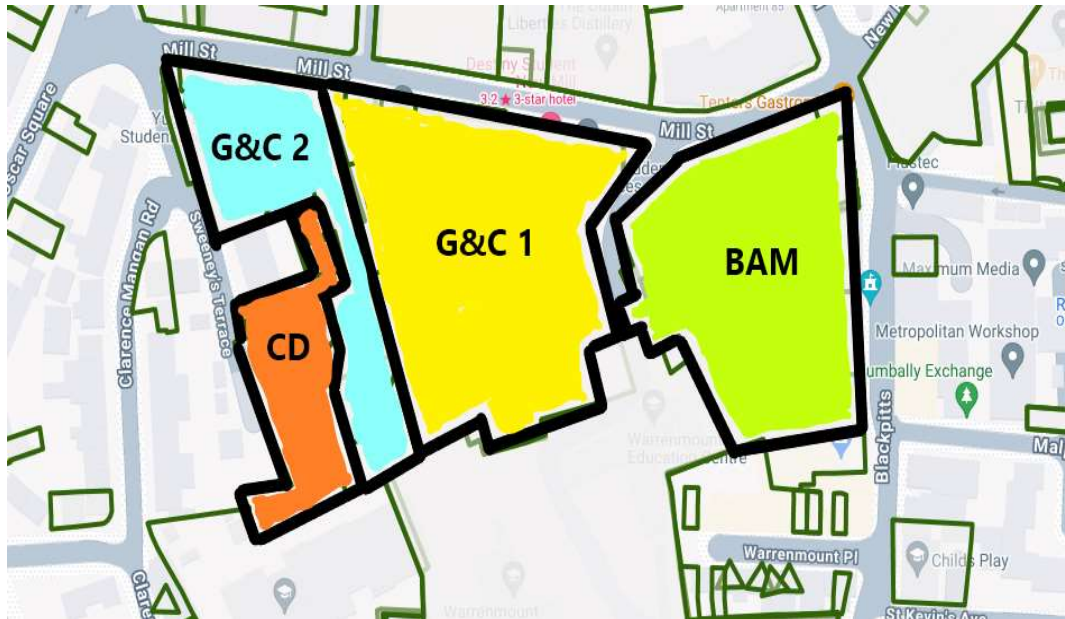
Figure 6.2: The Mill Street plots and their owners based on planning applicant names (Source: Dublin City Council Online Planning Map, 2024, boundaries and colouring added)

Figure 6.3: Existing route of the river Poddle through the Mill Street site, open section in blue and underground culvert in red (Source: JBA Consulting Engineers and Scientists Ltd, 2015, p4, red/blue highlighting added)

Data collection for the Mill Street redevelopment project was carried out as follows:

I conducted the interview of two residents living across the road from the development area (recruited through targeted door-knocking) as well as of two Dublin urban justice activists/researchers and of one Dublin resident familiar with

the site and river Poddle at this location. Additionally, I conducted a shorter series of interviews with four students residing in one of the student accommodations of the site and with a Deliveroo worker regularly operating in the area (all recruited through targeted street recruitment in front of the student accommodation entrance). Finally, three previously conducted interviews with state and local authority planning officers and a council officer involved in the river Poddle flood alleviation scheme were also used to assess the data (however, it is important to note that none of them were Dublin City Council staff, see Section 4.2.2. and Table 4.1). The main content consulted and assessed consisted of numerous planning application documents, the 2016-2022 city development plan as well as a couple of newspaper articles. Finally, as for all empirical assessments, long hours of river walks were also conducted in the area.

6.2.2 Some main epistemic and procedural dimensions of the Mill Street re-densification project

The Mill Street redevelopment project operates in a neoliberal state policy context which heavily relies on private actors to redevelop vacant, derelict sites and which in effect translates in their use as maximised residential rent extraction opportunities, especially in a context where many of these actors are now (cross-border) financial investors (Hearne, 2020; Reynolds, 2022; Nic Lochlainn, 2023). Private investment is encouraged through tax incentives and other supportive measures, making state policy a pivotal force in the financialization of (student) housing provision (Hearne, 2020; Reynolds, 2022). In terms of re-densification, it means that these low-carbon-oriented urban redevelopments are driven by return-on-investment objectives. One example of the effects of such a profit-driven approach to urban development is the reluctance of developers to conduct proper environmental surveys prior to submitting their plans for planning approval: "all of that is a very risky cost for the developer because they, we're asking them to, technically, we're asking them to pay for all these surveys first, and then to design their scheme from that" (planning officer, recorded interview). In practice, it means that pre-planning approval surveys are only superficial and reduced to the minimum; however, once planning

permission is granted on the basis of the proposed plans, they are very unlikely to be changed even in the event of more elaborated surveys being produced. Furthermore, during another recorded interview with a planning authority official, the supremacy of private property rights in Ireland is described as another major impediment to sustainable planning: in the course of the interview, contrast is established between countries like Sweden where municipalities have significant power to supersede private property rights and Ireland where it is very much like "you own the land, you have rights".

The decision-making process guiding these redevelopments is mostly enacted through planning consultation processes. Tellingly, in 2017, the government in power put in place a much contested fast-track planning process for large scale residential developments (Strategic Housing Developments, subsequently SHD), enabling developers to submit their planning application directly to national planning authority An Bord Pleanála instead of local authorities (Reynolds, 2022). Typically, the Strategic Housing Developments planning process would be particularly favourable to the large scale build-to-rent (subsequently BTR) and student accommodation (subsequently SA) developers operating in the Liberties and, while the SHD is now revoked, the latest Mill Street combined BTR/SA development much opposed by local residents was approved under such a planning scheme (planning application reference: 305483). Interviewed residents explained that lodging an appeal cost them €200 plus €300 for the oral hearing. They were informed that the money would only be returned to them if they win the appeal, which they lost:

> We lost the appeal and this project started. And from the time it started, it was horrendous. They were pile driving (...) and that was incessant from 8 o'clock in the morning till 6. (...) People actually got up in the morning and they got out of the area, they couldn't stand it, and it was so bad up at the South Circular Road, one of the restaurants complained about it. (Recorded interview, Plate 6.2)

To object to the development of the last Mill Street vacant plot, consisting of more BTR in addition to some office space, local residents put together a fund to commission a "proper objection" from a city planner (local resident, recorded interview). Planning permission was first refused (planning application reference:

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4034/20 and An Bord Pleanála appeal reference by developer: 309800) but a second application was subsequently submitted and approved (reference: 3826/22), which was appealed this time by local residents and has yet to be decided (An Bord Pleanála appeal reference: 314978). Importantly, these highly technocratic back and forth are hostile to any form of meaningful engagement: "And never, in any of all this, did any of the developers come and talk to us. The only time they came and talked to us is to ask us to withdraw our appeal" (local resident, recorded interview). Furthermore, from an equity perspective (Bresnihan and Hesse, 2019), the costly and time-consuming nature of these interactions put ordinary citizens at a huge disadvantage. In practice, even if the granted permission is overturned in appeal, nothing will prevent Clarman Developments Limited from applying and appealing again as they already did three times. €500 is nothing to them. Ultimately, interviewed residents are convinced that the only thing these developers are interested in is "the cash machine moment": "they don't want to know what we're thinking, because what we're thinking wouldn't suit them, wouldn't suit their pockets" (recorded interview).

Plate 6.2: GSA/Creedon Group BTR and SA construction works on the side of existing houses (Source: Author, 2021)

6.2.3 The Mill Street re-densification project from a housing provision perspective

Housing provision as enacted in the Mill Street redevelopment is consistent with the policy pursued by governments of the last decades encouraging its marketization and financialization (Hearne, 2020), especially in the Liberties (Kelly, 2014). In other words, the new BTR and SA only cater for the housing needs of those in a position to afford their high rent. In terms of student accommodation, which has become an increasingly lucrative, financialized market, it means that the newly built infrastructure is mostly directed at a wealthier class of international students, leaving lower-income students with no solution to their own accommodation needs (Anguelovski et al., 2022; Reynolds, 2022). This as the number of homeless people in Ireland is now said to have surpassed 13,000, including 4,000 children (Hilliard, 2023), and based on conservative calculation (Hearne (2021) calculates homelessness for Ireland of 261,564 based on housing exclusion and insecurity). In Anguelovski et al. (2022)'s paper looking at gentrification in the Liberties, a housing activist depicts how, in Ireland, the dominance of the unchecked private property regime has worked against the common good and most basic right to access a safe home for all:

> Certainly the affirmation in the [1919] Democratic Program [drafted by the Labor Party] that all right to private property must be subordinated to the public right and welfare is in direct and absolute conflict with the reality of life in this city and in this country today where more than 10,000 people are homeless, over 3,000 of whom are children, and 500,000 people are in housing distress enduring extortionate rents, living in arrears, are unable to secure affordable homes, and where public lands are used to benefit private commercial interests rather than for decent public housing. (Quote dated May 2019, p208)

As observed by a local resident during a recorded interview, "They talk about social housing, I don't know, it's nice words, but I've yet to see them."

From a re-densification perspective, while the Mill Street redevelopment in effect increases the population density of the area (with 944 student accommodation bed spaces, 201 hotel rooms and 37 BTR studios and flats based on initial granted applications), it first contravenes the social equity concerns that any re-densification

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initiative should aim to address (McFarlane, 2020; Angel et al., 2021; UN Habitat, 2022). Indeed, Angel et al. (2021) argue that densification must be accompanied by "the careful monitoring of affordability and related metrics" (p22). In addition to fueling social inequities, inner-city unaffordability is likely to displace residents and commercial activities "beyond the urban periphery (…) where transport costs, the time spent in travel – and hence greenhouse gas emissions as well – are higher" (Angel et al., 2021, p22). Furthermore, an excessive focus on lucrative residential infrastructure aimed at a mostly transient international student and tourist population is unlikely to bring in the kind of mixed land use prescribed in the conduction of densification and that co-locates job and housing opportunities with commerce and other amenities (IPCC, 2022b; UN Habitat, 2022). As described by a local resident during a recorded interview, "Everywhere you go, it's Staycity, student accommodation, all of that, everywhere!".

6.2.4 The Mill Street re-densification project from a (public) green/blue space access perspective

Access to public green/blue space is crucial for making density work (UN Habitat, 2022). In the context of the Mill Street redevelopment project, developers were granted planning permission on the basis that they would allow public access to two small green/blue amenities. The first one, the internal green yard of the New Mill student accommodation, was gated soon after the completion of the development (Whelan (2018), Anguelovski et al. (2019c), initial planning application reference: 3745/14, see Plate 6.3). In fact, gates were erected months before the developer received planning permission to do so, illustrating Roy (2005)'s point that informal planning is not less practiced by the elite and with the full support of state institutions. Indeed, despite a clear breach of their planning permission, Dublin City Council granted GSA and Creedon Group permission to retain the gates (planning application reference: 3984/18). Erection of the gates was justified on the grounds that it would improve the student accommodation residents' safety (see Blomley (2008), Yiftachel (2009) and Armstrong et al. (2023) for safety concern justifying informal public and private physical enclosures): "as soon as they got planning

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permission and built, they shut the place. They said 'no, only residents can come in, for security reasons'" (recorded interview, local resident). In a submission to a later Mill Street planning application, local residents demand that "The same concern should be applied to the health and safety of residents of Sweeney's Terrace and Clarence Mangan Road" (planning application reference: 305483). In other words, in addition to preventing local residents from accessing the green space, the gating immediately created a hierarchy of residents, the health and safety of some becoming more significant than those of others. Thus, in an obvious manner, the gating was far more prone to foster conflict than solidarity among the local community.
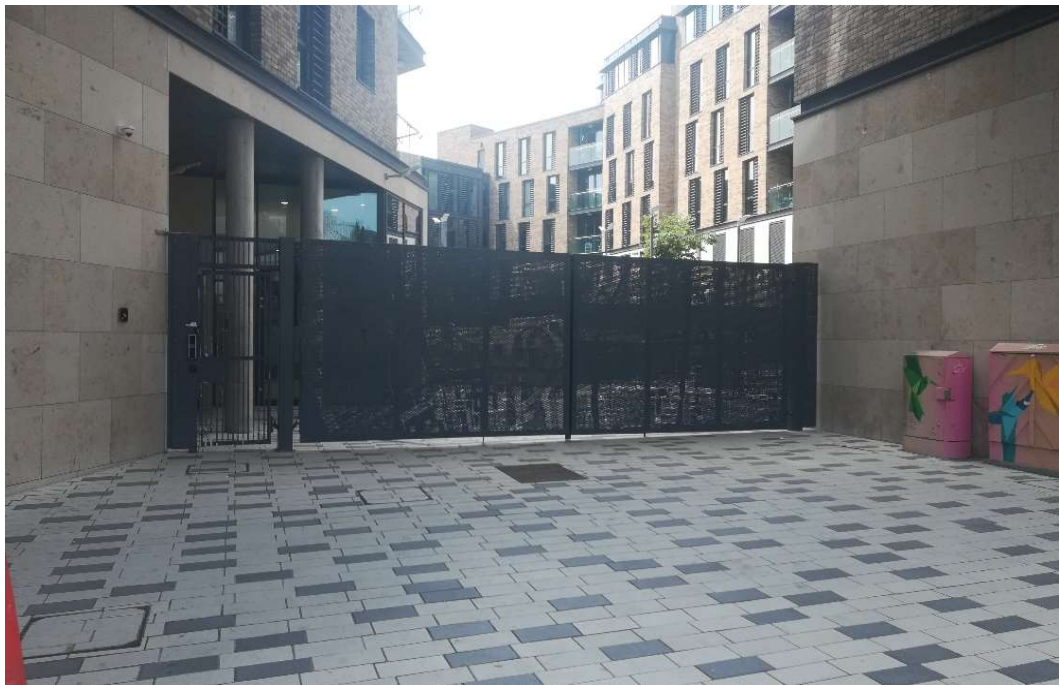
Plate 6.3: New Mill student accommodation gated green space (Source: Author, 2022)

The second public space that was supposed to be left publicly accessible as part of one of the Mill Street developments was a small green space around the equally small open section of the river Poddle on the site. However, in practice, even long after the development was completed, access to the river Poddle open space was prevented by a large grill gate that could only be opened with a card (Plate 6.4). Restricted access was experienced personally during some of my river walks in the area as well as by a Dublin resident who took the matter further. First, they emailed

the student accommodation management, who replied as follows: "They gave me some story about how the gate was locked and they were having problems with it, at the time I didn't really believe them and I definitely don't anymore" (recorded interview). I myself hadn't noticed any specific problem with the gate: on the contrary, it seemed to function as planned and let in anyone using the appropriate swipe card (and conversely block access to anyone who did not have the card). In the same response to the resident email enquiry, the management also mentions that access to the Poddle open space can be obtained via the main reception, which is confusing given that the main reception itself is located behind the gate. Sometime later, finding that access to the river was still restricted to swipe card owners, the resident sent another email to the student accommodation management, who this time did not reply. Subsequently, the resident raised a planning violation with Dublin City Council, who replied that it would be investigated and that an inspector would be sent on site. However, from talking with other residents about the reporting of the planning breach, there was a general sense that "The council is not very good at enforcing planning violations" (recorded interview).

Plate 6.4: Automatic gate leading to the river Poddle open space (Source: Author, 2023)

Importantly, data gathered on the two Mill Street green/blue spaces point to their poor design and an obvious lack of investment on the part of the developers to make them attractive. First, concerning the river Poddle open space, a resident observes that works to complete it were finalized long after the completion and opening of the student accommodation: "They finished the work, but then there's a piece of public domain they're meant to do, and they just drag their heels forever" (recorded interview). Furthermore, their sense was that the finalized landscaping of the space was very poor and again in breach of initial planning commitments. The resident believes that the developer opted for the cheapest design: "They just cheaped out and hoped no one would catch them I suppose" (recorded interview). As for the second public green space now gated, my own experience of walking it was rather dull. As a student accommodation resident puts it, "there is just nothing to do" (recorded interview). In other words, data point to the unwillingness of the Mill Street developers to invest in the 'public domain' or what does not offer return-on-investment opportunities. This would also explain their regular attempt to physically enclose these spaces, which might remain the most effective way to capitalize on them through marketing exclusive access and security. As observed by a New Mill student accommodation resident: "it's good because here you have everything like electricity, water, Wi-Fi, also gym, ***security***, like you have everything" (recorded interview, bold italics added). Tellingly, a similar attempt to enclose river access and its surroundings was made by another private developer in Mount Argus (planning application reference: 3739/20; see Section 7.3.3. for more detail).

A last important point to be made concerns the wider impact of the Mill Street redevelopment on the area in terms of access to green space. As argued by McFarlane (2020), densification is a relational process: how densification is conducted in one place affects other locations. The Liberties generally is known for its historic lack of access to public green space (Anguelovski et al., 2019c; Anguelovski et al., 2022). In this sense, the negative impact of the Mill Street green/blue space enclosures is to be felt in the wider surroundings of the site. Moreover, importantly, filling-in local space with unaffordable housing puts additional pressure on the local authority to build public housing on public land to the detriment of other community

uses: a recent instance is the dismantlement of a nearby public community garden (Figure 6.4), which had provided support for at-risk youth for four years, to make room for social housing (Anguelovski et al., 2019c; Anguelovski et al., 2022). If anything, the Mill Street redevelopment along with many other similar developments in the area illustrates that the 'space scarcity' and (false) dilemma it creates between social housing and public green space is socially and politically manufactured. This is what McFarlane (2020) observes about real estate market led densification processes, which have profound social and ecological inequity impacts. Commenting on the article published by Indorewala (2019) on the city of Mumbai, he notes that "the exclusion of the urban poor from profitable areas of the city is accompanied by the production of 'scarcity' of land—which in fact reflects the locking-up of land for 'higher end' economic gain rather than the physical availability of it—and ecological damage" (p319): "To profit from land, the first step is to make it appear scarce. So how will Mumbai produce 'affordable' housing? By filling up salt-pan lands" (Indorewala, 2019). Or, as in the case of the Liberties, how will Dublin City Council produce affordable housing? By building on existing community gardens. In conclusion, based on data presented in this section, private developer led densification is averse to the nurturing of public green spaces and their access, both within private property boundaries and beyond through the inherent relationality of all forms of land use (Blomley, 2008; Safransky, 2016; McFarlane, 2020). It is consistent with previous findings highlighting for instance the precariousness of urban agriculture projects in context of real estate market driven urban development (Corcoran et al., 2017; Kotsila et al., 2023).

Figure 6.4: Distance between the Mill Street site and demolished community garden (Source: Author, 2023)

6.2.5 The Mill Street re-densification project from a river management perspective

After having assessed the impact of the Mill Street redevelopment on the overall quality of local public green spaces and their access, I now look in more depth at how it has impacted the management of the river Poddle on the redevelopment site and beyond. Indeed, IPCC prescribed mixed land use densification includes "green infrastructure" and the preservation of "existing green and blue assets" (2022b, p864). A main issue with the private developer led re-densification approach taken in Mill Street is the resulting fragmentation of the site which, from this perspective, becomes four autonomous land parcels. As a result, the section of the river that traverses three of these land parcels becomes itself 'cut' into three distinct autonomous sub-sections. The resulting partition obscures the possibility of more holistic approaches to thinking about the river and its future in Mill Street. Indeed, it helps to eschew potential daylighting conversations. During a recorded interview with a planning officer, it was termed a "piecemeal approach" to daylighting: "if you're only getting application on a site-by-site basis, it's difficult to see when you'll start to see an actual, you know, the river Poddle emerge again". During another recorded interview, a council officer involved in the river Poddle flood alleviation

scheme explains that it is "hard" to find daylighting opportunities: "because it's so developed that, you know, it's hard to daylight in areas". The Mill Street redevelopment shows that, in fact, the depiction of urban spaces as always saturated obscures the development and redevelopment (de/re-densification) phases they are cyclically subject to as well as the political economy driving them (Smith, 1979). Similar to "space scarcity" (Section 6.2.4, Indorewala (2019) and McFarlane (2020)), the lack of river daylighting opportunities is not naturally out there, it is socially, politically, culturally produced. We know very well that developers have little economic interests in daylighting rivers and nonetheless we sustain what was termed by a planning officer during a recorded interview a "developer-led planning" system. As extensively shown in Section 5.4.2, we even actively contribute to unmap river culverts so they can be easily diverted and built on. In short, while the Dublin City Development Plan (Dublin City Council, 2016) stated objective is "to protect, maintain, and enhance the natural and organic character of the watercourses in the city, including opening up to daylight where safe and feasible" (p171), there is no proof that daylighting options were ever considered for the Poddle at the Mill Street site location. On the contrary, as in the case of the Amazon data centre construction (Section 5.4.2), the river Poddle culvert was diverted to make room for the Aloft Hotel (planning report and flood risk assessment in planning application 2182/16) and an existing overflow culvert was diverted to make room for the New Mill student accommodation (overflow plan and flood risk assessment in planning application 3475/14): "As the existing layout of the overflow pipe ***impinges on*** the Architect's proposed layout, it is proposed to divert the pipe and this has been discussed and agreed with DCC Drainage Department" (Flood risk assessment, planning application reference 3475/14, bold italics added; Figure 6.5). Additionally, the last planned development of the site, currently being appealed, proposes "the culverting of a small exposed area of the River Poddle adjoining the south-western boundary" so as "to mitigate potential health and safety issues" (flood risk assessment, planning application reference: 3826/22).
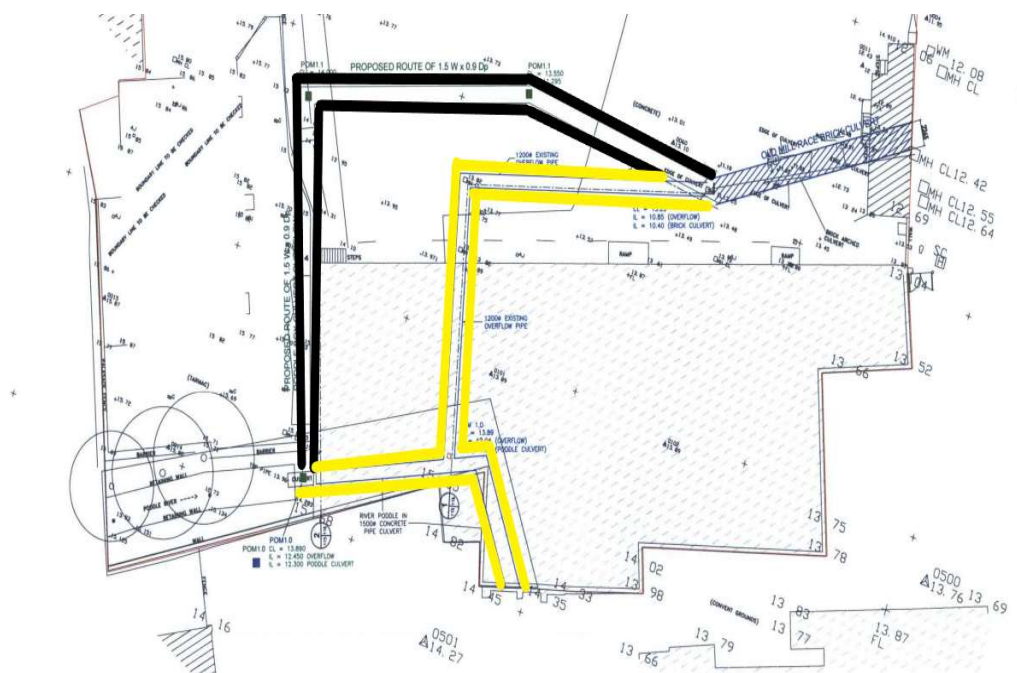
Figure 6.5: River Poddle overflow pipe diversion plan, yellow existing, black proposed (Source: Barrett Mahony, 2014, black/yellow highlighting added)

Finally, in terms of flood risk management, four separate flood risk assessments were conducted for each parcel of the site (Figure 6.6 and Table 6.1). In addition to the mentioned modifications of existing culverts, various features were added to the proposed developments so as to reduce flood risk from higher floor levels to catch pits and road gullies. However, these mitigation measures were conceived on a site-by-site basis and it is legitimate to ask about the efficiency of such a fragmented approach to managing flood risk on the Mill Street site. One inconsistency was spotted concerning the historic of flood events on the site. While three flood risk assessments report no recent flood events in proximity to the site, the New Mill one states the following:

> It should be noted that the overflow pipe described in Section 2.4 was constructed by Dublin City Council in 1998 *as a result of a flooding incident on the site caused by a blockage on the main Poddle culvert*. There is no history of flooding on the site since this overflow was constructed. (Flood risk assessment, planning application reference: 3475/14, bold italics added)

Furthermore, the dividing of the site into 4 distinct parcels results in 3 of them being located in flood zone A and/or B and therefore requiring a justification test prior to development and 1 being located in flood zone C and therefore exempt from

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producing such a test prior to development. Most importantly though, 3 out of the 4 flood risk assessments present the proposed river Poddle flood alleviation scheme (Chapter 4) as instrumental in reducing flood risk for these developments, as for instance in the New Mill planning application submitted to Dublin City Council in 2014:

> ***It is understood from DCC that this scheme*** (the proposed river Poddle flood alleviation scheme) ***is approximately 2 years from commencement***. (…) It should be noted that in the medium term (2-4 years, see end of section 4.2), the possible flood risk along Mill Street should be completely mitigated by the works proposed by DCC for Tymon Park, Tallaght as well as other hard defences. (Flood risk assessment, planning application reference: 3475/14, bold italics added)

In this case, the levee effect (Koslov, 2016; Rusca and Di Baldassarre, 2019; Krueger and Alba, 2022; IPCC, 2022a) is activated long before planning permission was granted for the proposed flood works: as mentioned in Chapter 4, planning permission for the flood scheme was granted in 2023 and initial works are only to start during the second quarter of 2024 (Section 4.4.2 mentions another instance of such a practice, planning application reference: 4735/18). These data, highlighting how flood works are invoked long before their approval or even before the completion of initial plans (10 years prior to commencement of works in the case of the New Mill student accommodation flood risk assessment), show that in practice there was little room for residents to object when official public consultation for the current flood scheme started in 2018: everything was already agreed on between the local authority and developers.
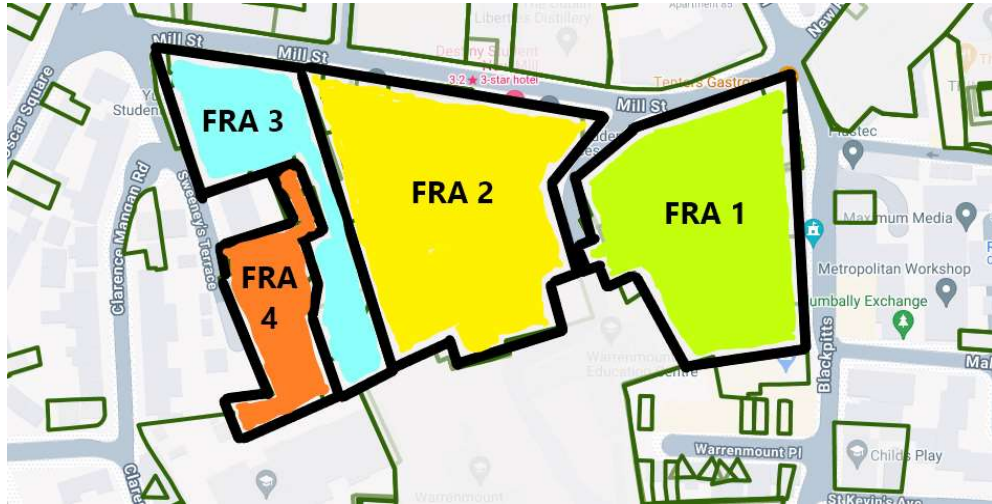
Figure 6.6: The 4 flood risk assessments (Source: Dublin City Council Online Planning Map, 2024, marking and colouring added)

Table 6.1: The four flood risk assessments (Source: Author, 2024)

FRA 1 (2016)	FRA 2 (2014)	FRA 3 (2019)	FRA 4 (2022)
PLANNING REFERENCE: 2182/16	PLANNING REFERENCE: 3475/14	PLANNING REFERENCE: 305483	PLANNING REFERENCE: 3826/22
FLOOD ZONE A/B	FLOOD ZONE A/B	FLOOD ZONE A/B	FLOOD ZONE C
NO FLOOD EVENT AFTER 1963	FLOOD EVENT IN 1998 (PODDLE CULVERT BLOCKAGE)	NO FLOOD EVENT AFTER 1963	NO FLOOD EVENT AFTER 1963
PROPOSED PODDLE FLOOD WORKS MENTIONED	PROPOSED PODDLE FLOOD WORKS MENTIONED	NO MENTION OF PROPOSED PODDLE FLOOD WORKS	PROPOSED PODDLE FLOOD WORKS MENTIONED

A last discrepancy worth mentioning is that while the Mill Street site as well as other parts of the city centre are included in flood maps produced by the OPW, there is no river Poddle flood extent in the city centre on the flood map produced as part of the planned river Poddle flood alleviation scheme (see Figures 6.7 and 6.8 showing

discrepancies between the two flood maps and two benefitting areas maps). When questioned about the new flood map during a recorded interview, a council officer involved in the management of the planned Poddle flood works responded as follows: (Me): "So just to follow up on that question about flood maps, so you think, roughly based on the Poddle FAS flood map, there won't be any real issue of flooding, in the city centre, from the Poddle"/(Interviewee): "That's, like you know, you can't really, it's, it's hard, you can't really predict that." While the flood map produced as part of the flood works presents a more optimistic flood risk scenario for the Mill Street site and city centre, many questions are left unanswered about how such a discrepancy occurred in the first place. It should be linked back to an earlier point made about Celia de Jesus's basement flat not being included in the Poddle flood works flood map extent in Chapter 4, Figure 4.5 (whereas we know for sure that it flooded at least in 1986 and 2011 and that the planned flood works were presented all along as a response to Celia de Jesus's tragic death).

FLOOD EXTENT (OPW MAP)	FLOOD EXTENT (PODDLE FLOOD WORKS MAP)
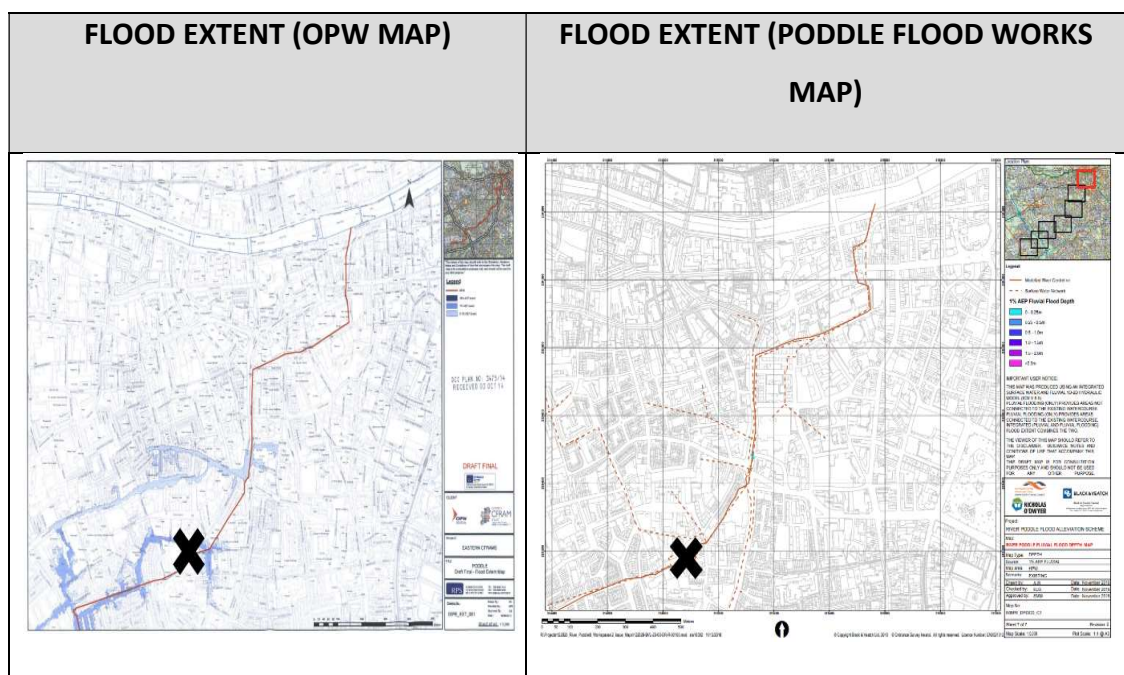
Figure 6.7: The Mill Street site on the river Poddle flood extent in the Liberties: OPW flood map versus river Poddle flood works map (Sources: RPS Consulting Engineers, 2013 and Black & Veatch Ltd, 2018, black mark added)

BENEFITTING AREAS (OPW MAP)	BENEFITTING AREA (PODDLE FLOOD WORKS MAP)
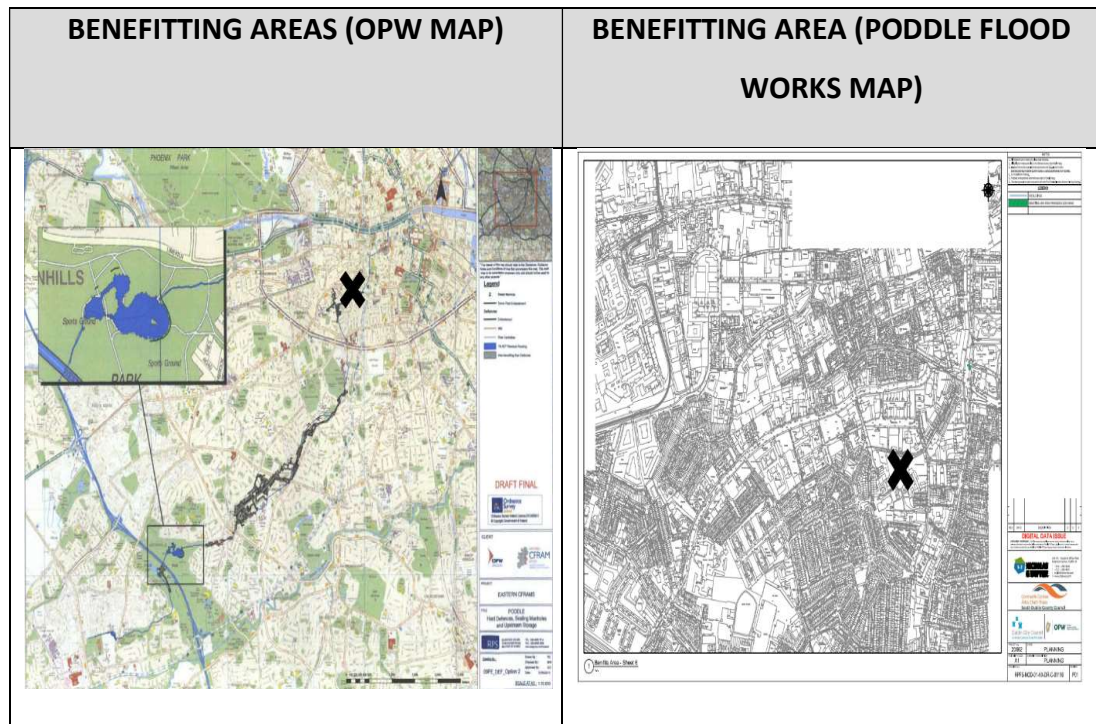
Figure 6.8: The Mill Street site on the river Poddle flood scheme benefitting areas in the Liberties: OPW flood map versus Poddle flood works map (Sources: RPS Consulting Engineers, 2013 and Nicholas O'Dwyer Ltd, 2020b, black mark added)

6.3 The Anne Devlin People's Park protest: an activist, homeless and resident led re-densification initiative

6.3.1 Presentation of the protest action and of my own data collection

To begin with, I briefly describe the timeline of the protest action and highlight its main developments (Figure 6.9). The action was originally initiated by a housing activist group whose main objective has been to highlight vacancy through inner-city vacant building occupations in line with previous Dublin housing movements (McArdle, 2019; Nic Lochlainn, 2023). In this case, the building targeted for occupation was a Dublin City Council owned building which had generally been vacant for decades except for some intermittent use, the latest being its leasing by a collective of artists named Steambox between 2012 and 2019. The Steambox collective was offering studio space, art classes as well as holding regular exhibitions and other art-oriented social events. However, in May 2019, they were forcefully

evicted by the council (Plate 6.5). After the eviction and up to the occupation attempts I will describe, the officially vacant building was informally used as a shelter by occasional rough sleepers as well as by the local youth. Similar to the Mill Street site, the vacant building was located in the Liberties at the heart of another gentrification hearth, between long-time neglected local authority owned apartment complexes and the former Guinness factory site which at the time had just received planning permission to be redeveloped as a massive commercial, hotel and BTR complex (planning application reference: 4588/22). On 3 October 2022, housing activists from the occupation movement entered the vacant building and publicized its acquisition, renaming it the "Seamus Costello Cultural Centre" (Plate 6.6). The next day, on 4 October 2022, Dublin City Council staff called in the Gardaí (Irish police force) to evict the activists occupying the building, which resulted in two arrests. On 5 December 2022, activists re-entered the building and started occupying it, but again, shortly after the acquisition, on the morning of 7 December 2022, Dublin City Council staff called in the Gardaí to evict the activists from the building, which resulted in another arrest.

Figure 6.9: Map of the protest location and surroundings (Source: Author, 2023)

Plate 6.5: Notice of Steambox closure in May 2019 and the "longer story" behind it (Source: Author, 2022)

Plate 6.6: The Seamus Costello Cultural Centre on its first day of acquisition (Source: The Revolutionary Housing League Facebook Page, 2022)

Parallel to these short-term occupation actions, another more stable form of protest developed which I now describe before turning to the description of my own data collection. Not long after the first eviction from the newly named Seamus Costello Cultural Centre, some of the housing activists involved in this first attempted occupation started camping on the little public green space adjacent to the vacant building in protest of their eviction (Plate 6.7). The protest camp itself was held at this location from 18 October 2022 until the end of December 2022 and, shortly after its beginning, the green space was renamed Anne Devlin People's Park after a well-known republican militant who died in the Liberties in 1851 (Plate 6.8). During this period, local authority Dublin City Council staff and police officers forcibly evicted the protest camp seven times in addition to having recourse to various intimidating and harassing techniques such as prohibiting camp activists from using their fire pit at a time when outside temperatures were dropping below zero degree Celsius (in effect enacting "thermal violence" as a "means of weaponizing environmental phenomena (...) to punish subjects" (Starosielski, 2021, p113)). Importantly, not long after the start of the protest camp, one activist initiated a greening project on the little public green space where tents had been set up with the involvement of local kids and

whoever wanted to join in. Finally, following the end of the green space full-time occupation in December 2022, the camp site and its surroundings were still used as a location for regular gatherings, protest actions, door-knocking as well as gardening activities until 17 April 2023.

Plate 6.7: The protest camp in its first days of public space occupation (Source: The Revolutionary Housing League Facebook Page, 2022)

Plate 6.8: Anne Devlin People's Park sign (Source: Author, 2022)

Concerning my own data collection (Haraway, 1988), data were collected first and foremost through my active participation in the protest action from the first day of my involvement until its end in April 2023. Prior to the protest, I was already a

supporter of the housing activist group and following them on social media and this is how I came to hear about their occupation of the Seamus Costello Cultural Centre. I became involved in the protest shortly after the first Seamus Costello Cultural Centre eviction as activists were setting up their tents on what would become Anne Devlin People's Park. In addition to my participation in the protest action, I conducted interviews with three of the main Anne Devlin People's Park activists and was also able to access the interview of the activist who had led the greening project with the local youth conducted by a supporter of the protest. Finally, regular photographs/videos were taken of the protest camp and protest actions. Ethically speaking, as described in my methodology Chapter (Section 3.7), I always presented myself as a PhD researcher during my involvement in the action and made it clear that part of my research work would focus on it as soon as the decision was made to do so.

6.3.2 Some main procedural and epistemic dimensions of the Anne Devlin People's Park re-densification project

The nature of the project, which was first and foremost a protest action, means that there were no strictly formalized decision-making and knowledge production processes. Additionally, the constant harassment of the camp protesters by the local authority and Gardaí instigated a sense of permanent insecurity and urgency in making some decisions which was clearly at odds with finding the time and space to formalize these processes. It does not mean that they were devoid of some overarching guiding principles and ethics but only that these principles and ethics, instead of being recorded (in writing), were immediately enacted, were showing in how things were done. As a result, they could only be grasped through spending time at the camp.

First and importantly for my spatial-epistemic 'whose' question, the protest action had been initiated by housing activists affiliated to the housing movement at the origin of the Seamus Costello Cultural Centre occupation. These activists were from different backgrounds but most of them were from the most marginalized social groups including rough sleepers, homeless people, asylum seekers and social housing

tenants. However, in part due to the 'public' configuration of the protest camp and in part due to the 'openness' of the group, many more activists and residents of all backgrounds rapidly joined in shortly after the camp was set up. In fact, the composition of the protest camp group was responding to both equity concerns (Bresnihan and Hesse, 2019) and diversity: while the more stable leading roles of the group were fulfilled by some residents from the most marginalized social groups in the city, many others joined the protest from much more privileged backgrounds (like me) and were offered many opportunities to participate in one way or another. Thus, many nearby residents provided the protesters with material support in all shapes and forms from filling in thermos with hot water, taking in phones to charge them and bringing food and many other material goods. Additionally, local kids, mostly from the nearby social housing apartment complexes, were also involved in the activities of the camp whenever they felt like it and based on their ability, including in the greening project which is described at greater length in Section 6.3.5. Obviously, it did not mean that there were no inequities or power imbalances in interactions between all involved in the protest and all stopping by to have a chat; however, the practice of valuing the voices of the most marginalized (no matter whether you were a rough sleeper, whether you had serious mental health issues which might come with equally serious addiction problems) created in effect a radically inclusive decision-making and caring space (akin to Blomley (2008)'s "moral and political commons"). At a later stage of the occupation, a megaphone was used by activists and passers-by alike (including local teenagers) to shout slogans or make speeches, symbolizing what the camp was about: a place for anyone to speak and be heard, a place for open discussion, public debate and "disagreements": "there is a lot of people who kind of would stop and talk" and "it's also good I think to have like even disagreements as well like, you know, I think it's good to, occasionally there are people who come by and they have a different, different opinion, but it's good to actually sort of debate them a little bit" (protest camp participant, recorded interview).

Decisions were mostly made through discussions and meetings at the protest camp itself. As mentioned, the 'public' setting of the camp made these decision-making

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processes easily accessible and, as a result, extremely inclusive. From what I witnessed, anyone, known or not-yet-known, could step in, make a statement, express an opinion, suggest an idea, organize something. Parallel to the physical decision-making process taking place at the camp location, a WhatsApp group was created that included up to eighty participants. Joining the group could be done either by being added to it by one of the group admins or via the QR code that was put up most of the time outside the tents, allowing in practice any passer-by (equipped with a smart phone) to join it. Finally, in the months following the end of the full-time occupation of the green space by protesters, door-knocking was conducted in all adjacent social housing apartment complexes over several weeks to record issues faced by tenants as well as to enquire about what sort of development they would support in the area in terms of greening initiative and use of the vacant Dublin City Council owned building.

6.3.3 The Anne Devlin People's Park re-densification project from a housing provision perspective

The objective of the housing activist group at the origin of the first Seamus Costello Cultural Centre occupation attempt could be viewed in itself as a re-densification initiative: draw attention and put an end to Ireland's vacancy and with a specific focus here in Dublin on inner-city vacancies. It was a radical challenge to the idea that any land or property could remain vacant instead of being used by those in need and/or who had the ability and willingness to rehabilitate it if needed. In other words, assumptions guiding the group action were the opposite of those guiding the Mill Street re-densification project mostly centred on private property and its insertion in marketization and financialization processes. However, in the case of the Seamus Costello Cultural Centre occupation, such claims were specifically addressed to public land and property (Plate 6.10). Claims were made to public land, property and its decision-making as a form of common (and so away from the idea that 'public' and 'common' should be thought of separately as it was sometimes the case (Eidelman and Safransky, 2021)). Planned uses for the Seamus Costello Cultural Centre were to offer shelter to rough sleepers and to those suffering from various forms of

homelessness as well as to provide community space (see Plate 6.9). Compared to the Mill Street redevelopment and its 1,000 plus student and tourist bed spaces, it was a modest re-densification initiative but one proposing to make immediate use of an existing building with a view to addressing some of the most urgent needs of Dublin's residents: the need for safe shelter and the need for community space. 'Immediate use' in the political project of the activists was to be understood as 'now' (away from the inhuman temporalities of land speculation (Smith, 1979) and its highly unsustainable construction and demolition cycles (McFarlane, 2020)) and as 'unmediated' (decision-making placed in the hands of residents and of those most in need among them). However, as the following data illustrate, Dublin City Council had a very different idea of what the 'public' in public land, public property and public space meant: in fact, data reveal that their management of public resources, consistent with the ambient neoliberal context, was not much different from the management of a private property.

Plate 6.9: Posters at the entrance to the Seamus Costello Cultural Centre (Source: Author, 2022)

First, the private property assumptions guiding the management of the vacant public building by the local authority could be seen in the extreme violence of the means used to prevent the peaceful occupation. As mentioned, the two occupation attempts resulted in three arrests (two inside the vacant building and one at the

Garda station during a protest in support of one of the arrested activists): among them, one resulted in an activist being charged with "burglary" based on Dublin City Council staff and Gardaí testimonies[6] (signalling a radical erasure of the political and common claims of the housing activists). Between the first and second occupation attempts, the council cut the building water and electricity supply (as Amazon had done for the Jacob's social club when becoming the 'owner' of the former factory site, see Section 5.4.1). Finally, the second occupation attempt was responded to by a violent break-in of the building with sledgehammers by both police forces and private security staff Bidvest Noonan under the supervision of Dublin City Council officers. A last important point to make is that, on both occupation attempt occasions, Dublin City Council proceeded to the eviction of the activists from the vacant building without a court order. A solicitor later explained that court orders were sought by private owners mostly to secure Garda support, which was not needed for the local authority. During previous vacant public building occupations conducted by the same housing movement, Dublin City Council had come equally heavy on housing activists, and it resulted in the paradox that they preferred to focus on privately owned vacant properties instead of publicly owned ones. In this sense, 'public' properties were more tightly policed than private ones. In all this, housing activists were not once considered by the local authority as legitimate stakeholders worth engaging with: on the contrary, when housing activists asked to talk to a council officer during a peaceful protest organized at their headquarters in Wood Quay, they sent in private security staff Bidvest Noonan who shut down the building. One of the protesters, a regular rough sleeper, was left to shout in a microphone in front of the closed 'public service' building in the coldest temperatures of December (Plates 6.10 and 6.11 and reminiscent of the social housing tenants protest described in 3.2.1).

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[6] After more than a year in legal limbo, the burglary charge was confirmed in appeal, leaving one homeless activist with a criminal record and a €300 fine to pay. When assistance was sought from the Public Interest Law Alliance (https://www.pila.ie) to build a case to put an end to the criminalization of housing activists in Ireland, they replied that the approach taken by the housing movement did "not align with PILA's approach of using the rule of law to advance change" (extract from email exchange).

Plate 6.10: Protest at the Dublin City Council headquarters in Wood Quay (Source: Author, 2022)

Plate 6.11: Dublin City Council headquarters shut down and guarded by private security staff during the protest (Source: Author, 2022)

The state itself has plans for the vacant building as part of a Land Development Agency (LDA) regeneration masterplan. The LDA is "a commercial, state-sponsored body that has been created to coordinate land within public control to provide affordable and social homes and build communities across the nation" (Land Development Agency website). Although no planning application has been submitted yet (as of January 2024 and which will mark five years of vacancy in May of the same year), a first preliminary consultation period for the plan ended in May 2023 (Pear Tree Crossing Masterplan website). While attempting to brand itself "social home" provider, the LDA is deeply imbued with neoliberal assumptions:

> The Land Development Agency, set up in 2018, is operating under the same failed PPP approach – it is about incentivizing and making it financially viable for the private sector to get involved, using state land as a leverage, to deliver social housing at 'no cost' to the Exchequer. It's a myth. It's a massive transfer of wealth from the state and the Irish people to private sector, as was the case with the PPPs in 2008. (Hearne, 2020, pp. 188-189)

The assumptions guiding these plans are grounded in:

> an ideological aversion to the state playing a major role in ensuring that housing is genuinely affordable through the provision and strong regulation of the private market. It is an approach held not just by government and ministers but deep inside our state institutions and local authorities. The core idea is that the state is not capable, and should not be the provider. (Hearne, 2020, p189).

In the LDA masterplan (Land Development Agency, 2023), all the classics of "territorial stigma", instrumental to the production of rent gap (Slater, 2021), are being activated by the state-sponsored agency aiming to attract private investors. The social deprivation of the area is naturalized as inherent to the area itself ("a triumph of the 'where over the why of inequality'" (Slater, 2021, p134)) and described from a passive/neutral/objective position as if the state and successive governments of the last decades had absolutely nothing to do with it:

> However, the area also suffers from some significant economic challenges: Lack of economic investment in recent years; Reduced levels of local employment due to the decline in traditional industries; Large areas of under-utilised or derelict land; Significant areas of social deprivation; Some areas with a negative image and

reputation associated with anti-social behaviour; Poor quality public realm and limited open or green space - this has been ameliorated recently due to the opening of the Bridgefoot Street park. (Land Development Agency, 2023, p8)

Plate 6.12: Walls covered with mould in Dublin City Council managed flats adjacent to the Guinness factory site and Storehouse (Source: Author, 2023)

However, months of interaction with local social housing tenants including through door-knocking confirmed a complete abandonment of the area by the local authority Dublin City Council. Both the social housing infrastructure and local public amenities have long been suffering from severe disinvestment, resulting in deeply insalubrious housing conditions for many local residents (Plate 6.12). Among them, many reported asthma conditions, especially for young children. As mentioned, the Seamus Costello Cultural Centre itself is deliberately kept vacant and left to rot (Plate 6.13). These neglects constitute prime examples of the state creating the material conditions of a "reputational gap" (Slater, 2021, p71) that will be later cashed on by LDA investors.

Plate 6.13: The abandoned Dublin City Council building (Source: Author, 2022)

6.3.4 The Anne Devlin People's Park re-densification project from a public space access perspective

From the initial claim on a public building as common, protesters went on to extend such a claim to the nearby public green space they had set up the protest camp on. The commoning approach to producing knowledge and making decision described in Section 6.3.2 translated into a commoning approach to the spatial organization and management of the public green space (world-knowing as world-making practice in Barad (2003)). While Anne Devlin People's Park had been first set up to protest the Seamus Costello Cultural Centre evictions, it rapidly became a place for socializing, discussing, debating, advocating for various political struggles as well as a community garden. Most importantly, it was a public place where a lot of homeless people felt safe to come in for a chat, to get some food or other supply or even to set up their tent for a few days. It was also a space where they could have their views heard and represented (Mitchell, 1995; 2017). In this sense and in stark contrast with the Mill Street 'public' spaces, Anne Devlin People's Park was accessible in two ways: first, physically as there was no physical enclosure of the site and, second, through the common-like, friendly, welcoming atmosphere of the camp. Not everyone was happy about the camp being there, but everyone was welcome to come in and make their

views known and was listened to with great attention. The camp was not a space set up once and for all but continuously produced through ongoing negotiation processes. In fact, protesters were very mindful of local residents: for instance, they would always avoid making noise in the evening and would try to keep the camp as clean and orderly as possible by sweeping the site on a regular basis and picking-up litter if needed.

While the protesters were extending their public-common claims to the public green space they had set up the camp on, in response the local authority extended the private-property-like management of the vacant public building to the nearby public space. As mentioned, in addition to various harassment technics including banning the use of fire pit at a time when temperatures were dropping below zero, the council and police forces conducted seven forceful evictions of the protest camp between the end of October and end of December 2022 (Plate 6.14). Each time, personal belongings were dumped in a truck or confiscated in an attempt to prevent protesters from coming back to the Park (Blomley et al., 2023). During the first eviction, one of the homeless camp activists tried to oppose the dismantlement of the camp and was arrested[7]. Subsequently, they were charged with "disturbing the peace" and carrying a "deadly weapon":

> [W]hen they brought (X) to the police station and they found a keyring that had a little tiny, tiny pull-out blade, it was one of those kind of fake keyrings Swiss army knives and they charged (them) under the deadly weapons act, for having a pointed weapon, and they were produced in court, like it was the most farcical. (Camp activist, recorded interview)

> We see what happens, there is court, come and ridiculously charges us and we experience many illegal things there, nobody cares what they do to us. (…) very ridiculous things become very (…) important and we, they blame us for this. (Activist charged with carrying a "deadly weapon", recorded interview)

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[7] During this period, three emails were sent to the Irish Council for Civil Liberties to ask for their assistance but all of them were left unanswered (Irish Council for Civil Liberties website: https://www.iccl.ie).

Plate 6.14: First eviction of the protest camp by Dublin City Council officers and police force
(Source: The Revolutionary Housing League Facebook Page, 2022)

A recurring line from the council staff and Gardaí conducting the camp evictions was that protesters had no right to be on "Dublin city Council property", epitomizing well the current ownership status of the local public green (and echoing formulations like "Irish Water assets" in Section 5.4.3). What would be the last eviction of the protest camp was described as follows by a council spokesperson:

> The City Council removed an unauthorised encampment from the public open space in Pimlico, Dublin 8, yesterday morning. We had been in constant communication with the protesters over the last months encouraging a voluntary move from the public property but to no avail. (O'Leary, 2022)

In fact, protesters were well-aware that, ultimately, the presence of the camp at this location was going against the commercial interests of Guinness and of the LDA seeking to attract private investors in the area (Plate 6.15):

> [F]or them it's important place because of Guinness, they want to clean, they don't want to show there are dirty (…) because there is a lot of tourists who come and they are rich tourists, they want to show Dublin beautiful, nice, no any sign of discontent, you know. There is no any graffiti, clean, there is no banner, nobody protesting, nobody wants any justice or something. They want to show Ireland is paradise. (Camp activist, recorded interview)

Plate 6.15: Banner in Anne Devlin People's Park (Source: Saoirse Ní Bhaoighealláin, 2022)

Implicitly it meant that, as in the Mill Street redevelopment, in one way or another public space management had to be subsumed under the interests of the most powerful (local) economic actors.

6.3.5 The Anne Devlin People's Park re-densification project from a green infrastructure management perspective

The greening project, which gave the protest camp its full name, was consistent with the entire public-common project of the movement as described so far. Shortly after the camp was set up, one of the homeless camp activists launched the idea of turning part of the protest green into a community garden. During a recorded interview, they explain how the idea came up (all subsequent quotes are from the interview unless otherwise specified):

> I'd say it probably came, probably late October early November, there was a large group of boys that would kind of spend a lot of time at the camp and they were always asking me to bring them to a community garden that's not too far from here but the Manager of that community garden didn't really like the boys being in that community garden because they, they do a lot of messing.

In other words, the garden project was first and foremost to address some form of exclusion, it was rooted in some genuine concern for the youth of the area:

> [T]here is an awful lot of, you know, in Dublin, there is a lot of children being groomed by gangs, being groomed to sell drugs, to run, you know, do all sorts of things, and it is a worry, I don't know if that will happens with the boys but they are certainly very aware of (…) different types of drugs that are around.

However, from its inception, the garden project had a wider inclusion goal:

> [W]e renamed it Anne Devlin People's Park because there is only one park actually called people's park and it's in Dún Laoghaire and it's not a people's park, the idea of a people's park was kind of set up when a lot of spaces in Dublin were kind of gated and you had to have the keys to get into them and only people living in an area who were wealthy could go in so Devlin's People Park is that, it's a park for everybody.

In stark contrast with the underinvested, "grim" (recorded interview) and gated green/blue spaces of Mill Street, Anne Devlin People's Park is conceived to be touched, to be smelled, to be harvested and, most importantly, to be shared (Plate 6.16):

> The whole bed was created to take you on this beautiful sensory journey (…) moving to the mint, to the rosemary, to the lavender and then to the thyme at the end of all the wild garlic in between and all the colours, you're going from like purples to kind of to blues and then, with all the white of the wild garlic, more blue from the rosemary and then there would have been lovely pinks from the chive as well that I planted there so really nice so like nice for your eyes to be looking at, nice smells and, you know, something positive that you'd enjoy sitting here, and enjoy picking the plants and bringing some home, for your tea.
>
> We pick rosemary, and we pick lavender (…) and giving them to the, you know, for them to bring to their grandparents, to give to the, bring home to their families, there is lots of people saying to us, 'oh my grandmother used to grow these plants'.

Plate 6.16: Anne Devlin People's Park plants: rosemary (top left), strawberries (top right), wild garlic (bottom left), mint (bottom right) (Source: Author, 2023)

This was in a nutshell the gardening project of Anne Devlin People's Park. Between October 2022 and April 2023, hundreds of hours were spent planting the little green and trying to involve in it as much as possible local kids and residents. Gardening conditions were very harsh, but the planting kept going through the winter until another intervention of the council put an end to it.

On 17 April 2023, the local authority approached the activist and their friends who were gardening at Anne Devlin Park with the same 'private property assumptions' which had guided their interaction with the housing activists from the outset:

> [T]he man, he is from the area office, he came by and he said that, you know, this is unauthorized, we have no right to be here, who was I anyway, he said we'd be trying to figure out for months who was doing all this planting on the green, we didn't know who it was, we couldn't possibly think who it could be, they didn't really try very

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hard to get in touch at all, and, you know (…) and I explained that we had linked in with the local councillor, that's been elected onto Dublin City Council, and she wasn't getting very far dealing with the council.

He also was very angry at the combination of plants that were growing there, he said 'oh this mix makes no sense, there is no proper plan to this, you know, there is no organization to this', and I said to him 'look I'm studying horticulture', I said, 'this is an organic project, the plants are being donated over many, many months, as we get the plants, we, we organize them and there is an actual, I did try to show him the kind of planting plan I had in my mind because I studied garden design.

Before leaving, he asks the activist to remove the plants while adding that he would be happy to meet and discuss the possibility of using another space for the gardening project. The next day, the activist sends him a meeting request by email, to which he replies as follows (as of January 2024 no meeting date was proposed by him or anyone from the council):

Dear X,

Further to our discussion yesterday, I would like to reiterate that you require permission to undertake planting in a public park.

We have been concerned about the planting and trenching done in recent weeks at Pimlico Green[8] and how this impacts our ability to manage and maintain the park and also to balance the competing expectations of surrounding residents for this amenity. As we discussed, although you made enquiries about the park, you didn't gain express permission from Parks Services to plant here.

As a first step, I am requesting that you remove the planting done to date as soon as possible (if you wish to keep the plants) otherwise they will be removed.

While I appreciate your best intentions here, this is not the way to proceed. I will speak with my colleagues Parks Services colleagues see whether a more suitable location for a grow project can be found in the area. We can discuss a potential project with you then. I'll be in touch again shortly.

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[8] See Plate 6.17.

In fact, consistent with all data presented so far, the activist explains how they believe the greening intervention of the local authority is again driven by the interests of real estate investors:

> The irony of them planting up James Linear Park which is about five hundred metres from here (…) that's where the Fatima mansion used to be so that area has been redeveloped and the rents there now are extortionate (…) it's ironic that they're redeveloping the James Linear Park and that they're spending a fortune on it with very excessive raised-beds being built and literally this is not even five hundred metres away and they're not willing to do anything to this park, to this place and they keep saying not until this area gets redeveloped, when is that going to happen? And in the meantime, they just want to leave this as bare grass and not even spend a penny on it.

> When I said there were potatoes, he just looked horrified like, and disgusted and just, outraged and shocked and appalled at the, you know, that we were going to plant something like potatoes in the green and he thought, he actually thought I was joking first and I said 'no, I'm not' and I explained to him, you know, 'have you heard of like, the concept of incredible edible, have you heard of the concept of edimental garden and he laughed, he said yes, because that's what we're doing around the corner (in the above mentioned James Linear Park).

In short, what seemed right to the council as a greening project in one newly redeveloped area (where the green gap could be lucratively cashed on, Anguelovski et al. (2019a)) didn't seem acceptable at all in another long-time neglected, underinvested one mostly inhabited by social housing tenants (Figure 6.10). Although both greening projects were conceived around the concept of "edimental garden", the Anne Devlin People's Park one, led by homeless housing activists in an area inhabited by social housing tenants, was not going to be supported by the local authority. Worse than that, they were asking for the plants to be removed. If anything, it showed even more crudely that greening was really not just about greening (Angelo, 2021) and that real estate market driven greening will inevitably continue to reinforce environmental *socio-spatial* inequities in Dublin (Anguelovski and Connolly, 2022).

Plate 6.17: The "planting and trenching" that became a source of concern for Dublin City Council officers (Source: Author, 2023)
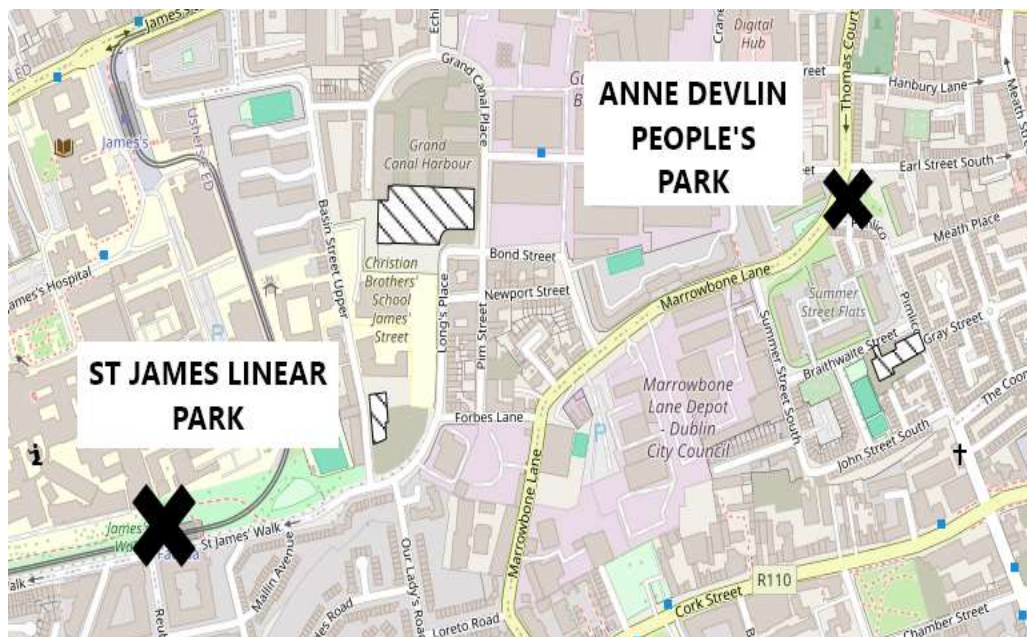
Figure 6.10: Distance between Anne Devlin People's Park and St James Linear Park (Source: Author, 2024)

6.4   Conclusion

The present chapter proposed an assessment of two re-densification initiatives in the Liberties part of the river Poddle catchment. While these two initiatives were driven by very different actors and through very different means, they focused on three similar dimensions of re-densification: rehabilitate an unused inner-city plot for residential and other purposes in conjunction with the re-organization of surrounding public space and green/blue infrastructure. The Mill Street initiative was private-developer-led, imbued with private property assumptions and oriented towards maximising return-on-investment. The Anne Devlin People's Park initiative was activist, homeless and resident-led, grounded in the principles of a "moral and political commons" (Blomley, 2008) and oriented towards the immediate use and unmediated management of existing public resources.

The findings highlight the following outcomes: in terms of increasing residential density, the Mill Street redevelopment has brought 1,000+ bed spaces in the area; however, they are almost exclusively addressed at a wealthy class of transient residents, which is to undermine both the social equity outcome of the re-densification initiative and its wider goal to reduce commute and sprawl (Angel et al., 2021). On the other hand, the Seamus Costello Cultural Centre was to propose bed spaces and community space in an existing unused public building and whose management would remain in the hands of activists and residents: in this case, questions had to be asked about the ability of the project to sustain itself in the long-term in terms of ensuring the material safety of the building, providing the necessary care and health support, and maintaining an inclusive decision-making structure. Concerning the management of public space and green/blue infrastructure, the Mill Street redevelopment resulted in a "cheap" (recorded interview) as much as privatized (re)arrangement of public space and green/blue infrastructure and which poses serious questions about flood safety, water quality and river ecology in contravention of many existing re-densification best practice guidelines (IPCC, 2022b; UN Habitat, 2022). In the case of the Anne Devlin People's Park public space and greening project, while its first use was de facto political, the space and project were never physically enclosed and, most importantly, they remained constantly

open to contestations and negotiations and with a specific attention given to the voices of the most marginalized. The main objectives of the greening project were to enhance local biodiversity and promote food growing. Importantly, the greening project was produced through intense work of care for the plants and residents of the area, which has value even if it cannot be quantified (Kotsila et al., 2023). Ultimately, these two initiatives propose two different re-densification paths grounded in two different land ownership regimes and we should ask ourselves which one is closer to bringing long-term combined social and ecological benefits for the river Poddle and its human and more-than-human catchment inhabitants.

Finally, the comparative assessment outlines the deeply interventionist nature of the neoliberal state (Blomley, 2008; Hodkinson, 2012; Slater, 2021) in supporting real estate market actors through both legal and informal means and in violently repressing the dissenting voices of the most marginalized through police, legal and informal means. It fully exposes how "The planning and legal apparatus of the state has the power to determine when to enact (the) suspension (of the current order), to determine what is informal and what is not, and to determine which forms of informality will thrive and which will disappear" (Roy, 2005, p149). In this sense, it shows the abyssal imbalance of power created by the state and its legal apparatus and police force aligning with private economic interests and the intrinsic limitations of the legal system in addressing such an imbalance of power (Roy, 2005; Yiftachel, 2009; Soja, 2010; Cho et al., 2013; Blomley et al., 2023; Ward and Brill, 2023). Finally, it highlights how, whenever openly challenged, the state rapidly shifts from enabling structural violence to enacting sheer physical violence toward the most marginalized and vulnerable residents of our cities.

CHAPTER 7: THE KINGFISHER PROJECT: WHOSE RIVER GREENING AND SUSTAINABLE FOOD PRODUCTION PROJECT?

7.1 Introduction

The present chapter is the last of my four empirical chapters and focuses on the Kingfisher Project, the river greening and restoration initiative of a small stretch of the river Poddle located in the middle part of the catchment in Kimmage, Dublin 12. I made the decision to present it last as I wanted the reader of my thesis to have some knowledge of the planned flood works for the catchment and of the way the river culvert is managed in its upper and lower catchments before going through the data presented in this chapter. Except for the nature-based solutions to flooding proposed as part of the planned flood works (the increase of existing upstream flood storage and creation of an integrated constructed wetland, see Section 4.4.4), the Kingfisher project is the only known local authority initiative explicitly focusing on developing the more 'natural' dimension of the river and on improving the habitat conditions of its more-than-human inhabitants. However, the green management of the 300-metre stretch of an 11 kilometre long river cannot be assessed in isolation of its wider catchment management practices and this is why this empirical chapter comes last. As will be shown, the kind of climate change and biodiversity loss mitigation politics developed through the Kingfisher Project is greatly influenced by the other climate change adaptation/mitigation projects conducted in the river catchment.

As before, I will now briefly sketch out the main lines of the project under assessment before specifying the literature framing it as well as the overall structure of the chapter. As mentioned, the Kingfisher Project is a local project aiming at greening and restoring one specific stretch of the river Poddle located in Dublin 12, approximately 300 metre long (Figure 7.1), mainly through planting. In addition to improving the ecology of the river, the project also works to develop sustainable food

production practices and spread them within the wider community through education and awareness raising initiatives. The project site is mostly confined to the Blarney Park Community Garden and Allotments, jointly managed by Dublin City Council and the allotment holders/community gardeners, but with the ambition to extend to some adjacent public green space as well as to the private back garden of residents living on the bank of the river Poddle opposite the community garden and allotments (Figure 7.2). The idea of the project was first discussed by local Dublin City Council officers and a local resident who put in a submission for a Local Authority Water Programme community grant. The project formally kicked off when the funding was received between the end of 2020 and the start of 2021 and is ongoing. In more recent times, the project has gained visibility as a climate initiative: in 2022, it became one of seven 'Crumlin Taking Action Together' climate projects funded by Creative Ireland (a nationwide government initiative) and described as a response to climate change and biodiversity loss "crisis" (Crumlin Taking Action Together, 2022). In May 2023, the community garden and allotments received the visit of Minister for Heritage Malcolm Noonan and, in a follow-up letter, one of the founders of the Kingfisher project "outlined the potential of the project to be a blueprint for nature restoration and food security in urban areas" (Cleary, 2023). In June 2023, the project was one of seven community organizations to receive funding from the Credit Union Community Development Fund worth over €100,000 (Capital Credit Union, 2023). Finally, in November 2023, the project received an award at the Pride of Place community awards organized by Irish insurer IPB Insurance and Irish peace-building charity Co-operation Ireland in the Climate Action & Biodiversity category (Conlon, 2023).

Green/blue infrastructure is one of the central prescribed means of achieving climate change adaptation and mitigation objectives (IPCC, 2022a, 2022b; UN Habitat, 2022). However, as developed at length in the literature review, green/blue infrastructure development is never 'good for everyone' or even 'neutral' (Angelo, 2021). What determines the inclusiveness of the benefits of a green/blue development is the level of inclusiveness of its procedural and epistemic dimensions (Heynen et al., 2006; Tozer et al., 2020), itself requiring serious context-specific equity and

intersectionality work (Cho et al, 2013; Bresnihan and Hesse, 2019; Anguelovski et al., 2020). In stark contrast, data collected in relation to the public river greening and sustainable food production project outline its radical privatization and enclosure by a few local authority officers and residents. While the enclosure was not found to be directly tied to commercial objectives, the previous paragraph alone illustrates how the project has been used as a promotional façade with strong potential for both raising the climate action profile of the area and serving more personal career advancement and achievement. Even if the project seems to be increasingly relying on other sources of funding than strictly public ones (consistent with the neoliberalization of (urban) environmental governance (Swyngedouw, 2009; Soja, 2010; Angelo, 2021; Hesse et all., 2023; Kotsila et al., 2023)), what the present chapter shows is how privatization and enclosure have been in fact enacted from the start of the project. In this sense and echoing findings presented in previous empirical chapters, it exemplifies the inability of the traditional private/public actor divide to fully account for some observed public-actor-led acute forms of privatization. In the case of the Kingfisher Project, the greening public/private divide reconfiguration (Angelo, 2021; Armstrong et al., 2023) is operated by public actors and within full public ownership and institutional boundaries. Ultimately, as before, the privatization of the project only serves to further existing socio-spatial inequities in this part of the catchment and beyond.

As previously, the chapter is structured around the spatial-epistemic justice concerns grounding the present research project. First, I present data relating to the question of access to the Kingfisher Project and to its decision-making and knowledge production processes; second, I describe some of the inequities arising from the described restricted procedural, epistemic and spatial access: the erasure of the existing historic community garden, the limited scope of the resulting climate change and biodiversity loss mitigation intervention and, finally, a reinforcement of local social conflict and social inequities.

Figure 7.1: Location of the Kingfisher Project (Source: Author, 2022)
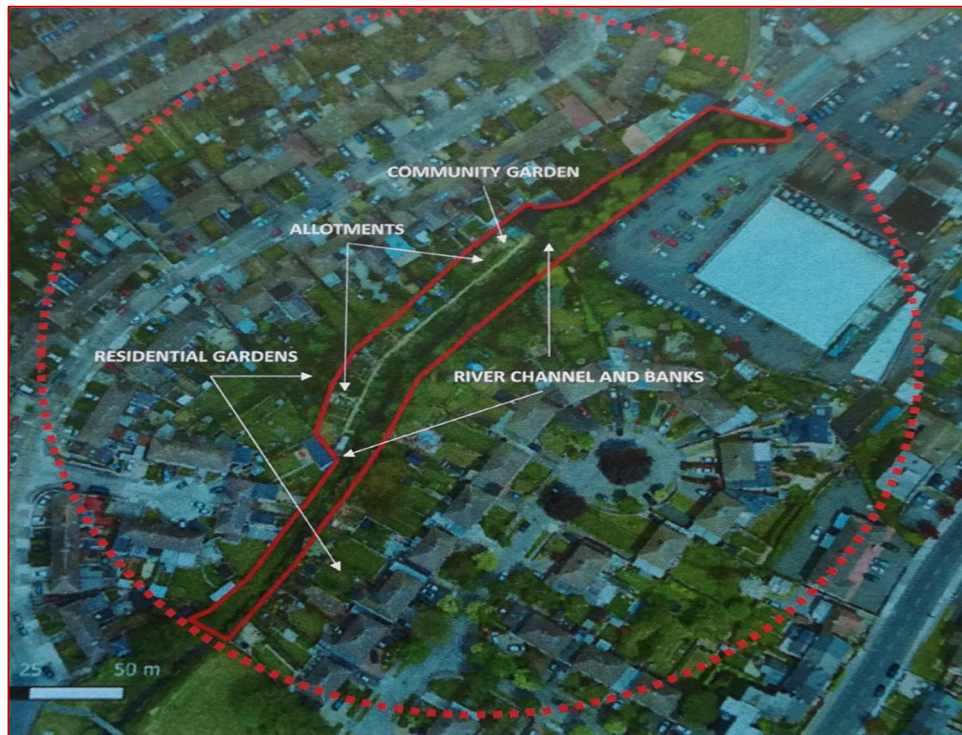
Figure 7.2: Boundaries of the Kingfisher Project (Source: Kingfisher Project presentation obtained in response to FOIR, 2022)

7.2 Who has access to the Kingfisher Project and its decision-making and knowledge production processes?

7.2.1 My own access as a researcher in question

The first I heard about the Kingfisher Project was at the end of August 2021, through the friend of a friend. This 'friend of a friend' had sent my friend a copy of the ecological survey at the origin of the river greening and restoration project, later forwarded to me. The first sentence of the email was setting the tone: "You did not receive this from me" (private email correspondence). To hear about this project had surprised me for two reasons: first, although heavily involved in different local environmental projects for the last three years, I had never heard of it nor of the Community Garden and Allotments that were going to host it. Secondly, I was in the middle of the first phase of my PhD fieldwork, the river walk part, and although I had been extremely careful to try to locate and walk especially all open sections of the river Poddle in the last weeks, I had obviously missed this open stretch accessible through an alleyway starting from Sundrive Road in Dublin 12. This surprise was subsequently shared by numerous local residents and research participants when they finally heard about it, some of them through a forwarded WhatsApp message advertising a forthcoming Community Garden and Allotments Open Day. Many of them had spent their entire life in the area but had no idea about the Community Garden and Allotments, let alone the proposed "Kingfisher Project".

For the purpose of completing my river walks, I decided to have a go at visiting the Community Garden and Allotments and went there on the evening of a sunny day at the end of August 2021. A group arriving at the Garden at the same time as I let me in (the place was otherwise fenced and locked, see Plate 7.1) and a garden user gave me a tour of the place while chatting about the garden and other things. Through giving my contact details during this first visit, I managed to secure an interview with one of the garden users involved in the Kingfisher Project. Additionally, a local resident who had recently visited the garden also agreed to take part in an interview. However, I was struggling to find more garden users willing to take part in the

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research. I managed to obtain a few contacts through word of mouth but none of them replied positively to my interview request. I couldn't help but being a little taken aback by the lack of willingness to take part in the research demonstrated by the garden users I had contacted. My personal representation of community garden users was of passionate people taking any opportunity on offer to talk about their passion for gardening and depict the many benefits that could be drawn from such activity. What was even more intriguing was the lack of information on the community garden and Kingfisher Project that could be found online: all that came up was a Facebook page for the Community Garden and Allotments which seemed to have been unused for a while and with no information on the Kingfisher Project itself. Nonetheless I found some indication that I hadn't been the only one to look for information on council-managed community gardens and allotments without much success: during the September 2021 Dublin council meeting, a Councillor asked the Chief Executive "to list the number and locations of allotments in Dublin" and "to state the procedure for acquiring one and if there is a waiting list" (Dublin City Council, 2021). Apart from highlighting the length of the different allotment waiting lists across the city, the response was vague and, while mentioning the existence of an application form, did not provide any link to it. Therefore, I concluded that I had no choice but to contact the local Dublin City Council office in charge of the management of the Blarney Park Community Gardens and Allotments. My request was twofold: first, a formal interview request addressed to the council officers managing the garden as it was important to get their views on the Kingfisher Project; second, a request to get access to the community garden for a couple of weeks to conduct periods of observation and try to reach out to some more potential research participants. Table 7.1 gives a detailed account of my interactions with the local Dublin City Council office.

Plate 7.1: Blarney Park Community Garden and Allotments fencing (Source: Author, 2022)

Table 7.1: Summary of my interactions with the local Dublin City Council office (Source: Author, 2022)

DATE	ACTION	RESPONSE
15/11/2021	First interview and garden access request sent by email (allotment queries email)	none
24/11/2021	Follow-up request by email	none
03/12/2021	2 phone calls first at local office and then to another number obtained through first call	Advised to resend my request to the general local office email address. The person I talk to during the second call says X will call me back to answer my queries.

03/12/2021	As advised during phone call, resend request to general local office email address.	none
09/12/2021	After a week, no phone call received so I phone again.	I am told that none of my requests can be accommodated because of the busy Christmas period. No possibility to receive this in writing and no invite to renew my request after the New Year.
15/12/2021	Last email request this time to ask for any written documentation that could help me in my research such as meetings' minutes, project description, community garden constitution...	none
17/01/2022	Freedom of information request is sent to receive as much written material about the garden and Kingfisher Project as possible to be able to conduct my research.	Freedom of information request response received from Dublin City Council with significant amount of material on 09/02/2022.

During the lengthy process, my research notes show increased incomprehension and frustration:

> 3 mails to ask for an interview and get access to the garden for periods of observation, no response. (Personal research notes, 09/12/2021)

> [P]lus I have absolutely no idea why I cannot at the minimum get access to the community garden. How time consuming can it be to give me a key??? Without being too paranoid, it seems that the [person] I talked to on the phone was briefed to get rid of me. The whole phone call is really unpleasant (…). I just can't believe this is so difficult to get access to this garden. I just can't believe it. (Personal research notes, 09/12/2021)

Later going through the material received in response to my freedom of information request, I discovered that my intuition had been right. Very intrigued by the lack of response from the council and the strategy of avoidance deployed during my phone interactions with them, I had asked to receive a copy of any written record of my requests. In response, I received a copy of the following email exchange between the person I had talked to on the phone and their colleague:

> **Email 1 (13/12/2021):**
> Subject: Caller
> X,
> Did Laure Tymowski contact the office again?
> Thanks.
> X
>
> **Email 2, in response to email 1 (13/12/2021):**
> RE: Caller
> Yes X she rang me last Thursday
> I explained to her that community services can not facilitate her at this time as it is an extremely busy period coming up to the Christmas holidays
> Maybe yo ring back in the new year:…..
> She wanted to know if she could have that in writing
> I told her to contact community services herself & gave her the customer services number
> X
> (Email exchange between local authority officers obtained through my freedom of information request)

I couldn't confirm why local council officers had deployed such a strategy of avoidance and whether it was linked to my engagement in local activism or to my research topic which had been controversial in the area or to any other reason.

However, it represented significant data in itself by showing how access to the garden and to its documentation relied on a few individuals' willingness to grant it and in this sense could already be seen as *privatized*. Access was determined by who you were acquainted with and very likely also on which terms (a similar point was made during a recorded interview with a local resident who observed that the only way to obtain something from a state or local government institution was to "know somebody who can then threaten with the right hat on"). In sum, these data alone were already pointing to serious potential access inequities in the Project and this is what made me decide to make it an empirical entry point into my assessment of climate justice.

To finish with, here is a summary of which data I collected and how. First, through my freedom of information request (subsequently FOIR), I received 28 written records covering the following: all documentation pertaining to the community garden and allotments and its functioning from its inception in 2010 to date (January 2022) as well as some documentation detailing and promoting the Kingfisher Project along with a letter of response to my questions on garden/allotment access, access to information, governance structure, budget and funding source and how my requests had been dealt with internally. Additional content consulted included the usual planning applications as well as some online content and newspaper articles. In terms of interviews, as mentioned I had already secured two prior to sending out my freedom of information request, one with a gardener involved in the Kingfisher Project and one with a local resident who had recently visited the garden. They were complemented with other interviews with local residents and one local elected representative. Finally, consistent with the main equity and intersectionality concerns guiding my project (Cho et al., 2013; Bresnihan and Hesse, 2019), I conducted periods of targeted door-knocking interview recruitment in a social housing estate in close proximity to the community garden and allotments, resulting in seven more recorded interviews along with many more informal exchanges (Figure 7.3). As always, extensive hours of walks with the river Poddle also significantly oriented data collection and their assessment.

Figure 7.3: Location of the social housing estate where door-knocking interview recruitment was conducted (blue) adjacent to the Garden (red) (Source: Author, 2022)

7.2.2   The Kingfisher Project: procedural and epistemic governance

As mentioned in the introduction, the idea of the Kingfisher Project as a local river greening and restoration project was first brought forward in 2020 by local Dublin City Council officers who asked a Blarney Park allotment holder, already involved in an existing Dublin City Council managed greening project, to put together a project proposal that was to be used to apply for a Local Authority Water Programme community grant (recorded interview). The project formally kicked off when the funding was received between the end of 2020 and the start of 2021. In other words, the project itself had not been initiated by the community but first and foremost by local authority officers who had tasked one resident whom they were already working with to formalize it. This is how the project came to be described, during a recorded interview, as a "one person project".

Decisions concerning the Kingfisher Project are made through the Blarney Park Community Garden and Allotments decision-making structure, which was reorganized during an "extraordinary general meeting" (9/06/2021) chaired by Dublin City Council and coinciding with the commencement of the Project[9]. During the meeting, it was agreed that one "Oversight Committee" would now manage the

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[9] Data presented in this paragraph were obtained in response to my FOIR, mainly in the form of meetings' minutes.

entire Blarney Park Community Garden and Allotments site instead of the historic two separate community gardener and allotment holder committees. The newly formed committee was to include: a chairperson, a secretary, a treasurer and two representatives selected among the community gardeners and allotment holders. Finally, it was agreed that the Oversight Committee would meet up monthly and with Dublin City Council representatives in attendance. The new decision-making structure can definitely be seen as more vertical in shape and with more input and control from the local authority. Also worth highlighting is the restricted access to decision-making processes imposed through the new governance structure: even community gardeners and allotment holders are not all part of it but have to make their views heard through representation (whereas there are only 9 allotment holders and probably only a couple of community gardeners at best who might be interested in attending the meetings). Most importantly, there is no mechanism in place for the wider community to input into the project decision-making nor any sign of discussion on who might be the most marginalized groups in the local community and what would be the best way to reach out to them and include them in the project (Bresnihan and Hesse, 2019). In sum, looking at the Kingfisher Project decision-making process itself, it highlights even more its concentration and privatization in the hands of a few residents under the tight supervision of local authority officers, in this sense further challenging its *publicness*.

Concerning the more specific dimension of environmental knowledge production, an assessment of the Kingfisher Project documentation as available to date (January 2021) clearly proposes an *expert-led* and *community-deficit* approach to producing knowledge about the river and its ecology (Bresnihan and Hesse, 2019). From such a perspective, knowledge producers are clearly identified environmental experts and the local community is mostly seen as knowledge receiver, that is to say in need of being informed and educated. As an illustration, the main initial piece of knowledge guiding the project is an Ecological Appraisal and Enhancement Plan produced by Gannon & Associates (2021), a local environmental consultancy firm (obtained through FOIR). There is no indication in the survey that local residents were involved at any stage of its production. Additionally, a major ambition of the Kingfisher Project

is to "educate" (it is regularly branded as a "Community Educational Resource" on the project documentation and more recently in Dublin City Council (2023)): educate schoolchildren through nature classrooms and educate the wider community through the displaying of information posters on "the 40 species of animals and birds that use the site" (Gannon & Associates landscape plan in FOIR response). Along the same line, a wider range of material and activities is proposed to 'raise awareness' and foster 'behavioural change' in gardening practices among others, which again can be seen as a *deficit* approach to community engagement in environmental knowledge production (Bresnihan and Hesse, 2019). In this context, it is likely that the proposed "citizen science" type of schoolchildren and community engagement will be mostly circumscribed to "observer" and "data collector" roles (Allen, 2020) which sustain existing hierarchies of knowledge (Hesse et al., 2023). On the other hand, the local knowledge of residents who have been living on the banks of the river Poddle their entire life is never mentioned and hence completely overlooked in what can be described as a hierarchical and tightly controlled environmental knowledge production process.

Going through the material received in response to my freedom of information request, a last important governance point to make is how the *publicness* of the Kingfisher Project was obscured and denied by the council in incomprehensible ways. While the public nature of the Project, whose initial funding was public, which is conducted on public land and which is conjointly managed by public institution officers and local residents, might seem relatively obvious, it was seriously challenged in responses brought to my FOIR questions (bold italics added):

> **My freedom of information request question**: "A description of all Dublin City Council staff involved in the management of the Community Garden by name, role, department and scope/level of responsibility from the start of the project to date (with hierarchical relationship between them)."

> **Response**: "***Dublin City Council are not involved in managing the Community Garden***, it is run by the Community Garden Sub-Committee. Staff currently liaising with the Allotments holders and Community Garden members are X and X both managed by X."

My freedom of information request question: "A description of the process to receive temporary access to the Community Garden for academic research purposes including periods of observation (for Master, PhD researchers and beyond)."

Response: "Anyone requiring temporary access to the site requires permission from the Blarney Park Oversight Committee as *the site is not a public space*."

My freedom of information request question: "Reasons as to why access to Garden, access to information concerning the management of the Garden and Community Garden meetings is restricted and not fully public."

Response: "*The Blarney Park Allotments and Community Garden are not a public space.* The overall site is managed by the Blarney Park Oversight Committee, with a separate sub-committee with access and control of the Community Garden Space."

However, when funding dry composting toilets on the site of the Community Garden and Allotments with public money is considered (which was eventually signed off and completed), the space is suddenly back to being public (which is all the more ironic given the lack of public toilets in Dublin and anywhere else in Ireland (Falvey, 2021):

> There are currently no toilet facilities at the site. Current demand for toilet facilities is determined by the presence on site of up to 9 allotment holders during weekdays and up to 6 community gardeners on weekends. Demand is also determined by seasonality. *On this basis alone it is hard to justify public expenditure. However, given that the site is a publicly owned and funded facility it is by definition accessible to the public.* It is a community facility with a stated objective to create a community educational facility at the site. The recent ecological study of the urban nature reserve along the river Poddle and the associated development actions all point to the need for increased public access and the associated need for appropriate toilet facilities. (Toilet facilities feasibility study received in response to FOIR, bold italics added)

Finally, the council response to my freedom of information request, which contained 28 written records pertaining to the day-to-day management of the Community Garden/Allotments and Kingfisher Project was in itself an admission of the publicness of the whole thing. Hiding behind committees and sub-committees was a convenient way for the local authority to escape transparency and accountability requirements. It was also another example of how publicness was being obscured by public

institutions, echoing previous findings as in Section 6.3.4 where public space protesters had been told that they had no right to be on "Dublin City Council property".

In conclusion, data presented in this first part of the chapter highlight how access to the Kingfisher project information and location as much as to its decision-making and knowledge production processes have been controlled and by whom. In the next part of the chapter, I describe how such a restricted access has led to unjust outcomes and the deepening of existing social and environmental inequities.

7.3 Three effects of procedural, epistemic and access inequities

7.3.1 Erasure of the historic Community Garden

It took me a long time to realize that the change of governance structure that had accompanied the commencement of the Kingfisher Project, namely the creation of a unique "Oversight Committee" that would manage both the Community Garden and Allotments as described in Section 7.2.2, was to facilitate the taking over of the Community Garden part of the site. In fact, as mentioned, the change of governance structure was decided during the 9/06/21 "Extraordinary General Meeting" "chaired by Dublin City Council" (July 2021 Oversight Committee meeting's minutes, obtained in response to FOIR) who took this opportunity to present their "vision for the Allotments and Community Garden" (Extraordinary General Meeting Agenda in response to FOIR). At the same time, Gannon & Associates were delivering their Ecological Appraisal and Enhancement Plan (June 2021, response to FOIR). The landscape plan produced by Gannon and Associates was in effect a complete overhaul of the Community Garden space of the site and in short it meant that for the Kingfisher Project to be realised in its current proposed form, the Community Garden had to disappear.

The Community Garden had been around for a very long time (information pertaining to the Community Garden obtained through FOIR, Plate 7.2). The project had been

first initiated by local residents between 2010 and 2011 with a view to transforming a disused area of land, overgrown and subject to dumping for many years, into a community space. Reading through the initial Community Garden constitution, it seems that the objective of the initiative was to foster social interaction within the community through gardening and caring for a common space:

> B THE PURPOSES OF THE GROUP ARE:
>
> Blarney Park Community Garden is composed of a group of individuals who collectively garden a piece of land. The garden is managed and maintained with the active participation of the gardeners themselves. The purpose is to provide fresh produce and plants as well as satisfying labour, neighbourhood improvement, sense of community and connection to the environment.
>
> Objectives also include: improve users' health through increased fresh vegetable consumption and providing a venue for exercise; fostering a sense of community; breaking down isolation by creating a social community; bringing urban gardeners closer in touch with the source of their food.
>
> The Committee may admit to membership anybody aged 18 and over who supports the purposes of the group.
>
> (Community Garden constitution obtained in response to FOIR)

At the time, Dublin City Council's response to the project seems to have been of clearly stated disengagement and very protective of their right to the land. Terms of the initial licence agreement included: an eleven-month tenure, a licence fee, the right to access the property and take back control of it at any time, all liabilities including insurance subscription on the side of the group and explicitly no "partnership" of any kind. Apart from the documentation received as a response to my FOIR, I was not able to collect much data on how the project had developed over the last decade, whether it had achieved any of its goals, and how the council had supported it in practice. All I know from experience and from interviewing local residents is that the Community Garden and Allotments had remained relatively low-profile even in its immediate local surroundings.
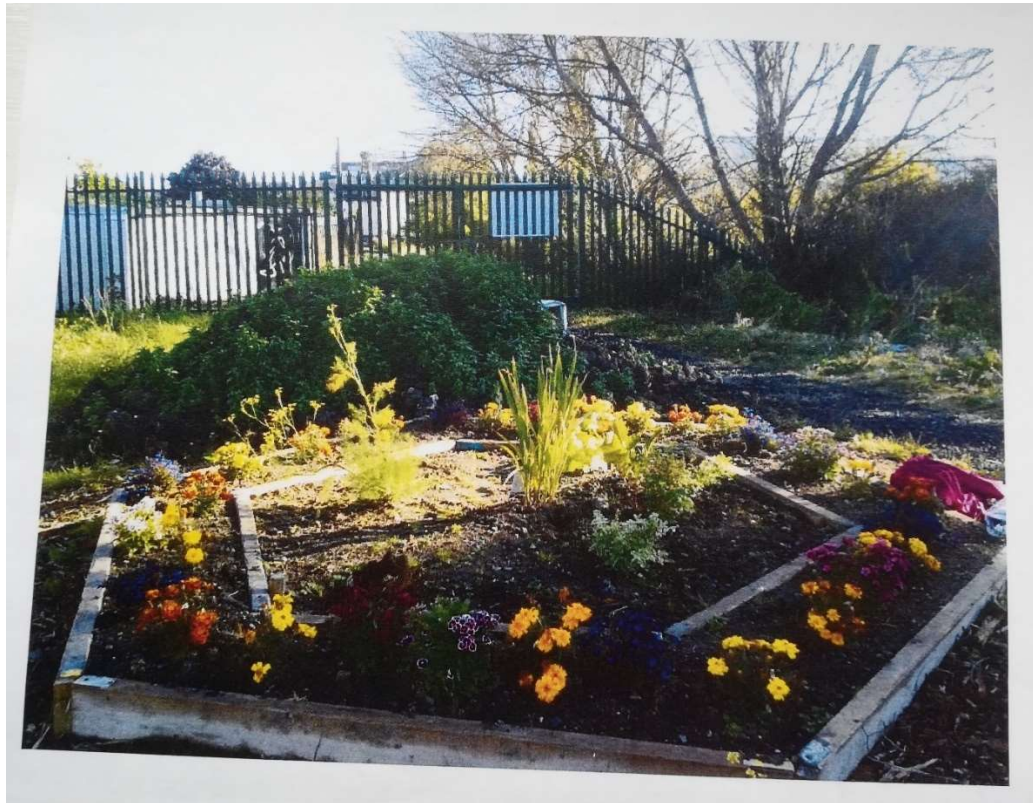
Plate 7.2: Photograph of the historic Community Garden (Source: Obtained in response to FOIR)

The Kingfisher project changed everything: once the council officers had set their minds on starting the project, they nominated the allotment holder who would manage it, "endorsed and supported" the first community grant application that would help start the project and "chaired" the extraordinary meeting that would enact the change of governance structure (July 2021 Oversight Committee meeting's minutes, obtained in response to FOIR). As encapsulated in the same meeting's minutes (bold italics added):

> The Kingfisher Project aims to conserve, enhance, and develop the Poddle River riparian ecosystem at Blarney Park Community Garden and Allotments as a community educational resource **consistent with the overarching vision of Dublin City Council for the site**.

In another meeting's minutes which was missing from the documentation received in response to my FOIR but that I managed to obtain through my personal network, the involvement of Dublin City Council in the management of the site becomes even more explicit and very much at odds with the local office statement that "Dublin City

Council are not involved in managing the Community Garden" (response to FOIR, Section 7.2.2):

> ITEM 3: Public Access, Reception Area and Facilities Gannon and Associates, Ecology and Landscape Architects confirmed that ***their proposed site layout plan will be available for presentation in draft form by 11 October to senior management of Dublin City Council for approval***. The committee will in turn advise of the outcome. (October 2021 oversight committee meeting's minutes, obtained in response to FOIR, bold italics added)

The only remaining problem for the council and those in favour of the Kingfisher Project was to get rid of the existing Community Garden. In fact, no trace of objection to the project was found in official meetings' minutes. However, during a recorded interview, a local resident who had attended a recent Blarney Park Community Garden and Allotments Open Day reported having heard complaints from the community gardeners about the Kingfisher Project: they had felt left aside in the Project and some of them had mentioned that they would end their involvement in the garden as a result. Later on, more informal conversations[10] with local residents made clear that pressure had been exercised on the community gardeners to make them endorse the new landscape, which in effect was putting an end to a project some of them had been involved in for years. When asked why they don't go public with the dispute, they say that they can't afford to start an open conflict with Dublin City Council whose support might always be needed in the future. As in the case of the Jacob's Social Club, the erasure of the Community Garden resonates with Maguire's observation that "the work of frontier making is oftentimes that of erasure" (2020, p36).

While objections to the project seemed to have been mostly circumscribed to informal conversations, the violence of the erasure could be perceived in different ways throughout the FOIR documentation and echoed in more recent online material. It was first a discursive erasure, and which thereafter turned into a spatial

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[10] Although these conversations are not part of data recorded during formal research interviews, it was deemed relevant to include them in the thesis to show how uneven power relations make it very difficult in practice for residents to stand up to local authorities (beyond the 'public consultation' and 'inclusive governance' discourses).

and temporal one. To begin with, as evoked, landscape plans were made in place of the Community Garden space (Figure 7.4) which became reduced to a few "community garden raised beds for demonstration/education/workshops for gardening" (in the spirit of the knowledge deficit and behavioural change approach to community engagement described in Section 7.2.2). The remaining space was to be dedicated to various educational infrastructures, an outdoor sitting area and more planting in line with the project ecological and sustainable gardening objectives. What is more, the name of the place itself has progressively been transformed: originally "Blarney Park Community Garden", it then became "Blarney Park Community Garden and Allotments" and now the "Community Garden" part is being increasingly abandoned in favour of "Blarney Park Garden and Allotments" (in the Gannon & Associates ecological survey commissioned to initiate the Kingfisher Project) or even "Blarney Park Allotments" on the government's Creative Ireland website, in a recent Irish Times article (Cleary, 2023) and on a Dublin City Council LinkedIn post (Dublin City Council, 2023). It seems that the ultimate goal is to switch entirely to "Kingfisher Project Community Educational Resource" as in a post inviting residents to visit the site during an open day in May 2023 (Harold's Cross, 2023; Plate 7.3). However, the most radical path taken to erase the Community Garden has been to erase the history of the site itself, making a huge temporal jump from when the site was used for dumping 11 years ago up to the commencement of the Kingfisher Project, as if the Community Garden project hadn't existed there at all, as if the site was still "urban waste ground" when the Kingfisher Project started:

> The Kingfisher Project presents an opportunity to transform so called 'waste ground' on the banks of the River Poddle with a historically negative reputation for criminal and antisocial activities into a community resource for knowledge, engagement and social capital building. (Presentation on the Kingfisher Project, obtained through FOIR)

> The Kingfisher Project at Blarney Park Allotments is transforming a former so called 'urban waste ground' on the banks of the River Poddle at Kimmage into a community resource for education, knowledge, engagement and social capital building. (Crumlin Taking Action Together (2022) and Creative Ireland website)

Support by our Community Development team in the Kimmage Rathmines Area Office and the Local Authorities Water Programme (LAWPRO) since February 2022 the Kingfisher Project at Blarney Park Allotments has been transforming a former so called 'urban waste ground' on the banks of the River Poddle at Kimmage into a community resource for education, knowledge, engagement and social capital building. (Dublin City Council, 2023)

This is another example of a "state-led opening of a reputational gap [facilitating] the state-led closure of a rent gap" (Slater, 2021, p71), this time seemingly to increase the PR, promotional value of the site (see the Jacob's Social Club in Section 5.4.1 and the LDA masterplan in Section 6.3.3). Interestingly, the "waste" narrative is back here as in the Amazon waste heat of Chapter 5 and the Kingfisher Project is what will allow the waste to value transformation (Bresnihan and Brodie, 2023). Based on the official narrative, which still refers to the site as "urban waste ground" in 2021, the previous Community Garden project did not achieve the local authority expected waste to value transformation, or the creation of a new (capitalist) frontier (Maguire, 2020; Bresnihan and Brodie, 2023), and for this very reason it had to disappear.

Figure 7.4: Kingfisher Project landscape plan in place of the historic Community Garden (Source: Obtained in response to FOIR, red marks added)

Plate 7.3: "Blarney Park Allotments" with the new education and sitting infrastructure in the background in place of the historic Community Garden (Source: Harold's Cross, 2023)

7.3.2   Inappropriately scaled climate change and biodiversity loss mitigation

The strong involvement of Dublin City Council officers in the management of the Kingfisher Project/Blarney Park site coupled with a highly restricted access to decision-making and knowledge production processes in turn greatly restricted the scope of the climate change and biodiversity loss mitigation intervention as enacted in the Kingfisher Project.

First, previous chapters describe at length how local authorities are made to work toward delivering the state climate change adaptation policy heavily influenced by private developer and insurer concerns and with the described harmful ecological impact. It means that those involved in the Kingfisher Project had to accept the constraints it placed upon their own intervention: they had to agree to focus their efforts and attention on the Blarney Park site away from the wider catchment management practices. My interview of one of the garden users involved in the

Kingfisher Project confirmed this point. When asked about potential frictions between the Kingfisher Project and planned flood works for the catchment, the garden user replies that it is "totally compatible" and that they "live in the real world" (implying that flood works objectors do not). Echoing the council strategy to diffuse flood works objections described in Section 4.3 and especially in Table 4.2, the death of Celia de Jesus and "power of flooding" are again used to justify the necessity of the planned flood works:

> I actually came from a ceremony on the 15th, was it Friday, maybe the 16th, Friday, and it was a tree planting ceremony in the religious' hospice for a Filipino Lady who lost her life in flood there. So I think there is a very vivid memory of the power of flooding and all the rest, so the balance to be struck between, you know, how the river has to breathe, and all of the things here. (recorded interview)

Conversely, a local resident and objector to the planned flood works who attended one of the Blarney Park Community Garden and Allotments open days explains how they felt heavily constrained in what they could talk about on the day:

> [O]ther people started to talk about the Poddle, when I was there, and I did feel constrained like I better shut up and not say who I am, you know, because, they might know that I am objecting to the Poddle Flood Alleviation Scheme, and, and then you know I didn't want to look like that I was being, that I would be a problem for them, or that I would come and disturb their equilibrium, so I did, yes I had that feeling of like feeling like I'm going to shut up here now, you know, I'm only, I'm only a guest, and because it is such a small community as well, you know, you don't know, you don't know who knows who or who, you know, if it's to do with the council or whatever, you know, how somebody like me who is objecting to what the council is doing, might be perceived, so you know, I didn't want to spoil anybody's day. (recorded interview)

In turn, the Ecological Appraisal and Enhancement Plan produced by Gannon & Associates (2021) perfectly illustrates how knowledge production is never value-free (Haraway, 1988; Harding, 2015). Not once in the survey do they mention potential concerns in relation to what was at the time the proposed flood works for the river. On the contrary, they even explicitly use data from the proposed flood works ecological surveys to produce their own survey, completely obfuscating the wider

goal and context of these surveys. From a spatial scale perspective, the survey's area of study is carefully circumscribed to the river stretch flowing through the Blarney Park site with only a small extension upstream and downstream of the site (Figure 7.5), preventing important questions about the wider catchment management of the river to be raised (see the question of scale and public engagement in Bresnihan and Hesse, 2019). Only looking a little further upstream of the site, 2 small local parks are to see extensive tree removal and flood walls erection as part of the planned flood works (St Martin's located 150m upstream of the Blarney Park upstream boundary and Ravensdale Park a further 400m away, see Figure 7.6). In their submission in relation to the proposed flood works, which they objected in their entirety based on their overly negative ecological impact, NGO Irish Wildlife Trust express specific concerns about tree removal in St Martin's and Ravensdale Park (Wainsfort Manor being further upstream):

> [W]e have serious concerns regarding proposed tree loss in the Ravensdale Park (Kimmage Road), St. Martin's Drive and Wainsfort Manor Crescent areas. The Environmental Impact Assessment Report (EIAR) for the scheme identified mature treelines in these areas as of local value to biodiversity and that their removal will result in a significant negative effect to biodiversity. Many of the trees were identified in the tree survey as "CLASS A - High Quality - Retention Highly Desirable". Due to the size of many of these trees, they are effectively irreplaceable and even the EIAR recognises that any new, compensatory planting could take 20 years to approach equivalence (in fact, it is more like that new trees would take at least twice this length of time to replace the trees which are currently standing). (Extract from the Irish Wildlife Trust submission, available on the River Poddle Flood Alleviation Scheme website)
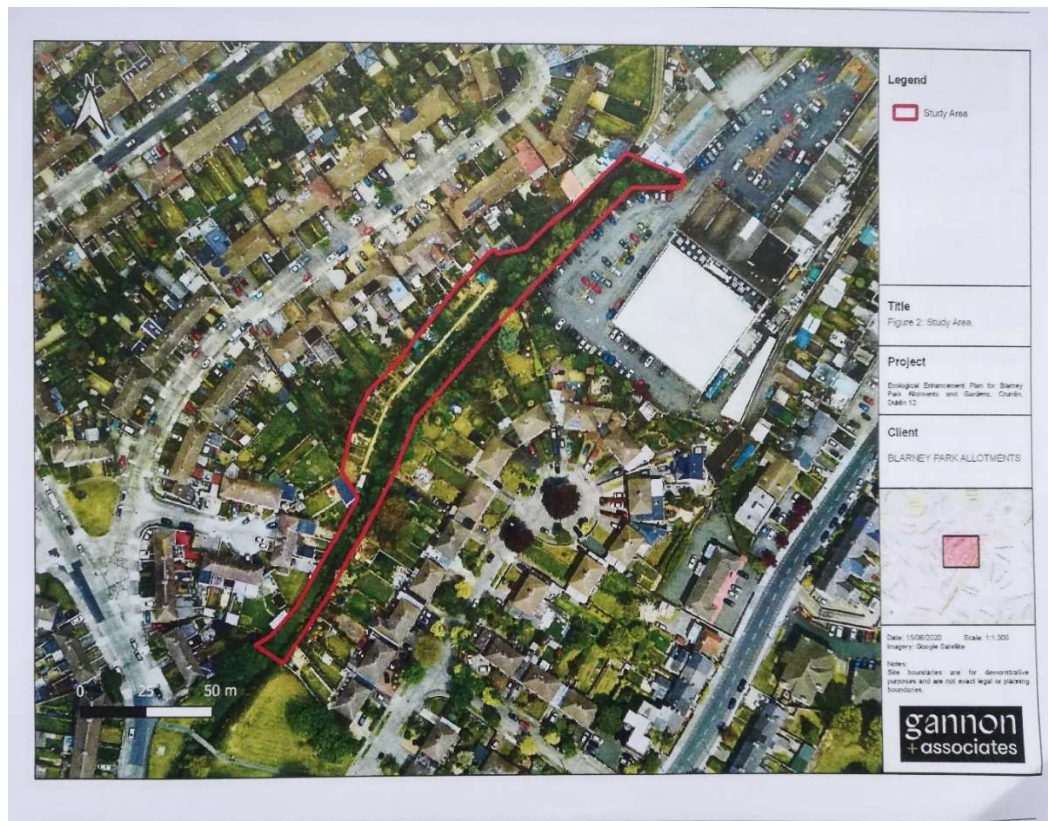
Figure 7.5: Ecological survey study area (Source: Gannon & Associates (2021), obtained through FOIR)

The downplaying of the ecological impact of the proposed flood works and recovery time (if any recovery is realisable, for Irish Wildlife Trust, some trees are "irreplaceable") is also relayed by local residents including by two residents who conducted surveys in St Martin's and Ravensdale Park based on their own professional expertise:

> [E]verything was then, it seemed like it was downplayed in the document itself. But we came up with a list, just for this one small park (St Martin's) that's part of the flood alleviation scheme and, I can't remember the number of birds but there was red-listed birds, amber-listed birds, the little Egret which is protected under that annex of the EU Birds Directive, I mean, that's just one park. Yes, they didn't just give it, they didn't give it due consideration. I think, they were, you know, ticking a box, we've done an ecological survey. (Local resident, recorded interview)

> [I]t seems to me that Ravensdale Park is a good, probably a good example, of sloppy (tree survey) work. Not forensic enough, not, not taking in all the things, all the things that are there, the elements, all the trees and not looking at the impact on those

trees and giving a full and honest picture to the, to the public, who owns the park, essentially. (Local resident, recorded interview)
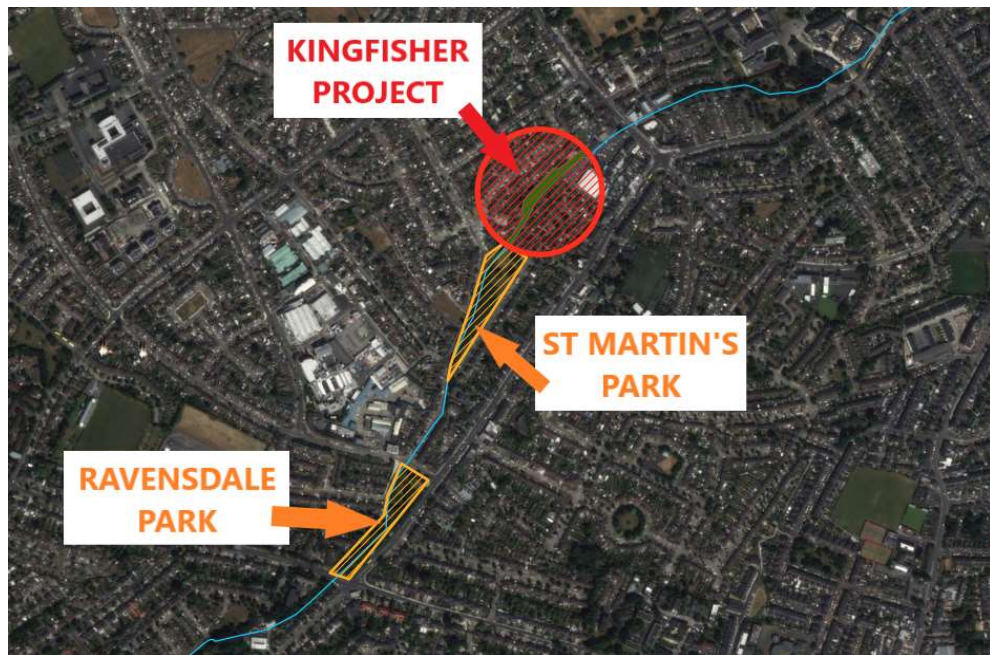
Figure 7.6: The Kingfisher Project (red), St Martin's and Ravensdale Parks (orange) and river Poddle line (blue) (Source: Author, 2022)

As in the Anne Devlin People's Park case (Section 6.3.5), the Kingfisher Project perfectly illustrates that greening is not just about greening (Angelo, 2021): where greening unfolds and by whom matters. Within the boundary of the site, everyone is encouraged to think about biodiversity. For instance, during the September 2021 Oversight Committee meeting (minutes obtained through FOIR), under the heading "Destruction of Nature Reserve Habitat", it is "reported that an area of the nature reserve involving both banks of the River Poddle adjacent to the apiary had been cleared of vegetation". In reaction to the news, the Dublin City Council officer in attendance expresses "concern that this act constituted a destruction of an ecosystem". In response (in line with the knowledge deficit and behavioural change approach to community engagement described in Section 7.2.2), it is proposed that "community garden volunteers should be given appropriate guidance and direction to hand clear the vegetation around the apple tree trunks in order to avoid further damage to the habitat". Meanwhile, a couple hundred metres away, the same public institution will soon start removing dozens of trees from the green corridor of the same river and work around with heavy machinery (Plate 7.4). And when local

residents express concern about the birds of the two nearby parks to be affected by the flood works, the local authority's response is that they will "just go somewhere else" (recorded interview). In fact, looking at the map of the area, if the council hadn't been constrained to remain in the confine of the Blarney Park site and of its secured nature reserve, they could have envisaged many other greening options including linking back the Blarney Park site with the two adjacent parks St Martin's and Ravensdale so as to strengthen the local river corridor (Figure 7.6). However, the forthcoming digger works in the two parks made it impossible, in effect foreclosing more transformative river greening futures (enacting significant "junctures" (Krueger and Alba, 2022)).

In sum, the wider catchment management strategy pushed by the state leaves local authorities with little choice but to adopt an inappropriately scaled approach to climate change and biodiversity loss mitigation (Liboiron, 2014; Bresnihan and Hesse, 2019). As mentioned in Section 7.2.2, the narrow spatial approach is complemented with awareness raising and behavioural change objectives which present similar inappropriate scaling limitations (Maniates, 2001; Liboiron, 2014). For instance, the mentioned local government funded "Crumlin Taking Action Together" initiative, which the Kingfisher Project is part of, was led by a "behavioral change expert" (An Taisce, 2022) while the *2019-2024 Dublin City Council Climate Change Action Plan* also highlights the centrality of awareness raising and behavioural change:

> In addition, as public awareness is key to tackling both climate adaptation and mitigation, Dublin City Council commits through this plan to address the current knowledge-gap and will encourage citizens to act on climate change through a range of awareness and behavioural change actions. (Executive Summary, Dublin City Council (2019a))

All this was encapsulated by a local resident during a recorded interview when they called the Kingfisher Project a "greenwashing exercise".

Plate 7.4: Local protest in St Martin's to object tree removal as part of the proposed flood works (Source: Author, 2020)

7.3.3   Social conflict and social inequities

As mentioned throughout the chapter, the Blarney Park site gate could only be opened by those who had the appropriate key, just as the automatic gate giving access to the Mill Street Poddle open space could only be opened by those in possession of the appropriate swipe card (Section 6.2.4). In this last section, I describe how the fencing of the garden reinforces various forms of local social conflict and inequities.

In response to my question as to why access to the garden is restricted, I was told that "Access to all DCC (Dublin City Council) Allotments in the South East Area is restricted **to protect** the Allotments, the Allotment Holders and their produce" (response to FOIR question, bold italics added). Such a statement resonates with arguments used by private developers to justify fencing off public green/blue spaces described at length in Section 6.2.4. Only 700m downstream of the Blarney Park site (Figure 7.7), a similar attempt to privatize green/blue public space (after promise had been made to keep it public, especially as the development had entailed the demolition of a community facility, planning application reference: 2870/17) was

made by the management of a luxury build-to-rent apartment residence owned by German fund Patrizia. In their planning submission in support of the retention of the permanent gating of the residence (which was unlawfully erected prior to receiving planning permission (Roy, 2005)), residents of the build-to-rent complex appeal to the same safety concerns:

> I have noticed the complex being used by non-residents walking in and around, this is no secure for residents having members of the public being freely allowed to walk around the complex. With the apartment complex being so open it is an invitation to attract anti-social behaviour. I believe by having the complex secure and the additional security measures would increase the security level of the complex and deter anti-social behaviour. (Build-to-rent resident submission, planning application reference: 3739/20)
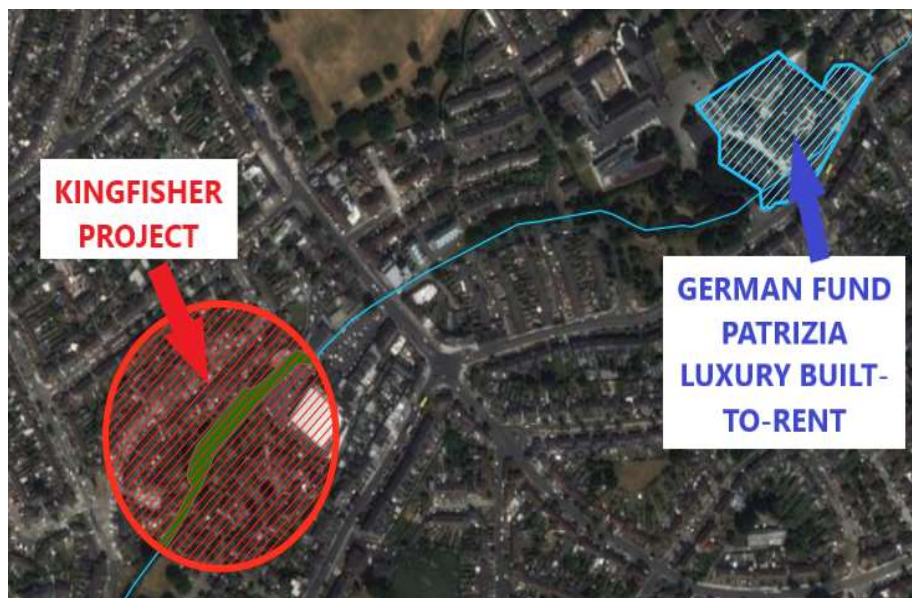
Figure 7.7: The Kingfisher Project and build-to-rent apartment complex (Source: Author, 2022)

Conversely, during a recorded interview, a local resident highlights the divisive effect of the Blarney Park site fencing, and which is at odds with the idea of a community space (Plate 7.5):

> [N]umber one the gates are there so, you know that says something, it says it's locked at certain times and it gives the impression that, you know you have to have the keys to get in or you have to know the right people, so I don't think it's useful to have a community space like that at all, I think it's divisive, I think it creates a sense of them and us. (Recorded interview)

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Plate 7.5: The Blarney Park site fencing (Source: Author, 2022)

Furthermore, looking more closely at the safety argument, it was already mentioned how Mill Street residents questioned it by pointing out that the safety of those residing 'on the other side of the fence' should be equally considered (Section 6.2.4). Their point is all the more legitimate if we consider access to green space as a strong physical and mental health determinant (Wade and McLean, 2014; Anguelovski et al., 2020). Indeed, as put by Hodkinson (2012), "privatization" is always also "dispossession": the physical enclosure of green spaces such as the Blarney Park site deprives those on the other side of the fence from important physical and mental health benefits. As the Kingfisher Project is now rebranded a "food security" project (Cleary, 2023), based on its restricted access, we must ask *whose* food security is supported by the project.

In fact, the ability of fences and walls to solve locally encountered safety issues was even more deeply challenged by two local residents:

> [W]hen you look at different studies, because you see I have an interest in sociology as well, it's not proven that when you build walls, it will decrease criminality. It's actually the opposite, I mean, if you build a kind of a ghetto 'oh that's the bad ones, the criminals' and 'this is the middle-class', it, it will not improve. So you see, so that

really annoys me as well and, so I don't mind tearing down that wall. (Local resident, recorded interview)

I accept there are problems with dumping and anti-social behaviour at St Martins. However, a segregationist mind-set will not solve this, in the same way that building walls did not help communities come together in Berlin, Belfast nor Bloemfontein. (Extract from submission available on the River Poddle Flood Alleviation Scheme website opposing the erection of a flood wall as a means to contain anti-social behaviour on one side of the river)

The implicit point underpinning those views draws on a distinction made by Galtung between "negative peace", which is "the absence of direct violence (personal/physical)" and "positive peace", which addresses more directly structural violence (Hsiao, 2022). Physical segregation might bring a sense of negative peace in the short-term *for some* but leaves unaddressed the long-term safety of *the many/of all*, further dividing communities and increasing risk exposure for the most marginalized (which also applies to grey infrastructure centred flood risk management approaches in some ways, "maladaptation" (O'Hare et al., 2016) as "negative peace" (Hsiao, 2022)).

Additional arguments justifying the fencing of the Blarney Park site are grounded in and in turn reinforce "territorial stigma" (Slater, 2021):

Access to all DCC Allotments in the South East Area is restricted to protect the Allotments, the Allotments Holders and their produce, this is especially prudent given the nature of the site of the Blarney Park Allotments and Community Garden, and **the history of anti-social behaviour at the location**. (Dublin City Council response to FOI request questions, bold italics added)

The Kingfisher Project presents an opportunity to transform so called 'waste ground' on the banks of the river Poddle **with a historically negative reputation for criminal and antisocial activities** into a community resource for knowledge, engagement and social capital building. (Presentation on the Kingfisher Project, obtained through FOI request, bold italics added)

Territorial stigma is very present in this part of Dublin and especially attached to Crumlin, one of the historic Villages of the area. A local resident explains why some of their neighbours oppose the demolition of a wall fencing their Estate:

> **Interviewee**: I feel there is like a wall going, you know Eamonn Ceannt Park, right, so Eamonn Ceannt Park, if you go around our Estate, by our Estate I mean Mount Argus, you can literally see into Eamonn Ceannt Park, but you can't walk into it. Again, this is really important for me in urban planning, access. So you see, I should be able, looking at the map like from air perspective, I should be able to walk in three minutes to SuperValu and in five minutes to Eamonn Ceannt Park. But I can't because I need to get all the way out of the Estate, and you see they don't want to open passages, walks and everything, it's just a wall.
>
> **Me**: Why?
>
> **Interviewee**: Because they think Crumlin is rough. And anytime, anybody wants to open a door they think criminals will come. (Recorded interview)

Territorial stigma has many deep, negative implications for the concerned residents (Slater, 2021). Data illustrate how some local Crumlin residents attempt to escape it by pretending to come from the nearby much less stigmatized Kimmage Village:

> **Interviewee**: If, if someone asks me, if I'm trying to make myself look presentable, I'd say I live in Kimmage.
>
> **Me**: Oh, really? Do you?
>
> **Interviewee**: Yes, if it's something like very important, you know. (…) If I have to look good, I'll say I live in Kimmage. (…) I don't want them to judge me from where I am from. (Eighteen-year-old Crumlin resident, recorded interview)
>
> It's really funny because like, we've always given our address as Crumlin. It's amazing the amount of people on this road who gives it as Kimmage. (Crumlin resident, recorded interview)

The sustaining of territorial stigma also comes with the erasure of more profound structural causes of inequities such as long-time disinvestment and neglect, "a triumph of the 'where over the why of inequality'" (Slater, 2021, p134) whereby

"neighborhoods become the problem rather than expressions of structural problems to be addressed" (p132). A local elected representative and two local residents depict the long-time disinvestment that has plagued the area and which makes additional "sittings" in parks an improvement worth celebrating:

> But I've certainly have put on my agenda and raised issues consistently in what I perceived to be Crumlin having lost out on the type of services, the type of improvement and infrastructure and environment that I've seen in other places. And, if, if I go back eleven years and say what improvements have been made, people might say, well not much. But I'm going to give you an example. There was no children's playgrounds in any park in Dublin 12, right. Now we have four. There was no sitting in any park in Dublin 12, now we have a reasonable amount of, of sittings. (Local elected representative, recorded interview)

> [I]t is true that it is an underprivileged area. There is a mix of people living there but I don't understand why it doesn't have a library. I don't understand why it doesn't have a nice community centre or a theatre, it should have. And people would go there if it was there. (Local resident, recorded interview)

> You know like you're talking of generations of voicelessness I mean (…) you know how poor people are not considered worthy of things like trees and amenities. How they are not considered worthy of consultation, how they are dumped on really. (Local resident, recorded interview)

Disinvestment is felt even more strongly by lower-income communities (Cho et al., 2013) and especially by the social housing tenants residing in the nearby council housing estate where I conducted door-knocking: residents report a lack of basic maintenance and amenities and unequal access to most basic environmental goods such as decent housing and mental health support services. During door-to-door, many residents explain how they feel unheard or even abused by the local authority. A woman and mother of five describes the living conditions that she has tried to improve for the last decade without success[11] (Figure 7.6):

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[11] In this case, the Environmental Health department of Dublin City Council was contacted but refused to conduct an inspection of the house as their mandate is confined to privately managed properties.

I'm living in the house with five boys, and I've only got a two-bedroom house. So I've a fourteen-year- old, a thirteen-year-old and a twelve-year-old in the bedroom with me, and I have a twenty-five-year-old and a twenty-one-year-old and one is on the couch and one is in the bedroom and it's just terrible.

[T]he walls are all black, on the top of the walls, like black, black. And someone, someone came in and told me that, actually I shouldn't be breathing in it. Because if I wipe that the pores off that comes down and lands on, I, I, I, that's what he said, don't clean it, because it will make it worse.

[I]f I showed you my bedroom, you would just, you, you're alright, your face would drop if I showed you my bedroom. How bad the walls are. The oxygen has gone all over the walls. The painting actually gone white, because of, there is no oxygen in the bedroom. And we, it's just, embarrassing. (Recorded interview)

An independent health and safety survey was commissioned to assess the house condition and a complaint was lodged with the Ombudsman. However, after months of email exchange, the case was suddenly closed without any proposition having been made by the council to properly address ongoing harmful housing conditions.

Plate 7.6: Mould condition in the bedroom of four (Source: Author, 2022)

While the profound institutional neglect is left unaddressed, nothing is done in the Kingfisher Project itself to include those most affected by such a neglect (Bresnihan and Hesse, 2019). Door-knocking in the social housing estate revealed that none of the estate residents I talked to were aware of the Project nor had ever been contacted about it. More concerning, many of these residents have a seriously broken tenant/landlord relationship with the local authority (many being highly contentious over inadequate living conditions): during door-knocking, many slammed their doors on me and started shouting whenever I was mentioning the council. In this context, how are they supposed to feel comfortable taking part in projects like the Kingfisher Project? A project that I have shown is tightly controlled by what would be for them their landlord, the landlord that makes them live in sub-human accommodation. Would you, thesis Reader, sit down with the landlord that makes you share a bed with your teenage boy in a decaying house to talk about planting? The broken social housing tenant/local authority relationship is not unique to the area, in a context of neoliberal social housing disinvestment, it is widespread (Hearne, 2020; Section 5.4.3; Section 6.3.3). We must ask what it means for social housing tenants and how it alienates them further from all local authority led urban development projects, or in other words, from any urban development project at all.

7.4 Conclusion

As the previous three empirical studies, the present assessment was to challenge the idea that greening projects, in this case a river greening and sustainable food production project with climate change and biodiversity loss mitigation objectives, are good for everyone or even neutral (Angelo, 2021). As throughout the research project, the first step of the 'whose question' assessment was to look at its procedural and epistemic dimensions, including my own approach to producing knowledge about it (Haraway, 1988). In this case, my own access to information pertaining to the project and physical access to the project location proved particularly challenging and therefore of specific relevance in assessing its overall

procedural and epistemic accessibility. Additionally, an assessment of the more formal procedural and epistemic governance structure of the project confirmed its lack of inclusiveness. In fact, it outlined its significant privatization and enclosure by the local authority with the view seemingly to make it a high visibility PR project. The more immediate effect of such a privatization was the erasure of the historic Community Garden on which the project is being developed. Furthermore, more long-time harmful effects are the limited scope of climate change and biodiversity loss mitigation intervention as well as the reinforcing of local social conflict and social inequities. In sum, the greening project, far from being good for everyone or even neutral, was developed to respond to specific concerns, those of the local authority, and in the process became radically privatized, even without the occurrence of the expected transfer from public to private ownership (Angelo, 2021; Armstrong et al., 2023).

As previously, the reader was asked to go through the present chapter while keeping in mind the main findings of the previous empirical assessments, and, in this case, having in mind the overall state-sponsored private-actor-driven river management approach adopted in the entire catchment was useful to fully appreciate the scope and political meaning of the Kingfisher Project. Furthermore, many references were made to the previous three empirical assessments of the project and their findings, showing more and more connections between them as they have been unfolding in the thesis. It is therefore now time to take a closer look at these connections and their wider implication and this is what comes next in the last concluding chapter of the thesis: "Assessing climate justice: back to catchment scale and beyond".

CHAPTER 8: ASSESSING CLIMATE JUSTICE: BACK TO CATCHMENT SCALE AND BEYOND

8.1 Introduction

This final chapter returns to 'catchment scale and beyond' for an assessment of climate governance and its implication for climate justice based on the data collected and analyzed in the four empirical assessments conducted as part of the present research project. 'Catchment scale and beyond' means that, although all four empirical assessments are located in the river Poddle catchment, they are all part of wider local, national, international policy frameworks and governance structures. In other words, their implications resonate far beyond the river Poddle catchment alone.

Consistent with the existing literature describing the neoliberalization of urban environmental governance (Soja, 2010; Angelo, 2021; Kotsila et al., 2023), the findings of the four empirical assessments indicate that our current mode of urban climate governance is overwhelmingly driven by private actors the markets they operate in. In this sense, the main research question guiding the project, 'whose environmental concerns and knowledges count in the making of the climate-proof city?', has already been extensively covered in the four empirical assessments. The main objective of this last chapter is to go a step further and summarize the limitations and contradictions of such a privatized mode of urban climate governance. The adopted catchment scale will allow a comparison of each empirical assessment's limitations and contradictions as well as locate any synergies between them. The second and final objective of the chapter is to assess the main dimensions of the epistemological framework enacted in the present research project and determine to which extent they might be useful in working toward fairer climate governance arrangements. To be clear, these epistemological dimensions are not presented as a solution to the problems of a market-led urban climate governance presented in the first part of the chapter, which is clearly inherently hostile to social

and ecological justice (Tronto, 2017; Kotsila et al., 2023). If productive at all in terms of progressing climate justice, they can only be so in an environment that explicitly challenges the neoliberal regime and its market and private property assumptions.

The structure of the chapter is organized around the two described objectives: first, I focus on a catchment scale and beyond analysis of the limitations and contradictions of a private actor, private market led urban climate governance; second, I review the main dimensions of the epistemological framework that has guided the present research project to determine to what extent they might usefully inform future climate justice related projects.

8.2 Climate governance and climate justice

The first part of the chapter is organized as follows: to begin with, I summarize the limitations and contradictions of a private actor, private market led climate governance that relates to its procedural and epistemic dimension; in a second move, I look deeper into how these limitations and contradictions spatially unfold, first, in climate change adaption and, second, in climate change mitigation; in a final move, I outline the total enclosure of public climate resources as depicted in all four empirical assessments and how it may further negatively impact climate justice.

8.2.1 Procedural and epistemic climate governance

What the findings highlight throughout the thesis is a hierarchized, top-down approach to urban climate procedural and epistemic governance. Although in theory the procedural and epistemic governance structure operates at several levels (which are described next), in practice it is almost exclusively driven by a national government policy which strongly supports the interests and agendas of some of the private actors and private markets they rely on for different objectives. In the context of the empirical cases assessed, they are mainly as follows: private developers who are expected to build residential infrastructure and invest in urban services; private rental market actors who are expected to cater for the housing needs of various

social groups including those in receipt of the public housing assistance payment[12]; private insurers who are expected to fulfil risk transfer adaptive functions; and, finally, data industry players who are expected to play a dominant role in the nation's economic growth.

At the top of the pyramidal governance process is the national government policy and any interaction occurring between the government, state, local authority representatives and described private actors. One example would be the interactions between the Office of Public Works and Insurance Ireland that gave rise to the signature of a memorandum of understanding in 2014, so central to how flood risk management policy have been unfolding since (Section 4.4.3). Another more localized example would be the exchanges between Dublin City Council and the Mill Street developers about the proposed river Poddle flood works that occurred years before it reached formal public consultation stage (Section 6.2.5). Interestingly, those private actors who are so heavily involved in designing our urban climate policy are rarely if never part of what is described next as the more visible, public part of our procedural, epistemic climate governance. In this sense, they may be called 'implicit stakeholders': they are given strong governance power but are not explicitly placed under public scrutiny nor can they be publicly called out. As mentioned in Section 4.3, the question of access to flood insurance was at the centre of all river Poddle flood works debates including during council meetings and everyone was speculating on whether concerned homeowners would be able to access flood insurance after the completion of the flood works but in practice we never saw once a representative of Insurance Ireland attending one of these public debates (also as mentioned in Section 4.3, no interview could be secured with them despite multiple follow-ups of my initial interview request by email and by phone). Finally, in terms of environmental knowledge production (assessments, surveys, maps, masterplans), it

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[12] The Housing Assistance Payment (HAP) is a housing support provided by local authorities who make monthly rental payment to landlords' beneficiaries. In return, HAP beneficiaries pay a weekly contribution towards the rent to their local authority. The HAP downsides have been extensively documented in the existing literature, including how it enacts "the transfer of significant amounts of public money to private landlords, who are among Ireland's wealthiest groups", almost €6.1 billion between 2000 and 2016 (Hearne, 2020, p181).

is either produced by state and local authority officers or by hired private consultants: in both cases, it is difficult to see how they would challenge the (political) agenda of what is for them either their employer or customer. We can think for instance of the Codema district heating roadmap (Chapter 5) which is imbued with digital green growth and other various neoliberal assumptions. We can also think of the environmental survey which was produced by Gannon & Associates (2021) as part of the Kingfisher Project (Section 7.3.2) and does not mention potential concerns about the forthcoming flood works which are to affect two parks located just upstream of the community garden. These findings are consistent with the existing literature highlighting the inherently depoliticized nature of environmental experts' knowledge production in a context of neoliberal urban environmental governance (Swyngedouw, 2009; Kotsila et al., 2023).

Once decisions are made and knowledge produced at the described higher level of procedural and epistemic governance, consultative processes unfolding next were found to be mostly tokenistic in all four empirical assessments. Three main types of public engagement were encountered: formal planning, local electoral representation and community consultation and involvement in local projects. First, formal planning processes are mostly organized around planning submissions and appeals. Based on the resources, skills, expertise and budget they demand, they are already exclusionary in many obvious ways. In these processes, the most economically privileged are placed at a huge advantage compared to others: while Mill Street residents struggle to pay planning submission/appeal fees and put together a fund to commission a planner's report, developers can of course apply and appeal again and again without much consequence (Section 6.2.2). Furthermore, looking at the flood works planning process, as mentioned before the outcome of the process was informally agreed on between local authorities and developers years before planning public consultation was initiated (Section 6.2.5). In the same vein, local residents attending a local authority organized public meeting on the district heating project in Tallaght felt that the project was nothing less than a "*fait accompli*" (Section 5.2.3). A second way for local residents to input into local environmental developments might be through their local elected representatives: however, in this

case, the cancellation by the state of the moratorium on data centres that had been voted by local elected representatives in South Dublin sent a strong message that they have in effect very little power to oppose state policy (Section 5.2.2). A third and last type of public engagement encountered as part of the empirical assessments was through smaller, more localized environmental projects such as the Kingfisher Project; however, in this case, data highlight how the Project was hijacked by the local authority (Chapter 7) and how in practice they are left free to either grant or refuse access to the Project as they wish (Section 7.2.1).

The findings summarized so far constitute important data from the perspective of the city climate governance capacity debate as developed in the literature review (Bulkeley and Betsill, 2005; Bulkeley, 2010; Angelo and Wachsmuth, 2020; UN Habitat, 2022; IPCC, 2022a; IPCC, 2022b): in the Irish context, findings show that municipal authorities have very little power if any to oppose the green growth neoliberal agenda of the state. In fact, far from working to oppose it, local governments are fully enrolled in supporting its realization. In terms of procedural and epistemic governance, it translates into tokenistic public consultation processes which remain nonetheless heavily controlled to maintain their tokenistic dimension. Indeed, the maintenance of postpolitical urban environmental arrangements requires much work and often violence (Swyngedouw, 2009). As examples, data show how the memory of the death of Celia de Jesus was exploited to silence opposition to the flood works (Table 4.2) and how the Anne Devlin People's Park protesters were harassed, arrested, charged and their personal belongings dumped in trucks (Section 6.3). In other words, the findings cast important light on the questions of "how, why, and with what implications other actors (than municipal) are seeking to govern the climate through the city?" (Bulkeley, 2010, p233) and of why the Irish state is so keen to have everyone believes that "cities can save the planet" (Angelo and Wachsmuth, 2020). Such a stance was epitomized in the intervention of Minister for Environment, Climate, Communications and Transport Eamon Ryan during a recent visit in Maynooth University to launch a GHG emissions monitoring project across Dublin City:

It's amazing to think that we can monitor greenhouse gas emissions in real time like this across Dublin City. Local government has a vital role to play in helping us to meet Ireland's national climate targets. Climate action works best when it works locally, improving our environment and improving people's quality of life. This real-time visual pulse of the city will be key to assisting Dublin City Council in developing the policy actions that can help reduce emissions and make the city a better place to live, work or visit with cleaner air, safer transport and less congestion and noise. (Maynooth University, 2024)

Indeed, local governments play "a vital role" in the realization of the state neoliberal green growth agenda and it is first and foremost by silencing anyone or erasing anything that might undermine it, no matter the social and ecological cost of such erasure.

Importantly, the present project has proposed to depart from the widespread urban, municipal, local climate governance scales and their depoliticizing effects: instead, it has centred on catchment scale and its many deeply interconnected social and ecological, human and more-than-human survival imperatives (from Minister Ryan's "pulse of the city" (Maynooth University, 2024) to the 'pulse of the catchment'). In the project, the adopted catchment scale has provided solid ground for a critical assessment of existing climate adaptation and mitigation governance, which limitations and contradictions are summarized further next. And while a catchment-focused climate governance cannot alone guarantee fairer climate governance arrangements (based on the assumption of inherent nature-society, material-cultural, spatial-epistemic interconnections that has guided the research), it certainly has a powerful way of asking for accountability and consistence across scales and fields of intervention. In this sense, it may provide a fruitful starting point to think about more inclusive human and more-than-human climate governance arrangements.

8.2.2   Climate change adaptation

In the present research project, climate change adaptation intervention was assessed from the perspective of flood risk management in the river Poddle

catchment and data revealed that it has been heavily influenced by insurers and developers (in line with the IPCC (2022a) report outlining how adaptation investment is very often tied to the real estate market and protection of high value physical assets). What follows highlights the limitations and contradictions of an insurer, developer driven climate change adaptation strategy. It mainly draws from data presented in Chapter 4 but with some additional references to data presented in the other empirical chapters when relevant.

First, insurers maintain the focus of our adaptation strategies on heavily engineered, hard infrastructure of flood risk management with all the issues that it raises (Koslov, 2016; Tubridy et al., 2020; IPCC, 2022a; UN Habitat, 2022; Krueger and Alba, 2022) as well as on "risk transfer" rather than "risk reduction", which acts as levee effect (O'Hare et al., 2016; Taylor, 2020; Taylor and Weinkle, 2020) and locks us in "maladaptive cycles" (O'Hare et al.). As a result, although the forthcoming river Poddle flood works include some measures that were characterized as nature-based (upgrading of existing upstream storage capacity and upstream integrated constructed wetland), they still significantly rely on the addition of hard defence and heavily engineered interventions which will negatively impact the river ecology and argue against their overall 'nature-based solution' characterization (Collier and Bourke, 2020). Now, in terms of risk transfer, as described at length in Chapter 4, in practice state and local authorities have no means to compel insurers into providing residents living in flood prone areas with flood insurance. Building grey infrastructure might entice them to do so but there is absolutely no guarantee that it will be the case. Finally, as also described at length in Chapter 4, focusing our adaptation strategy on property insurance leaves completely unaddressed the question of the unpropertied's protection, most importantly the protection of the most precariously housed (like Celia de Jesus) and unhoused. This is especially concerning in a context of acute housing shortage and when homelessness (Hilliard, 2023) and tenancy figures keep rising (the number of occupied rental properties increased from 469,671 in 2016 to 513,704 in 2022 (CSO, 2022)). It strongly echoes previous findings correlating access to climate change adaptation with property tenure (Collins, 2010; Koslov, 2016; Tubridy et al., 2020) as well as works asking more fundamental

questions about the rights of the unpropertied in the neoliberal city (Mitchell, 1995; Roy, 2005; Blomley, 2008; Yiftachel, 2009; Mitchell, 2017; Blomley et al., 2023).

Second, developers obviously equally push for grey infrastructure that will allow them to continue developing flood prone areas, again with all the issues this raises including the negative ecological impact. In Section 6.2.5, data show how the river Poddle flood works initiated a "levee effect" long before they were even formally approved (Koslov, 2016; Rusca and Di Baldassarre, 2019; Krueger and Alba, 2022; IPCC, 2022a).The focus on heavily engineered, hard flood relief infrastructure goes hand-in-hand with an overall failed planning policy that allows developers and landowners to do pretty much anything they want: build in flood prone areas, divert rivers and river culverts, build on culverts, build basement car parks on river banks, implement their own flood risk management infrastructure which might put others at greater flood risk (especially those living in basements) and so on (Chapters 4, 5, 6). In addition to increasing (residual) flood risk (Koslov, 2016; Rusca and Di Baldassarre, 2019; Krueger and Alba, 2022; IPCC, 2022a), the current developer led planning approach to flood risk management is likely to be increasingly at odd with private insurers' own profitability imperative as is already the case in the river Poddle catchment where some homeowners are being refused flood insurance. Insurers need flooding and damage to occur but only to the extent that it remains economically and financially viable (O'Hare et al., 2016; Taylor, 2020; Taylor and Weinkle, 2020).

Finally, a third strategy of the neoliberal state, the reliance on a highly deregulated private market to ensure housing provision (Hearne, 2020), also proved to negatively impact climate change adaptation. First, as tragically illustrated by the death of Celia de Jesus, in a system which is designed to incentivize endangerment (Ward and Brill, 2023), we can't assume that landlords will ensure the safety of their tenants. When flood relief infrastructures fail as they did during previous flood events and as they will in the future, especially in a context where developers continue to lead flood risk management planning, what will happen to all tenants put a risk by their landlord? Furthermore, with over 50,000 households on the public housing waiting list

(Government press release, 24/03/2023), where will affected tenants be rehoused in case of a major flood event and who will pay for it if not private insurers?

As argued in Chapter 4, the €10 million flood works constitute in great part a transfer of public wealth towards private actors (property owners, developers, insurers) that will further facilitate their potential enrichment while leaving the unpropertied and particularly the most precariously housed and unhoused completely unprotected and even at greater risk exposure due to developer, private landlord led flood risk management planning. As Chapter 4 shows, the current flood risk management strategy as conducted in the river Poddle catchment is a perfect example of the "facilitation/marginalization" framework applied by Collins (2010) to the 2006 Paso del Norte Floods: Integral to the uneven production of floodscapes "are state and market institutions, which serve to marginalize the least powerful segments of society while facilitating elite ones" (p263). Facilitation "enables powerful geographical groups of people to minimize negative environmental externalities and appropriate positive environmental externalities in particular places, with unjust socioenvironmental consequences" (p265).

8.2.3   Climate change mitigation

In the present research project, climate change mitigation intervention was assessed through three initiatives: a data centre waste heat powered district heating scheme at the heart of a wider decarbonizing zone project (Chapter 5), the re-densification of the inner-city Liberties part of the catchment (Chapter 6) and, finally, a river greening and sustainable food production project (Chapter 7).

First, the district heating project (Chapter 5) and Kingfisher Project (Chapter 7) present interesting commonalities in that they both exemplify weak mitigation or inappropriately scaled mitigation efforts (Maniates, 2001; Liboiron, 2014) in a context of state-pursued neoliberal (green) growth. Indeed, as described at length, the district heating scheme was implemented in a Dublin County that currently hosts around half of all data centres in Ireland, the data industry itself with its disproportionate energy consumption being completely at odd with local and

national climate change mitigation targets (as a reminder, they consumed 22% of the overall national electricity consumption in 2022 (Section 5.2.2)). In the described context of state-imposed digital economy growth, Dublin local authorities and their energy agency Codema are then constrained to "make the best of a situation" (recorded interview with Codema Officer (Section 5.2.2)). Likewise, the Kingfisher Project has been conceived in a described context of insurer-led, developer-led river and flood risk management, which means in practice that the catchment is and will continue to be filled with grey flood risk management infrastructure and inappropriately located developments, foreclosing any hope to see the river emerge again in its upstream and downstream catchment areas (Sections 5.4.2 and 6.2.5). In such contexts, local state institutions' governance responses were similar: both consisted in limiting the spatial scope of their mitigation intervention and in focusing in great part on (consumer) behavioural change, consistent with Maniates' (2001) point that in disempowering situations we focus on what we have control over.

Indeed, I already showed (Section 5.2.4) how the data centre waste heat powered district heating scheme was inscribed in an efficiency approach to managing climate change mitigation, focusing on maximising consumption efficiency instead of asking wider questions about how energy is produced and who consumes it for what purposes (Bulkeley, 2010; McGuirk et al., 2014). Additionally, as described at length in Chapter 5, there has been strong state propaganda in place to spatially disconnect the data centre waste heat from its wider supply chain as well as to inscribe the district heating project in the spatially limited confines of a decarbonizing zone. Finally, as also mentioned, a significant part of Codema's intervention is focused on (consumer) behavioural change (Section 5.2.4). The Kingfisher Project presents similar governance dynamics. In the midst of a widely ecologically harmful catchment management approach, it is constrained to retreat in the confines of the tiny community garden and nature reserve. Additionally, as described, the Project has equally placed a major emphasis on (consumer) behavioural change and individual intervention, echoing the focus of many nearby government-funded climate change, biodiversity loss mitigation community initiatives (see for instance the 'Crumlin Taking Action Together' climate projects mentioned in Section 7.3.2).

In sum, the narrow spatial and individual, behavioural focus of local climate change mitigation initiatives is not *natural* (in the sense for instance that *local* would mean *small* or that *local* residents would focus on NYMBY *local* actions), but the result of the top-down implementation of a state green growth agenda. These weak mitigation assumptions imbue all local institutions, their functioning, their (policy) documentation, their people and, as a logical step, the local community initiatives they foster and fund (which are then sanctioned by government Ministers' visit in both the district heating scheme and Kingfisher Project cases, see Sections 5.1 and 7.1). In turn, as outlined by Jasanoff quoting Trilling, these assumptions continue to grow and spread through their grounding of expanding (or more circling) theoretical and epistemological frameworks: "As (liberalism) carries out its active and positive ends it unconsciously limits its view of the world to what it can deal with, and it unconsciously tends to develop theories and principles, particularly in relation to the human mind, that justify its limitation" (Lionel Trilling in Jasanoff, 1998, p98). In my own assessment of the Kingfisher Project data, it took me a long time to be able to 'see' beyond the red boundaries of the Project and situate it within the wider socioenvironmental politics of the catchment (Figure 8.1): "Before, I had been blind in the sense that my mind had taken these boundaries for granted, they had appeared as 'natural', they were perfectly melting with the maps, pictures and text. However, at some point, I started 'seeing' them as political, and that was the end of it, or more the beginning" (Extract from an earlier draft of Chapter 7 on the Kingfisher Project). It indicates that these weak mitigation modes of governance, which are discursive as much as spatial, shape and condition our vision in ways that make it more and more difficult to see beyond the imposed boundaries. If anything, it reiterates the importance of placing the question of scale of intervention at the heart of public engagement (Bresnihan and Hesse, 2019).
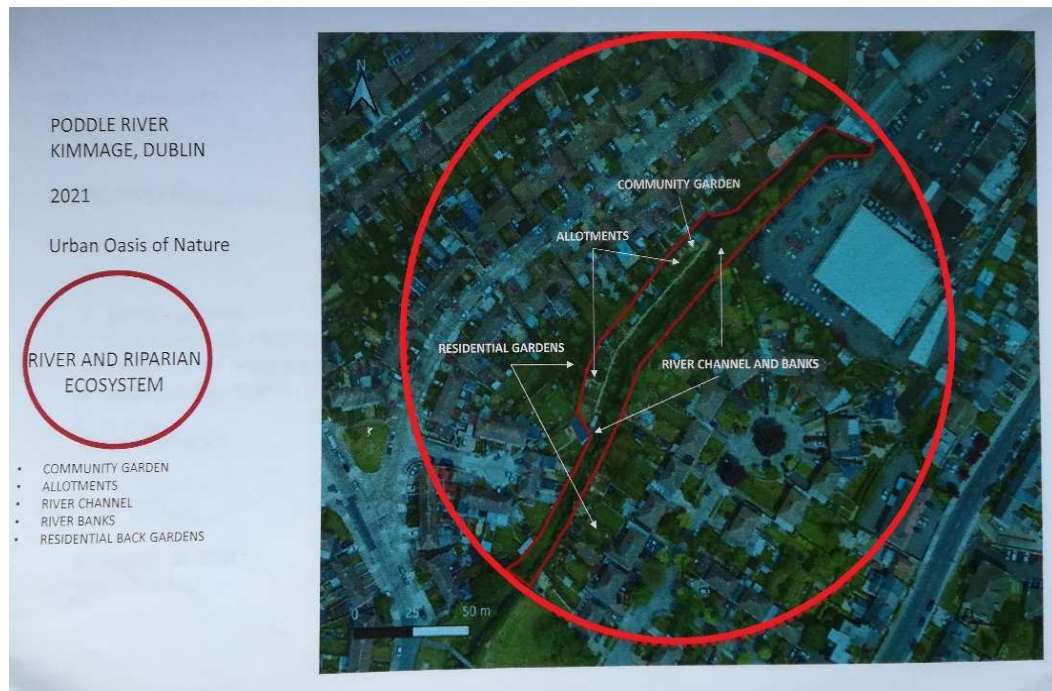
Figure 8.1: The Kingfisher Project red boundaries (Source: Kingfisher Project presentation, obtained through FOIR, red highlighting added)

In a second and final move, I now outline more specific contradictions emanating from an Amazon/developer driven climate change mitigation intervention. First, as described in Chapter 5, relying on Amazon's willingness to provide waste heat and host the district heating infrastructure on their land (for free) and developers' willingness to connect to the district heating scheme render the decarbonizing project fully market-dependent (Velkova, 2019) and therefore highly precarious. As is the case for insurers, local authorities have no means at their disposal to compel developers to subscribe to the district heating scheme or to prevent Amazon from putting an end to their land lease and waste heat provision: on the contrary, data show how a developer who was to bring thousands of residential connection to the scheme suddenly abandoned the development, putting in jeopardy the short-term viability of the district heating project (Section 5.3.2). Furthermore, should private developers sign up to the district heating scheme, given the current highly deregulated state of the housing market, they would no doubt be the only ones to really benefit from it, which could in turn translate into increased low-carbon gentrification risk in the area (Bouzarovski et al., 2018; Grossman, 2019; Anguelovski et al., 2019a). Data also show how the mitigation scheme leaves unaddressed acute local existing energy and infrastructure inequities and might even contribute to

further obscure them (Section 5.4.3). The Codema Roadmap (O'Shea et al., 2019) in particular outlines how private landlords would not be willing to retrofit their rental properties and connect them to the district heating scheme since there would be no economic incentive for them to do so. This particular dimension of the mitigation discussion should be connected to the behaviour of Celia de Jesus's landlord and reinforces the argument that, in the current housing market configuration, private landlords will not ensure the (climate) safety of their tenants unless it is economically profitable to do so (Ward and Brill, 2023). As illustrated by the tragic death of Celia de Jesus, some would even choose outward endangerment as long as it increases rent extraction opportunities (Section 4.4.5).

Some final important limitations and contradictions worth highlighting concern developer-led green/blue infrastructure management: all empirical chapters have shown that in practice it leads to the harmful management of green/blue infrastructure as well as to its increased privatization. In the case of Anne Devlin People's Park, data show how *public* green infrastructure investment is reliant upon *private* housing investment, reinforcing green inequities between newly developed areas and historically neglected, underinvested ones (Section 6.3.5). The Mill Street re-densification initiative (Chapter 6) illustrates another important negative climate impact of a developer-led green/blue infrastructure management in a context of unregulated housing market: financial incentive pushes toward maximal space use for residential infrastructure that is then made available at the highest price possible. In other words, developers have little interest in dedicating space to developing green/blue infrastructure or even to properly preserving existing one as we have seen in Mill Street (Section 6.2.5) or in Tallaght (Section 5.4.2): rather, they build on river culverts or as close as possible to the river and river culverts. In fact, they even go as far as diverting the river (Section 4.4.2) and river culverts (Sections 5.4.2 and 6.2.5) to make room for their development, which is damaging and unhopeful for the river ecology in addition to raising serious concerns in terms of flood risk management. Furthermore, by filling-in space with unaffordable residential infrastructure, they actively contribute to create land scarcity and the locking of green land use opportunities (Corcoran et al., 2017; Indorewala, 2019; Anguelovski

et al., 2019c; McFarlane, 2020; Anguelovski et al., 2022; Kotsila et al., 2023): on a public land located close to the Mill Street site, a community garden for at-risk youth had to be bulldozed to make room for public housing (Section 6.2.4).

8.2.4   Public climate resources enclosure

As developed in the literature review, in a neoliberal mode of governance, public resources are increasingly being appropriated to serve the economic interests of a few (Hodkinson, 2012). As argued by Collins (2010), "state powers have been harnessed to facilitate accumulation for elites, with less powerful groups being marginalized in the process" (p261). Data presented throughout the four empirical chapters give a thorough depiction of how public resources are being privatized by public actors within a fully public mode of ownership. While such a privatization is always in line with private actor agendas, data highlight the profound and totalizing impact of what can be seen as a widespread *culture of enclosure* within the public sector and their institutions (Hodkinson, 2012). The neoliberalization of urban climate governance is not just about some policy framework that would favour the enrichment of a few. It goes far beyond that in what Hodkinson (2012) rightfully describes as the "encapturing of people, place, space and culture within the commodifying and alienating logic of capital accumulation and the competitive, marketizing logic of neoliberal rationality" (p509). Concerning housing for instance, Hearne (2020) describes "an ideological aversion to the (Irish) state playing a major role in ensuring that housing is genuinely affordable" that is not just held by the national government but "deep inside our state institutions and local authorities" (p189). As observed by Keenan et al. (2019), concerning climate adaptation public funders and private investors, in a growth paradigm and neoliberal context, they are equally "united in their ambition to create value from adaptation investments" (p300). Nonetheless, 'public' remains a powerful evocation and one that tends to obscure public resources enclosure, especially when it comes to green and climate projects which as described are already widely assumed as 'universal public good for all' (Anguelovski et al., 2019a; Angelo, 2021). The combined public/green 'good for all' aura was most prominently mobilized in the Tallaght District Heating Scheme

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where the managing entity Heatworks was promoted as "Ireland's first **publicly owned**, not-for-profit energy company (…) providing low-carbon heat to **public** buildings in the area" (South Dublin County Council, 2024, bold italics added). The promotion of the publicness of the project was even later increased through a planned district heating connection to a nearby forthcoming public housing infrastructure. However, as described at length in Chapter 5, the combined public/green dimension of the project largely obfuscates the capture of its benefits by a few private actors and the further marginalization of so many in the process. Even the public housing infrastructure project to be connected to the district heating scheme is reserved to lower middle-income residents (those who "can afford to pay the rent for the home" (Citizens Information, 2024)), leaving the most urgent needs of the locally publicly/privately precariously housed and unhoused completely unaddressed (Sections 5.3.2 and 5.4.3).

In terms of climate governance, it exposes the most concerning limitation of the current market-led governance arrangements: if already scarce public climate resources are widely enclosed to private economic and financial ends in the process, who will address the climate needs of the most marginalized? Who will invest in their protection if not public institutions? In fact, all public enclosures described in the empirical assessment chapters altogether exclude and further undermine the health and safety of historically marginalized social groups: the €10 million flood works addressing the needs of the propertied and their insurers and excluding tenants, especially from a low-income, non-EU migrant background; the €8 million district heating scheme benefits to be mostly captured by Amazon and private developers at the detriment of the locally most precariously housed and unhoused; the Seamus Costello Cultural Centre and its surrounding public green space violently enclosed to align with private investment interests and, again, depriving the most marginalized including homeless residents of much needed immediate access to shelter and community and green space; finally, the Kingfisher Project and its physical fencing, making it an exclusive amenity and in effect depriving the great majority of local residents including the most marginalized from much needed access to public green and urban agriculture infrastructure. And this of course equally applies to the river

Poddle, widely enclosed in the fulfilment of private market objectives: who will protect the fragile river ecology if not public services?

As rightly pointed out by Hodkinson (2012), enclosure is a relational process, and enclosure is always also dispossession: "The second act of enclosure is the dispossession of those who are now on the other side of this new enclosure line, whether in the loss of land to grow food, of one's home or access to affordable housing, or the denial of certain services or even knowledges that people used to enjoy" (p509). Indeed, in addition to public resources 'material' dispossession, enclosure is also about intangible enclosure: affecting access to services, to information and importantly to accountability. There are so many relevant examples of such enclosures throughout the empirical assessments but here are two just to illustrate my point: in terms of water access services, let's think of the Irish Water resources deployed to ensure that the Amazon data centres would access the required water pressure while tenants across the road have their washing-machine stop because of low water pressure and have to add water to it manually from a nearby tank (Section 5.4.3 and additional recorded interview data). In terms of service and accountability, let's think of the Anne Devlin People's Park homeless protesters who were refused access to Dublin City Council headquarter offices and public counter (Plate 8.1) while Mill Street developers were proved to have private "flood works" conversations with same local authority officers (Sections 6.3.3 and 6.2.5). In this sense, the documentation of my interactions with public institutions constitutes significant enclosure evidence, ironically signalling the enclosure of my own publicly funded two-year-long climate justice research scholarship when attempting to access these widely enclosed public institutions took so much of my time.

Plate 8.1: Anne Devlin People's Park homeless protesters are refused access to Dublin City Council headquarter offices and public counter (Source: Author, 2022)

8.3 How to locate and challenge urban climate inequities

In this last part of the concluding chapter, I briefly review the main dimensions of my epistemological framework that I believe have been most productive in researching and so challenging urban climate inequities: the spatial-epistemic perspective, the breaking of the traditional subject/object boundary and, finally, the in/equity lens. As stated in the introduction, these onto-epistemological approaches are not to 'solve' the multiple inconsistencies and inequities described in the first part of the chapter. On the contrary, their meaningfulness is highly reliant upon unfolding in environments that explicitly challenge neoliberal assumptions and that make space for other worldviews.

8.3.1 The spatial-epistemic perspective at the centre

The central assumption of the epistemological framework enacted in the present project is the profound entanglement of the procedural, epistemic and spatial (Section 2.4.2): none of these dimensions are subsumed to the others, and neither is the discrete cause or effect of the others (Soja, 2010; Anguelovski et al., 2020; Tozer

et al., 2020). All are mutually constitutive and inherently entangled in world-knowing and world-making practices: "Practices of knowing and being are not isolatable, but rather they are mutually implicated. We do not obtain knowledge by standing outside of the world; we know because 'we' are of the world" (Barad, 2003, p829). That being said, my starting point in the four empirical assessments has been mostly on the side of the procedural and epistemic: by retracing how, where and by whom knowledges and decisions were produced, I was able to highlight this inherent link between the procedural, epistemic and spatial and pinpoint whose epistemic assumptions were producing which spatial arrangements (and conversely whose epistemic assumptions were not taken into account and with which spatial effects). A striking example constituted the empirical focus of Chapter 4 where the marked absence of the unpropertied's perspective in flood risk management knowledge production and decision-making processes resulted in spatial arrangements for climate change adaptation mostly centred on addressing the concerns of property owners, developers and insurers (while reproducing and even intensifying the vulnerability of the unpropertied). An interesting example of spatial-epistemic entanglement is that enacted in the Kingfisher Project (Chapter 7): the developer, insurer led management of the catchment produces a climate change mitigation knowledge spatially confined within the boundaries of the community garden and, in turn, the restricted spatial scope produces new forms of climate change mitigation knowledge, this time centred on behavioural change and blueprint roles.

8.3.2   Breaking the subject/object boundary and other ontological boundaries

If the centrality of the spatial-epistemic lens is accepted, then the question becomes how to work toward fairer spatial-epistemic arrangements. Based on the feminist epistemologies assumptions guiding the present project, knowledge production is defined as inherently situated and therefore as a collective project (Haraway, 1988; Harding, 2015): no one alone is "in charge of the world" (Haraway, 1988, p594) and "situated knowledges require that the object of knowledge be pictured as an actor and agent" (p592). Fairer spatial-epistemic arrangements therefore require the

breaking of traditional, positivist hierarchies of knowledges (Bresnihan and Hesse, 2019) or, in other words, of traditional subject/object boundaries (Haraway, 1988; Barad, 2003; Bell et al., 2017). They widen the scope of who can input in knowledge production processes and how: as argued by Lane et al. (2010), it is to proceed to the "redistribution of expertise to other people, things and places" (p18). As described in Chapter 3, such a "redistribution of expertise" was generally tentatively enacted through letting research participants take the lead in the research process: not deciding a priori who constituted 'relevant' research participants but letting them in the research process as encounters occurred, not deciding a priori what 'appropriate' research input looked like but remaining open to all forms of contribution. However, these more spatial and material arrangements would not have been effective if they hadn't been accompanied by a vision/mind shift: as described by Lane et al. (2010), what makes their participatory modelling project successful is that "(their) initial (academic) framing became replaced by that of the group" (p27). Such a vision shift was perhaps more obvious in three cases: first, I described at length in Chapter 3 how I progressively started to follow the river Poddle and make it a legitimate knowledge producer in the research. I went from wanting to walk the river in a day in straight line to being progressively moved and affected by the river, its socially produced materiality (the river flow, the smell, the sound, the manholes…) and the strong affective connection that was building between us. My isolated straight-line walk became a slow very often circled back-and-forth progression (Bell et al., 2017) and one that required connecting with catchment inhabitants: I had to knock at doors and engage with passers-by to 'find' the river. Such a newly created subject/object relation gave me the passion and patience necessary to collect data relating to the river mapping in continuous back-and-forth between walks and planning applications and determinant in drawing a social, cultural, political picture of the river. Further to this first shift, I became more open to the possibility of other shifts, which importantly widened the possibility of flood risk knowledge producers beyond modellers and engineers alone. I became an active flood risk knowledge producer in the research and started putting together various forms of evidence that decentralized such a knowledge production process from its traditional flood modelling, flood map focus (largely oriented towards insurer concerns). Flood maps

were only a small piece of the puzzle that proved usefully complemented with planning applications, flood event reports, testimonies from flood victims and those who had witnessed the tragic death of Celia de Jesus and so on[13] (as in Lane et al. (2010) where the model becomes part of a much wider web of evidence). Such a shift opened the possibility of a reassessment of the official narrative that had so far surrounded the tragic death of Celia de Jesus and of what might constitute a relevant climate change adaptation response to the event (Chapter 4). Another important shift was enacted in my reading of the Anne Devlin People's Park protest data (Chapter 6). At some point I started seeing the Anne Devlin People's Park protesters as more than protesters: they became legitimate knowledge producers in how inner-city re-densification should be conceived and implemented. I started seeing their passion, their expertise grounded in years of activism and community engagement and the ethical and political values underpinning their project and it all made perfect sense as a possible path to re-densification. In other words, the disruption of the subject/object boundaries made possible the emergence of new knowledge producers and new worldviews.

Accepting that the subject/object boundary is not a priori given and does not pre-exist the act of knowing can be extended to other ontological boundaries: for Haraway (1988) and Barad (2003), ontological boundaries do not pre-exist the act of knowing but the act of knowing is the act of building those boundaries. Knowing the world is ontological boundary-making and so world-making (in line with the central entanglement of the epistemic and spatial). From such a perspective, research itself as knowledge production can and should be seen as a means to challenge inequities. Returning to Kotsila et al. (2023, p113), when engineering consultancy firm Kleinfelder make the call to not include housing affordability data in their climate adaptation report but to stick to "physical components" instead, they enact the nature/society boundary in certain ways that are not just about a report but that are consequential in reproducing climate inequalities. In the present project for instance, important efforts were made to depart from the often-encountered equation of

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[13] See for instance in Appendix the important testimony of the diver who attempted to save Celia de Jesus on the night of the 2011 flood event.

justice to legal justice (Soja, 2010; Blomley et al., 2023) and such a boundary shift allowed to locate (and so challenge) various inequities related to the state of being *legally* either propertied or unpropertied. In the case of the Anne Devlin People's Park protest for instance (Chapter 6), the property claims of the protesters became legitimate and themselves became legitimate knowledge producers in re-densification initiatives (Blomley, 2008). Another important example of such a boundary shift can be seen in the approach adopted to interact with public institutions. Instead of reproducing publicness boundaries that equate public with privatized, shady, opaque, unaccountable, through knowledge production I claimed a different public ontology which produced a different publicness. In this sense again it could be seen as a way to challenge the described inequities derived from public resources enclosure.

8.3.3   The in/equity lens

Once the centrality of the spatial-epistemic and the disruption of various socially accepted, often reproduced and taken for granted boundary-making as a path to fairer spatial-epistemic arrangements are accepted, a last important question might be about the ethics of disruptive boundary-making processes. Whose voices might be prioritized in remaking subject/object boundaries? This has been a central concern of the present research project and, as described at length throughout, it was addressed through thinking about in/equity and intersectionality (Cho et al., 2013; Bresnihan and Hesse, 2019). The use of the in/equity and intersectionality lenses was productive in different ways: first, relevant to all empirical assessments, it revealed that in/equity was never explicitly addressed in any of the four climate projects except for the Seamus Costello Cultural Centre and Anne Devlin People's Park initiatives (Chapter 6) whose main explicit objective was to redress existing forms of spatial-epistemic inequities: access to decision-making, knowledge production, a safe shelter and green space for the most marginalized with an emphasis on the most precariously housed and unhoused. The realization that in/equity concerns were never explicitly addressed in public institution led climate projects is consistent with previous findings on public engagement in Ireland

(Bresnihan and Hesse, 2019) and represents important data. Door-knocking recruitment revealed that no effort had been made to even try to include in these projects those living in their direct proximity and belonging to historically marginalized social groups, echoing all the green inequities documented at length in Anguelovski and Connolly (2022). As a direct result, existing socio-spatial inequities were found to be greatly reinforced. Now concerning my own knowledge production, as described research participant recruitment was conducted through various media from existing network to snowballing, word-of-mouth, email, phone, WhatsApp, social media and walks encounters. However, in all four cases, conscious effort was made to identify the most marginalized groups in the context of the project under assessment and reach out to them and include them in the research. Even given the limited resources at play in the project, I believe that the research was successful in unveiling some existing acute socio-spatial inequities. The intersectionality lens itself proved especially useful to refine in/equities assessment within wider commonly acknowledged marginalized groups such as tenants and to focus my recruitment accordingly, for instance on tenants from a lower-income and/or non-EU migrant background.

8.4   Conclusion

In a last move, I will now briefly summarize the main contribution of the research project as described in the present concluding chapter. Centrally and consistent with the existing literature highlighting the neoliberalization of urban environmental governance, climate governance in the river Poddle catchment and beyond were found to be overwhelmingly private actor, private market driven and, as a result, leading to the intensification of existing human and more-than-human climate inequities. Data provide an important insight into how these inequities unfold in an Irish urban context. Additionally, in line with some existing critical urban climate governance literature, data show how the 'urban scale' is fully exploited to enact the state green growth neoliberal agenda. In contrast, the present project has turned to a catchment scale perspective which concentrates multiple human and more-than-human survival imperatives (as per the cover plate "HOMES NOT TOMBS") and which

as such may usefully inform more inclusive, coherent, integrated climate adaptation and mitigation arrangements.

Now, in terms of epistemological framework, the project has confirmed the mutually constitutive nature of the procedural, epistemic and spatial and the necessity for climate justice frameworks to encompass all dimensions if they are to bring about fairer climate adaptation and mitigation arrangements. Echoing previous works on participatory knowledge production, fairer climate epistemic arrangements were shown to be reliant on the ability of knowledge producers to disrupt their onto-epistemological commitments including the central subject/object boundary. Furthermore, such a disruption must be conducted through the in/equity lens to ensure that the most marginalized are given full part in procedural and epistemic processes. As stated in Section 8.1, while the described epistemological framework cannot alone address systemic, structural inequities, it provides some important keys to continue locating and challenging them and enable alternative knowledges to emerge.

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APPENDIX

Deposition of the diver who attempted to save Celia de Jesus on the night of the 2011 flood event (received as part of the Coroner Report, Section 4.2.2)

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DEPOSITION

CORONER'S DISTRICT OF DUBLIN

Inquest on the body of...Celia De Jesus, Flat 1, 4 Parnell Road, Dublin 12......................................

Place of Inquest ....Coroner's Court, Store Street, Dublin 1..

The Deponent....Garda Enda Broderick, Garda Water Unit, Santry Garda Station, Dublin 9..............Says on Oath Affirmation

I am a member of An Garda Siochana attached to the Garda Water Unit, Santry Garda Station. On Monday 24th October 2011, at about 9.30 p.m. as a result from a request from Superintendent I/C Donnybrook, A diving operation was launched to search vehicles in a flooded underground car park in Ballsbridge for suspected trapped people. The dive team was Sergeant John Conneely, Garda Brian Breathnach, Garda Stephen Foley and I. Before commencement of this search another request came in stating that a basement apartment on Parnell Road had flooded and it was believed that the occupant was trapped on the premises. We diverted to Parnell Road and on arrival we spoke to members of Dublin Fire Brigade who informed us that their swift water rescue team was unable to gain access to the apartment but had smashed a window in the front door, the landlord of the apartment also gave me a brief outline of the layout of the apartment. After a risk assessment and with the belief of the occupant been alive as we were told that screaming was heard by neighbours a short time before it was decided that I would penetrate the apartment to search for the trapped occupant. With Sergeant John Conneely supervising, Garda Brian Breathnach as tender and Garda Stephen Foley as stand by diver

Taken before me this.....18th.....day

of.............July............20...12....

Signed..

Coroner for the District of Dublin

I entered the flooded apartment through the broken window of the front door. On entering the flooded apartment I quickly assessed that the water level was at ceiling height and that the visibility was less than 1 inch through the water. I searched to my right in and was immediately obstructed by a sofa standing up tall on its end. I then searched to my left and towards the centre of the living room. I felt a lot of furniture and debris floating around me and I was very conscious not to displace them behind me thus closing my exit route. This was a very dangerous part of the search for my safety. I rose up to the ceiling where some of the ceiling had fallen and exposed the bare rafters, and wiring, this gap enabled me to surface between the rafters and get a minimal look down the apartment where I noticed the fridge blocking my entry any further. I began to punch out some more of the ceiling as this allowed me to get a slight view from the waterline to the ceiling within the apartment periodically. I heard a loud crack and buzz and noticed that the wires were still live and was sparking over me. I made my way to the front door where I found the window and egressed. I informed Sergeant John Connelly of the dangers and hazards I had encountered. It was decided to get the ESB to turn power off

to the apartment. While this was happening the Dublin Fire Brigade went to the upstairs apartment and began to cut a hole in the floor to allow me better access to the flooded apartment. After the power was cut off to the apartment and the hole in the floor was cut I entered the flooded apartment again. I first located the fridge and dived under it to allow me access to the kitchen area. I felt all along the kitchen units searching from floor to ceiling as I believed that there was a possibility that the trapped person maybe in an air pocket at the ceiling or if drowned maybe on the floor. I searched floor to ceiling systematically to my right where upon I located a door frame, I entered this doorframe and felt a door to my left, and I opened this door with ease as doors underwater if not obstructed by debris are quite possible to open. I entered this room to discover that it was the bathroom. I located the toilet, sink and shower tray. I searched all areas from floor to ceiling. I backed out of the toilet and located another door to my right. This area of the apartment was very disorientating as with the angle that the doors met each other it formed a triangle and when I rose to the ceiling I was surrounded by walls on all sides, it was if someone had placed a barrel down on top of me. I managed to ordinate myself and

I attempted to open the door to my right. I was unable to open this door. I cannot state whether it was locked or obstructed. In very hazardous and dangerous conditions I searched along the wall to my right from floor to ceiling where I located a closed door. I attempted to open this door but I was unsuccessful, again I cannot state if this door was locked or obstructed. I made my way along the wall locating the radiator and a narrow window running from floor to ceiling. It was about 1 to 1 ½ foot wide with a bar running in the middle from floor to ceiling. I searched my way across the front door again searching from floor to ceiling and I located the television and fireplace. At this stage I began to zig zag across the centre of the living room floor I located what I believed to be a type of sleeping cot turn upside down and I searched under it. It turned out to be that when the Fire Brigade broke the front door window the bars on that window had remained attached to each other and formed a grid that felt like the bottom of bed springs. I made my way back to the point that I began my search and egressed. I informed Sergeant Conneely of all my findings and layout of the apartment, which areas where searched and areas which I was unable to gain access to. As the nature of the search had

turned from a rescue to recovery it was decided not to risk injury or death to me in continuing to attempt to access the areas that I was unable to search. It was decided to cease the search and the Fire Brigade would attempt to pump out the apartment or allow the water level to recede. I was standby diver while Garda Stephen Foley searched another flooded apartment. After this search we returned to Ballsbridge to complete our task to search the submerged vehicles. Later that day at about 1.00 p.m. I returned to the apartment when I learned that a body was recovered. I took pictures of the scene with the Garda Water Units official camera and left the scene at about 1.30 p.m. On the 17th November 2011 I met with Garda Aine Grogan at Sundrive Road Garda Station and handed over the pictures that I had taken for inclusion in the investigation. I am a former Navy diver with the Irish Naval Service, commercial diver and now a Garda Diver for the last six years, with over sixteen years experience this dive were the most dangerous and life threatening to myself that I have ever performed. The conditions, the point of entry and exit, the possibility of electrocution and entrapment all add up to be a serious risk to my life, I would have never entered the apartment nor would the Garda Water Unit have

CORONERS ACT 1962

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conducted a search of this dangerous nature if it was not for the belief that the trapped

person was still alive.