

TENDING TO WEEDS:
A RUDERAL APPROACH TO ARCHITECTURE

by

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Abstract

Could tending to weeds inform more reciprocal modes of occupying space? Noticing the mutual thriving of unlikely neighbours, this thesis learns from the resilience of undesirable ecologies to investigate how we might better grow together more sustainably. The entanglement of social and environmental needs is addressed by drawing on ruderal ecologies (a term for disturbance-prone plant communities) to develop an interdisciplinary and transcalar approach to architecture. Tools for noticing overlooked worlds are first created to learn specificity through modest site interventions in ruderal places. Like the dandelion rooted in a sidewalk crack, a reflective design project then imagines how unsealing paved grounds would reconfigure relations among human and nonhuman occupants in Ottawa, Canada. To find more hospitable grounds for growing and dying in common, a ruderal approach shows that ecotones of abundance can flourish among the gaps in things that matter, if tended to carefully.

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Fig. i Inking a dandelion in a curb.

Table of Contents

Abstract	ii
Acknowledgments	iii
Table of Contents	v
List of Figures	vi
PART 1: TENDING TO WEEDS	3
1.1 A Weedy Prompt	5
1.2 Is This a Weed (glossary)	7
1.3 A Threatening Dandelion	9
1.4 Growing in a Broken World	11
1.5 Growing in the Gaps of a Dichotomy	12
1.6 A Ruderal Lens	15
1.7 Architecture Takes Up Land	19
1.8 A Ruderal Approach to Architecture	27
PART 2: TOOLS FOR NOTICING	31
2.1 Making in Place	39
PART 3: GROWING CITY	57
3.1 The Useful Tree	59
3.2 A Useful Weed	71
3.3 The Official Plan	73
3.4 Engaging the Urban	77
3.5 Where is there space for a ruderal approach?	79
3.6 Making Worlds	83
PART 4: A RUDERAL STREET	91
PART 5: LEARNING FROM WEEDS	143
Bibliography	148

List of Figures

Fig. i	Inking a dandelion.	iv
Fig. 1.1	August 28, 2021: box elder.	2
Fig. 1.2	September 2, 2021: dandelion.	4
Fig. 1.3	September 5, 2021: moss.	6
Fig. 1.4	September 29, 2021: mexican fan palm.	8
Fig. 1.5	October 01, 2021: crabgrass.	10
Fig. 1.6	October 02, 2021: bottlebrush grass.	14
Fig. 1.7	October 10, 2021: algae.	18
Fig. 1.8	Transformation of 530 Dwellings, Lacaton & Vassal. Photographed by Philippe Ruault.	21
Fig. 1.9	Passage 46 lead by Atelier d'Architecture Autogérée. Photographed and illustrated by Atelier d'Architecture Autogérée.	23
Fig. 1.10	Grassland Repair by Baracco+Wright Architects, Linda Tegg. Photographed by Rory Gardiner.	25
Fig. 1.11	Inking a ruderal surface	26
Fig. 2.1	Prickly lettuce rib vault.	30
Fig. 2.2	<i>Spur</i> by Lois Weinberger. Photographed by Axel Schneider.	33
Fig. 2.3	<i>Wheatfield - A Confrontation</i> , by Agnes Denes. Photographed by Agnes Denes	34
Fig. 2.4	Survey of imaging and surveying tools.	36-37
Fig. 2.5	Wireframe, box elder.	40
Fig. 2.6	Wireframe, foxtail.	41
Fig. 2.7	Chain survey, Sunset Blvd.	42
Fig. 2.8	Chain survey, N Serrano Ave.	43
Fig. 2.9	Pages from Herbarium project.	44
Fig. 2.10	Pages from Herbarium project.	45
Fig. 2.11	Hoary Alyssum page from Herbarium project.	46
Fig. 2.12	Prickly lettuce page from Herbarium project.	47
Fig. 2.13	Casting soil surface.	48
Fig. 2.14	Prickly lettuce on soil cast surface.	49
Fig. 2.15	Chia growing on soil cast plaster.	50
Fig. 2.16	Chia and mold growing on found asphalt.	51
Fig. 2.17	Gathering ruderal fragments.	52-53
Fig. 2.18	<i>Scanned imaged of Wild Urban Plant of the Northeast: A Field Guide</i> by Peter Del Tredici.	53
Fig. 3.1	Compilation of sketches	56-57
Fig. 3.2	Sketches of useful trees/ green infrastructure/ tree appraisal	58
Fig. 3.3	A fig tree in Los Angeles	60

Fig. 3.4	Sketch of green ruptures the generic built volume.	60
Fig. 3.5	Orange Mapping	63
Fig. 3.6	Accounts of Vacant Sites: The Plot of Land	64-65
Fig. 3.7	Accounts of Vacant Sites: The Plot of Land	66-67
Fig. 3.8	Accounts of Vacant Sites: Reading Affordances of Neglect	68-69
Fig. 3.9	Sketches of disseminating seeds/ elevating green order over green disorder.	70
Fig. 3.10	Satellite Map of Ottawa	72
Fig. 3.11	Ottawa Neighbourhood Equity Index Map	74-75
Fig. 3.12	<i>Climate Solutions for Ottawa's Official Plan</i> infographic by the People's Official Plan alliance.	76
Fig. 3.13	Sketch of stakeholders at the street-as-table/ community words.	76
Fig. 3.14	Sketches of weeding a street/ edible landscape.	78
Fig. 3.15	Sketches of a neighbourhood yard/ material junctions/ unsealing roadway ground.	81
Fig. 3.16	Meeting in place.	82
Fig. 3.17	A typical zoning by-law amendment notification board posted.	83
Fig. 3.18	A carrier bag.	84
Fig. 3.19	Abundant black swallowwort.	86
Fig. 3.20	Inking virginia creeper and black swallowwort.	87
Fig. 4.1	Potential Atmosphere of a ruderal street.	90
Fig. 4.2	Scales between patch and planet.	92-93
Fig. 4.3	Ruderal patch.	94-95
Fig. 4.4	A typical local roadway section in Ottawa.	96
Fig. 4.5	A Ruderal Section: redrawing local roadways.	97
Fig. 4.6	A Ruderal Street.	98-99
Fig. 4.7	A Ruderal Street (detail): toward undoing impermeable landscapes.	100
Fig. 4.8	Metabolising the street	101
Fig. 4.9	A Ruderal Street (detail): ruderal aftermath as an edible landscape in Chinatown, Ottawa.	102
Fig. 4.10	Ruderal aftermath as an edible landscape, possible atmosphere	103
Fig. 4.11	A Ruderal Street (detail): ruderal aftermath as a playful landscape in Rideau Gardens, Ottawa.	104
Fig. 4.12	Ruderal aftermath as a playful landscape, possible atmosphere	105
Fig. 4.13	A Ruderal Street (detail): ruderal aftermath as a biodiverse landscape in Little Italy, Ottawa.	106

Fig. 4.14	Ruderal aftermath as a biodiverse landscape, possible atmosphere	107
Fig. 4.15	Participatory imagining.	108
Fig. 4.16	An Adaptable structural framework.	109
Fig. 4.17	Ruderal Map	110-111
Fig. 4.18	A vacant plot in Little Italy, Ottawa.	112
Fig. 4.19	An informal rink in Rideau Gardens, Ottawa.	112
Fig. 4.20	A community garden in Chinatown, Ottawa.	112
Fig. 4.21	Black swallowwort on a chainlink fence in Little Italy, Ottawa.	113
Fig. 4.22	Canada goldenrod near a construction site in Rideau Gardens, Ottawa.	113
Fig. 4.23	Ruderal aftermath in the neighbourhood block around Norman Avenue in Little Italy, plan view.	114
Fig. 4.24	Norman Avenue, found condition. (video still).	115
Fig. 4.25	Norman Avenue, ruderal aftermath occupied by Wild Carrot and Fox.	115
Fig. 4.26	Norman Avenue, ruderal aftermath as a biodiverse landscape, plan view.	116
Fig. 4.27	Norman Avenue, ruderal aftermath as a biodiverse landscape, early atmosphere.	117
Fig. 4.28	Norman Avenue, ruderal aftermath as a biodiverse landscape, later atmosphere.	118-119
Fig. 4.29	Ruderal aftermath in the neighbourhood block around Glencairn Avenue in Rideau Gardens, plan view.	120
Fig. 4.30	Glencairn Avenue, found condition. (video still).	121
Fig. 4.31	Glencairn Avenue, ruderal aftermath occupied by Aster and Monarch.	121
Fig. 4.32	Glencairn Avenue, ruderal aftermath as a playful landscape, plan view.	122
Fig. 4.33	Glencairn Avenue, ruderal aftermath as a playful landscape, early atmosphere.	123
Fig. 4.34	Glencairn Avenue, ruderal aftermath as a playful landscape, later atmosphere.	124-125
Fig. 4.35	Ruderal aftermath in the neighbourhood block around Anderson Street in Chinatown, plan view.	126
Fig. 4.36	Anderson Street, found condition. (video still).	127
Fig. 4.37	Anderson Street, ruderal aftermath occupied by Stanhorn Sumac and Raccoon	127
Fig. 4.38	Anderson Street, ruderal aftermath as an edible landscape, plan view.	128
Fig. 4.39	Anderson Street, ruderal aftermath as an edible landscape, early atmosphere.	129

Fig. 4.40	Anderson Street, ruderal aftermath as an edible landscape, later atmosphere.	130-131
Fig. 4.41	Ideas for developing community hubs as described in the <i>People's Official Plan</i> .	133
Fig. 4.42	A growing structure.	132-133
Fig. 4.43	Gathering rainwater from adjacent buildings, stored for watering gardens.	135
Fig. 4.44	Grafting public access to utilities.	134-135
Fig. 4.45	Wall section showing growing component details.	136
Fig. 4.46	Gutter Detail.	136
Fig. 4.47	Suspended channel detail.	136
Fig. 4.48	Ground peg detail.	136
Fig. 4.49	Component assembly prototype. <i>Produced as part of ARCN5302 coursework led by Lisa Moffitt, Winter 2022.</i>	137
Fig. 4.50	Component assembly prototype, detail with black swallowwort. <i>Produced as part of ARCN5302 coursework led by Lisa Moffitt, Winter 2022.</i>	137
Fig. 4.51	Component assembly prototype, muddy detail. <i>Produced as part of ARCN5302 coursework led by Lisa Moffitt, Winter 2022.</i>	138
Fig 5.1	A ruderal intervention on Glencairn Avenue, May 2022.	142
Fig. 5.2	A ruderal intervention on Glencairn Avenue, May 2022.	145



Fig. 1.1 August 28, 2021
A wireframe sphere hangs from a silver maple that grows on the edges of a power station in Ottawa.

PART 1: TENDING TO WEEDS

Tending is a relational act of supporting another, of taking care of, but it also refers to an inclination, a directionality or going course: tending reveals the contours and vectors of desire. To notice these topographical delineations in my own work I try to direct my attention to the edges of these contours, to work with the matter that is not often a magnet for tending and test ideas that might erode those definitions.

Situated in the summer in Ottawa, I started by looking around me and began following the scattered sprouts of modest green that pushed up through the pavement. The term 'weed' is not a botanical classification, it is understood socially as a plant growing where it is not desired- it is a plant defined by its undesirability.¹ Tending to weeds implies nurturing dandelions like they are sunflowers; careful watering, nourishing, *weeding*. But the dandelion has shown us that it does not need this kind of care. Tending can also mean *untending*: to be attentive of other ways of occupying space without intervening can also be a caring act. The prerequisite is being able to notice alternate modes of being. Tending to weeds also refers to a cognitive pull, of being drawn toward.

What does it mean to have a care-full approach in architecture? I started with this basic question because to engage with the physical environment I wanted to spend time expanding the scope of entangled relations between architect and site. To broaden an architect's consideration of space I tended toward weeds across disciplines in botany, art, anthropology, and landscape, to see what others had to say about these trash plants, looking to see what might be found in the gutters of a well-ordered landscape. I looked backward and around me at the course of my education and sought out the murky gaps among subjects that mattered. I wanted to see what else could come through if the parameters for study were loosened, made softer, undone.



Fig. 1.2 September 2, 2021
A wireframe sphere stands over a dandelion growing in the gaps between a road and curb in Ottawa.

1.1 A Weedy Prompt

The hard concrete slab that makes up most sidewalks is a finished product. But once fractured under the freeze-thaw heave of seasonal precipitation, the product is undone, its finished surface once again becomes a work in progress. The weeds that are quick to move in bring with them the temporality of life cycles in process, in Donna Haraway's 'tentacular' terms, "of living and dying,"² of growing and decaying. Learning from the tenacious pace of undesirable ecologies that permeate the steady going of impermeable surfaces, I seek out a process that undoes thinking as usual to find more open ways of making space.

Consulting the work of botanist Peter Del Tredici, I gained familiarity with weeds by learning some of their names, their preferences, and their stories of escape and hitch-hiking, invasion, growth, determination, and evasion.³ I began to see an intricate relationship of world-making activities where human and plant relations were completely entangled in a botanical classification that receives little attention. By following the places where weeds grow, learning how they grow, and reading the work of people theorizing about them I found avenues back into architecture where I wanted to propose a care-full and necessarily incomplete approach that I could carry forward into practice. I followed divergent avenues through a process of making and reflecting. I found my way toward a speculative urban design that starts to entangle often divergent ideas while testing them against urgent urban conditions. I finally wrote, holding those weedy figures in my head for much of the process before finally laying them down on paper.

Through reading, looking, writing, and making, I am always asking how I can work to resist inherited norms in architecture that are not care-full in their approach. Rather than finding solutions, I am seeking suggestions and impulses for alternate trajectories in approach, this thesis seemed like a good place to start.



Fig. 1.3 September 5, 2021
Moss, annual sowthistle, goldenrod, and silver maple saplings growing in the gaps between sidewalk pavers in Ottawa.

1.2 Is this a weed?

Weeds are a metaphor for many things- often seen as something threatening, rejected, undesirable. Yet they persist, weeds come through despite our best efforts to suppress them. This willful expression in nature is what I wanted to spend time looking at and working with. A site left undisturbed by humans will continue to change and grow and I want to understand that, how to work with that.

A weed is a weedy word:

Unwanted: that which is deemed to hold little desired value or perceived purpose

Weed: n. a plant growing where is it not desired v. the intentional removal of such a plant

Ruderal: inhabiting disturbed sites or a plant inhabiting such a site

Spontaneous plant: a plant that was not grown or reproduced by anthropogenic means, especially in an urban context

Invasive: a plant whose growth and germination readily outcompetes other species in a habitat

Wild: a narrative fiction of a nature without human intervention

Land: the ground matter of the planet earth and the occupants that move through or inhabit it

Landscape: a particular framing of land, usually in the service of an intended function

Site: the location of an event, often defined by legal boundaries

Space: a bounded location in which actions may occur

Place: a space bearing a particular meaning or relations in its use

Care: n. to maintain and protect, to give considered attention v. to feel concern or interest, to look after something

Care-full: adj. containing as much care as possible, to permeate all aspects with notions of care

Tend: 1. To pay attention, to attend or care for something 2. To show an inclination or tendency, to move in a particular direction



Fig 1.4 September 29, 2021
A Mexican fan palm grows in the gap between a road and broken curb in East Los Angeles.

1.3 A Threatening Dandelion

While the term “weed” has no botanical underpinning, that lends it a tremendous value as metaphor. As a socially defined category of plants, their identity is primarily their undesirability, growing where they are not wanted. Ironically many weeds were first transported and intentionally introduced to serve some desirable purpose: as medicine, crop cover, grazing meadow or for beauty. Farmers once had trouble growing dandelions as edible greens, and the bright yellow scatter of dandelions was once a sparkling attraction to see in New York’s Central Park.⁴ But once these plants escaped their containers, their tenacious resilience became a pestilence that can carry a damning moral tone. The plants which defy human landscaping and grow wildly without nurture are considered bad; they are not valuable because they were not planted there by human hands and do not need special labor or resources to flourish.

The vulnerable and chosen plants, the ones planted row by row in garden beds and planter boxes, require routine maintenance regimes to survive. A lot of money and time is spent caring for these plants, we tend to care for the vulnerable ones because they are beautiful, because a well-manicured garden is part of a well-manicured city. There is an assumption that if something does not require much labour, it does not hold much value. A poorly manicured garden is messy, dirty, offensive- it is unwieldy, unpredictable, too strong in its own assertion. The neoliberal landscape that accounts for every tree and every tulip bulb planted and uprooted each fall is a sanitized scape of the land, the most palatable and therefore subjugated version of nature is what can be tolerated in the city, anything more threatens smooth operations.

So, we weed weeds. The resilience of weeds is denied by a desire for control. The going preference is to instate and then maintain horticultural landscapes that are heavily reliant on human support. Weeds are tough plants but are vulnerable to a gloved human hand. Why don’t we pause to consider whether the intensity of intervention is necessary? What happens if landscape is recognized as nondeterministic, living and dying, growing, and decaying, with the other builders of environments? An approach that is more concerned with process and responsible growth, rather than results and steady stasis is needed. This is what leads me, and this thesis, to reflecting on what a possible ruderal approach could be.



Fig. 1.5 October 01, 2021
Crabgrass, a tiny dicot, and Mexican fan palm saplings grow in the gaps between sidewalk pavers in East Los Angeles.

1.4 Growing in a Broken-World

What does it mean to care for something? ‘Care’, along with its related words ‘maintenance’ and ‘repair,’ (usually reserved for the care of non-living things), is the matter of everyday life. Feminist scholarship has shown that as a form of labor, its contribution in sustaining ongoing life is essential but often invisible work in capitalist society.⁵ To consider a care-full approach to architecture requires being able to see care as it forms bonds between all living things and the environment: to carefully notice the everyday is a first step.⁶

Steven Jackson’s ‘broken-world thinking’ helps ground a hopeful approach in how to work with the matter of the world as-found.⁷ To work from a position of “breakdown, dissolution, and change, rather than innovation, development, or design,” is not about finding solutions, but guiding continual remaking; it is the everyday process that keeps things together, and at times, falls apart.⁸ Jackson describes that agreements on what ought to be cared for, repaired, or maintained, is eminently political and constitutes “a very old but routinely forgotten relationship of humans to things in the world: namely, an ethics of mutual care and responsibility.”⁹ As a basic level, thinking of care as *mutual* between human and other-than-human starts to constellate relationships where humans are also the cared-for. This resists the one-sidedness of care inherited through a Euro-centric lens that is laden with steep contingencies of care-worthiness.

Shannon Mattern quotes Aryn Martin, Natasha Myers, and Ana Viseu in their proposal: “A critical practice of care would insist on paying attention to the privileged position of the caring subject, wary of who has the power to care, and who or what tends to get designated the proper or improper objects of care.”¹⁰ Recognizing that it requires vast resources to build architecture Joan Tronto asks: “if all forms of care are shot through with relations of power ... How might we turn our power towards caring for our broken world?” Tronto proposes that, for architects, a caring architecture “involves taking responsibility for the entire process of building” which includes material life cycles and their impacts from resource extraction to maintenance and end-of-life, labor practices including architectural, construction, and maintenance workers, and reasonability for what has been displaced.¹¹ By paying attention to the dynamics of what is cared for and who has the means to care, a more care-full approach could emerge. To be wary of one’s position requires careful reflection, to tend to the blind spots that fall out of focus in a capitalist lens. As Shannon Mattern writes: “we care for things not because they produce value but because they already have value.”¹² In tending to weeds in their apparently valuelessness, I look back at architecture from the fuzzy margins of its footprint to look for other relationships that could emerge. While repair might imply a continually return to a desired state, in its active reciprocities it is a form of life-sustaining growth.

1.5 Growing in the Gaps of a Dichotomy

Ruderal, of the latin meaning rubble, describes plants growing in the waste-areas of the human environment. Ruderal ecologies begin where humans left of, at the edge of a roadway or in the site of demolished building. They respond to disaster and destruction in much the same way. They continue remaking environments while adapting to continually fluctuations in a responsive system that is anything but complete. Steven Jackson writes that “repair occupies and constitutes an *aftermath*, growing at the margins, breakpoints, and interstices of complex sociotechnical systems as they creak, flex, and bend their way through time.”¹³ If repair constitutes an aftermath, ruderal ecologies are agents of repair in our broken world. To work through a lens of reparation rather than solution presents a shift in the relationship between architect and site, or of building and place.

As a discipline often tasked with remaking human environments, architects are always implicit in altering ecosystems from resource extraction to habitat construction which in turn impacts how environments function. As the relationship between human and nature becomes more widely recognized as reciprocal, signaled in part by the contested term “Anthropocene,”¹⁴ architects must also consider the agency of the non-human. The nature-human, or nature-culture dichotomy has a long tradition in Euro-centric worldviews and forms the basis of an ontological-epistemological divide that denies agency to the non-human.¹⁵ This model that is sharply contrasted by what Haudenosaunee and Anishinaabe scholar Vanessa Watts terms “Indigenous Place-Thought” that is “based upon the premise that land is alive and thinking and that humans and non-humans derive agency through the extensions of these thoughts.”¹⁶

Mohawk scholar Sandra Styres writes that “land” as physical space “also referred to as landscape, ecology, and/or environment” is distinct from “Land (capital “L”) [which] is more than physical geographic space. Land expresses a duality that refers not only to place as a physical geographic space but also to the underlying conceptual principles, philosophies, and ontologies of that space.”¹⁷ As visitor on Land that is the unceded Territory of Anishinaabe Algonquin Nation, I work to expand my understanding of site as connected to wider histories and cosmologies of which I am imbricated. From my education and into practice I dwell on the question of how site is made known and communicated as a place for some kind of action based on principles that are, as Métis scholar Zoe Todd says, “rooted in reciprocity, relationships, and responsibility.”¹⁸

In making space for the “other,” the opportunism of spontaneous urban plants inhabiting undesirable places offers a counterpoint to an urban planning paradigm that relies on a quantified appraisal of urban land for

development that often displaces existing occupants. In the perceived disorder of a weedy patch of land, spontaneity accommodates an abundance of life where urban occupants, plants or otherwise, can fill gaps in the needs of their everyday life. Looking at ruderal ecosystems that spontaneously emerge across urban landscapes, the hope for a more habitable city is already being modelled all around us if we take a moment to look in our peripheral vision, blind spots, and at our feet. This thesis takes notice of overlooked relations to learn specificity, working physically to open up space for growth, and finally tests design as a method for communicating spontaneous growth as a valuable phenomenon.

The weedy patch is an aftermath of tireless efforts to rebuild environments in a unilateral image and merits closer attention. In doing so, the cultural project of moving beyond a human-nature dichotomy toward reciprocity, relationships, and responsibility can begin more effectively. To be honest about the many ways humans interact with nature as we go about our everyday lives seems like a good starting point to think about how we can live together more sustainably on this planet.



Fig. 1.6 October 02, 2021
Purple bottlebrush grass grows in the crack of a sidewalk on an overpass in East Los Angeles.

1.6 A Ruderal Lens

Urban landscapes are primarily shaped by human needs where socioeconomic factors outweigh ecological ones.¹⁹ As outlined by botanist Peter Del Tredici, urban land can be classified into three functional categories: remnant natural landscapes (things like preserved wetlands), managed horticultural landscapes (the grassy lawns and flower beds of parks), and abandoned ruderal landscapes (the neglected parking lot, a mossy gap in paving).²⁰ Ruderal describes a significant portion of urban landscapes where spontaneous plants inhabit the residual spaces of refused material. Ruderal ecologies begin where human disturbance has initiated or continually unrests land at scales that range from minute cracks in the sidewalk to cross-country tracks of rail and road infrastructures.

The plants which inhabit these places are typically characterized by their ability to thrive in harsh conditions. Often these plants which come from habitats in nature that experience high level disturbance like riverbanks, prairies, and rocky outcrops. Del Tredici writes that these plants are preadapted to analogous situations in urban environments and can be commonly understood through a lens of contextual “fitness” (in opposition to conventional frames like native vs foreign). The fitness of certain plants to urban conditions helps explain why some flourish where many cannot. Del Tredici further identifies three qualities that commonly describe spontaneous urban flora: adaptability from germination to seed production, opportunistic of resources that may only be briefly available, and tolerant of difficult conditions, created mostly by covering soil with concrete.²¹

The many forces of movement that bring spontaneous plants to root in unexpected or undesired places can be read at scales varying from small storms of rainwater runoff to major global events such as war. The complex and interwoven stories that bring plants to be in ruderal ecologies present an assemblage of materials, especially unwanted ones. In *The Mushroom at the End of the World : on the Possibility of Life in Capitalist Ruins*,²² Anna Lowenhaupt-Tsing tracks the emergence of matsutake mushrooms in the forests of the northern planetary hemisphere and the economies that spring up around them, describing the “arts of noticing” that might offer insight into world-making projects in left over or wasted land beyond the current frame of capitalist progress. In seeing how seemingly disparate systems of growth, exchange, and consumption sometimes synchronize, the fungal mats that link together trees illustrate the ongoing process of living in common.

Ruderal ecologies as a material condition in residual spaces gives rise to human uses that can be similarly outside the realm of prevailing (legal) orders; as a community of weeds, it supports other social behaviors. Studying the entanglement of urban ecologies, globalization, and racial

exclusions in “Ruderal Ecologies: Rethinking Nature, Migration, and the Urban Landscape in Berlin,”²³ cultural anthropologist Bettina Stoetzer develops a concept of the “ruderal analytic” which “aims at cultivating modes of attention that capture the ‘unexpected neighbors’ alongside built structures and their inherited histories of labor, extraction, and power.” She asks: “through attention to the lives that fall by the wayside, how can we detect new possibilities for connection and for reassembling the social?”²⁴ Stoetzer clarifies that “ruderal” is not deployed as a metaphor since these ecologies are used in very material ways by non-plants:

Thinking with the ruderal, the goal is not to equate people with plants or other nonhumans, but to ask how people, plants, animals, and their environments connect and get entangled in modes of capital accumulation, in projects of nation-making, and in environmental destruction—and how they traverse them.

To see this more clearly, Stoetzer tells the stories of two ruderal ecologies in Berlin that are worth retelling here:

Stoetzer begins the article by describing the home of Osman Kalin who, in 1983 retired from construction work with a back injury. Bored at his home, she describes, he found a pocket of land next to the Berlin Wall that was collecting garbage. He cleaned it up and planted a garden to grow onions, tomatoes, and cabbage. Over time the garden expanded, and eventually he built a hut that expanded into a two-floor shack made of found objects. It turned out that small pocket of land was actually East German territory: when the wall was built it was constructed in a straight line thus skipping the triangular pocket Osman has gardened and built on. It was allowed to remain, and in 1989 when the wall came down, “Osman’s garden was no longer situated in an abandoned corner, but in the center of a unified city.” Plans to relandscape the border zone never materialized, so “Osman’s garden was left alone,” today called “the Berlin tree house (Baumhaus) or *gecekond* – a reference to the squatter houses in Turkish cities whose name literally means “places built overnight.”

Then there is the *Hasenheide*, or rabbit heath, which is a fifty hectare meadow with recreation amenities adjacent to the former city airport Tempelhof in Berlin. In the last two decades it has come to be portrayed as a dangerous place owing to controversies around crime and immigrant drug dealers: “terms such as *no-go area* used to describe the park reveal the highly racialized public affects that cast the park as off-limits to white German citizens.” A series of neighbourhood groups hold events to “‘take back the park’ by caring for its nature, such as leaf-raking day or the construction of a new nature trail.” Amidst this controversy, Stoetzer’s focus is on a small, concealed corner of the park where a group of friends and

former coworkers have cultivated a “secret garden” named Maria Mama that includes “fruit trees, sunflowers, tomatoes, strawberries, cucumbers, mint, peppers, and a few nettles in between.” These gardeners migrated from Anatolia to Berlin in the 1960s and 1970s as part of the contracts signed between Turkey and West Germany to tackle unemployment and the continued rebuilding of Germany after the war. One gardener, Hakim, was assigned a few square meters of living space in the city’s migrant barracks in 1969, and after years of strenuous physical labour retired early due to an injury, as is disproportionately the case for Turkish immigrant workers. To socialize, eat, drink, play cards, and tend plants, the gardeners meet daily in this garden, started by chance when some sunflower seeds, a favourite snack, fell into a bit of dirt a gardener named Erol had been idly moving around underfoot. Stoezter finally reflects:

Not unlike Osman Kalin’s *gecekodu* garden, Maria Mama constitutes a ruderal ecology: it fills a gap not only in between the city’s landscaped meadows and exclusionary environments of nation-making but also in Hakim’s life. In both gardens, we see that ruderal ecologies are not necessarily characterized by an absence of cultivation: human-plant relations are shaped by systems of control, and yet their interactions also create unruly openings for new forms of cohabitation that do not adhere to the places assigned to them in official definitions of public space, private property, and multiculturalist schemes. It is in this sense that they carry seeds of change.²⁵

The botanist’s and anthropologist’s lens of urban landscape offers an expanded frame for an architectural approach to building on urban land. I bring forward the work of Del Tredici, Stoezter, and Tsing to see urban environments, in particular the spontaneous or happenstance modalities, as a cooperation between plant and human relations which both depend on and subvert larger infrastructures and conditions be it built or natural. This subversion is key to rethinking the architects value system, and our approach to site. Recognizing assemblages of people, plants, other animals and environments that may exist outside of a conventional lens is a challenging proposition but as Tsing and Stoezter write it is an important step in patching together an understanding of how to live together, toward building the “ethical relationships” that Todd calls for.



Fig. 1.7 October 10, 2021
Algae grows in a persistent puddle from a leaking fire hydrant in East Los Angeles.

1.7 Architecture Takes Up Land

Current architectural practices are increasingly turning their attention to considerations of ecology and landscape, of affects that extend far beyond the walls of a building and the legal boundaries of a site-as-property. Andrea Kahn and Carol J. Burns describe this tending in their influential book *Site Matters: Strategies for Uncertainty through Planning and Design*: “Each built project creates new forces within its own area and also modifies and influences systems that both reach beyond the site and operate within it.”²⁶ They frame “the site as a relational construct that acquires meaning and value through situation interaction and exchange,” further pointing out that “as a form of knowing, site thinking is concretely situated, more interactive than abstract, and less concerned with the semantic content of knowledge than with a concern for relationships among knowers and known.”²⁷ In furthering the notion of “site thinking,” Kahn proposes “ecotone-thinking,” metaphorically referring to the ecological term for transitional areas between ecosystems as productive place to work with “wicked problems” like climate change while addressing multivalent aspects of urban design more specifically.²⁸ Through a critical reflection of architectural practice, site thinking seems to offer one avenue toward a more ethical relationship with site as a place bearing its own histories.

Lacaton & Vassal

The French architecture firm Lacaton & Vassal has developed an approach to architecture that treats existing, primarily built, conditions with generous care. They advocate for the social value of human inhabitation, that the most valuable ‘thing’ about a building is the private worlds its occupants have built over time. Jean Phillippe Vassal refers to the role of the architect as one of transforming the existing:

It’s about transformation. We try to work in the most direct and simple way, to understand, to listen, to work, and search from this situation. Our work is related to culture, art, politics, and sociology; it’s about research. And it’s about being in our time. We want to develop our architecture like that; it’s the opposite of tabula rasa. In French, we call it “situation capable”—finding the possibilities offered by the situation.²⁹

Taking a pragmatic approach that has seen wide-scale implementation of their strategy toward affordable housing, they often frame economy as a design material.³⁰ Their intention when designing always prioritizes the idea of “freedom of use,” and in their work present an approach to architecture that is mindful of a building as an ongoing project beyond the architect’s role. Anne Lacaton states: “It is a question of where to stop, where to finish the project, how much freedom you give the inhabitant. The space should

not impose a particular way of life.”³¹ Their emphasis that architecture does not stop with the architect is seen in their housing projects that they often show in photographs captured post-occupancy where eclectic furniture and everyday clutter fills out the simple spaces they design. The materials used by Lacaton & Vassal are designed to be economic and expansive – the goal is to ensure both freedom of use and the maximum amount of space, what they call “double space.”³² Frequent use of prefabricated greenhouse-like structures frame generous, open spaces that remain highly porous to climate. Occupants can then temper solar exposure as desired (noting that the opposite would be much more difficult).³³

In their *PLUS* study from 2007 on postwar modernist housing in France they address the challenge of housing in urban contexts, advancing an anti-demolition position to challenge the government’s going pattern of demolishing towers to rebuild new ones.³⁴ The study was published and presented to politicians in the hope of changing policies. In 2011 they successfully got the chance to save 530 dwellings from demolition at Grand Parc Bordeaux. The design scheme saw the renovation of existing units by a systematized process of removing poorly performing concrete facades and installing pre-fabricated modules that introduced winter gardens which served as passive climate regulators in addition to providing more floor space. Kitchens, bathrooms, and electrical systems were refurbished in a procedure that was done in 12-16 days per unit without ever displacing the tenants and without increasing rents after the transformation.³⁵

For an earlier project commissioned by Bordeaux City Council as part of an “embellishment’ program” in 1996 to refurbish town squares, Lacaton & Vassal proposed to “do nothing” in Place Leon Aucoc:

The square is already beautiful. As a project we’ve proposed doing nothing apart from some simple and rapid maintenance works - replacing the gravel, cleaning the square more often, treating the lime trees, slightly modifying the traffic- of a kind to improve use of the square and to satisfy the locals.³⁶

After conversation with inhabitants and close observation, they felt that “people seem at home here in an atmosphere of harmony and tranquility formed over many years,” concluding that “embellishment has no place here.”³⁷ The work of Lacaton & Vassal comes from careful attention to the existing, of noticing what Jane Jacobs termed the “organized complexity” of cities as interconnected organisms that cannot be abstracted away.³⁸ While they do not tend toward explicit conversations of ecology or landscape, I look to their projects as built architectures of repair, of caring for what exists before and beyond the architectural project.



Fig. 1.8 Transformation of 530 Dwellings in Buildings G, H, I, Grand Parc Bordeaux, France by Lacaton & Vassal Architects. Photographed by Philippe Ruault.

Baracco + Wright Architects, Linda Tegg

In writing about ecological considerations in building architecture, Australian architecture firm Baracco + Wright dwells on the term ‘repair,’ which was the theme for the exhibition they directed in collaboration with artist Linda Tegg for the Australian Pavilion at the 16th International Architecture Exhibition of La Biennale di Venezia. They ground their approach in an elemental but often overlooked fact within Western practice: “architecture takes up land,” and from this they develop a series of considerations in how architecture can better co-occupy land.³⁹

In a design vocabulary that shares Lacaton & Vassal’s interest with greenhouse structures for their economy, flexibility, and porosity to climate, Baracco+Wright place more emphasis on the structure as a demountable and light-touch system that sits on the ground as a “building form that allows dynamic natural systems (eg. floods, sand dunes, habitat movement) to evolve.”⁴⁰ They further reflect on the notion of reparation as a framework for an architectural approach that traverse scales from micro to macro in recognizing the entangled issues of environmental degradation and inequitable access, which are also connected to legacies of colonial displacement and destruction:

Repair aimed to expand the point of view from the object of architecture to the way it operates in its context, advocating a role for architecture that catalyzes or actively engages with the repair of the places it is part of: the soil, hydrology, habitat, connections, microorganisms and vegetation. This type of repair is central to enacting other types of repair: urban health, social, economic and cultural among others.⁴¹

Their architecture of repair on display in the pavilion included a grassland meadow grown indoors and extending outdoors with a selection of projects around the theme presented in video. The meadow piece was titled *Grassland Repair*, it consisted of over 10,000 Australian grassland plants grown in containers inside the pavilion under an LED array entitled *Skylight* that sustained the plants’ photosynthetic systems. The dislocation of an ordinary landscape that is often overlooked was intended to make it more visible: the transference of a messy landscape into the sterile white-cube gallery was a way to “challenge normative gazes,” a central concern in Tegg’s work.⁴² In tending to the plants inside the sealed environment, intense maintenance was required which was performed during visitor hours: “by performing our care of something that could appear so unkempt, we would make the grasses more visible.”⁴³ Tegg continues “those who do not understand any value in the plants themselves may understand that other value, and through that begin to attribute some value to the grasses.”⁴⁴ Despite requiring care, simulating a plant community in an

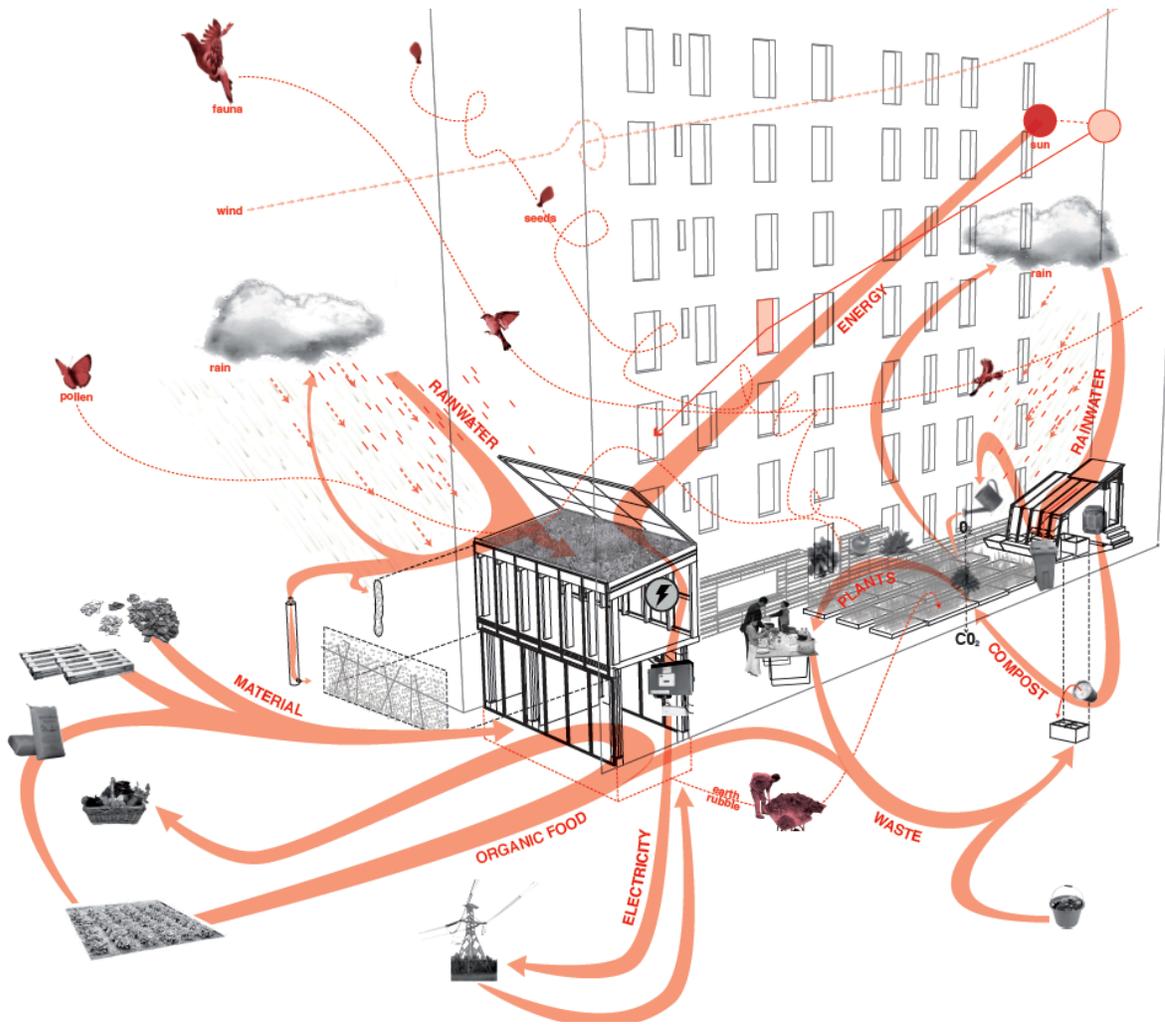


Fig. 1.9
 Passage 46 lead by Atelier d'Architecture Autogérée in Paris. A disused alley is converted into a community garden supplying food, an architectural intervention serves as office and meeting space connected to street while a rainwater harvest program collects water for irrigation. Photographed and illustrated by Atelier d'Architecture Autogérée.

artificial environment in a different place may be seen as careless – but for Baracco+Wright “this dichotomy was intentional; we always knew it would be difficult and through that this was in fact central to the work.”⁴⁵

For *Grassland Repair*, making care for the ‘unkempt’ grassland visible in the exhibition challenged the inherited notion of *terra nullius* to see the historical reality that ‘wild’ ecologies were in fact actively cared for and cultivated by Australia’s First Nations People.⁴⁶ Phillippe Descola writes that Eurocentric constructions of nature as ‘wilderness’ have long served colonial agendas first by fabricating legalities of land theft based on perceived vacancy, or *terra nullius*, which continues to be instated through conservancy programs that frame Indigenous Lands as wilderness in need of protection from human disturbance.⁴⁷ Descola writes:

The notion of a “wilderness,” with all its connotations of *terra nullius*, of an original and preserved naturalness, an ecosystem to be protected against the degradations liable to be introduced by human beings, certainly runs contrary to the Aboriginals’ own concept of the environment and the multiple relations that they have established with it, and above all it ignores the subtle transformations that they have produced in it.⁴⁸

Through their architecture of repair, a living system, *Skylight*, the human caretakers, the microclimate of the room, and all the bugs brought in on leaves, in soil, and under shoes, work together to reframe perceptions of value both aesthetically, of a messy patch of grass, and of the labor of care. Their work presents a challenge to the inherited idea that even the most unkempt-looking patch of grass exists apart from humanity - that a human-nature dichotomy exists in the first place. In advocating for “Architecture’s Role in the Repair of the Natural Environment,” Baracco+Wright bring into focus a more expansive consideration of how architecture can relate to site.⁴⁹

To begin thinking of architectural interventions as embedded in ecologies of place, I draw on Lacaton & Vassal for their careful attention to the ongoing inhabitation of space, and Baracco+Wright’s extension of architecture as one agent in a field of many actors, that go far beyond the imaginary lines of ‘site.’ Working in the ecotones between scales from the individual occupant to the urban region and across the space-making disciplines, this thesis holds space for get comfortable with the entanglement of complex systems, to work in addition, to never erase.



Fig 1.10 Grassland Repair by Baracco+Wright Architects in collaboration with Linda Tegg for the Australia Pavillion at the 16th International Architecture Exhibitioni La Biennale di Venezia. Photographed by Rory Gardiner.

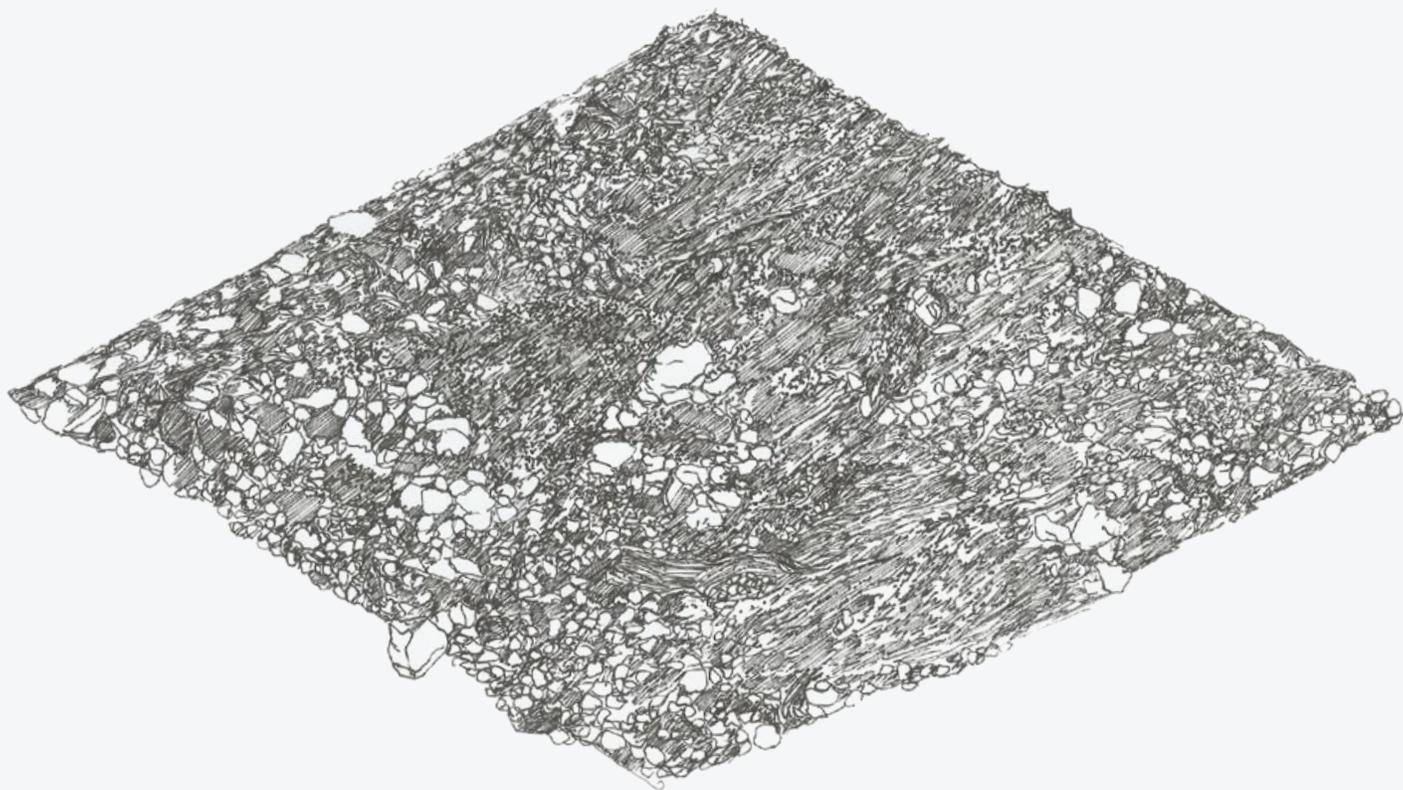


Fig 1.11 Inking a ruderal surface.

(TENDING TO WEEDS)

What does it mean to subvert, and make way for the weeds? I here take a stance I am calling a ruderal approach. A ruderal approach does not seek resolutions for broken-worlds; it advocates for repair as an ongoing framework from which architecture may take up land in ways that are more careful. Particular attention to the ground requires looking closely to gain an understanding of entangled human-nature relations that are reciprocal and related. A ruderal approach seeks to make more open space for all types of growing and decaying, to remain porous to many modes of 'others.' A ruderal approach acknowledges the overlooked gaps in everyday life, the trash plants and waste space, the unwanted or unmanageable, the living and the dying, the ongoingness of life in the city and infiltrates the seemingly steady going spaces of lifelessness to make space for more life, as the foxtail does in the concrete curb.

This thesis looks to explore the possibilities of a ruderal approach. A growing and shifting manifesto, this approach is both for the broader field, but also for myself as I consider the role of the architect and the way in which I want to practice. The metaphor for weeds and the lens of the ruderal offers insightful ways of viewing the existing landscape as a place that is more accepting of the edges, and more willing to stray away from consumerist and gentrified methods of city development.

1.8 A RUDERAL APPROACH TO ARCHITECTURE:

Gathering: *To seek abundance and support assemblages. To carry with instead of take away.*

Absorbent: *To welcome other inputs, ideas, material engagements. To remain porous.*

Subversive: *To re-make given structures and disorder ordered systems. To challenge proscriptive attitudes.*

Gap-grown: *To look directly at the in-between and learn from the overlooked. To find generosity in ecotones and overlaps.*

Adaptive: *To construct environments that change. To welcome appropriation by occupants, human and nonhuman.*

Additive: *To seek participation. To think in multiple time frames and multi-species. To never erase. To care at expanded scales.*

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Fig 2.1 The dead flowers of prickly lettuce arranged in a rib vault wireframe in Little Italy, Ottawa.

PART 2: TOOLS FOR NOTICING

To begin collaborating with ruderal ecologies, I developed for myself what Anna Lowenhaupt Tsing might call “tools for noticing,” to dwell in moments where the entangled worlds of weeds and human habitats interact.¹ To more carefully notice assemblages that don’t typically register with conventional site planning tools, I worked in various mediums and engaged public ruderal places at scales I could access. I worked to get to know my collaborators by name, noticing their structures, textures, inclinations, and neighbors. I looked to artists who engaged in making with these messy plant worlds in often very public ways to see how a ruderal approach might occupy larger scales of land. Lois Weinberger and Agnes Denes were two important figures I returned to over the course of my thesis, drawn to their aesthetic engagement with land and weeds that sparked public reflection on unseen power structures and cultural biases.

Lois Weinberger

Since the 1980’s, Viennese artist Lois Weinberger (1947-2020) has engaged with urban wastelands, describing his approach as “precise carelessness.”² His work initiated in 2004 entitled *Ruderal Society* experimented with the aesthetic sensation of disorder as spontaneous plants overtook a site beside an abandoned mirror factory. There was no proscriptive plan for the work, the idea was to simply occupy a realm left to grow on its own. In an interview in 2010 Weinberger stated “the notion of service in respect to nature highlights the totalitarian, economic view of anything and everything.”³ Weinberger opposed the capitalist lens of the world especially in cultural perceptions of nature. In his fieldwork with waste-natures and mediums of visual research, he produced works which were gardens occupied by spontaneous plants. “Taking recourse to the unripe, the unfinished” was his method of resisting a cultural fixation on the idea of a finished ‘garden.’⁴ For his patches of planted areas Weinberger used the term “perfectly provisional realm,” often sited in the gaps of urban boundaries: “they are a poetic locations [...] where it’s possible neither to speak of beginning nor of ending or stopping, a realm of possibilities that marks a point of intersection.”⁵

His *Wild Cube* series actively reclaimed lawns and small corners of plazas with big metal enclosures that spontaneous plants and urban fauna could freely occupy but people could not. Hedging against pavement and grass as the primary surfaces of the public realm Weinberger exposed a patch of soil and left it alone, however damaged, to make space for other kinds of possibilities and other kinds of public. These enclosures were not without controversy for their unsightliness, attesting to the provocation that weeds can still conjure. In photo documentation it is evident that spontaneous plants have rapidly taken root in these spaces as the cube recedes into a

fuzzy prism of foliage accessorized by bikes locked to its bars.

By working with the living material that is deemed unvaluable or actively devalues property, Weinberger's approach to making resists any notion of heroic triumph. There is a weakness in the loose assemblage of materials present in gallery spaces or plastic bags of soil that start to deteriorate as plants take root in these mobile gardens (*Portable Garden, Biennale Liverpool*). During his time in Berlin, Weinberger began remapping streets named after heroic figures giving them the names of weeds instead. This anti-heroic cartography levels a critique on both the cultural rejection of certain plants and the cultural fixation on narratives of the triumphant individual.

Agnes Denes

For American artist Agnes Denes (1931-), the role of the artist is one that "questions the status quo and the direction life has taken, the endless contradictions we accept and approve of."⁶ In developing environmental works she saw public art as a meaningful location for collaboration and disciplinary integration; "it can bring people together in meaningful and provocative ways while it can enhance and unite environments."⁷ "Public art invades where people live and work," for Denes this was an important opportunity for broader engagement beyond the museum-bound artwork that people see by their choice to go visit. While her extensive work in drawing that explored isometric representations of philosophical and scientific topics carry their own beauty, her *Wheatfield – A Confrontation* is likely the most well know work.

Wheatfield – A Confrontation took place in 1982 in the Battery Park landfill of Downtown Manhattan. Two acres of wheat were planted and harvested two blocks from Wall Street and the World Trade Center. It required 200 truckloads of dirt to create the field which was cleaned of garbage, seeded, weeded, fertilized, irrigated, and sprayed against mildew and fungus over the course of the summer yielding over 1000 pound of golden wheat.⁸ Through an intense care for the crop, Denes' work occupied a parcel of land worth \$4.5 billion: "To attempt to plant, sustain, and harvest two acres of wheat here, wasting valuable precious real estate, obstructing the machinery by going against the system, was an effrontery that made it the powerful paradox I had sought for the calling to account."⁹

As she makes note of, the soil of the landfill was not rich loam, it was full of the debris of city building. Denes and her collaborators tended to the soil, and through the simple act of planting a seed in the complex legal terrain



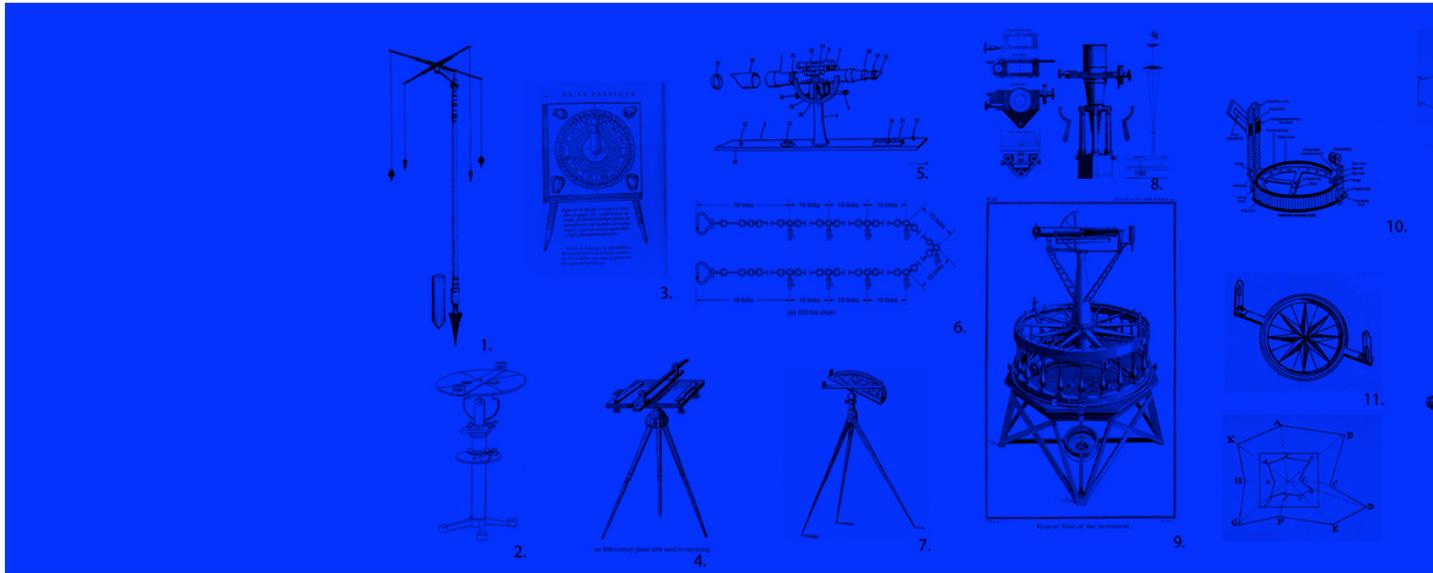
Fig 2.2 Spur by Lois Weinberger in Cologne Sculpture Park, 2015. Photo by Axel Schneider.



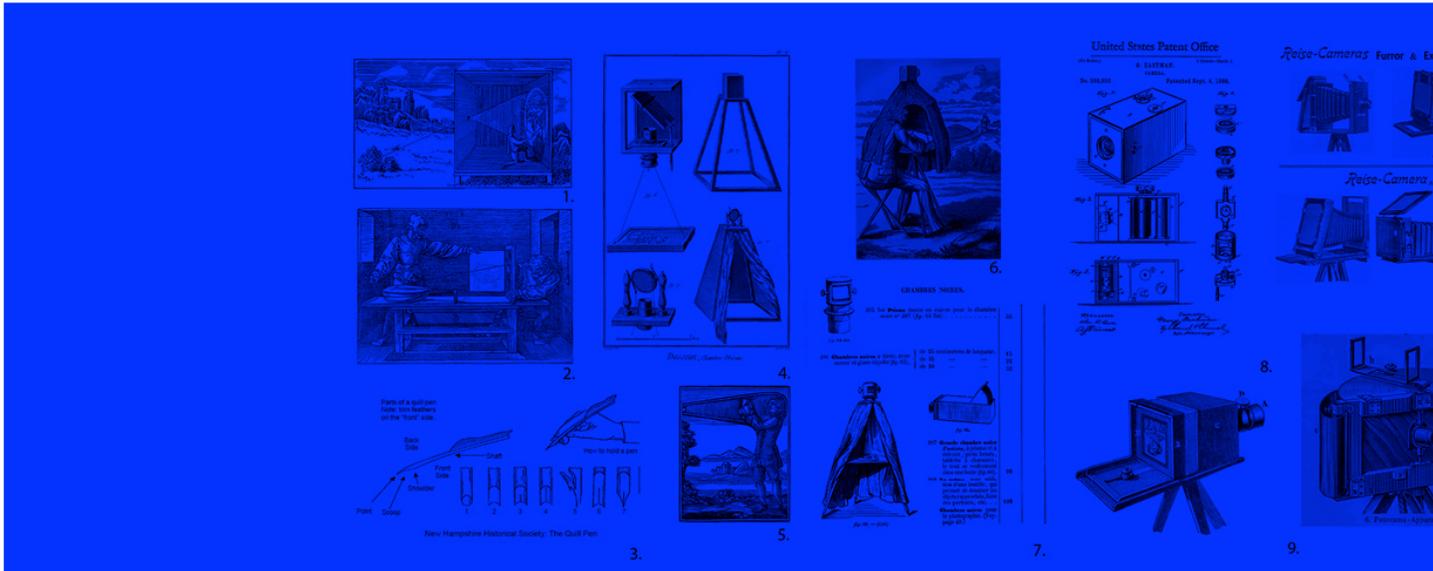
Fig 2.3 Wheatfield - A Confrontation by Agnes Denes in Manhattan, 1982. Photos by Agnes Denes

of a Manhattan parcel evoked a powerful reminder of the life's necessities. After the harvest the site was developed into a luxury condominium tower, but the striking imagery of the work continues to evoke a moment of resistance in the metropolis-fortress: "Vulnerability and staying power, the power of a paradox."¹⁰

I found inspiration in Denes' and Weinberger's material creations that can hold space for contradiction and nuance in reaching across a breadth of ecological, social, and cultural concerns. Similarly to Weinberger's "precise carelessness," I encountered tensions in tending to weeds that may be "the power of a paradox," as Denes said. To further entangle myself in the matters I was tending toward, I made frequent recourse to physical making in my thesis, implicating my thoughts in material realities.

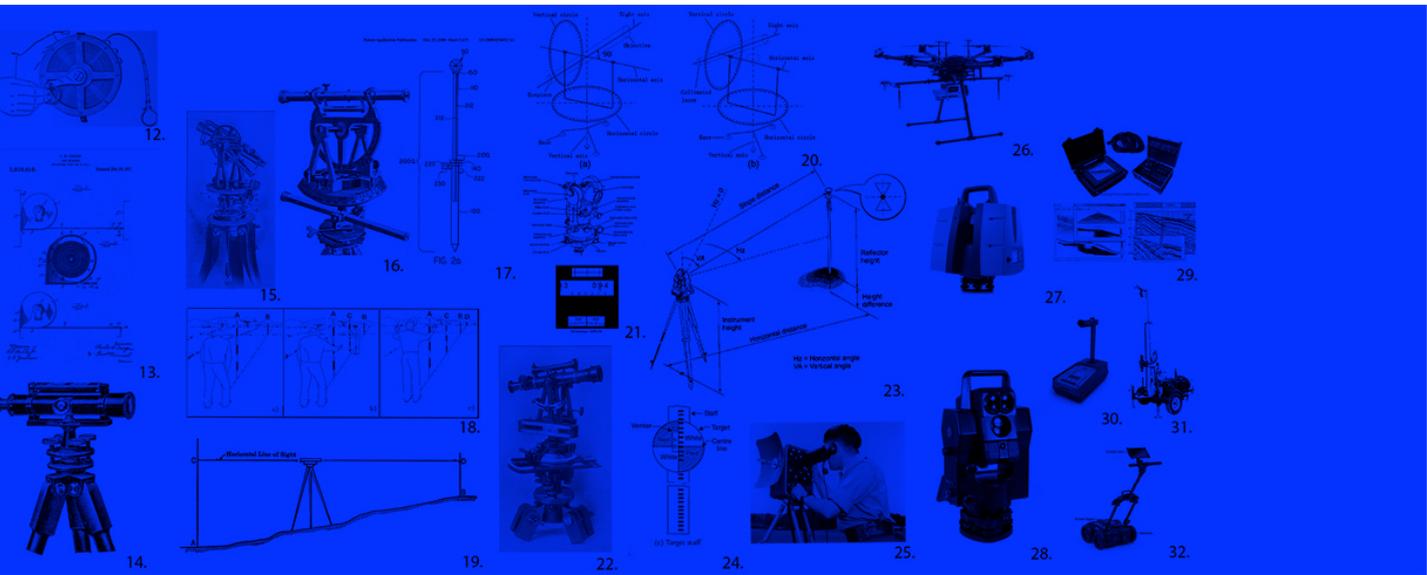


1. Goma 2. Dioptra 3. Cosmolabe 4. Alidade Table 5. Alidade 6. Gunter's Chain 7. Graphometer 8. Ramsden M
Tape 13. Measuring Tape 14. Dumpy Level 15. Theodolite 16. Travelling Theodolite 17. Surveying Pole 18. Ran
26. LiDar Drone 27. Laser Scanner 28. Geodimeter 29. Refraction Microtremor Equipment 30. Compaction Ap

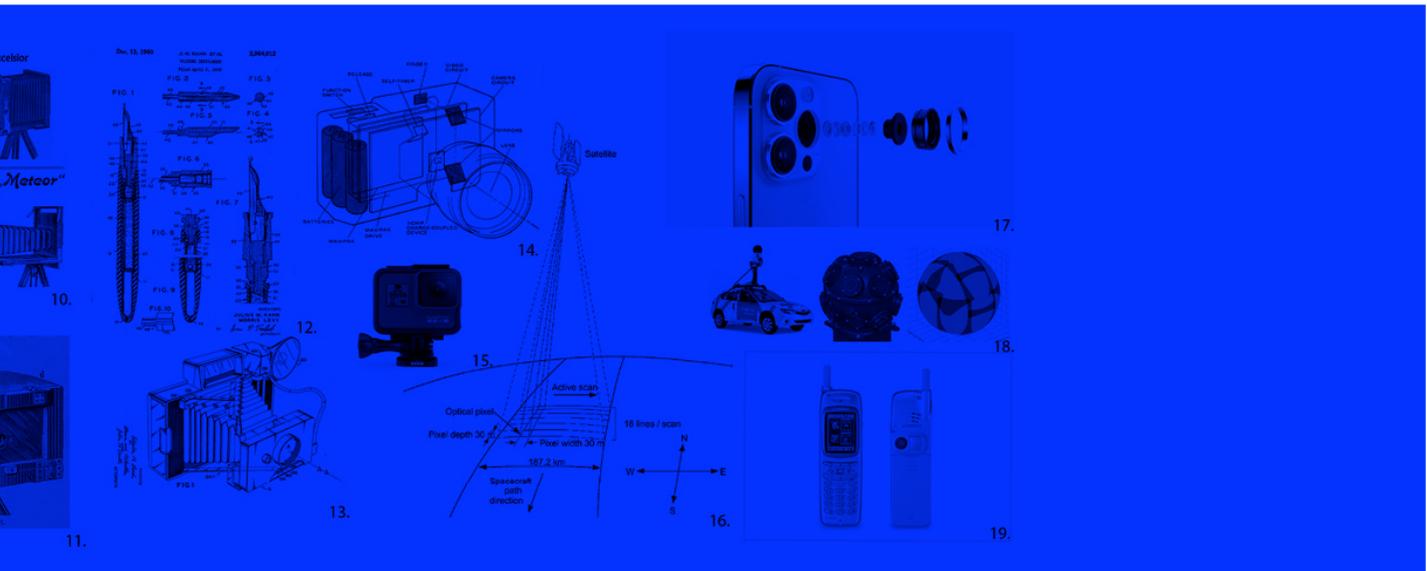


1. Portable Camera Obscura 2. Perspective Apparatus 3. Quill Pen 4. Camera Obscura 5. Wearable Camera Obs
camera (Travel Camera) 11. Panoramic Camera 12. Steel Pen 13. Polaroid Camera 14. Digital Point and Sho
Sharp Mobile Phone with Camera

Fig 2.4 A historical survey of imaging and surveying equipment in predominantly Western traditions.



1. Micrometer Microscopes 2. Ramsden Great Theodolite 3. Prismatic Compass 4. Circumferentor 5. Surveying Leveling Rod 6. Level 7. Theodolite Axes 8. Optical Theodolite 9. Theodolite 10. Level Staff 11. Tellurometer apparatus 12. Core Sample Drill 13. Ground Penetrating Radar 14. Aerial Photography 15. Go ProHD 16. Satellite Imaging 17. iPhone Camera 18. Google Street View Camera 19. Japan Camera Obscura 20. Field Camera Obscura 21. Film Camera 22. Daguerreotype Camera 23. Raise-lift Camera 24. Drone 25. Drone with camera 26. Drone with camera 27. Drone with camera 28. Drone with camera 29. Drone with camera 30. Drone with camera 31. Drone with camera 32. Drone with camera



1. Camera Obscura 2. Field Camera Obscura 3. Field Camera Obscura 4. Film Camera 5. Daguerreotype Camera 6. Raise-lift Camera 7. Go ProHD 8. Satellite Imaging 9. iPhone Camera 10. Google Street View Camera 11. Japan Camera Obscura 12. Field Camera Obscura 13. Film Camera 14. Daguerreotype Camera 15. Raise-lift Camera 16. Drone 17. Drone with camera 18. Drone with camera 19. Drone with camera

2.1: TOOLS FOR NOTICING_Making in Place

Making is an active part of growth; to build this notion of a ruderal approach I tested intuitive constructions placed in real-world situations that then prompted reflection. To build with material, intervene respectfully, and then try to work through implications my working process created feedback that helped me understand how much I needed to design. The following is a summary of exercises that have informed the development of a ruderal approach. These projects were undertaken in Ottawa with a brief time spent in Los Angeles. Weeds are everywhere, so I spend time looking closely wherever I find myself, wondering how I can engage with the trash plants of a city. Instead of drawing conclusions I offer reflections, insisting on an incomplete process of making. As a solitary author, I sought out other systems which could inform and help shape my work and thinking. I did this by working with living matter, being outside at the whim of climate, with messy dirt and sloppy concrete.

1_Wireframing Weeds



Fig 2.5 Wireframe hanging in a box elder in Rideau Gardens.

- Place:** a curb on Glencairn Avenue in Ottawa, ON, CA
- Time:** September, one visit
- Plants:** Yellow foxtail
- Method:** wireframe semi-spheres of metal and thread spray painted in cautionary orange placed over weeds growing in a street curb, photographed.
- Reflection:** a tension between the feeble “cages” and the modest weeds. a reviewer asks if the idea is to contain then weeds or to protect them or bring attention to them; no clear answer. the delicate lines but intense orange placed in a high-traffic place could be squished at any time; the sense of vulnerability comes through. a fuzzy project.
- Prompt:** What does a precarious architecture do?



Fig 2.6 Wireframe over foxtail and dandelion, Glenview Avenue.

2_Chain Surveying

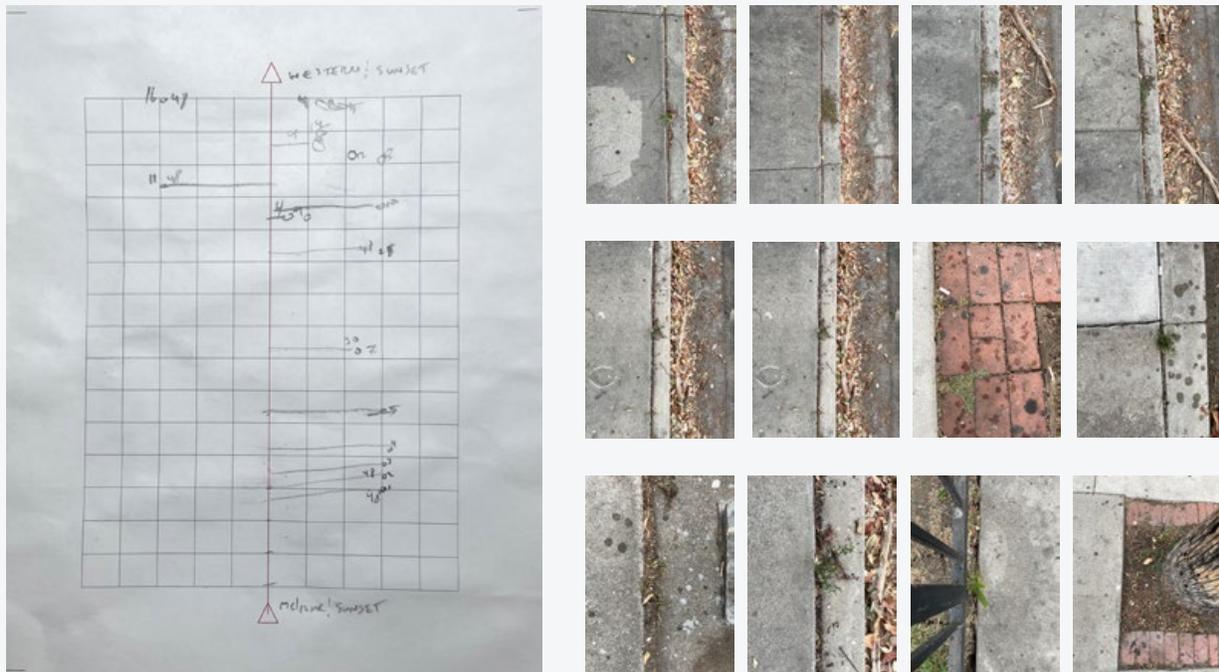


Fig 2.7 Chainsurvey on Sunset Blvd.

Place: the south sidewalk of Sunset Boulevard between Western Ave and N Seranno Ave, Los Angeles, CA, USA

Time: October, two visits

Plants: small dicots, smooth crabgrass, Mexican fan palm sapling

Method: chain survey method of using a physical item as metric to document spatial relationships along a path is appropriated to the sidewalk. sidewalk slabs as chain units, objects of interest are every weed along the path. distance from center of sidewalk is measure, recorded on the map, and documented in photograph. composition of photos and chain survey map presented together.

Reflection: people stare walking by, a performative mapping. i wonder if they notice me noticing the weeds.

Prompt: How could imprecise tools be used in architecture?

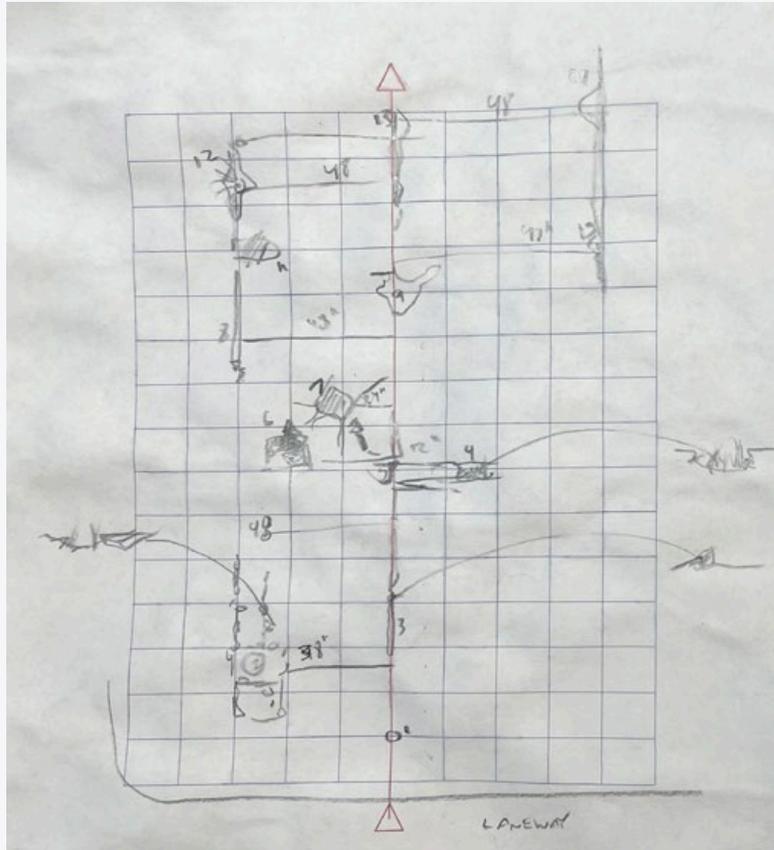


Fig 2.8 Chainsurvey on N Serrano Ave.

3_Herbarium Display



PRICKLY LETTUCE
LACTUCA SERRIOLA
LIFE FORM: SUMMER ANNUAL/BIENNIAL
ORIGIN: EUROPE
HABITAT PREFERENCE: NUTRIENT RICH SOIL, FULL SUN; TOLERATES DRY
ECOLOGICAL FUNCTION: PHYTOREMEDIATION
CULTURAL SIGNIFICANCE: PARTS EDIBLE, MEDICINAL

174



HOARY ALYSSUM
BERTEROA INCANA
LIFE FORM: ANNUAL/BIENNIAL
ORIGIN: EASTERN EUROPE, WESTERN ASIA
HABITAT PREFERENCE: DRY, ALKALINE, SANDY SOILS, SUN
CULTURAL SIGNIFICANCE: REVEGETATE MINING WASTE, TOXIC TO HORSES

202

Fig 2.9 Pages from Herbarium project.

Place: Little Italy, Ottawa, ON, CA

Time: 3 weeks in January

Plants: common burdock, wild carrot, swallowwort, hoary alyssum, prickly lettuce, bird vetch

Method: exposed plant matter arranged in geometric/architectural shapes

Reflection: became better acquainted with plant structure in trying to compose fragments into another structure. dead plants help retain snow against wind to insulate ground, the structures keep and improve this. the snow creates a white canvas that makes the modest structures more visible.

Prompt: Can weedy structures translate into other scales? Should they?



BIRD VETCH
VICIA CRACCA
 LIFE FORM: SUMMER ANNUAL/BIENNIAL
 ORIGIN: EURASIA
 HABITAT PREFERENCE: WIDE VARIETY
 ECOLOGICAL FUNCTION: GROUND COVER, HABITAT, NITROGEN FIXING
 CULTURAL SIGNIFICANCE: COVER CROP, BIRD FOOD

248



COMMON BURDOCK
ARCTIUM MINUS
 LIFE FORM: BIENNIAL
 ORIGIN: EUROPE
 HABITAT PREFERENCE: MOIST RICH SOIL, FULL/HALF SUN
 CULTURAL SIGNIFICANCE: PARTS EDIBLE, MEDICINAL

152



BLACK SWALLOWWART
VINCETOXICUM NIGRUM
 LIFE FORM: HERBACEOUS PERENNIAL VINE
 ORIGIN: EUROPE
 HABITAT PREFERENCE: WIDE VARIETY; DROUGHT TOLERANT
 CULTURAL SIGNIFICANCE: TOXIC, MEDICINAL

144



WILD CARROT
DAUCUS CAROTA
 LIFE FORM: HERBACEOUS PERENNIAL
 ORIGIN: EURASIA, NORTH AFRICA
 HABITAT PREFERENCE: DRY SOIL, FULL SUN
 ECOLOGICAL FUNCTION: WILDLIFE FOOD
 CULTURAL SIGNIFICANCE: PARTS EDIBLE, MEDICINAL

138

Fig 2.10 Pages from Herbarium project.

3_Herbarium Display-detail



HOARY ALYSSUM
BERTEROA INCANA

LIFE FORM: ANNUAL/BIENNIAL
ORIGIN: EASTERN EUROPE, WESTERN ASIA

HABITAT PREFERENCE: DRY, ALKALINE, SANDY SOILS, SUN
CULTURAL SIGNIFICANCE: REVEGETATE MINING WASTE, TOXIC TO HORSES

202

Fig 2.11 Hoary Alyssum page from Herbarium project.



PRICKLY LETTUCE
LACTUCA SERRIOLA

LIFE FORM: SUMMER ANNUAL/BIENNIAL
ORIGIN: EUROPE

HABITAT PREFERENCE: NUTRIENT RICH SOIL, FULL SUN; TOLERATES DRY
ECOLOGICAL FUNCTION: PHYTOREMEDIATION
CULTURAL SIGNIFICANCE: PARTS EDIBLE, MEDICINAL

174

Fig 2.12 Prickly lettuce page from Herbarium project.

4_Casting Soil

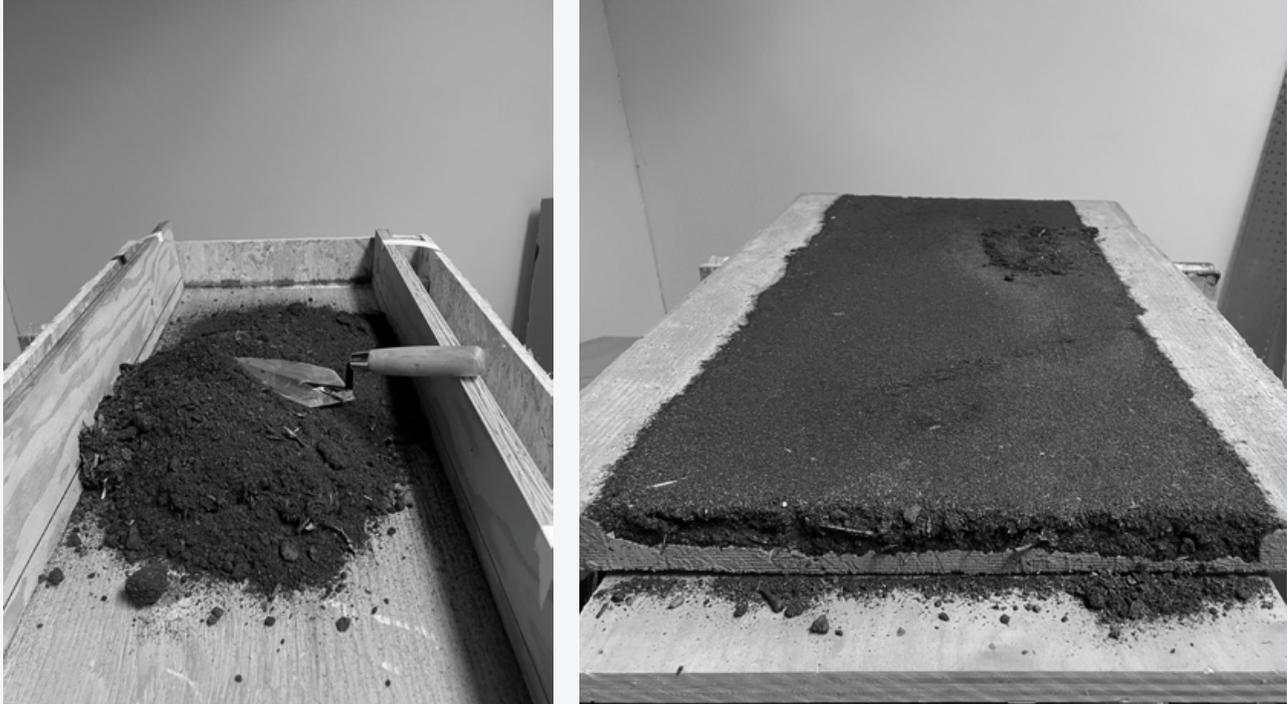


Fig 2.13 Casting a soil surface.

Place: interior, Ottawa, ON, CA

Time: 1 weeks in January

Plants: roots, detritus embedded in soil, foraged ruderal fragments

Method: soil cast concrete

Reflection: casting soil takes an impression of the bumpy surface, but then immobilizes it in artificial stone. the surface texture fixes a certain moment of soil surface, does this contradict the transitory nature of soil that ebbs and flows?

Prompt: Is casting a suitable method for a ruderal approach since it freezes surfaces in time?



Fig 2.14 Prickly lettuce on soil cast surface.

5_Growing Surfaces

completed as part of coursework for ARCN5302W lead by Dr. Lisa Moffitt.



Fig 2.15 Chia growing on soil cast plaster.

Place:	home interior, Ottawa, ON, CA
Time:	one week
Plants:	chia, mold
Method:	chia seed and water paste spread over bumpy surfaces (dirt cast plaster and concrete, clay, asphalt), grown under a cover
Reflection:	chia grows quickly but dies quickly. sprouts change material topography and a direction emerges in reaching for sun. mold was unexpected, growing apparatus was too moist and process not sterile in any way.
Prompt:	How could resurfacing materials change how we relate to them? Could this relation work to decenter the human?



Fig 2.16 Chia and mold growing on found asphalt.



Fig 2.17 Gathering ruderal fragments.

- Place: Banks of Rideau River and Trillium Pathway, Ottawa, ON, CA
- Time: recurrent over a month
- Plants: several ruderal species
- Method: looking for clusters of abundant (dead) plants on public property, taking a small amount, returning or dispersing seeds after the completion of the project . identifying plants using Del Tredici's *Field Guide*
- Reflection: to reconcile with foraging as an act of taking, I worked to be cognizant and respectful in where I walk, what I took, and how I planned to return seeds to the soil if by chance they might be still alive
- Prompt: Could encouraging responsible foraging be a way of broadening other people's relation with nature?

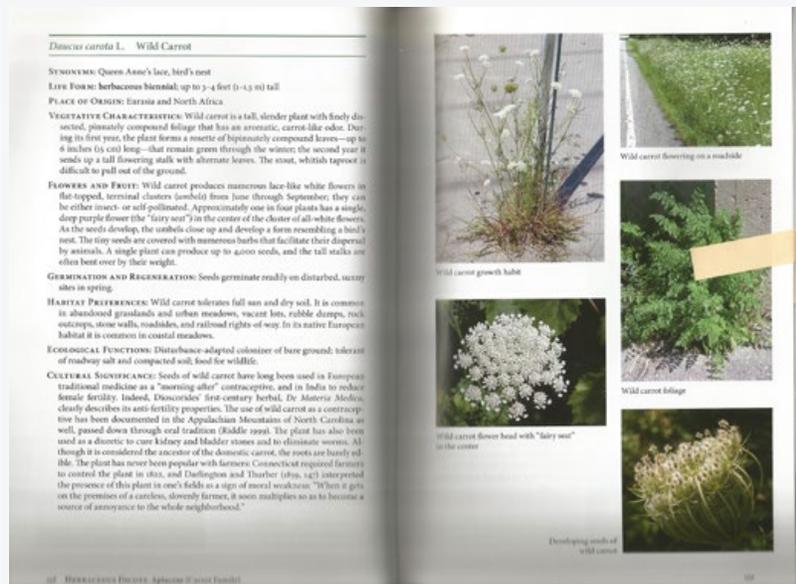
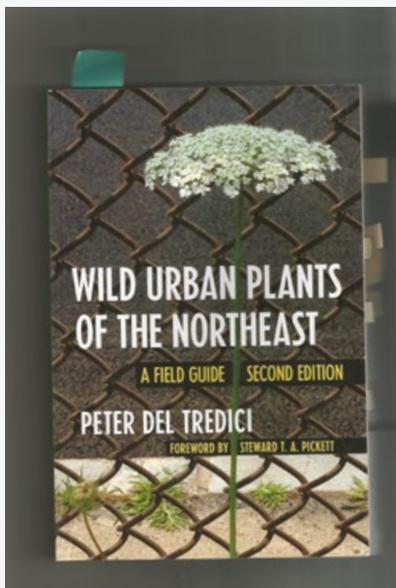


Fig 2. Scans of *Wild Urban Plant of the Northeast: A Field Guide* by Peter Del Tredici, an invaluable resource for getting to know weeds in Ottawa.

In working through a speculative design project, I sought out a representation method of making that continued the work I had begun in these ruderal exercises. This led me to use modeling as a key strategy, where I wanted ruderal plants to be able to represent themselves. I spent time outside gathering the dead limbs still standing in the snow, placing them on used a dirt-cast concrete surface to suggest the bumpy ground that lay underneath the asphalt road. As I gathered the plants I take only what is needed, and will return the seeds once I have photographed them.

From these exercises I found that I need a more capacious project that could hold the many divergent strands and impulses I had pursued, while grounding them more specifically in a certain place. To test the process of noticing the overlooked and working at scales that range from the single seed to the entire ecosystem, between fields of study and fields of weeds. I wanted to see if a ruderal approach could undo the thinking as usual that I had learned in my years of study and perception of conventional world building practices around me that seems to dismiss the social inequities and ecological damage that it generates in its narrow lens trained on creating a more perfect world.

2: Endnotes

- 1 Anna Lowenhaupt Tsing, *The Mushroom at the End of the World : on the Possibility of Life in Capitalist Ruins*, (Princeton: Princeton University Press, 2015), 25.
- 2 Lois Weinberger in conversation with Jessica Ullrich, *Lois Weinberger*, edited by Herausgegeben von Philippe van Cauteren, (Ostfildern: Hatje Cantz, 2013), 55.
- 3 Ibid.
- 4 Ibid., 56.
- 5 Ibid.
- 6 Agnes Denes, "The Dream," *Critical Inquiry* 16, no. 4 (1990), 921.
- 7 Ibid., 924.
- 8 Agnes Denes Studio website, <http://www.agnesdenesstudio.com/works7.html>.
- 9 Denes, The Dream, 928.
- 10 Ibid., 930.

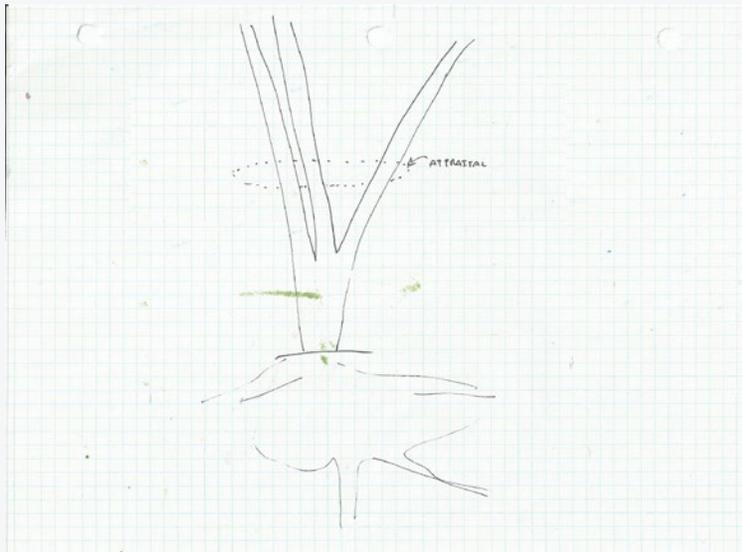
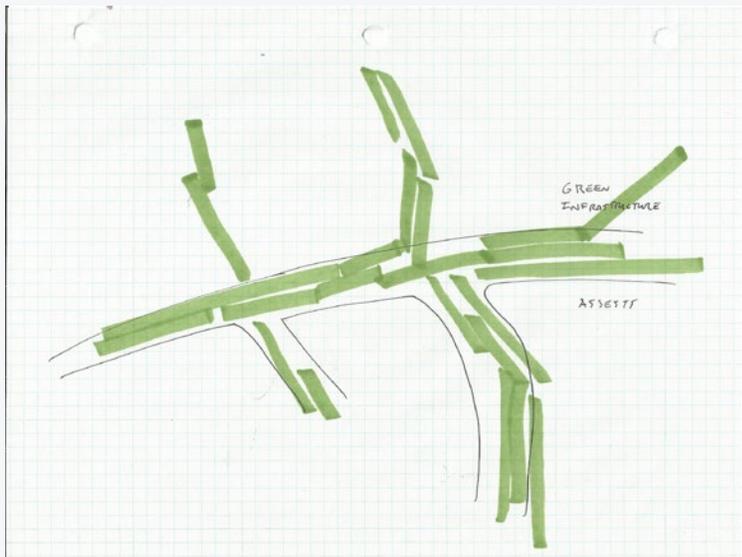
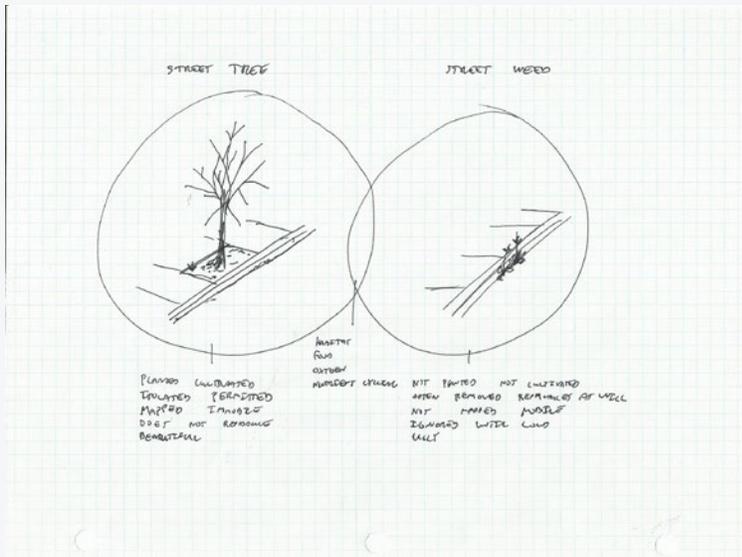


Fig 3.2 Sketches of useful trees/ green infrastructure/ tree appraisal.

3.1 The Useful Tree

Finding myself situated in urban areas following the weeds that dotted sidewalks, a ruderal approach prompted me to reflect further on this prolific abiotic environment, the product of human efforts to build habitable niches often at the expense of others and other humans. From an ecologist's perspective, cities are difficult places for plant growth because of an intense level of abiotic stress, namely the vast covering of impermeable asphalt concrete. By now the environmental consequences of this inhabitation strategy are well known: the emergence of the heat island effect triggered in large part by these heat-absorbent surfaces, the stormwater runoff from these impermeable surfaces that overwhelms water infrastructures triggering flooding while accumulating toxic residues as they go, and the pollutants spewed by the vehicles they serve known to pose serious threats to human health and comfort, to name a few. Ironically, these conditions can be beneficial for plants that appreciate the extra warmth and nutrient (those pollutants for humans like carbon dioxide and nitrogen are nutritious for plants) abundant terrain wherever it is exposed.

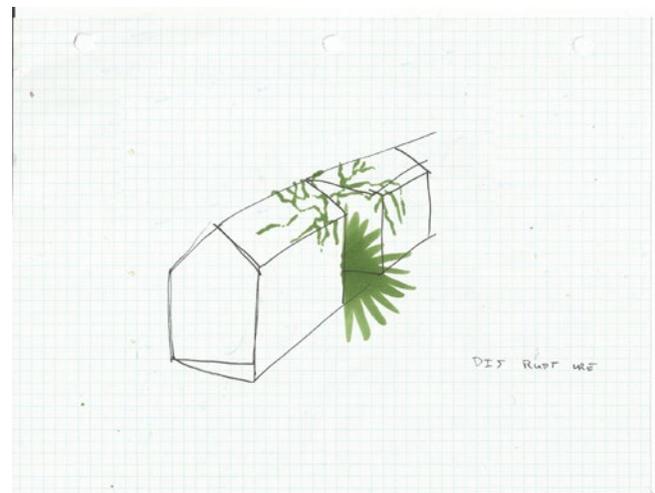
As many cities compile climate change action plans, the potential of natural systems to help mitigate urban environmental issues and repair urban conditions are increasingly incorporated into policy. In The City of Ottawa's *Climate Change Master Plan* from 2020, Point 6 in the Executive Summary simply reads: "Explore options for carbon sequestration methods and the role of green infrastructure." 'Green infrastructure' can be defined as "spatially and functionally integrated systems and networks of protected landscapes supported with protected, artificial and hybrid infrastructures of built landscapes that provide multiple, complementary ecosystem and landscape functions to the public, in support of sustainability." These functions often deploy trees as a central pillar of sustainability metrics, where tree cover is measured by satellite and manual inventorying to track targets for success in recognition of the many ecosystem services they can provide. The City of Ottawa identifies some of these services in their urban planning document: *Putting Down Roots for the Future: City of Ottawa Urban Forest Management Plan - 2018-2037* where it is summarized that:

The community benefits from contact with green spaces that affect general well-being include physical, mental, social, environmental, and economic... Urban forests, trees, and green spaces also have important effects on regulating air quality and thermal comfort in urban settings, as well as on exposure to ultraviolet radiation, wind and noise.

As municipalities start to reckon with the infrastructures that are contributing to inhospitable living conditions, these are also not being unevenly felt,



Above: Fig. 3.3 A fig street tree uproots concrete sidewalk slabs on a street in Los Feliz, Los Angeles.



Right: Fig. 3.4 Sketch of green ruptures the generic built volume.

as Ottawa further acknowledges “Living near green space is related to better self reported well-being, and this is more pronounced in low income neighbourhoods.” Thus taking a “green infrastructure” approach is also tied to a landscape of social equity.

While all human infrastructures require care, they only tend to degrade over time. Green infrastructures comprised of growing systems could be the exception, but an infrastructural view of natural systems dissociates them from their entangled worlds. Trees planted in places with more open ground may have the ability to self-regenerate with greater cushions of biodiverse life, but canopy cover metrics don’t see ground cover – only those leafy spheres above 2m in height. Could some infrastructures that only require care be replaced with infrastructures *of* care, that provide care in the urban environment in a more reciprocal relationship concerned less with data-based metrics and more with on-the-ground real time relations in life and death.

In the street, these useful trees are planted in tree pits at regular intervals on sidewalks, in carefully designed containers that negotiate the minimum needs to sustain the tree’s precarious life. Street trees are readily deployed in the service of helping humans create a more suitable habitat; they are grown in nurseries, planted in a pit, and cut down and thrown away once they start to die, replaced by another. Less of a life cycle more of an assembly line.

Sometimes those street trees push back, I think of the elderberry staining sidewalks purple, Ficus roots upending concrete slabs that flake like ice breaks, or maple leaves that resurface sidewalks for a seasonal moment announced by a crunch underfoot. The seeds which are not claimed by squirrels or birds fall on concrete, a dead surface that won’t permit germination; seeds rot on artificial stone before being swept away and transported to some trash facility. I wonder if seeds ever take root in those trash piles? If there was more soil and less concrete more plants might take root, seeds burrowed, life flourishing before decaying.

Flat concrete roadways and sidewalks are good for human mobility. Their smooth surface is ideal for efficient revolutions of rubber tires and treading shoes. But these smooth hard surfaces are prone to cracking. Especially in the winter climate of Canada where freeze-thaw cycles heave concrete upward rupturing surfaces with fragments and gaps. Cracks in the sidewalk do not impact all users the same way, yet the imperative for their repair seems to be subservient to the roadway where vehicular needs are always much more urgent. Collectively referred as a right-of-way, the hard-cast surface of the concrete street facilitates movement but is not very hospitable for life. The street trees that flank many of them know this as they push against their containers.

The slow but immensely strong forces of tree roots and freeze-thaw cycling water molecules are already suggesting that asphalt concrete is not a great ground covering. What if we de-paved some streets, the quiet ones serving a few households. This naïve proposition presents a hard challenge to the convention of North American city design that has always served the car; where urban fabric pretty well just means street network. The street is where public life takes place, yet it is increasingly not a place for life. Strict regulation on permitted uses on sidewalks and roads narrowly define the many things one may not do on the street, only a narrow way of life is permitted on those hard slabs of impermeable concrete.

Tracking weeds through the city, noticing and acquainting myself with them as I move along sidewalks and bike paths, I wondered what the urban fabric would look like if it registered the activities and mobility of spontaneous plants. Where do weeds grow? What is the spatiality of their life in the city? Ecosystems don't care about property boundaries, yet they respond to the different material conditions of them which is the result of policy regulations about what can be done where. Root systems traverse fence lines while canopies easily branch over them. If the architect's site is a bounded property parcel indicated on a map by a certain hard line, and the urban planner's lens is so too far removed to see the sapling from the tree, who cares for the in-between?

Returning to Stoetzer's ruderal lens, space can be found in the gaps of the city by people whose needs are not met or means restrict access to the spaces they desire for a full urban life. Gaps in the urban fabric help fill the gaps in urban lives. But the gaps that are claimed in some ways are often occupied temporarily before being swept, or pushed, away. The value of the in-between, the out-of-focus, is the counterpart to the scarcity of urban land. Where density is higher, demand is higher (and so are prices). To address the issue of scarcity, cities need more space. So, they demolish small buildings and build taller ones, or raze forests and build there instead. If the current urban development paradigm is one of ordering the city and directing growth in sanctioned places and forms, I propose an ethic of development with a core principle of making space for growth without displacement. Looking for weeds in the city, I started to think that if weeds could find spots anywhere, maybe there was more opportunity that could be perceived if thinking as usual was undone, seen as unfinished.

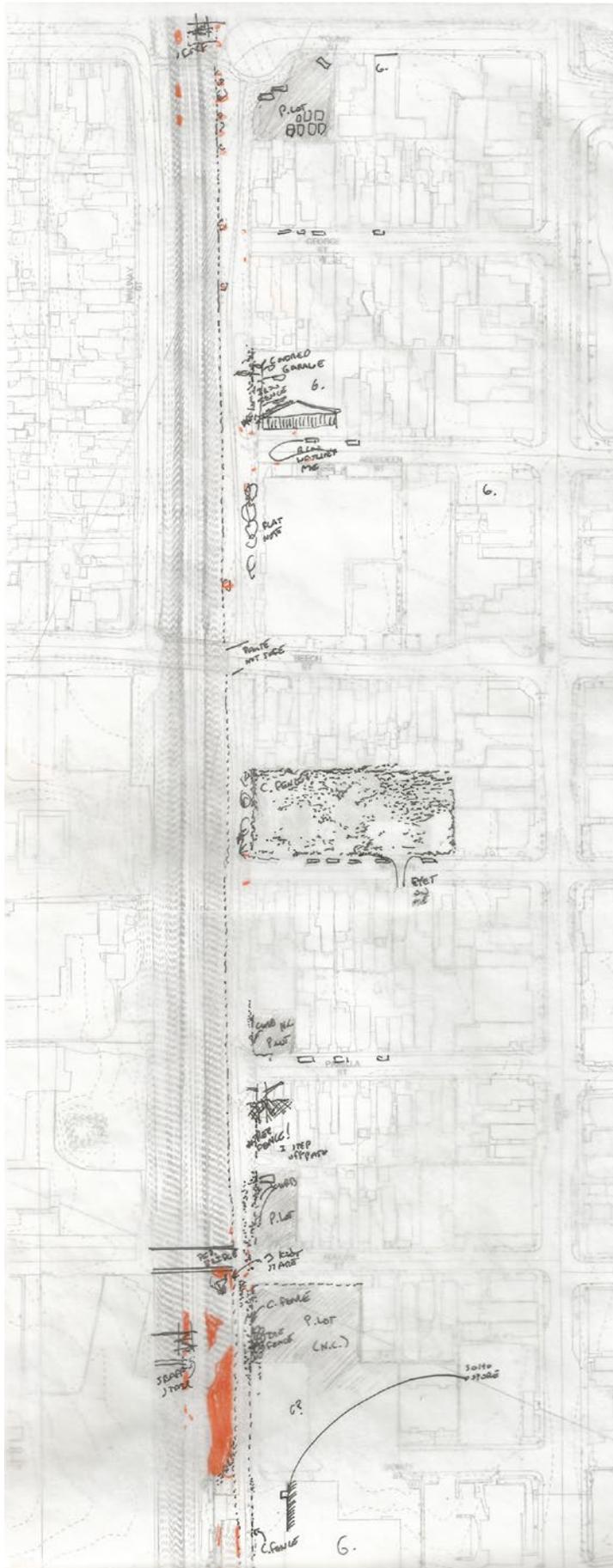
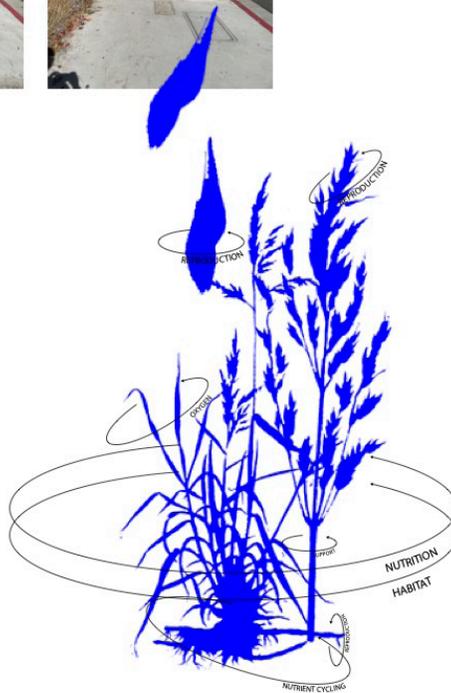
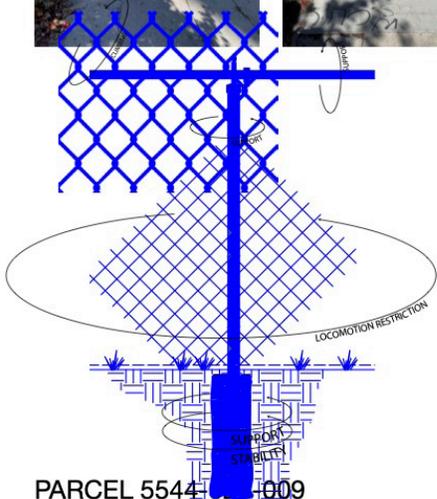
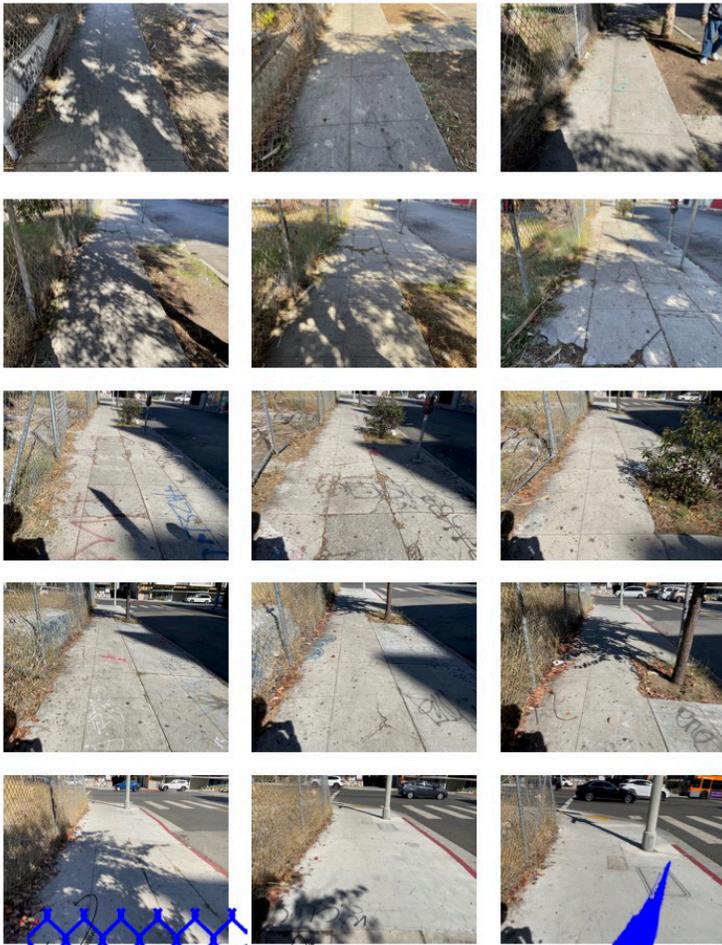


Fig. 3.5 Orange Mapping
Spontaneous plants and high visibility orange on a walk along a bike path in Ottawa that follows train tracks under construction (an unmapped ruderal ecology).



PARCEL 5544-1-009
 5600 HOLLYWOOD BLVD
 LOS ANGELES CA 90028-6810
 LAND SQFT: 9513
 USE: VACANT LAND
 VALUE: 5,255,892 USD
 DEMOLITION: 1995

CITY OF LOS ANGELES - DEPARTMENT OF BUILDING AND SAFETY
 BUILDING PERMIT AND CERTIFICATE OF OCCUPANCY
 1. THE PERMIT IS FOR THE USE OF THE PROPERTY FOR THE PURPOSES OF THE CITY OF LOS ANGELES.
 2. THE PERMIT IS FOR THE USE OF THE PROPERTY FOR THE PURPOSES OF THE CITY OF LOS ANGELES.
 3. THE PERMIT IS FOR THE USE OF THE PROPERTY FOR THE PURPOSES OF THE CITY OF LOS ANGELES.

LOT ADDRESS: 5600-5604 Hollywood Blvd
 BLOCK: 12
 TRACT: 12
 SUBTRACT: 12

SHOW ALL BUILDINGS ON LOT AND RESPECTIVE USE

ST ANDREWS PL
 50'
 100'
 2 STORY COMMERCIAL BUILDING TO BE DEMOLISHED
 5600-A
 PL 5601
 HOLLYWOOD BL
 J.A. CLEARED

Fig. 3.6 Accounts of Vacant Sites: The Plot of Land



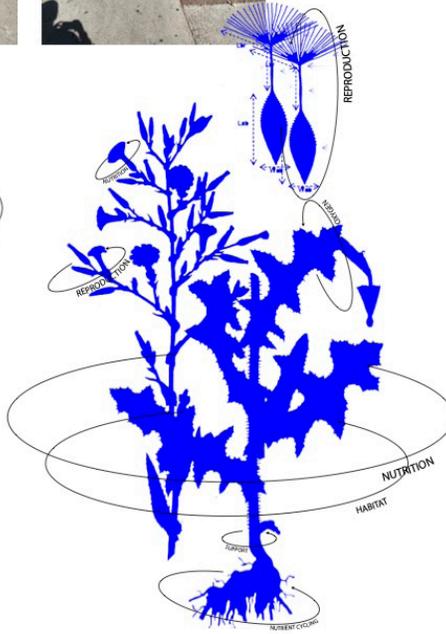
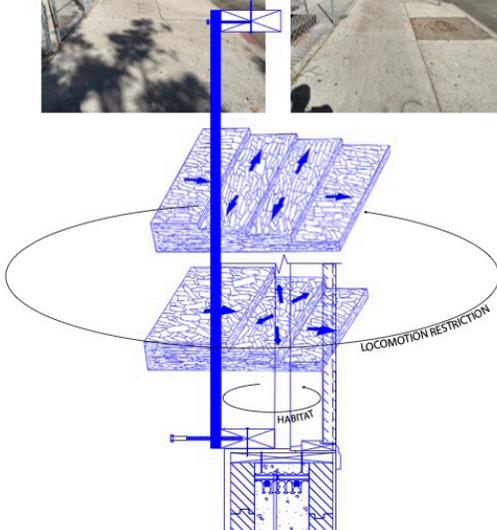
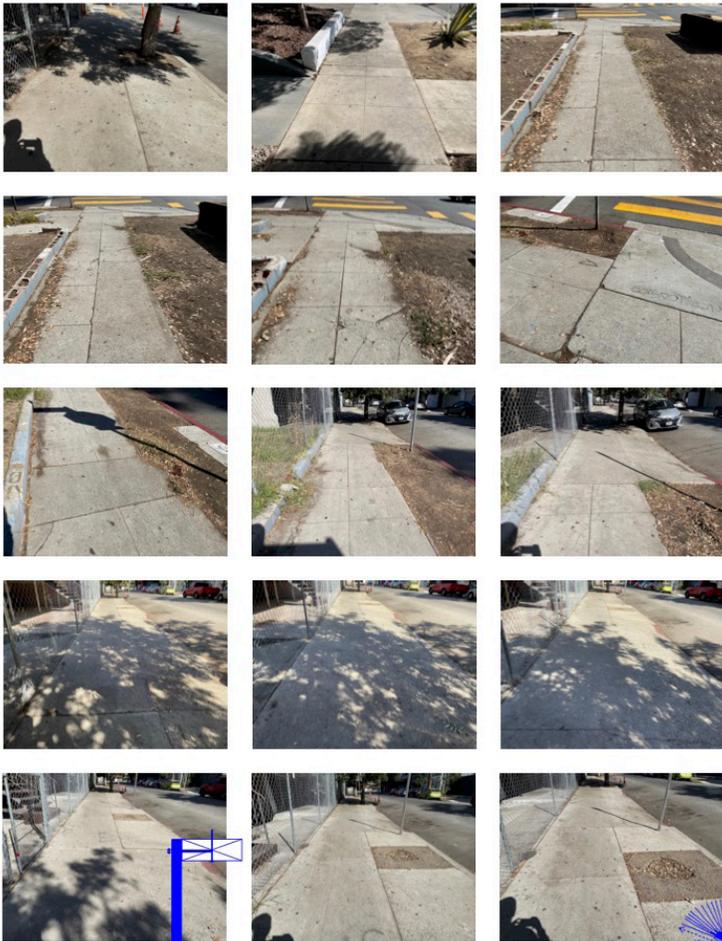
D SAFETY
 - PLOT PLAN

5544-26	TRA 307	REVISED 2007	20110110200801-04
5544-26	TRA 307	REVISED 2007	20110110200801-04

SAN HILSTAD
 COS
 282
 3/10/95

DO NOT MARK IN THIS AREA





PARCEL 5544-026-019
 1655 N ST ANDREWS PL
 LOS ANGELES CA 90028-6820
 LAND SQFT: 8,601
 BUILDING SQFT: 9,856
 USE: MULTI-FAMILY RESIDENCE
 VALUE: 6,254,511 USD

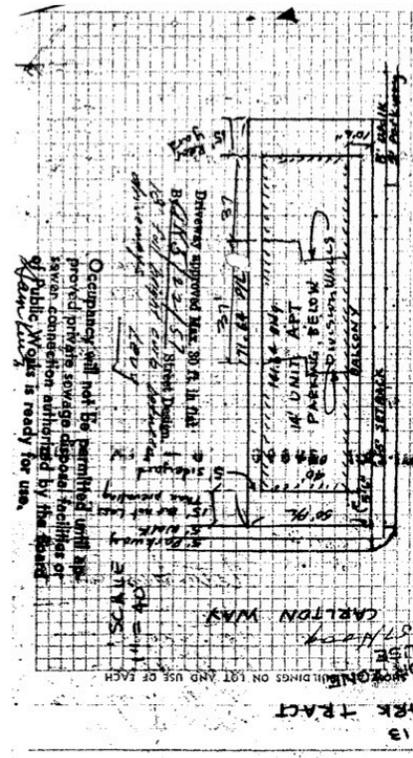
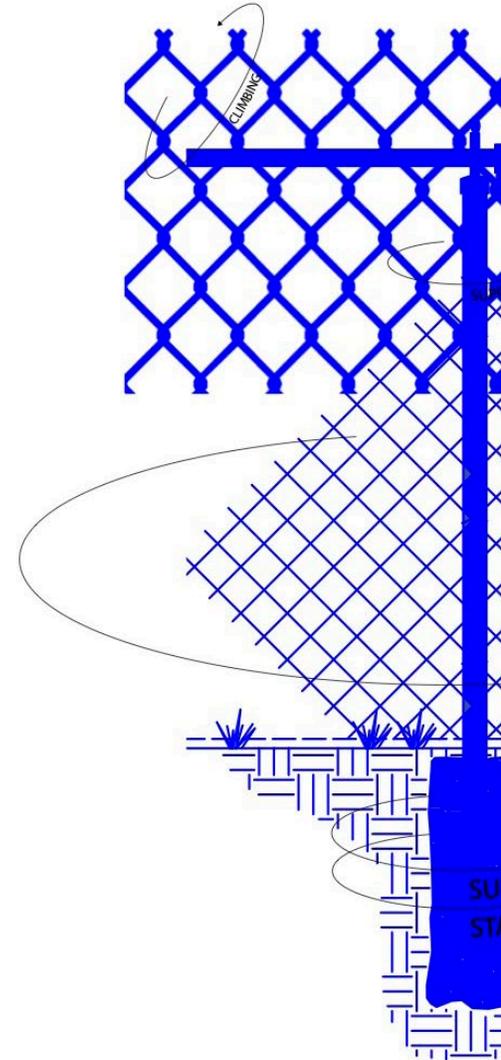
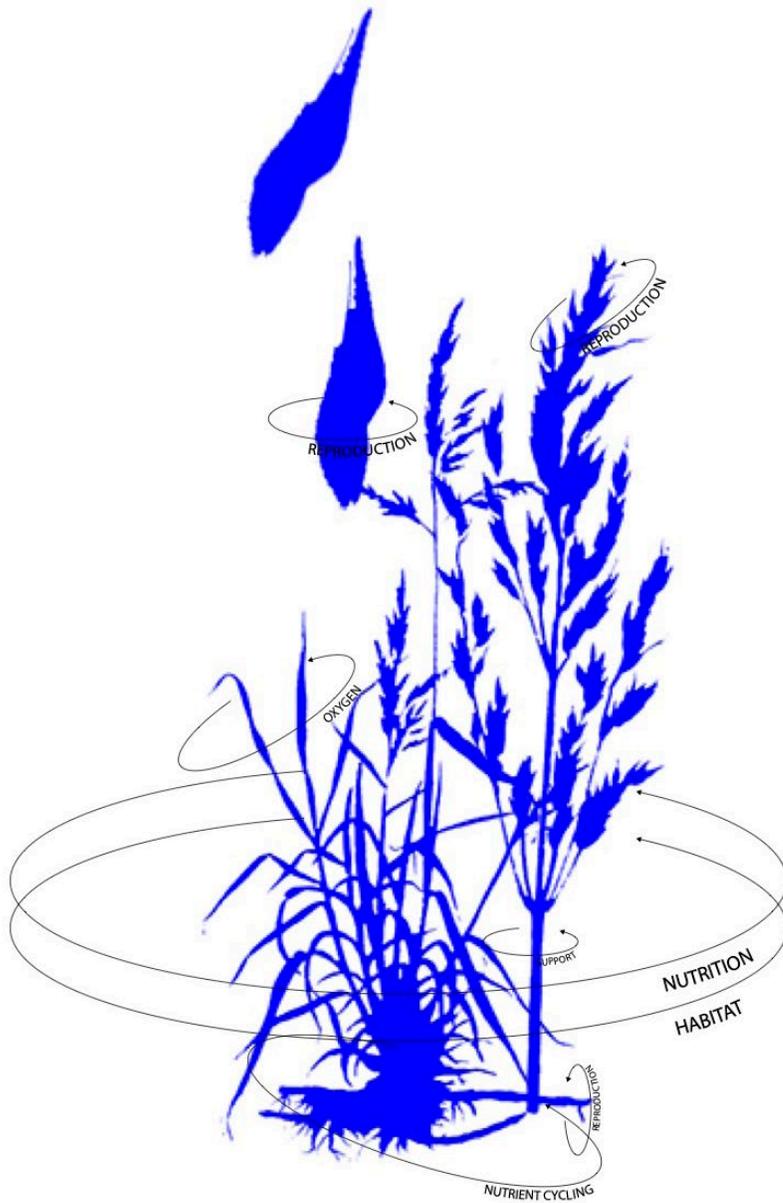


Fig. 3.7 Accounts of Vacant Sites: The Plot of Land



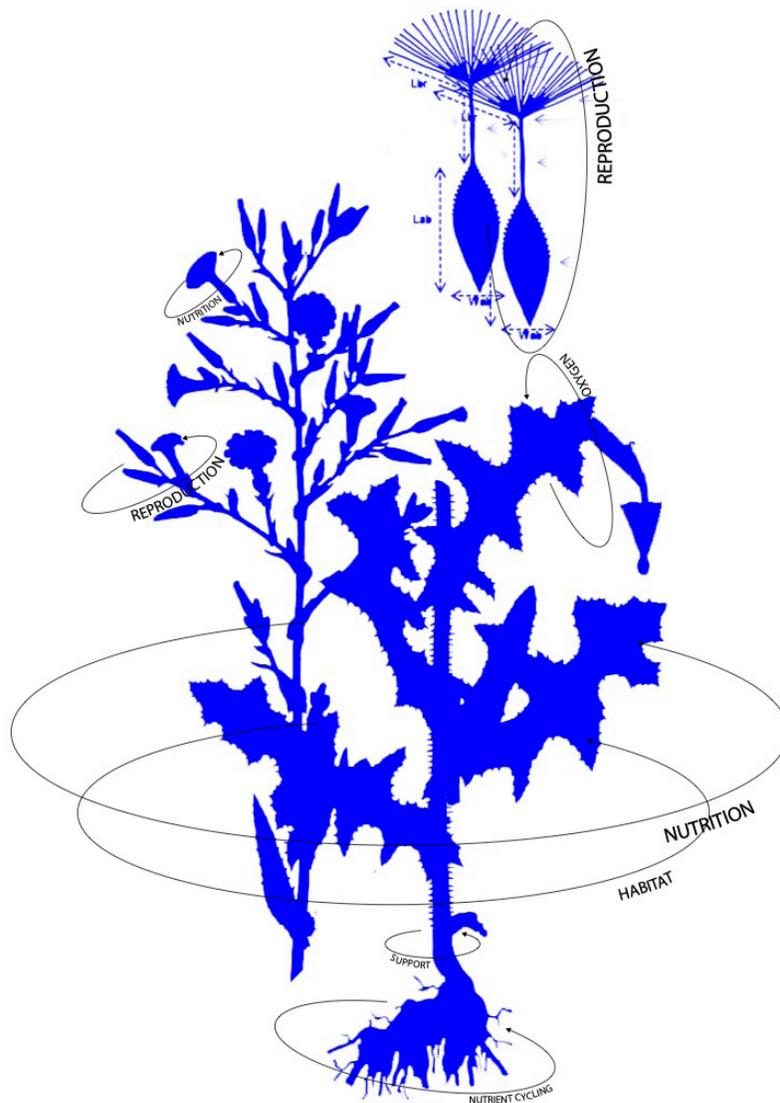
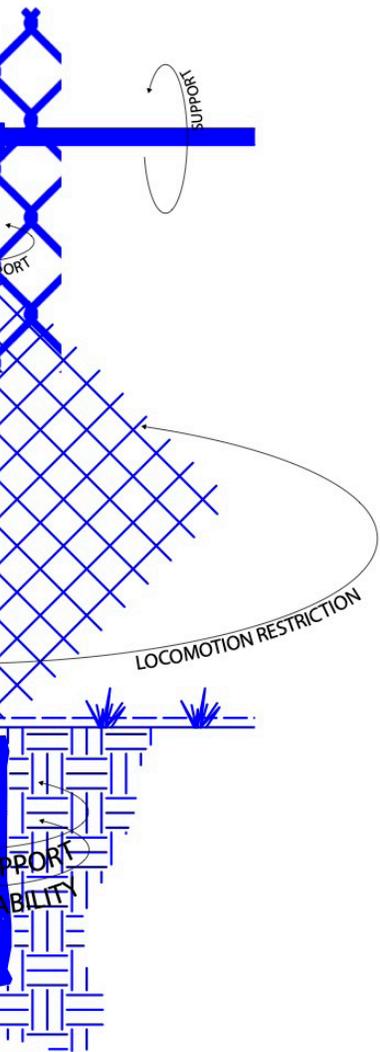
ST. ANDREWS PL.
 TO HOLLYWOOD BLVD
 IRVING PA
 Lot 1
 ON PLOT PLAN
 DATED 11/22/12
 APPROVED FOR
 DATE 11/22/12





AFFORDANCES are possibilities for action in an environment

Fig. 3.8 Accounts of Vacant Sites: Reading Affordances of Neglect



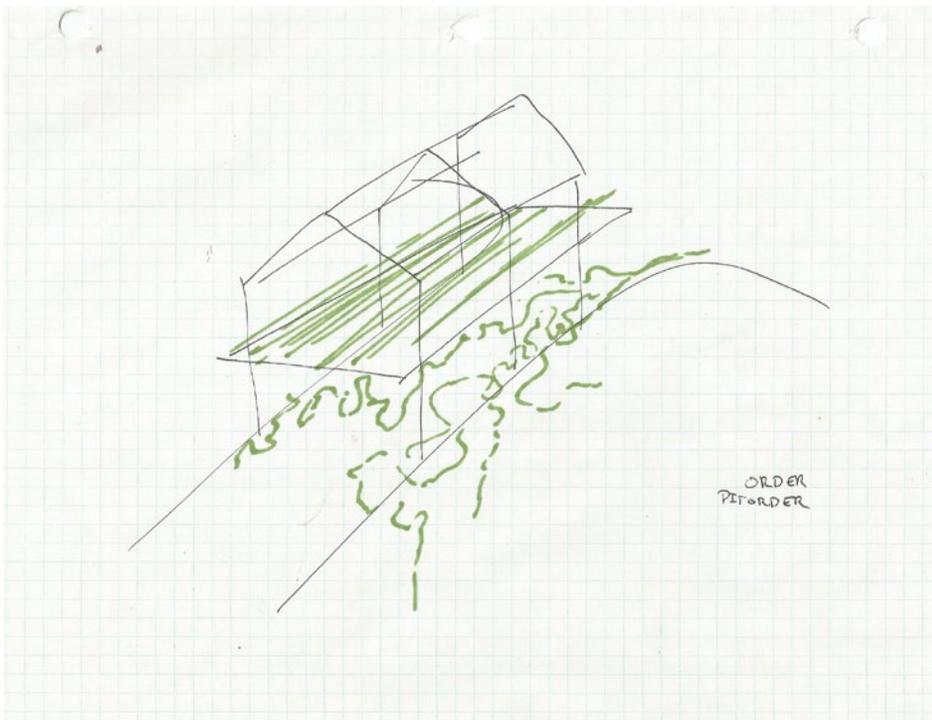
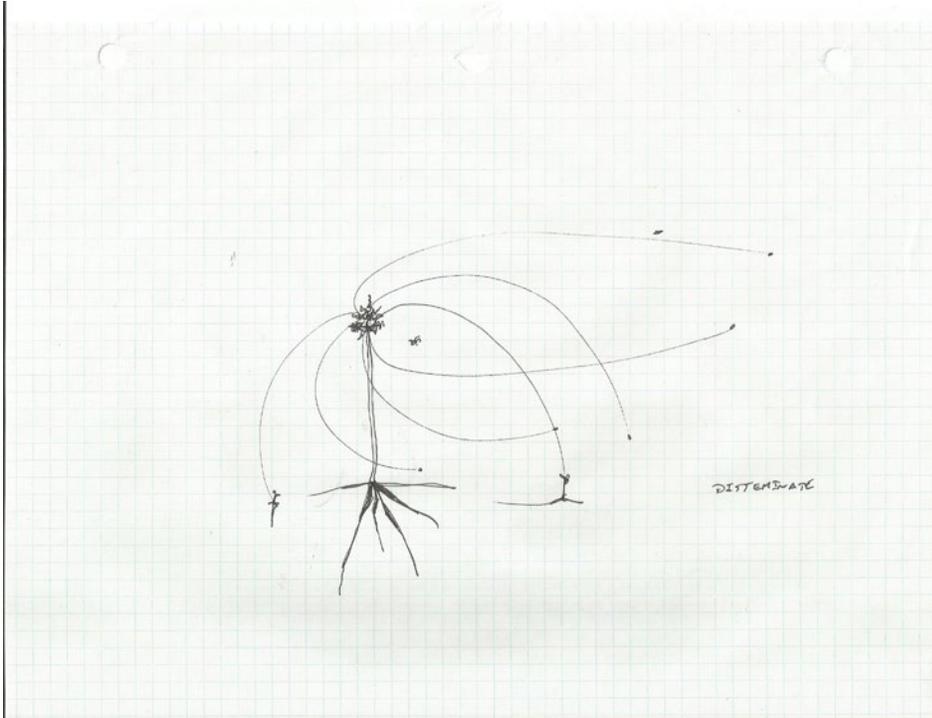


Fig. 3.9 Sketches of disseminating seeds/ elevating green order over green disorder.

3.2 A Useful Weed

Design interventions in weedy places like abandoned lots and residues of industrial pasts can make these spaces more accessible and legible as desirable “greenspace,” brought back into the popular public realm. However, the emergent relations of ruderal ecologies and potentially non-sanctioned human uses that had previously occupied these places without any concern for popular legibility are typically displaced.

This process was evident in the intervention that produced *The High Line* in New York by architects Diller Scofidio + Renfro with landscape architect James Corner, where a long stretch of weedy train tracks was refurbished into an elevated public park. The architects build on the notion of a romantic ruin: “inspired by the melancholic, unruly beauty of this postindustrial ruin, where nature has reclaimed a once vital piece of urban infrastructure.” Evidently the reclamation by nature was not the desirable one as the entire stretch was relandscaped. Queer ecologist Darren Patrick points out that not only were the spontaneous plants that had inhabited this place displaced for the project, but so to were the queer bodies that sought out privacy for moments of intimacy. The widely-lauded project immediately raised housing values 35% in an intense development boom that saw dramatic gentrification displace residents in an already inaccessible city. This type of urban development capitalizes on perceived neglect or abandonment for development opportunity which is long-standing mechanism of gentrification. Notable in the first steps of these process where ruin is romanticized, Patrick points out that beautiful photographs taken by artist Joel Sternfeld of the abandoned tracks helped draw attention to the “underperforming” space and the beauty of its potential. While the park development is widely celebrated, the project did less to fill the gaps in urban lives than it did exacerbate the chasm of access and displacement that divides New York, quickly becoming one of the most trafficked tourist destinations in the city.

Picking up on what David Gissen terms *irony weeding* in his book *Subnature: Architecture's Other Environments*, where the intentional (desirable) use of a weed denies it of its *weediness* as a state of undesirability, the inverse of imposing a design intervention in weedy lands would be to introduce weedy interventions in designed lands. The contradictory idea of ‘introducing weeds’ is not one of destructive sabotage but opening up more room for spontaneity. If ruderal ecologies illustrate a novel mode of living and dying together, introducing more open spaces could support more reciprocal and active mode of inhabitation in the city. A ruderal approach in an urban context is not one of horticulturalizing weeds, but of destabilizing areas that are inhospitable for ‘other’ forms of life, of inverting attention from the edges toward the center, and not the other way around.



Fig. 3.10 Satellite Mapping:
Ottawa area as a terrain imaged by satellite then divided into property parcels within city and urban boundary lines with greenbelt indicated.

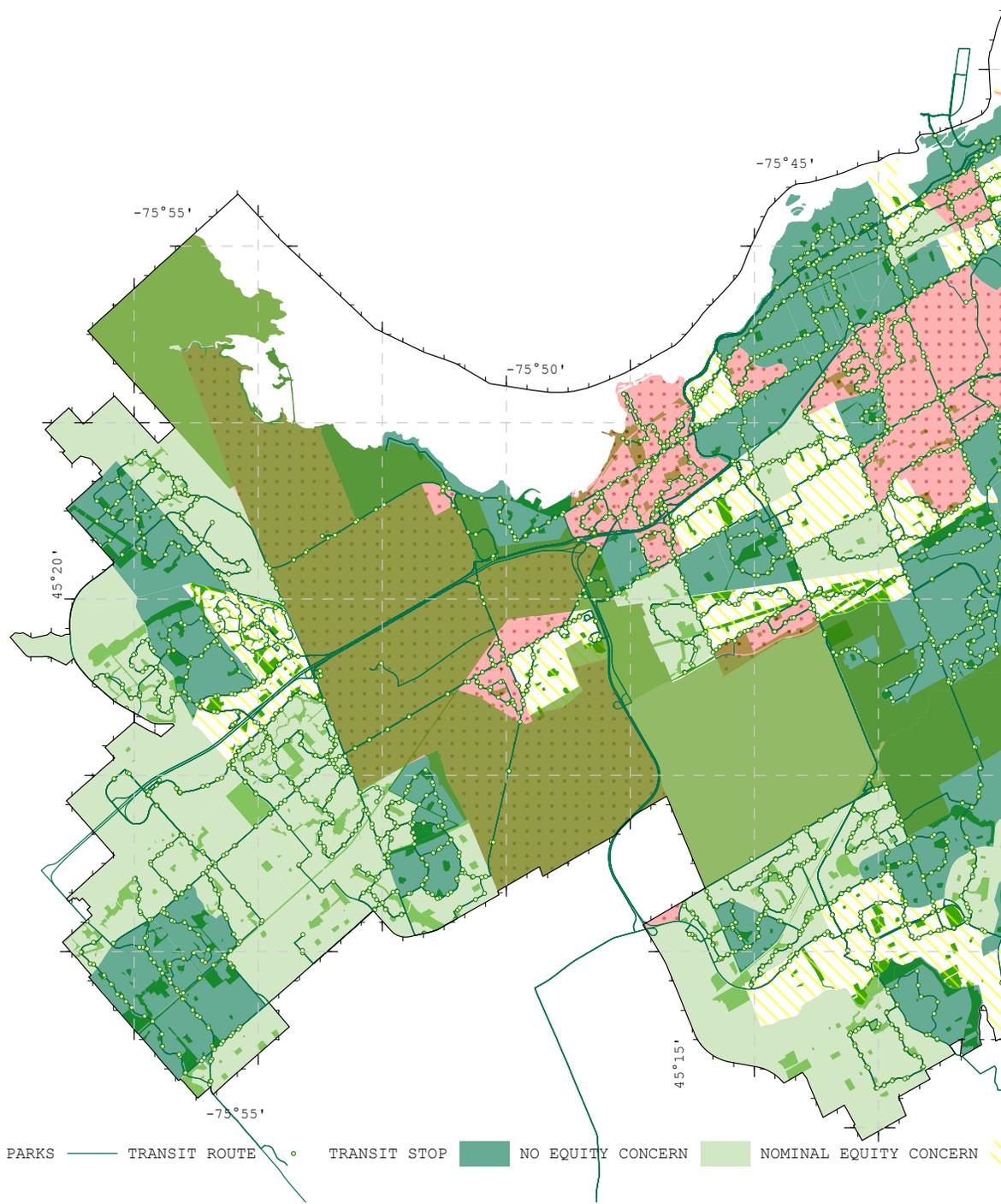
3.3 The Official Plan

To gain an understanding of how The City of Ottawa frames the city as a site for action, I consult the official planning documents, reading closely for cracks in its surface where a weed might take root. In taking a ruderal approach to policy reading I work first by gathering the caesura of policy jargon and in the accumulated gaps find the space to make more space for urban growth without displacement.

The City of Ottawa published the *Official Plan* in November 2021 stating it: “provides a vision for the future growth of the city and a policy framework to guide the city’s physical development.” The plan is structured around ‘Five Big Moves’: Growth, Mobility, Urban Design, Resiliency, and Economy. Integral to these ‘big moves’ is planning for 15-minute neighbourhoods, a compact urban design strategy of providing diverse mix land-uses that offer ‘complete communities’ and reduce car dependency. To study the existing ‘completeness’ of neighbourhoods the city undertook mapping exercises that looked for access to services and amenities and the safety and quality of the walk to these services and amenities.

The *Official Plan* projects a population increase of 402, 000 in 25 years requiring 192, 800 new private households and accounts for this through a “Growth Allocation” plan. Under the ‘Big Move’ of Growth, the main goal is to achieve more growth by intensification than by greenfield development, and the plan suggests about half of these new households will be built within the built-up area, while the other half will still have to develop Ottawa’s Greenbelt. The language of the plan is largely in reference to directing growth and defining its targets within established boundaries.

Importantly, not all areas of the city are subject to same intensity of development. Typically, it is those neighborhoods which are framed as lacking that are the ones sold off for development. These are places seen as holding little value, or in need of improvement to generate more value. Ottawa uses a tool called the Neighbourhood Equity Index to support planning actions designed to address disparities of equity between neighborhoods. It sees the city as a patchwork of neighbourhood boundaries and evaluates five “domains of wellbeing supported by 28 indicators.” The Index measures Ottawa by economic situation, health, social development, physical environment, and community belonging. It is then scaled along four levels: red being strong equity concern, green being no equity concern.



GREENBELT
 PARKS
 TRANSIT ROUTE
 TRANSIT STOP
 NO EQUITY CONCERN
 NOMINAL EQUITY CONCERN

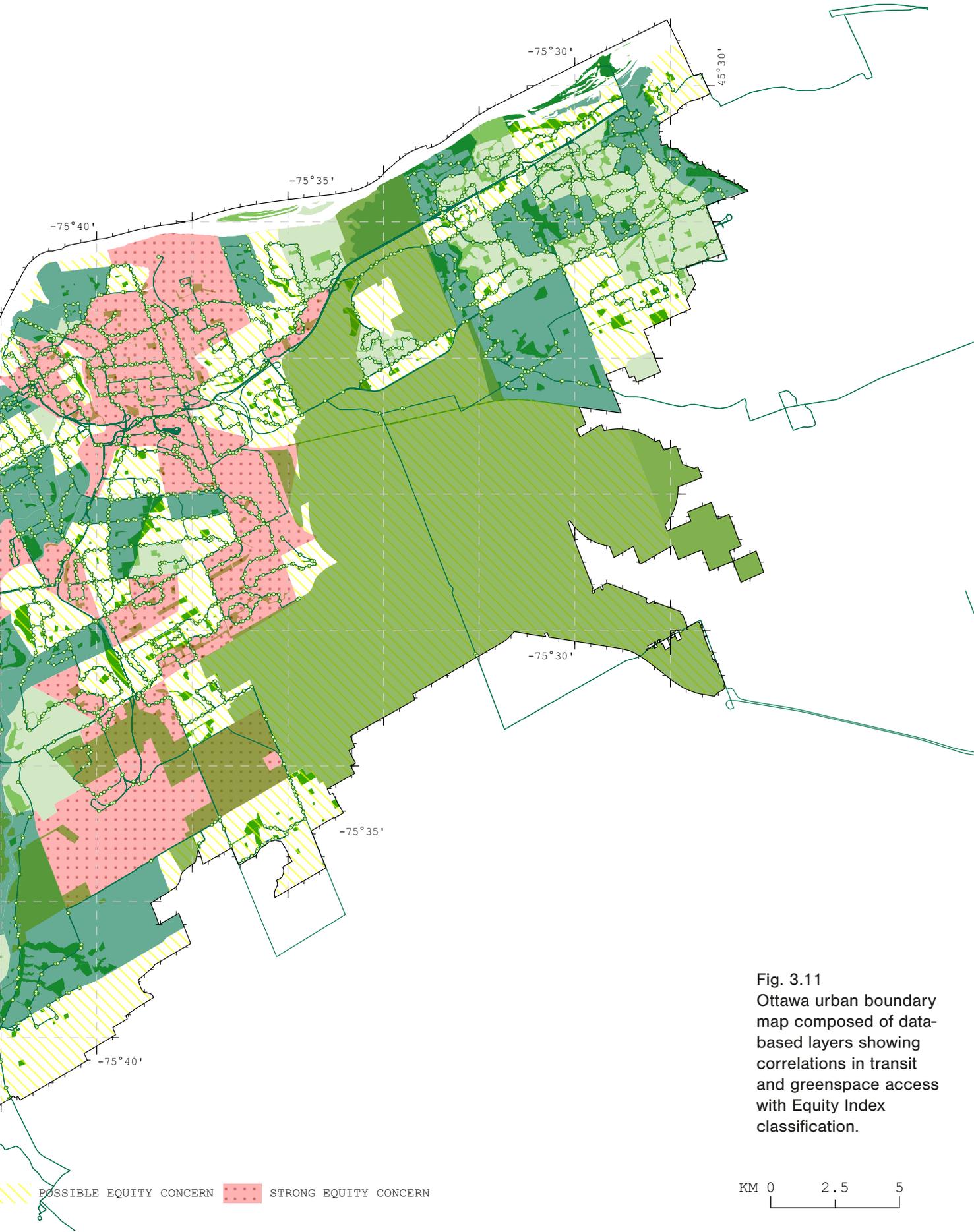


Fig. 3.11
 Ottawa urban boundary
 map composed of data-
 based layers showing
 correlations in transit
 and greenspace access
 with Equity Index
 classification.

GROWING CITY



Fig. 3.12 Climate Solutions for Ottawa's Official Plan infographic by the People's Official Plan alliance, "Toward a People's Official Plan."

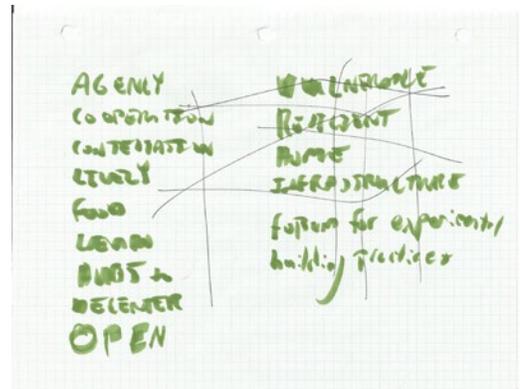
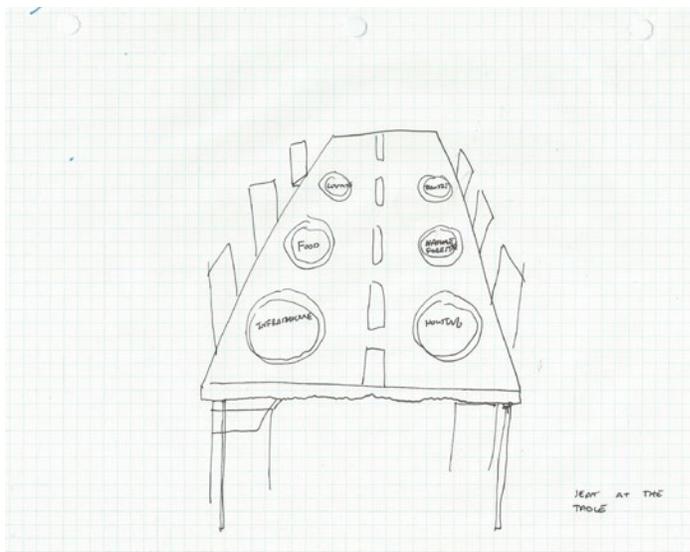


Fig 3.13 Sketch of community words/ stakeholders at the street-as-table.

3.4 Engaging the Urban

To direct growth at the scale of the city, policy and planning become the typical frames of reference and working through a data-based lens, the city is broken down into manageable chunks like census dissemination tracks or neighbourhood boundaries. In this process the city map quickly becomes a weaving of property lines. It is full of targets to hit, jargon to obfuscate, and neat axonometric images for the omnipotent eye.

Policy documents shape public space. Yet they are not easily accessed or responded to; policy documents are good at disenfranchising people by burying issues in hundreds of pages of dry text. In reaction to Ottawa's development of the new Official Plan, an alliance of local organizations are putting together *The People's Official Plan* (POP), aimed at taking action to make Ottawa an inclusive, affordable, and livable city. In contrast to the Official Plan that is written and enforced by City Councilors, the POP is written by and for citizens so that they can mobilize a response to the City's plan. Instead of programmatic categories, the POP organizes a response around eight key themes explained in plain terms with a passionate voice under the headings: Walkable City, Housing Equity, Greenspace for All, Fair and Inclusive, Finance the Climate Transition, Transparent and Accountable Reporting, The Climate Emergency is Here, and Food Security.

As noted under the Housing Equity heading in the POP, more housing is urgently needed in a timely manner for Ottawa, particularly social housing. Here the assumption that existing houses must be demolished to make room for that must be resisted. There is an important value in the social ties of a community built over time. To support communities, displacing them should never be on the agenda. When communities are measured through data, it is easier to plan by numbers. Instead of looking at satellite maps of an abstract terrain figure marked by dotted boundaries, road lines, or metrics of appraising value, a ruderal approach looks for moments of proscriptive immaterialities and disrupts their steady going to create more space for growth.

A ruderal approach can work in-between the abstract domain of planning and policy that guides transient systems toward future possibilities in broadly applicable conditions, and the localized specificity of living in a particular place at a particular time. While ruderal species share some characteristics that enable flourishing, their relations in specific cases on the ground is novel in each instance.

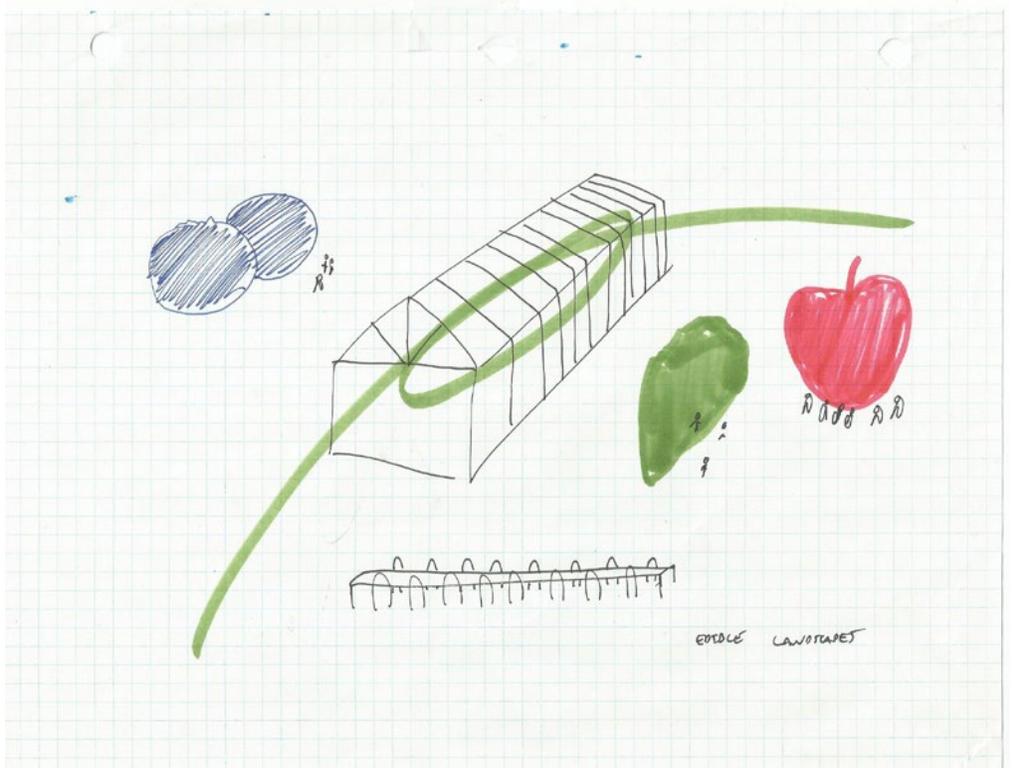
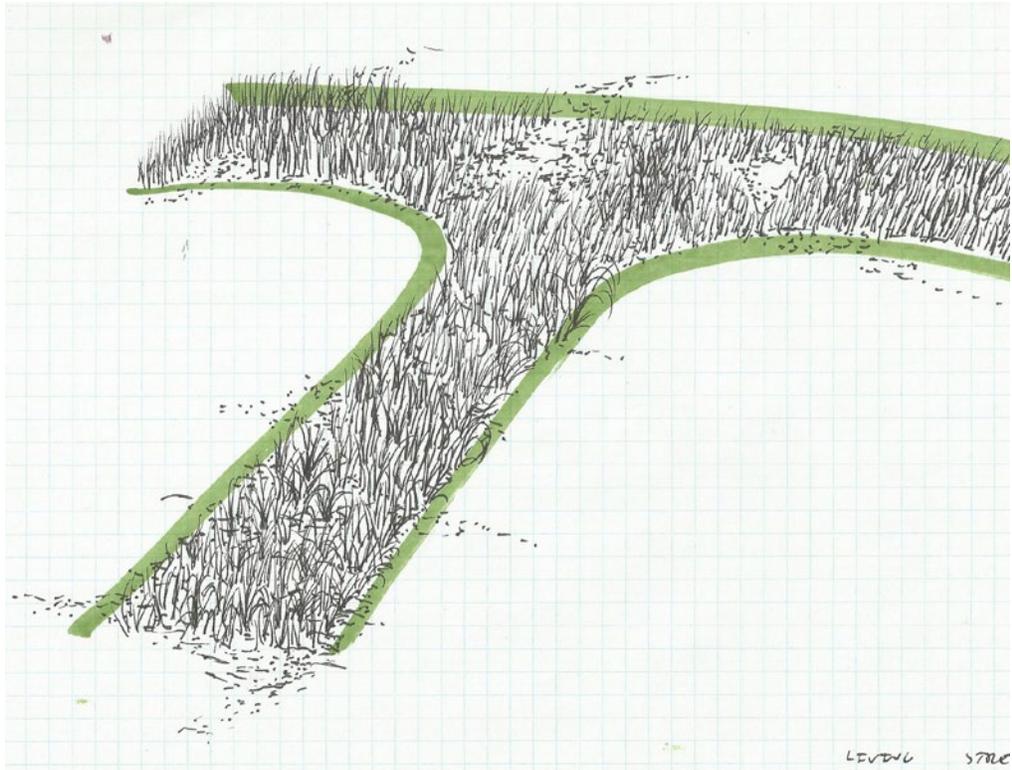


Fig. 3.14 Sketches of weeding a street/ edible landscape.

3.5 Where is there space for a ruderal approach?

In a footnote to the tables that outline intensification targets, the *Official Plan* clarifies that *gross hectares* includes “non-developable lands such as roads and parks.” In reality parks are apparently very developable lands, seen for example by a massive portion of the park at Dows Lake about to be developed for a hospitable, while the greenbelt, a large conservation park, is rapidly being depleted for more residential parcels. On the other hand, it is seldom the case that roads are deconstructed, we typically only see them expanded, their routes extended. The going trend is decreasing lands for growth; a landscape of roads is a lifeless terrain, but it forms the armature on which cities grow.

Ottawa’s road network is broken down into four main hierarchies: highways, arterial roads, collector roads, and finally local roads. At the lowest level, local roads are also the most prolific; while they are smallest in their typical cross-section, local roads still account for the vast majority of paved surface of urban land. Yet they only serve the households addressed to them, while public transit routes typically make use of collector, arterial and highway type roads. Where the 15-minute neighbourhood framework of improved transit access and pedestrian environments is advocated in the *Official Plan*, there is a possibility of reducing the necessity of Ottawa’s extensive local road network if cars were not the primary mode of everyday movement through the city.

The street always figured into my thesis before coming into focus. I started by working with a foxtail growing in the curb in front of my house and moving through the city my routes were usually laid on public land: sidewalks, bike paths, park paths along the Rideau River. The street is a type of public space behind a safety gazette; a no stopping zone unless permits for protest or pop-ups are submitted and approved. It accounts for an extensive cover of urban land in the service of everyday life, yet it is not a space for everyday life. Just as many civic amenities run through city streets, reimaging the street is an opportunity to imagine more entangled visions of abundant urban growth.

Despite being part of the public realm, many roads do not serve a broad public. Streets are intended to only serve the function of transporting people, goods, and services by those adults who are licensed and equipped to do so. When the smooth flow of things is disrupted, it can be a big deal; this is where protest gains much of its power in obstructing urban going. Street fairs, weekend markets, and marathons are sanctioned uses that occasionally occupy the street prompting detours that may also reveal

contested uses of this public realm. If public space refers the parts of the public realm that can be commonly used by the public, I propose that some local streets be given over as public space, to expand the domain of common public space.

In response to the COVID-19 pandemic, the new health measure of physical distancing was invoked to reduce the risk of transferring the airborne virus. Suddenly, the consumptive city of restaurants and retail outlets needed more space to operate. This prompted a rapid policy development in many cities that allowed for temporary dining and shopping spaces to be set up on sidewalks, with some streets being periodically closed to vehicular access for even more room to eat, shop, and leisure. For Ottawa this was facilitated by the 2021 ROW Summer Patio Permit Program. This policy permitted a novel mode of urban occupation that indicates a possibility for reconsiderations of how urban space is allocated, in particular for the primacy of the car. If suddenly more space could be found for the hungry diner, could more space not be found to serve the many spatial needs of other urban occupants in a more substantial, and enduring way?

I challenge the given that so much land is sealed by surfaces which suppress growth, that serve the purpose of keeping in motion or taking-away. Commuting, garbage collection, storm water funneling, snow plowing. The street serves a lifeway dependent on constant, steady movement whose efficacy relies on an ordered, sterile landscape; a rolling stone should gather no moss. But despite those regimes of taking-away that routinely scrape the street, ruderal ecologies often flank and sometimes seep into road infrastructure. Instead of stretches of asphalt, some streets could be forests, gardens, or parks. Taking note of the issues of access to greenspace, food security, and building better climate resilience, opening up these narrow bands that are adjacent to all houses could impart the benefits of human interaction and proximities to nature for residents on an undone street.

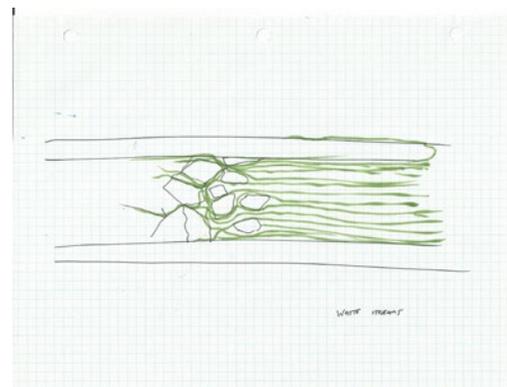
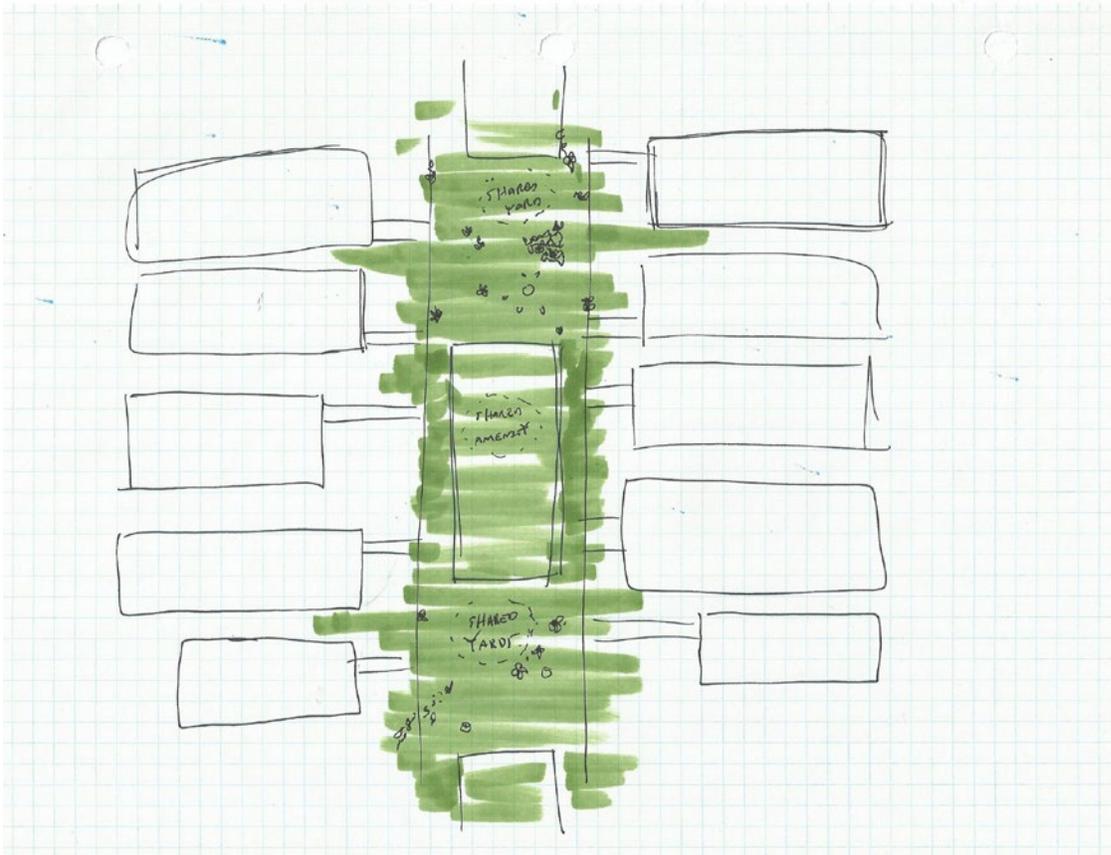


Fig. 3.15 Sketches of a neighbourhood yard/ material junctions/ unsealing roadway ground.



Fig. 3.16 Meeting in place: imagining a possible alternative to public engagement with urban development.

3.6 Making Worlds

It matters what thoughts think thoughts. It matters what knowledges know knowledges. It matters what relations relate relations. It matters what worlds world worlds. It matters what stories tell stories.

-Donna Haraway, *Staying with the Trouble*

When submitting a development application that deviates from current zoning regulations, a Zoning By-law Amendment must be submitted to the city of Ottawa who then installs a notification board on the affected lands. This board includes a summary of the application and a volumetric rendering of the proposal shown in an axonometric view. It offers an email and phone line to contact with thoughts.

But what is there to say about a big orange box surrounded by other white boxes? The muteness of this detached view with its blank facades doesn't look familiar, and it suggests massing is the only relevant concern a passerby may have. In engaging a public with urban development at the scale of one property or the entire city, it matters what images are used to communicated proposals. These renderings of a desirable future condition are, at best, intended to inform a general public so they may respond, but in their abstraction may ultimately work erase the embedded meanings and relations to sites without empowering meaningful resistance. Robert Beauregard points out that, for designers, site representation is the means by which “places saturated with meaning” are “turned into ‘cleared’ sites,”

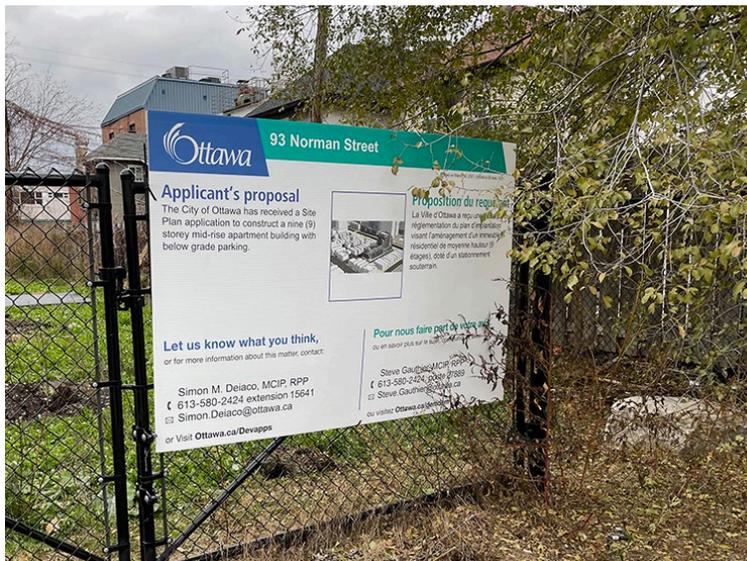


Fig. 3.17 A typical zoning by-law amendment notification board posted on future construction site in Ottawa.



Fig 3.18 A carrier bag of dried up weeds found poking through the winter snow in Ottawa.

ready for interventions that address only a “limited number of qualities.” The rendered world of development applications represents a cleared site, communicating to stakeholders that what exists will be similarly cleared away; in Haraway’s terms, the rendered world is one that ‘worlds’ the physical world.

Rather than erasure, a mode of representation that is additive is needed to continue layering meanings in places. In *The Carrier Bag Theory of Fiction*, science fiction writer Ursula Le Guin offers an alternative to the unilateral narratives of spear-wielding heroes that Western literature keeps retelling. To tell her stories, Le Guin draws on the actions of gathering and sharing as the basis from which humans build relationships. She writes:

If it is a human thing to do to put something you want, because it’s useful, edible, or beautiful, into a bag, or a basket, or a bit of rolled bark or leaf, or a net woven of your own hair, or what have you, and then take it home with you, home being another, larger kind of pouch or bag, a container for people, and then later on you take it out and eat it or share it or store it up for winter in a sturdier container or put it in the medicine bundle or the shrine or the museum, the holy place, the area that contains what is sacred, and then next day you probably do much the same again – if to do that is human, if that’s what it takes, then I am a human being after all. Fully, freely, gladly, for the first time.

Telling human stories that are not about conquest and triumphant finishing lines (much like the ‘perfect’ render tells the story of a proposed architectural climax), but about slow and careful tending and collecting, imagines a world that is more hospitable for growing in common.

As I began imagining how to communicate a reflective design project, I recognized that my own tendencies for computer drawings were not telling the story I wanted to tell. As I kept returning to weeds, on walks in rural places, I remembered the lessons of Kimmerer’s careful relations to plants and started to bring my own carrier bag as I worked outside. Walking in winter, a cyclical time that might be perceived as scarce for foraging, I found abundance in the many dead ruderals that still stood above snow. In the careful act of foraging, taking only small bits of what I needed, (though no longer growing, dead stems help accumulate snow to keep the roots underground a bit warmer), the sustained bountifulness of nature could be found once the parameters of ‘value’ were loosened.



Fig. 3.19 An abundance of black swallowwort and others in Little Italy, Ottawa.

Representational strategies that are less didactic and more inviting of imagination were then produced using the bits of weedy plants to represent themselves directly. Bearing in mind Candace Fujikane’s statement of “mapping abundance as a sensual experience,” in modelling and drawing I invoked the layered, scattered textures of ruderal ecologies to disrupt the blank page. Drawings shift in scale from the minute weed (the botanist’s scale), the building (the architect’s scale), to the entire urban region (the urban planner’s scale), to help convey that the related issues of climate change and urban equity play out across scales and to work toward repair must mean working across these varying frames of reference.

Working across many mediums and modes of making was an important method of occupying the interstices between disciplines, stories, and intentions. A ruderal approach viewed drawing and model making as an active form of inquiry – grounding site intervention, foraging, and remodeling site in practices of care. Having made a series of site specific interventions studying weeds, I returned to architecture with the production of detailed drawings that highlight growth, and models that utilize foraged materials to rebuild the everyday landscapes of the city if we were to make space for weeds. Such work was always speculative, but reflected the values of participation and accessibility that guided a ruderal approach.

To present imagery that is less smooth-world, messier, and textured is valuable in welcoming ‘interference’ or input. Instead of detached views, blank surfaces, and distant cartographies, entangled views, physical materials, and unfinished maps create a more occupiable space. The visual systems being used to tell the story of a possible condition should not be closed geometries and hard lines but rough textures and loose suggestions. Taking a ruderal approach suggests that precarity is a reality that must always be present to see the unexpected; the work is necessarily incomplete. It matters what representations we make to build our worlds.

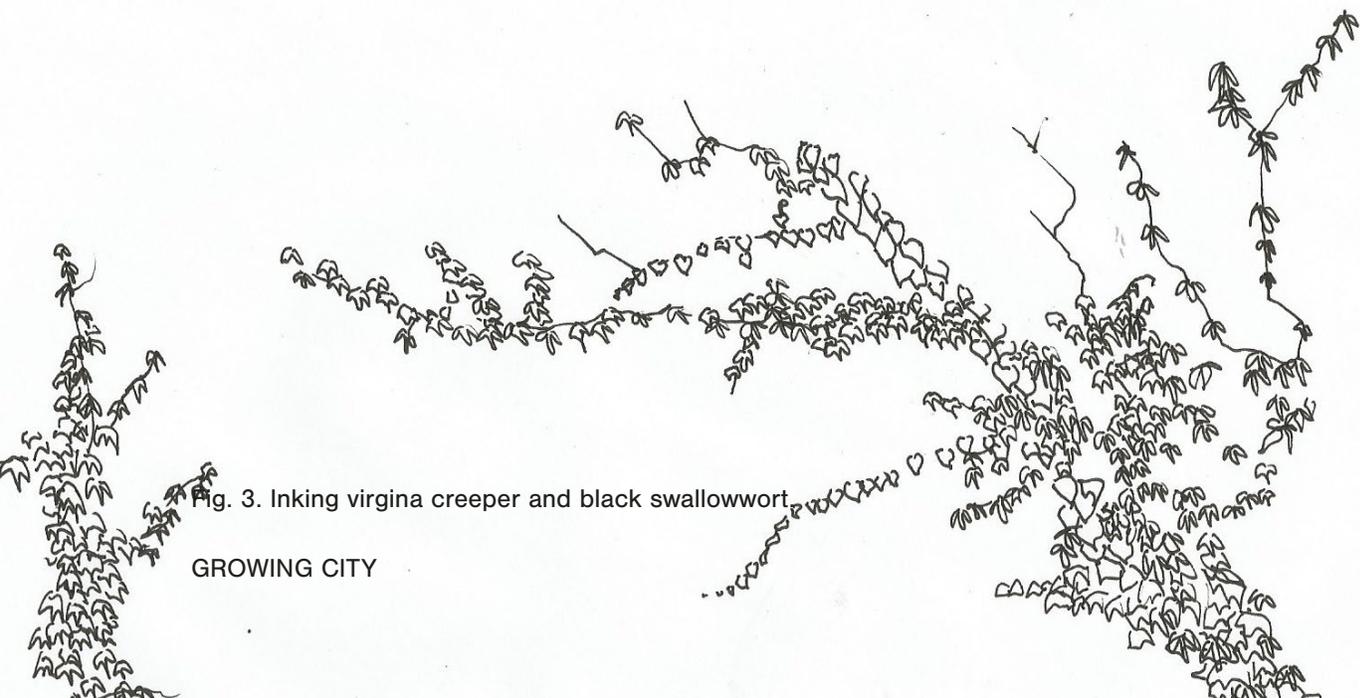


Fig. 3. Inking virgina creeper and black swallowwort.

3: Endnotes

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Fig 4.1 Potential Atmosphere of a ruderal street.

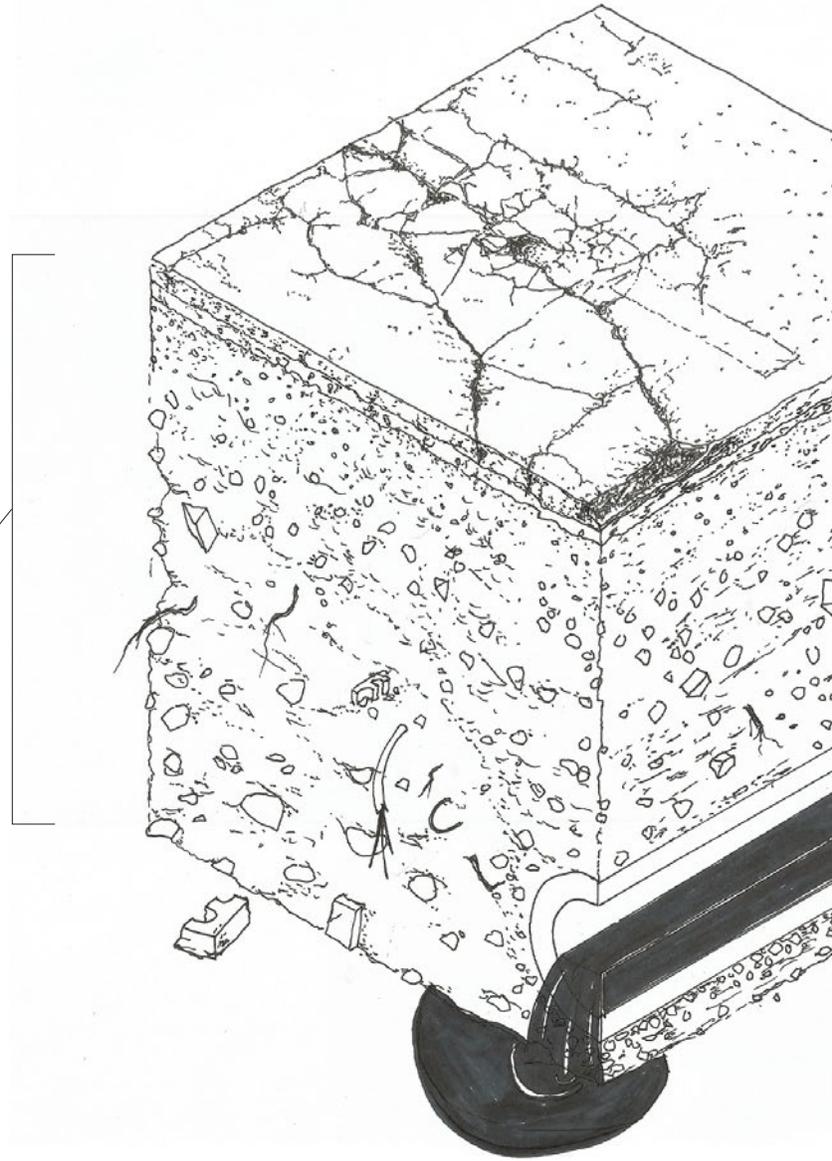
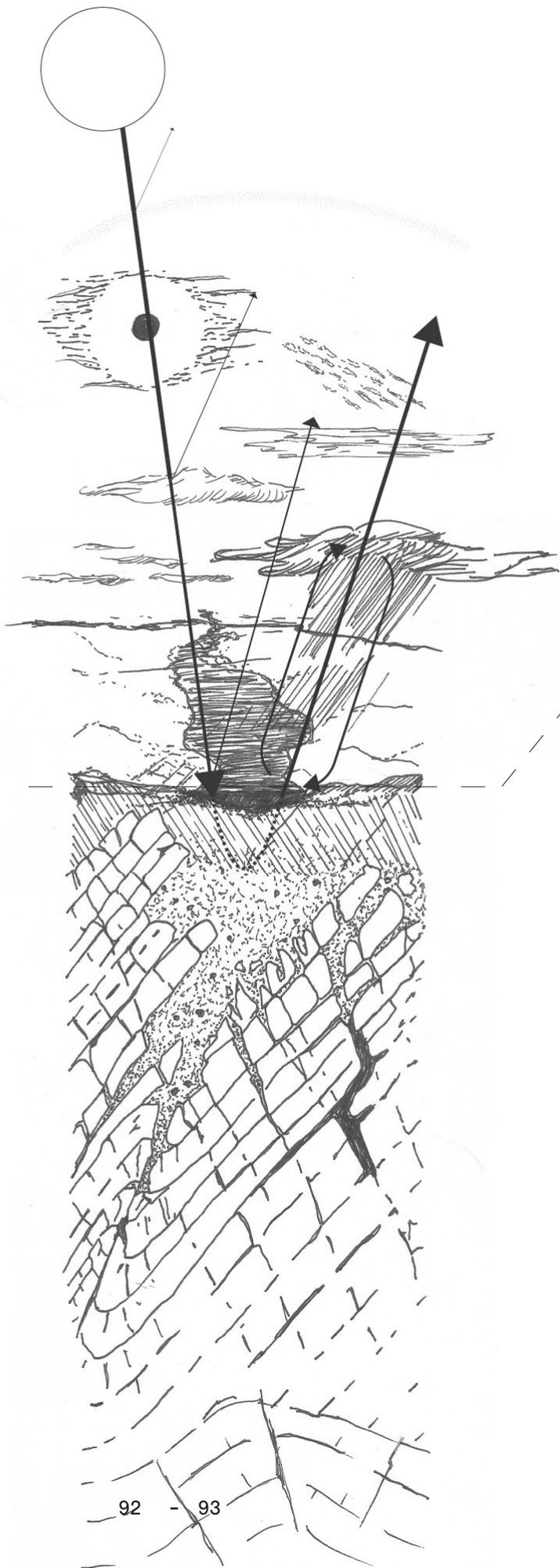
PART 4: A RUDERAL STREET

To ground a ruderal approach in a particular place, while implicating entities across broader scales than I had worked with in my smaller projects, I developed a reflective design project that started with the prompt: what if streets were forests? Positioning myself as a “student of site,” in Andrea Kahn and Carol Burn’s words, I worked between the specific (particular places in Ottawa), and the universal (a design approach informed by ruderal worlds).¹ I looked closely at the ordinary streets where people live to think about participation and the way design is communicated to stakeholders at scales from the individual to the broad urban region. Between processes of conceptual design and physical making, I looked for gaps in how different space-making disciplines typically build the city to propose ways that we might start to grow across tidy delineations.

Who gets to determine what growth ought to look like? The design work is most promising in its direct depiction of ruderal species and in the representation of an open-ended concept meant to be broadly receptive for other inputs. Subverting planning jargon and detached cartographies that designate poorer neighbourhoods for the most rapid development, streets were materially reimaged within three neighborhoods that register at different levels of the Neighbourhood Equity Index.² A ruderal approach decentralizes the power in shaping how cities grow by freeing up space at accessible and extendable scales beginning with the narrow bands of pavement at everyone’s feet.

To guide a design response, I reflected on observations of density, relations of permeable to impermeable ground, greenspace access, and existing canopies. To broaden my point of view on what might take place in a ruderal street, I drew on the planning points from the *People’s Official Plan* which identifies many desired programmatic solutions for a more walkable city including: re-purposing waste, transit hubs as community hubs offering an array of services from child care to bike repair, and more opportunity for self grown food, among several others.³

A ruderal lens has shown how novel modes of urban co-occupation between humans and nonhumans arise in the gaps of urban fabrics, could introducing more ruderal space encourage more opportunities for growing in place?⁴ Undoing the street in favour of open gardens, forests, local amenities, and much needed housing could prompt an entire reconfiguration of how urban occupants, human and more-than-human, relate to each other and their environment. To de-prioritize vehicular infrastructures opens up more ground for spontaneous growth and reciprocal relations, as in the resilient novel ecosystems that emerge when our backs are turned. Gathering in the street could become a routine part of urban life if the ground was returned its capacity to absorb, grow, and compost.⁵



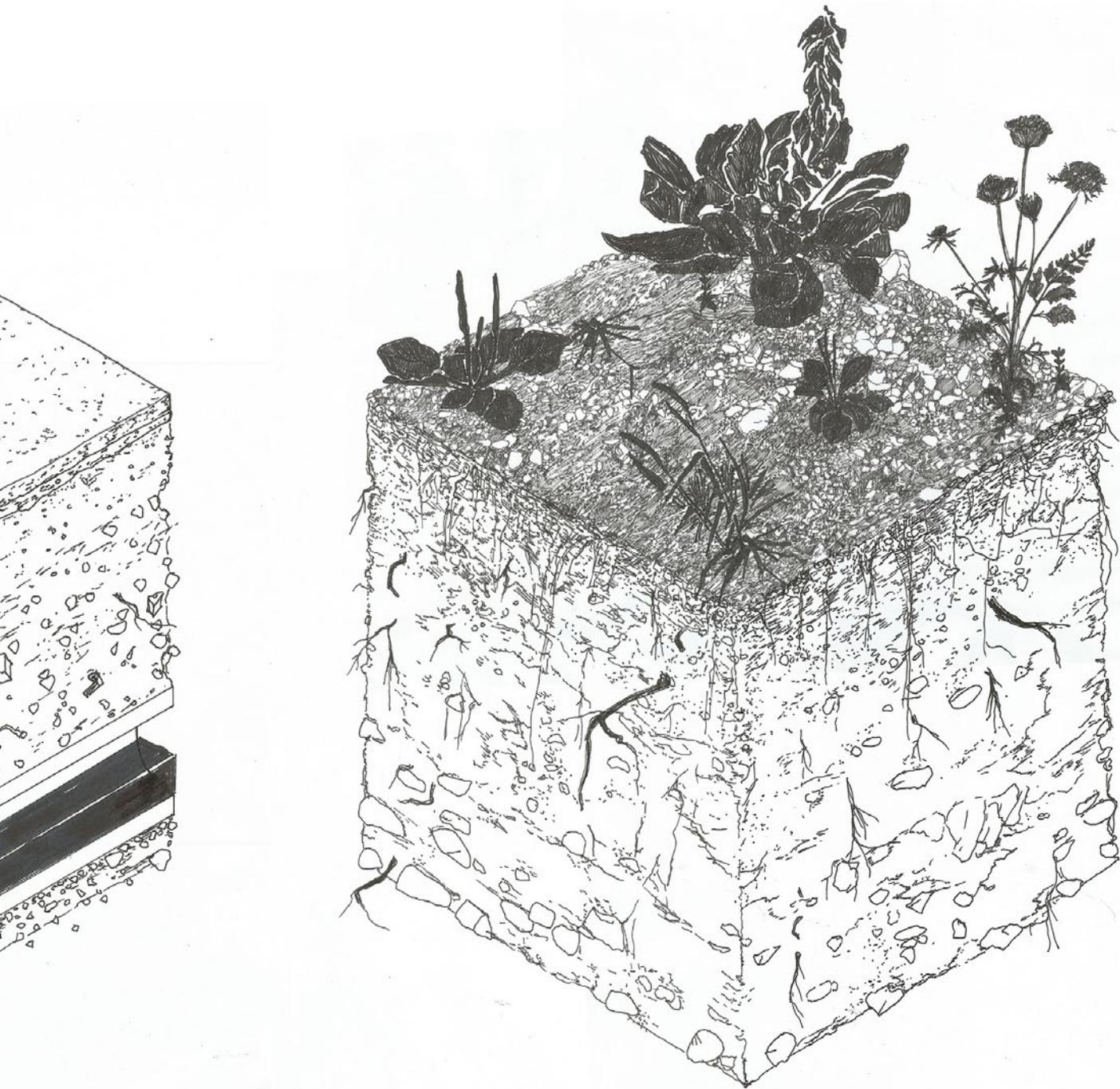


Fig. 4.2 Scales between patch and planet.

The patch of asphalt that covers much urban ground is only a small moment of interface between air and ground. By sealing off this exchange using bituminous asphalt for vehicular use, not only

is extensive ground given over to a single inhospitable use, it has deep impacts on much wider planetary systems of climate cycles; a sealed ground displaces water that triggers floods and stores heat that warms air, in building road infrastructure we remake whole atmospheres.⁶

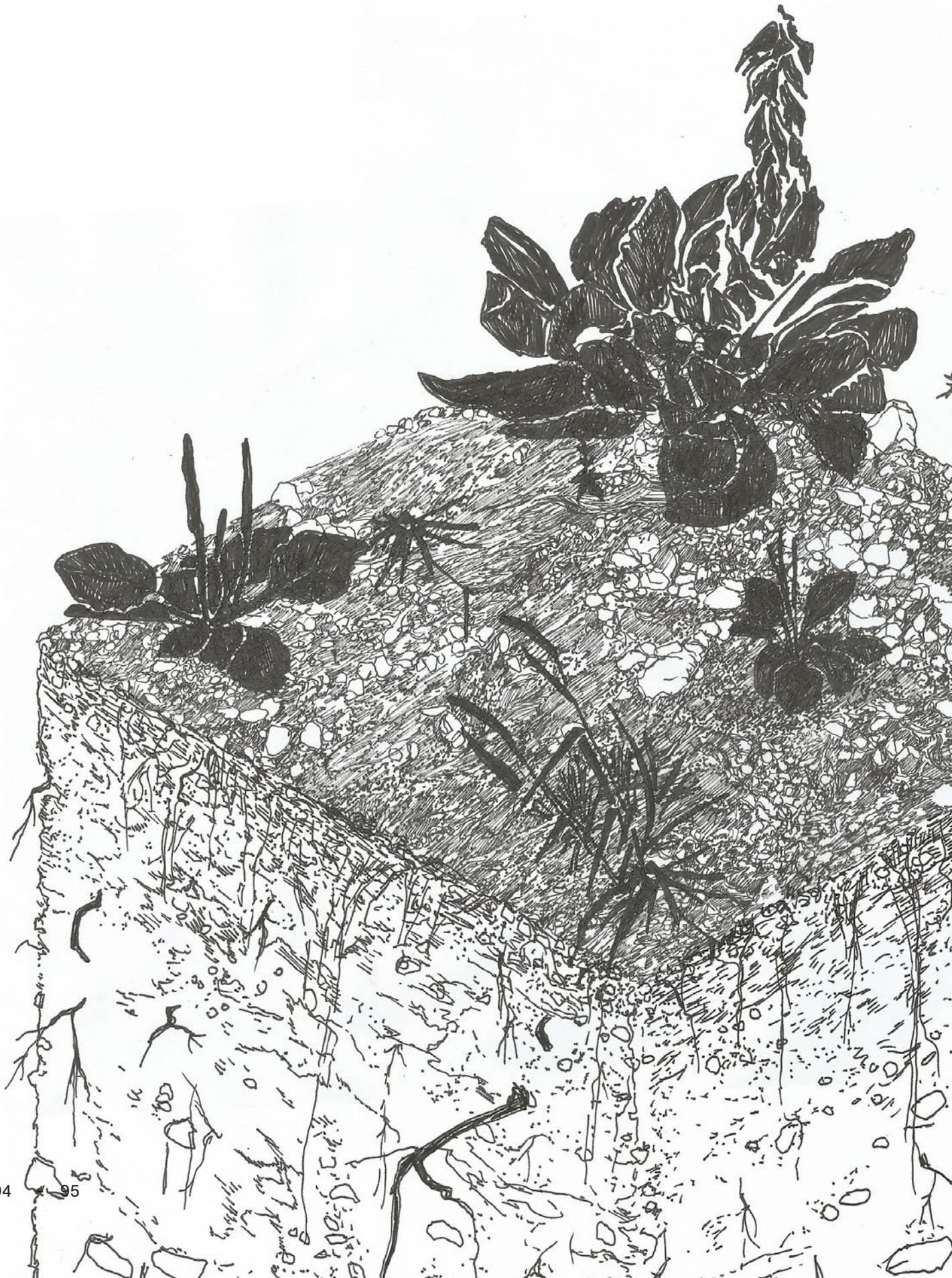




Fig. 4.3 Ruderal Patch

To unseal this ground so that rain can be absorbed, and plants can breathe, is a step toward repairing the impacts of typical development. If ruderal ecologies constitute an aftermath, flourishing without or despite human management regimes, they may offer a framework toward more responsive modes of occupying land.

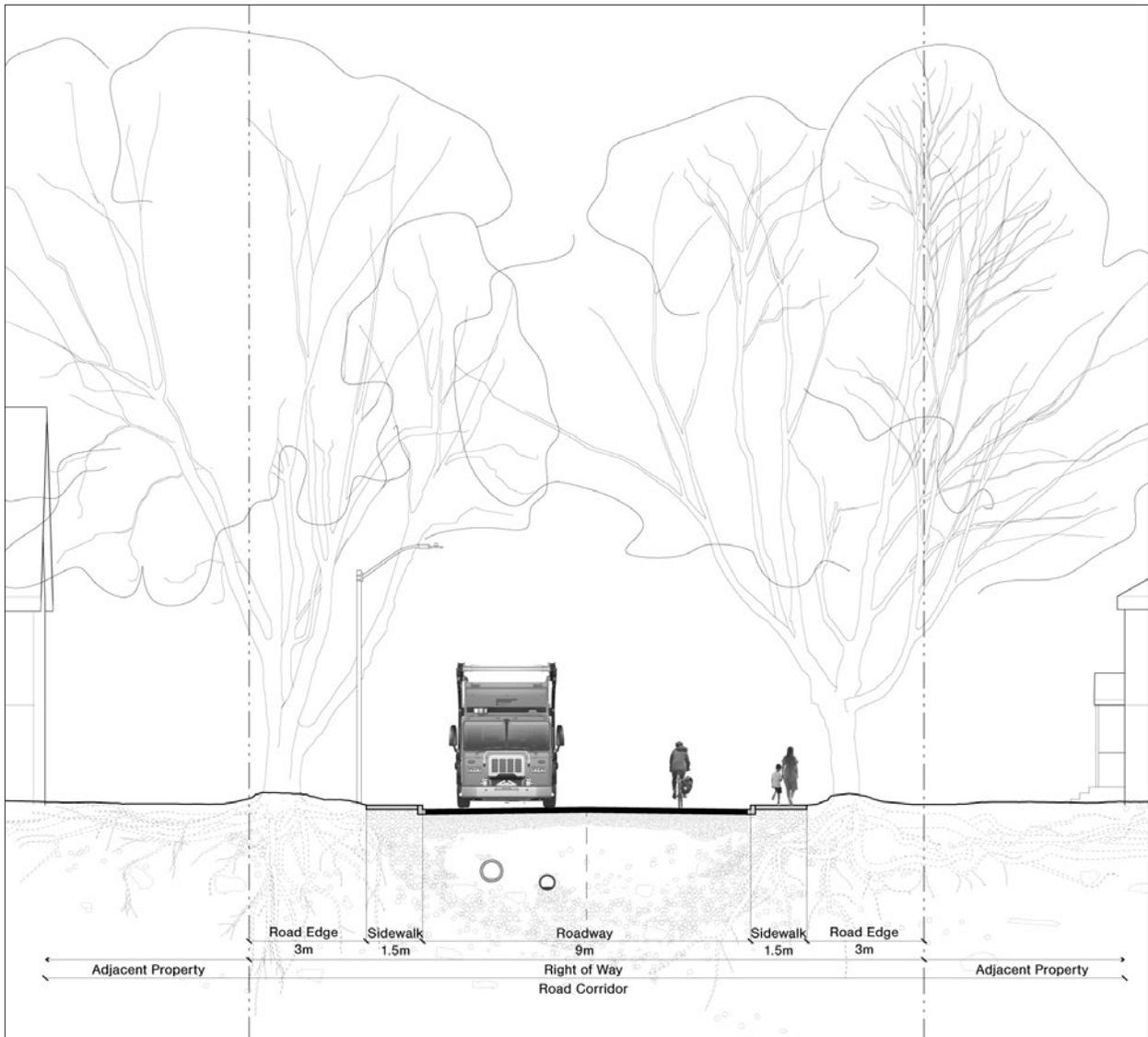


Fig. 4.4 A typical local roadway section in Ottawa.

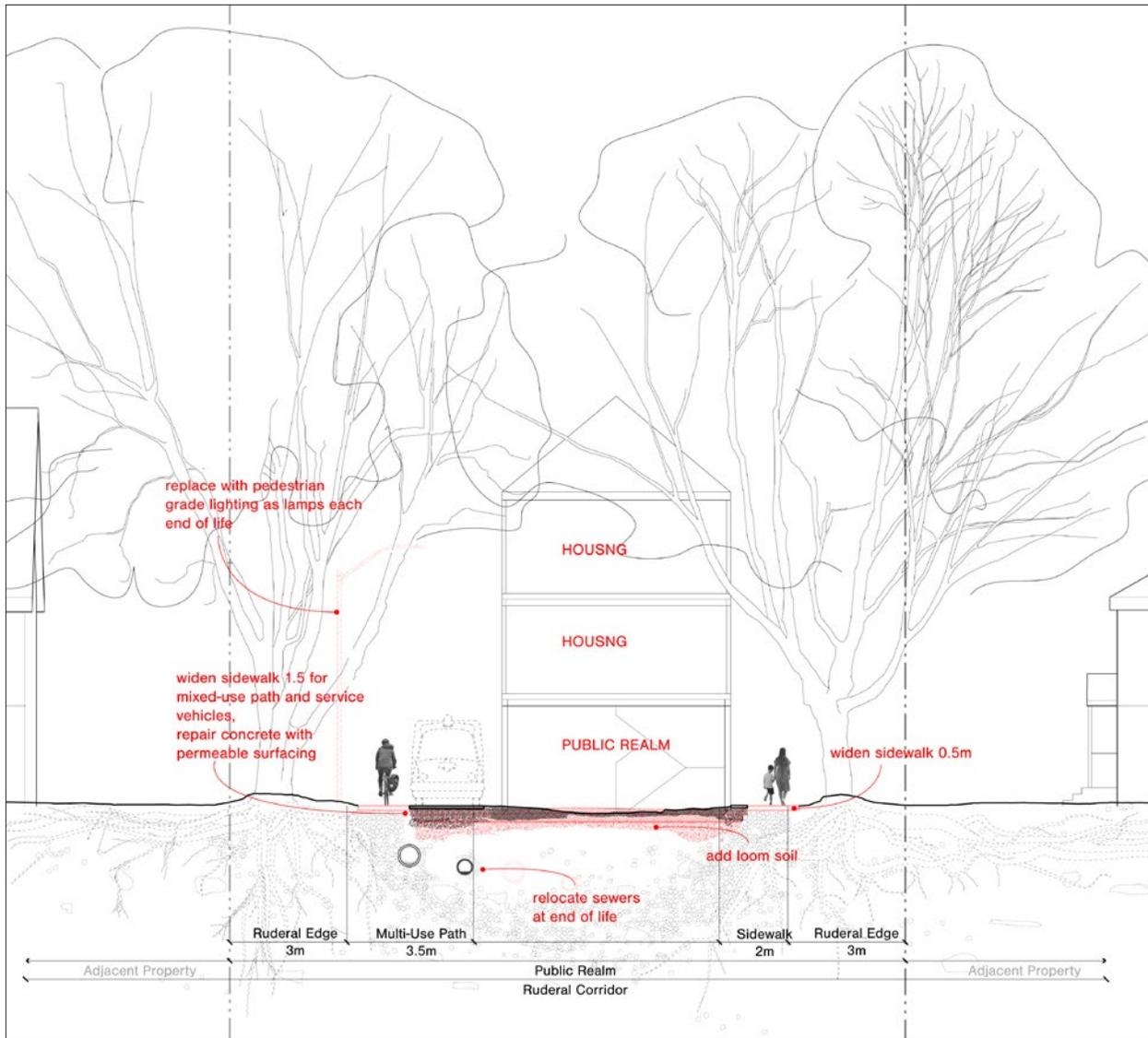
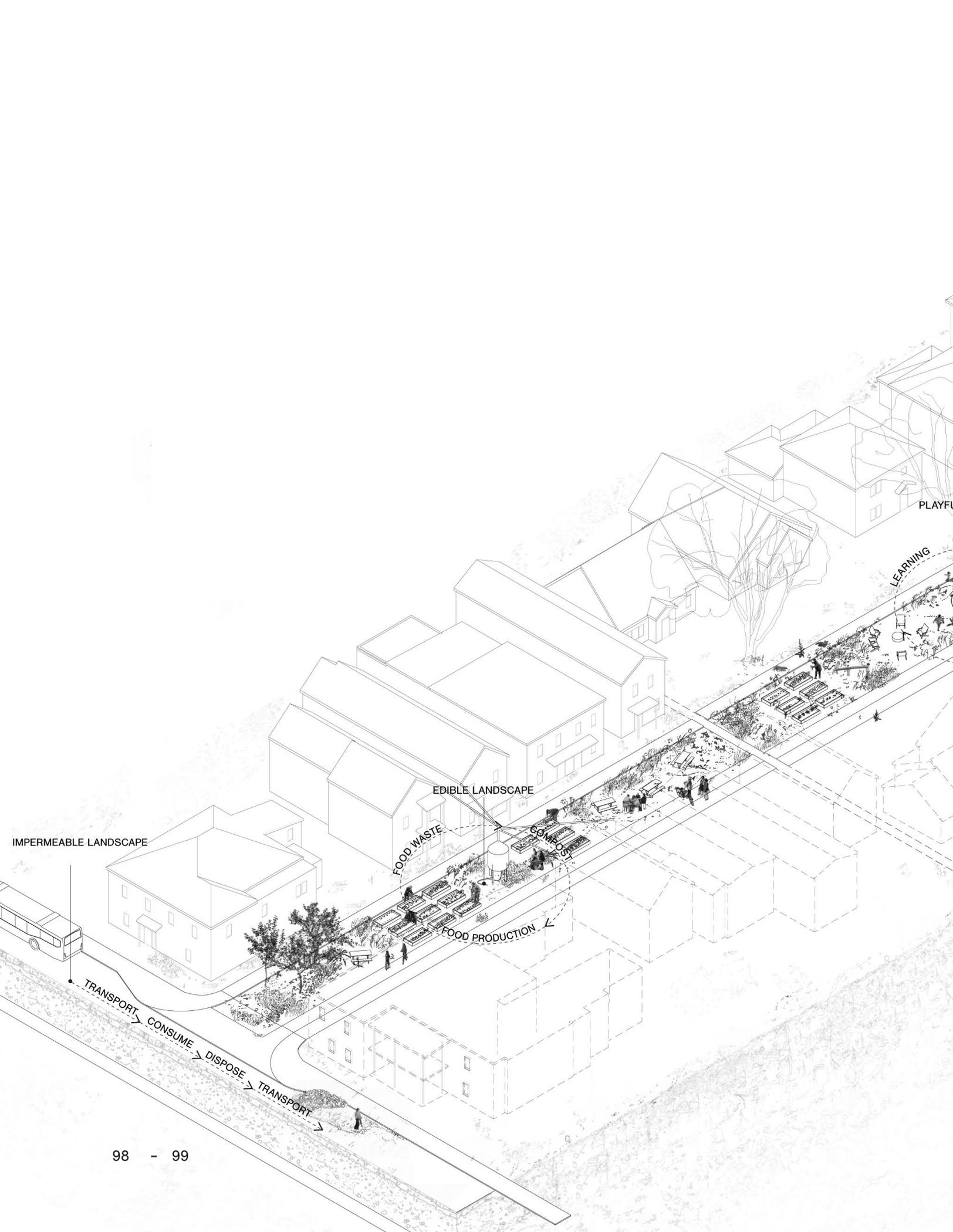


Fig. 4.5 A Ruderal Section: redrawing local roadways.

To say in every case a ruderal street should be a forest, garden, or park would flatten the real needs of many urban residents – humans are vulnerable fauna and need specific enclosures; we all need houses, but this necessity is deeply lacking in many cities owing, in large part, to capitalist driven inequities.⁷ Adjustments could be made over time, replacing sidewalk slabs with semi-permeable options as the concrete breaks down, or tall street

lamps switched with more pedestrian-scaled designs as these reach end of life.

In redrawing the typical section of roadway, a ruderal approach is more amenable to divergent needs by making space for more accessible modes of living together among flora, fauna, and fungi that begins by working with materials as they age and break down.



IMPERMEABLE LANDSCAPE

EDIBLE LANDSCAPE

LEARNING

PLAY

FOOD WASTE

COMPOST

FOOD PRODUCTION

TRANSPORT -> CONSUME -> DISPOSE -> TRANSPORT

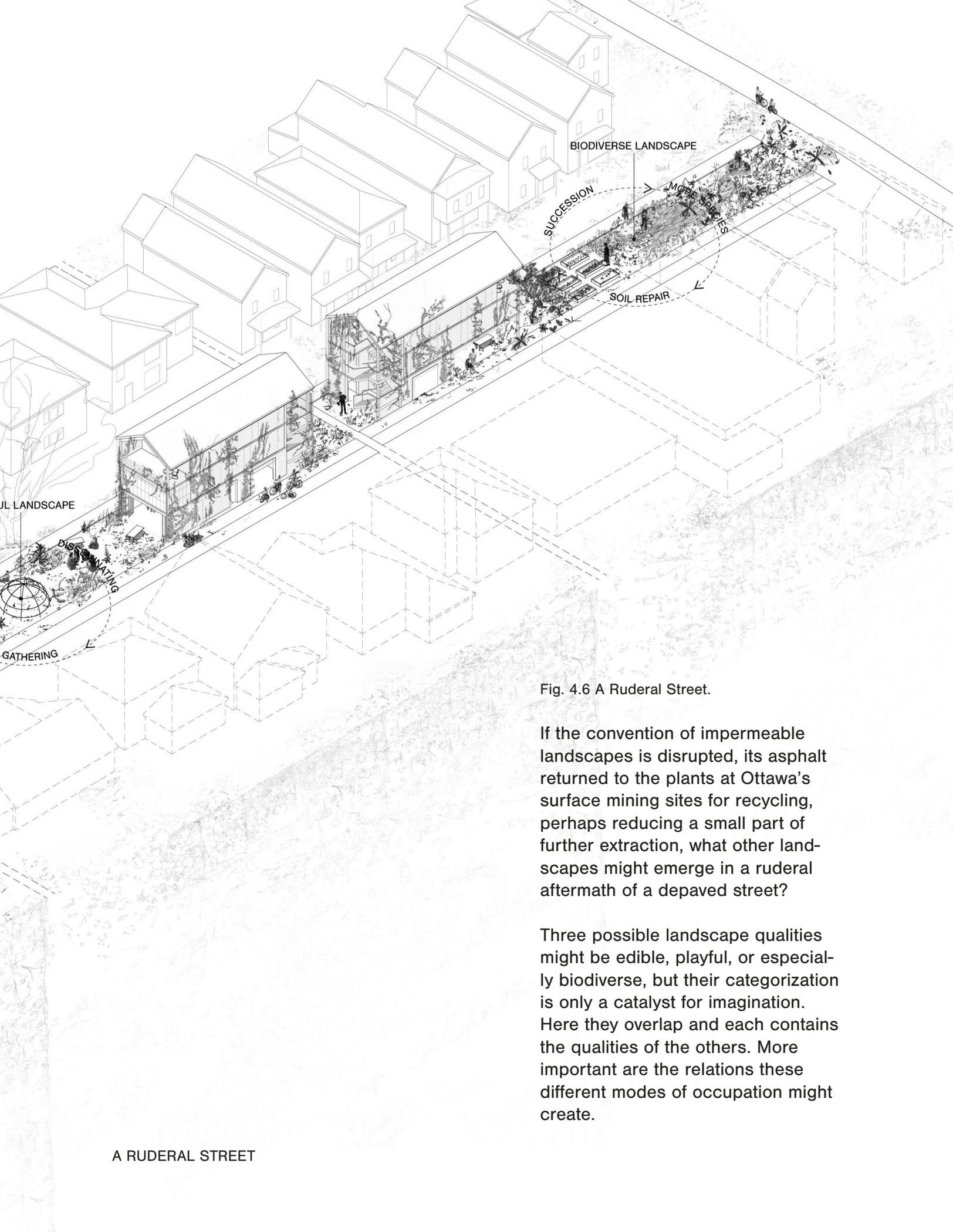


Fig. 4.6 A Ruderal Street.

If the convention of impermeable landscapes is disrupted, its asphalt returned to the plants at Ottawa's surface mining sites for recycling, perhaps reducing a small part of further extraction, what other landscapes might emerge in a ruderal aftermath of a depaved street?

Three possible landscape qualities might be edible, playful, or especially biodiverse, but their categorization is only a catalyst for imagination. Here they overlap and each contains the qualities of the others. More important are the relations these different modes of occupation might create.

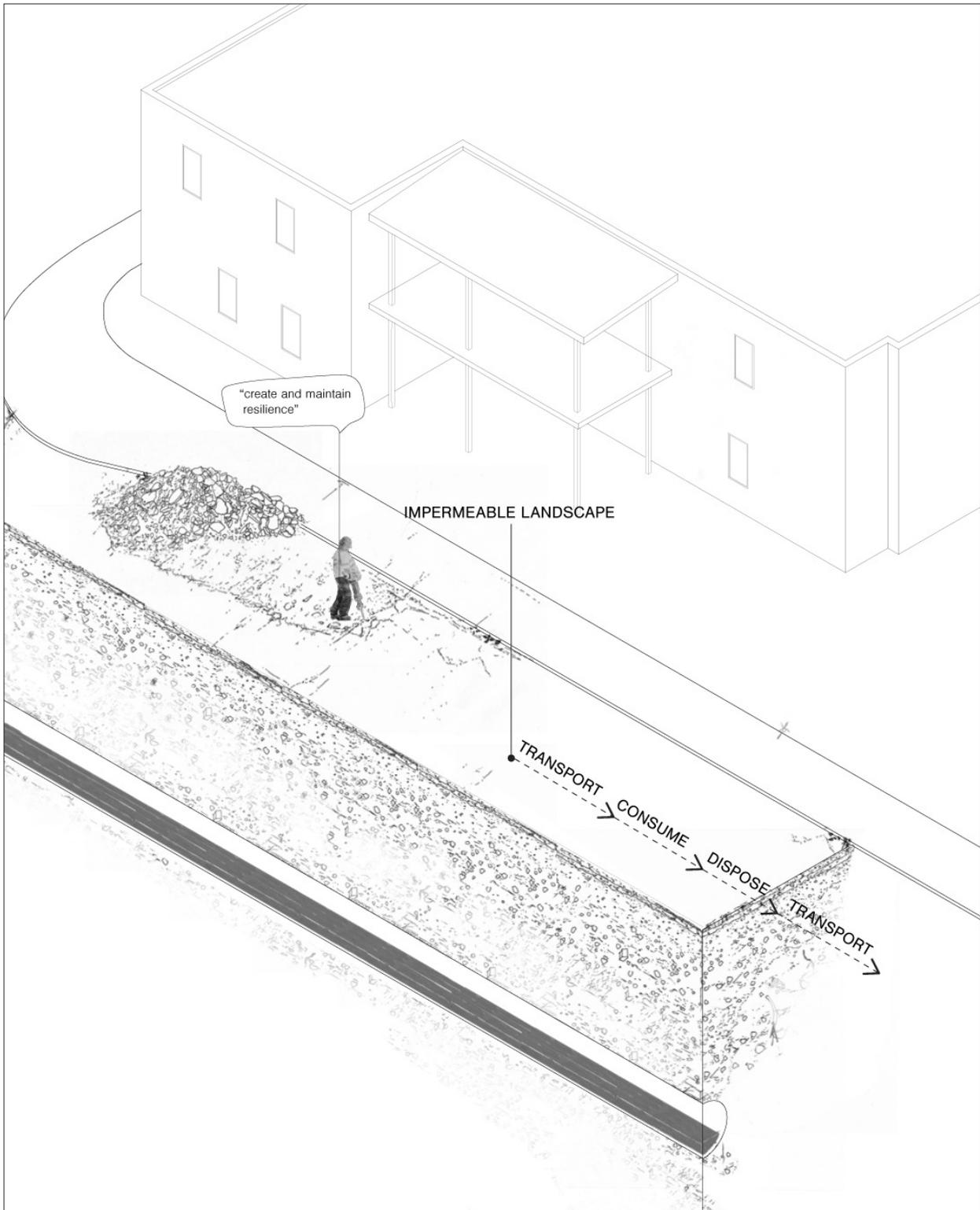


Fig. 4.7 A Ruderal Street (detail): toward undoing impermeable landscapes. Callout refers to solutions proposed by the *People's Official Plan*.

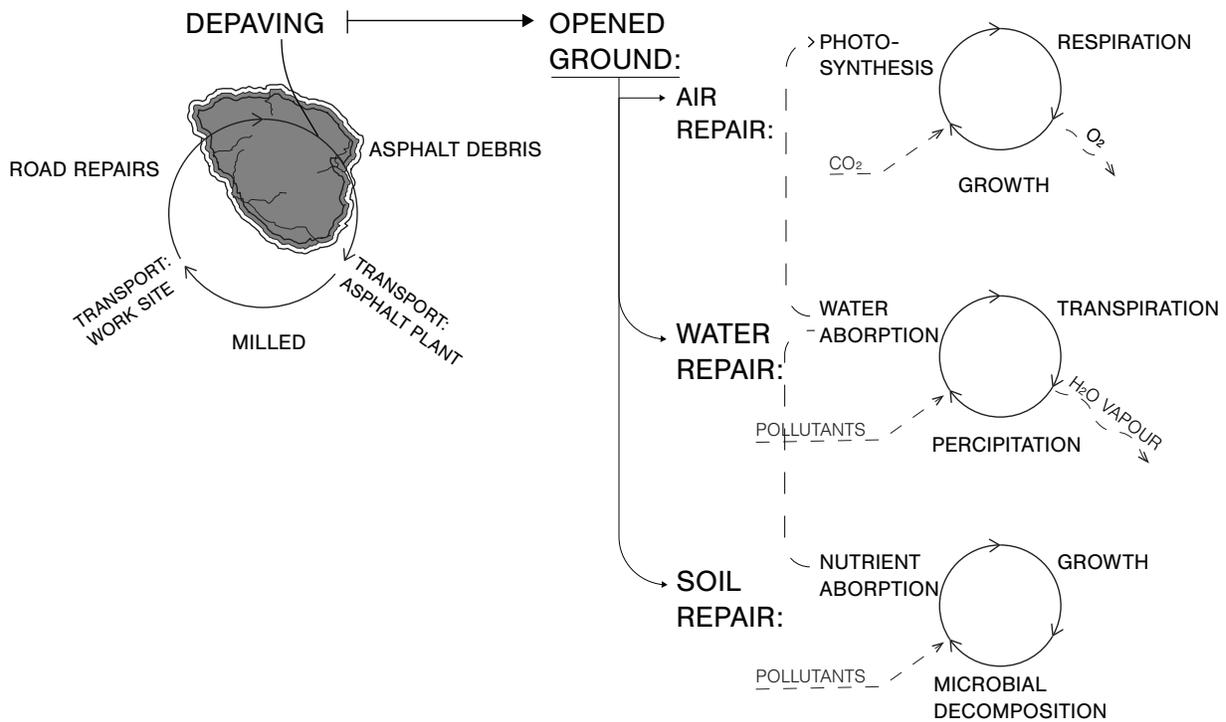


Fig. 4.8 Metabolising the street: cycles of repair initiated by depaving asphalt surfaces

To grow in the aftermath of capitalism’s unsustainable linear economies, we must collectively move toward circular economies of care and repair rooted in place.⁸ It amplifies opportunities for recreation and chance encounter, and house those in need, and protect parks, and extend capacities for grown-in-place food, and expand forests, and allow planetary water cycles to keep flowing: it is additive and encourages growth in its many forms without displacement. In moving toward more walkable cities we may get to

know more ways of occupying urban space as we walk about – from the abundance of edible weeds to forage, to recognizing the reciprocal relations of caring for these plants that in turn care for us - a principle that Potawatomi botanist Dr. Robin Wall Kimmerer describes in *Braiding Sweetgrass*.⁹

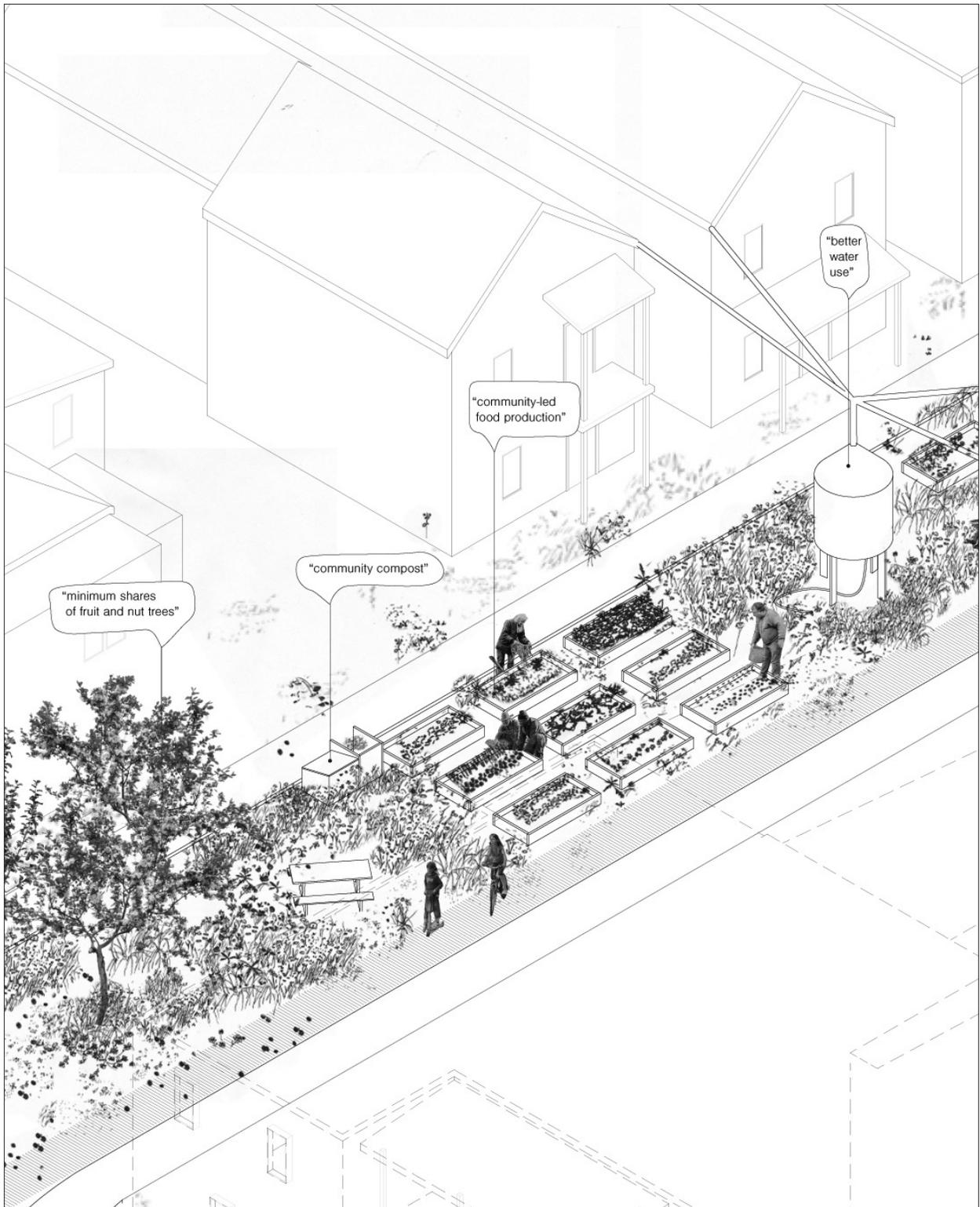


Fig. 4.9 A Ruderal Street (detail): ruderal aftermath as an edible landscape in Chinatown, Ottawa. Callouts refer to solutions proposed by the *People's Official Plan*.

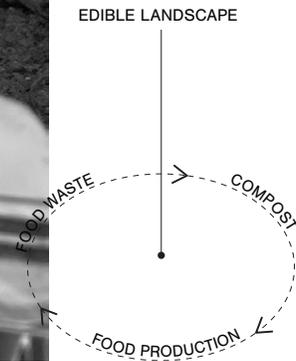


Fig. 4.10 Ruderal aftermath as an edible landscape, possible atmosphere.

Who gets to determine what growth is permitted?

In a ruderal street, neighbours might decide to use the space for edible landscapes. With food security being a pressing issue, could food-centric gardens foster more supportive and accessible modes of urban dwelling?

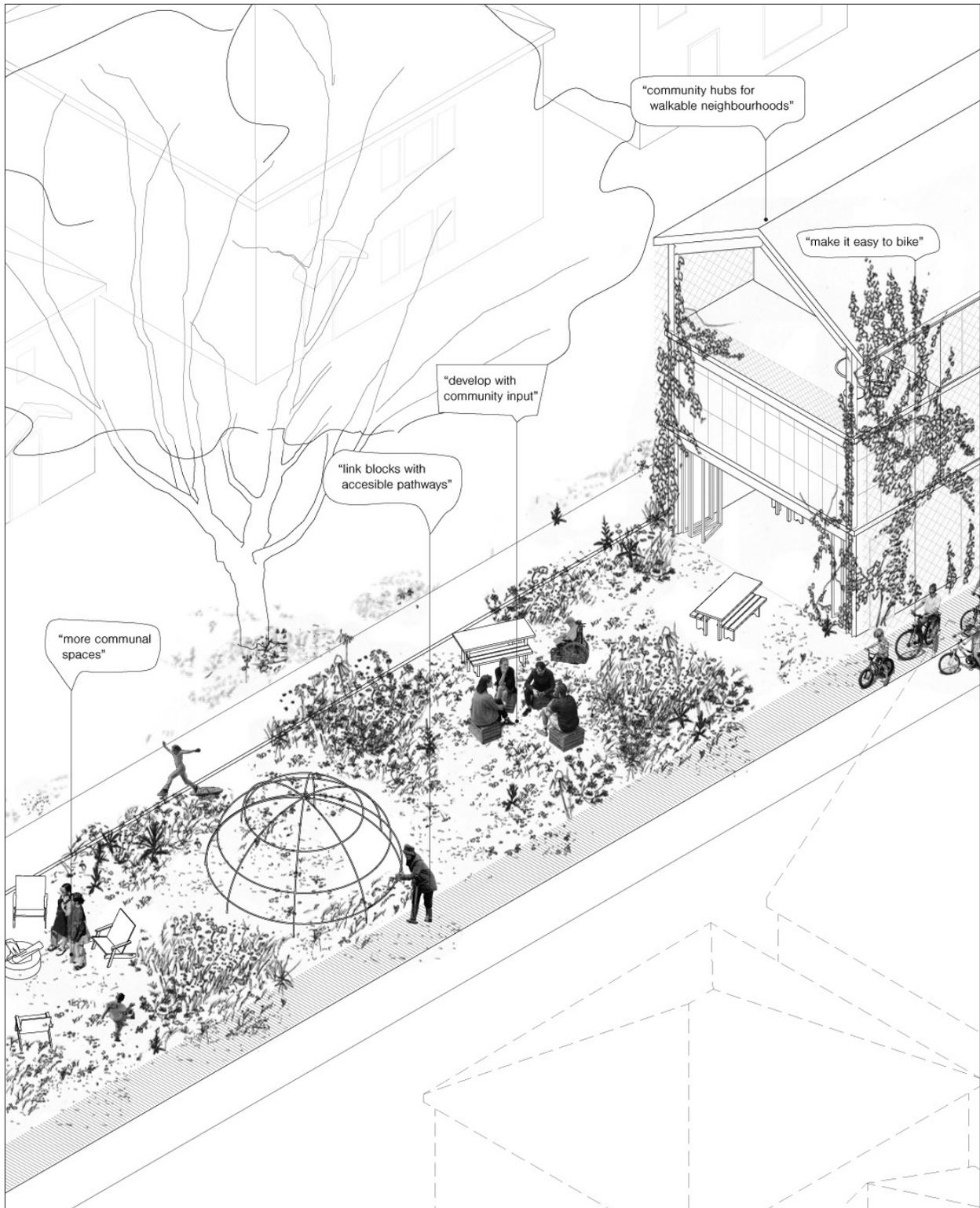


Fig. 4.11 A Ruderal Street (detail): ruderal aftermath as a playful landscape in Rideau Gardens, Ottawa. Callouts refer to solutions proposed by the *People's Official Plan*.

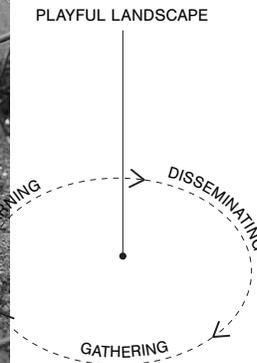


Fig. 4.12 Ruderal aftermath as a playful landscape, possible atmosphere

Who gets to determine what good growth is?

Free of cars, could more immediate and safer spaces for kids and adult to play deepened bonds among neighbours? With more chance for spontaneous encounters and informal meetings, as Jane Jacobs celebrates, could a ruderal street influence feelings of civic belonging?¹⁰

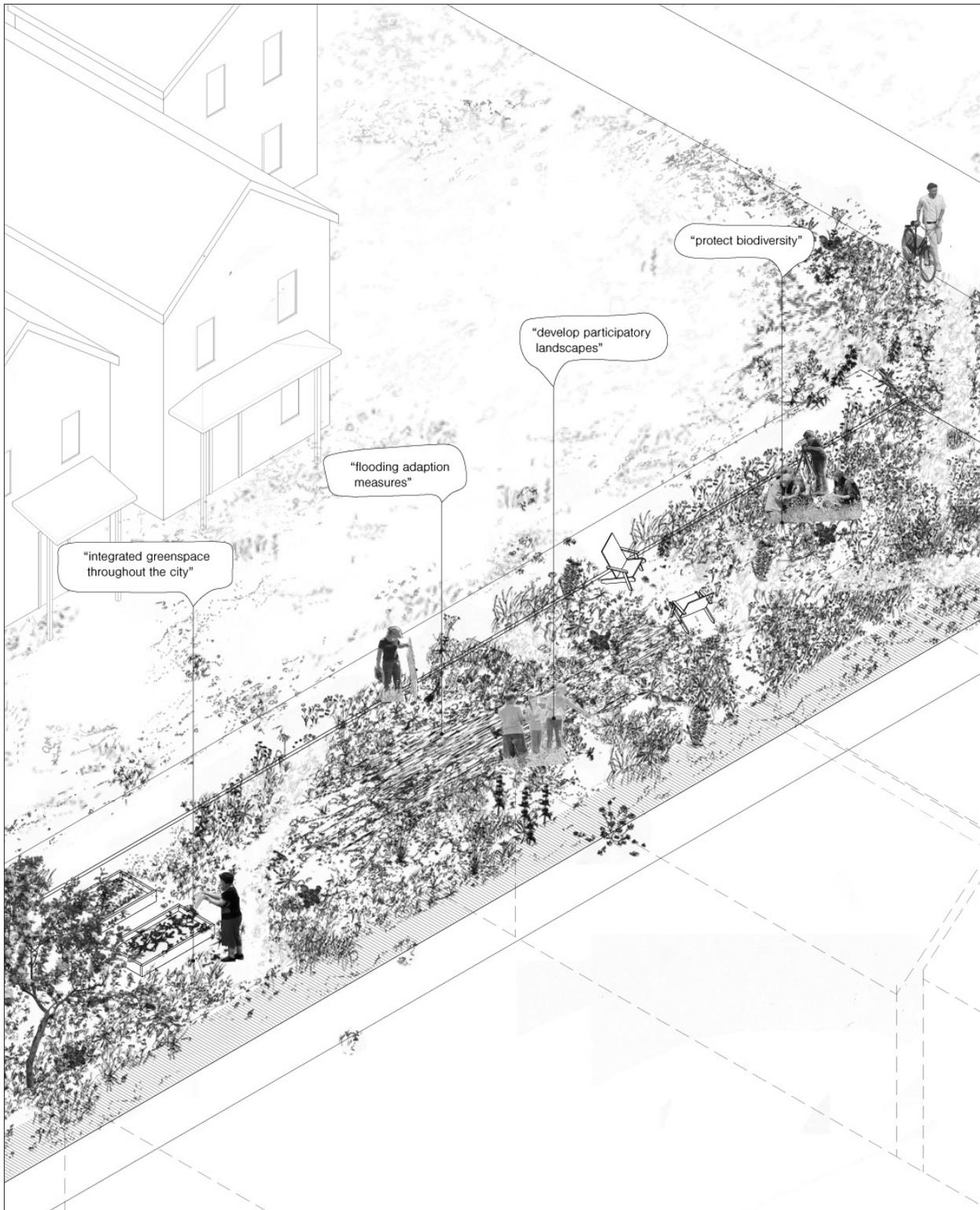


Fig. 4.13 A Ruderal Street (detail): ruderal aftermath as a biodiverse landscape in Little Italy, Ottawa. Callouts refer to solutions proposed by the *People's Official Plan*.

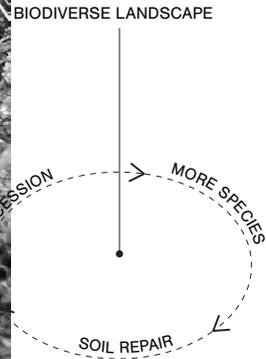


Fig. 4.14 Ruderal aftermath as a biodiverse landscape, possible atmosphere

Who gets to determine what growth looks like?

Ruderal plants, potentially called weeds, would be quick occupy the exposed soil without any help, slowly remediating its structure in early succession. With more habitat for more plants, animals, and fungi, people too, would be better sustained with more access to healing nature.¹¹ Could a ruderal street help dismantle the narrow aesthetic definitions of what urban nature ought to look like?

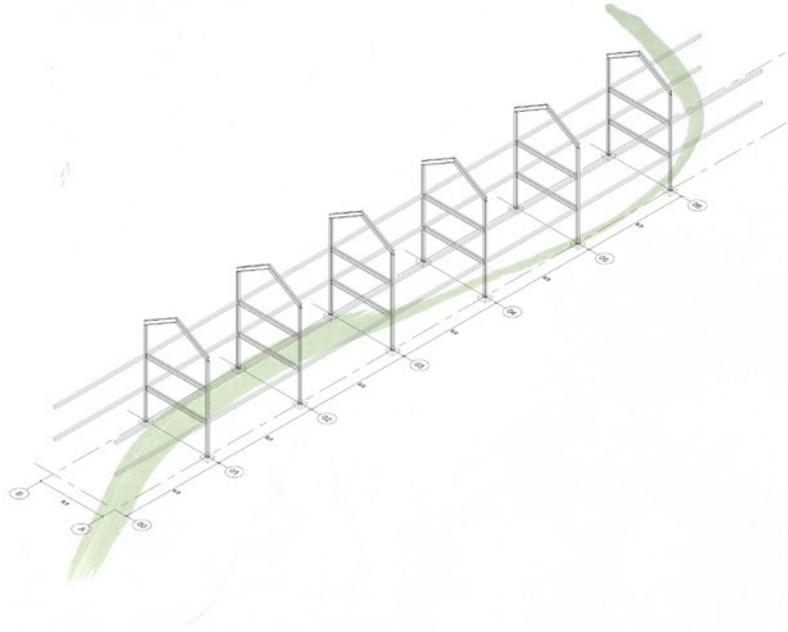


Fig. 4.16 Adaptable structural framework for a more open mode of building in the street.

A ruderal approach imagines how the scales and layered functions of public spaces could shift if we move toward more walkable cities. While de-prioritizing cars, retaining the street as a publicly owned property parcel means the ground should remain common space through built and unbuilt portions of undone roadways. Adding needed housing at upper levels could meet urgent needs while the ground is always public, filling the gaps for a walkable neighbourhood. The programmatic function of the expanded public realm facilitated by a ruderal street would arise from the needs and desire of community members in every case.

The *People's Official Plan* already starts to identify many of these which could be accommodated

with the simple structure being proposed.¹² In some cases the ground floor could become a market and kitchen to sell the food grown in gardens just outside, or workshops to trade skills and services. It could be left open and used as a seasonal space, with winters getting more mild and summers getting hotter more shaded outdoor space would be welcome. They call for transit hubs as community hubs offering needed services like health and child care, for public washrooms, for communal spaces in general, spaces for decentralized working, community depots for recycling and swapping, and circular economies where wastes and fuels are processed on site. These are needed services for a more sustainable way of growing together in Ottawa.



Fig. 4.17 Ruderal Map: a frequented bike path that followed ruderal edges through three neighbourhoods, noting novel modes of occupation and foraged finds for subsequent diorama creation.



A RUDERAL STREET



Fig. 4.18 A vacant plot awaiting development where houses once stood in Little Italy, Ottawa, in autumn. (5) on *Ruderal Map*.



Fig. 4.19 Trampled reeds screen a frozen river used as a skating rink in Rideau Gardens, Ottawa, in winter. (9) on *Ruderal Map*.



Fig. 4.20 A community garden on the site of a proposed museum in Chinatown, Ottawa, in early spring. (2) on *Ruderal Map*.



Fig. 21. Black swallowtail climbed a fence draped in landscape fabric to shield a construction site (light rail expansion) in Little Italy in spring. (4) on *Ruderal Map*. (video still)



Fig. 22. Canada Goldenrod grew in the rubble of a construction site (housing development) in Rideau Gardens in spring. (7) on *Ruderal Map*. (video still)

To ground my approach, I considered how a ruderal street might grow in particular scenarios I am familiar with in Ottawa. I followed ruderal patches along a bike path that took me from my home in Rideau Gardens, along the under-construction light rail tracks in Glebe Annex-Little Italy, up to Somerset-Chinatown. I mapped out this trail, noting foraged finds and novel occupations. To critique convention, I used the jagged neighbourhood demarcations of Ottawa's Neighbourhood Equity Index planning tool which says these three places

are of different equity concerns.¹³ They code concerns red-yellow-green, but I found the cautionary orange of construction sites and the ruderal plants dispersed along them signal gentrification directly, as the vital enclaves of Chinatown and Little Italy are being razed for condo towers. In resisting gentrification, a ruderal approach could have potential anywhere.



Fig. 4.23 Ruderal aftermath in the neighbourhood block around Norman Avenue in Little Italy, plan view.



Fig. 4.24 Norman Avenue, found condition. (6) on *Ruderal Map*. (video still)

Fig. 4.25 Norman Avenue, ruderal aftermath occupied by Wild Carrot and Fox.

Norman Avenue, Little Italy:
Ruderal Aftermath (Biodiverse)

The bike along the under-construction rail path is where I spent time working on the Herbarium project. People often use it but there isn't any resting area or reasons to pause on the route.

Housing is more dense here, with little yard space and not much canopy coverage. A ruderal street could prioritize more access to greenspace, possibly extending the ruderal corridors that flank the train tracks, connecting the park around Dow's Lake to the Ottawa River shoreline further north.

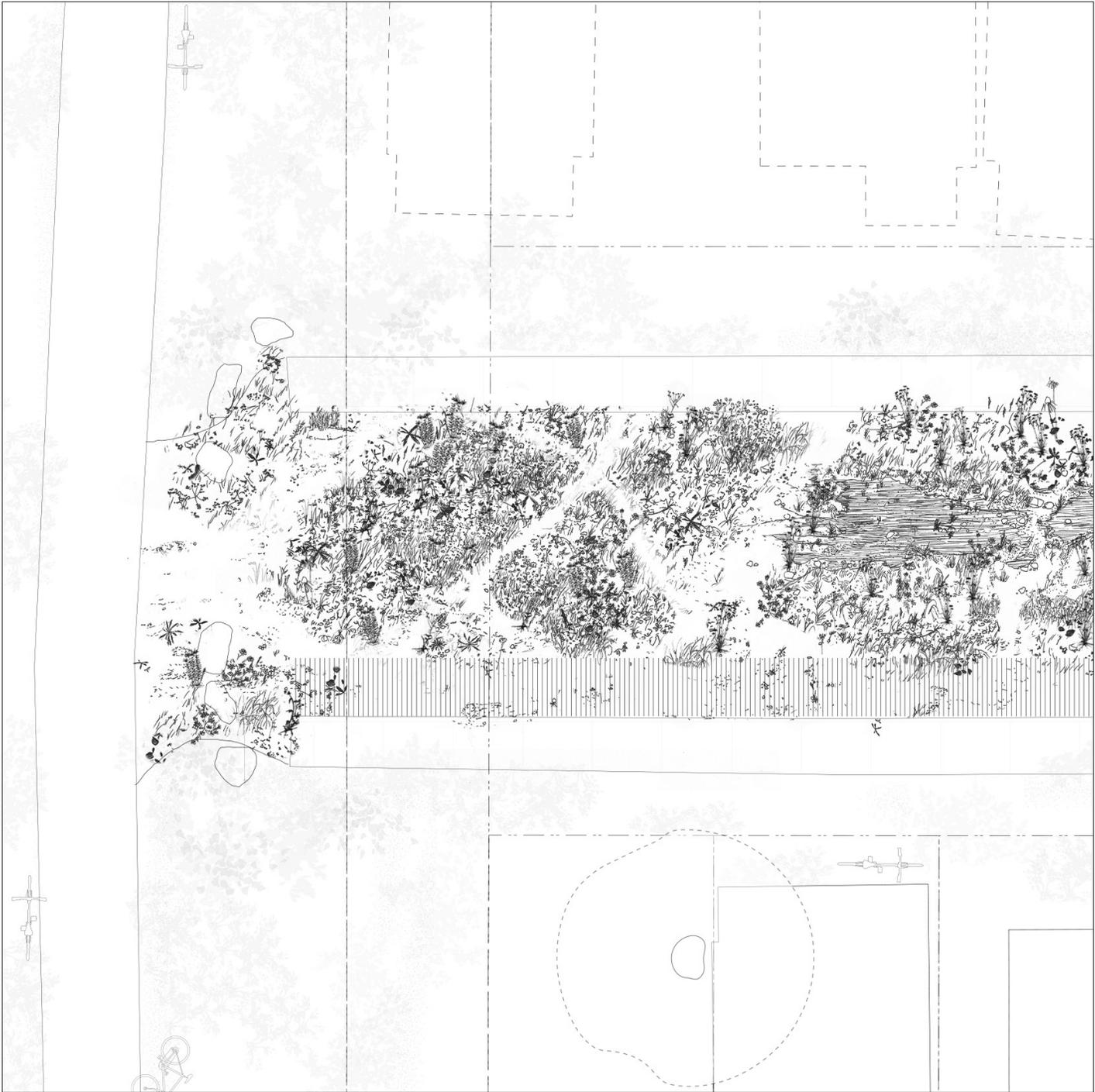


Fig. 4.26 Norman Avenue, ruderal aftermath as a biodiverse landscape, plan view.



Fig. 4.27 Norman Avenue, ruderal aftermath as a biodiverse landscape, early atmosphere.
Next page: Fig. 4.28 Norman Avenue, ruderal aftermath as a biodiverse landscape, later atmosphere.





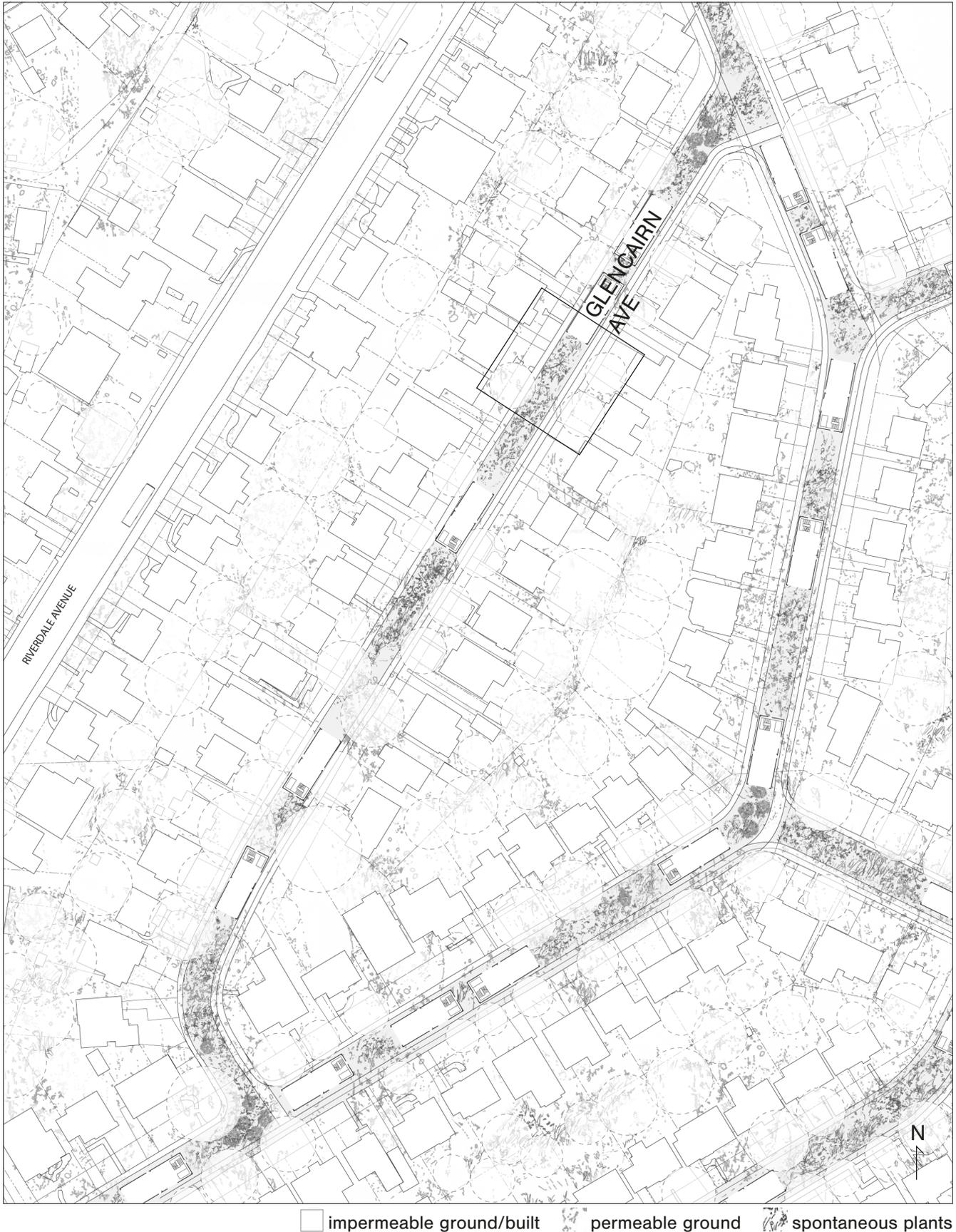


Fig. 4.29 Ruderal aftermath in the neighbourhood block around Glencairn Avenue in Rideau Gardens, plan view.



Fig. 4.30 Glencairn Avenue, found condition. (8) on *Ruderal Map*. (video still)

Fig. 4.31 Glencairn Avenue, ruderal aftermath occupied by Aster and Monarch.

Glencairn Avenue, Rideau Gardens:
Ruderal Aftermath (Playful)

Glencairn Avenue is the street I live adjacent to, sitting outside, I frequently noticed kids play in the street while parents set out caution signs for cars.

Since housing densities are lower and there is already a mature canopy there is more opportunity to build housing and other amenities in Rideau Gardens. In the grounds left open, playgrounds and meadows for free exploring by kids and butterflies alike.

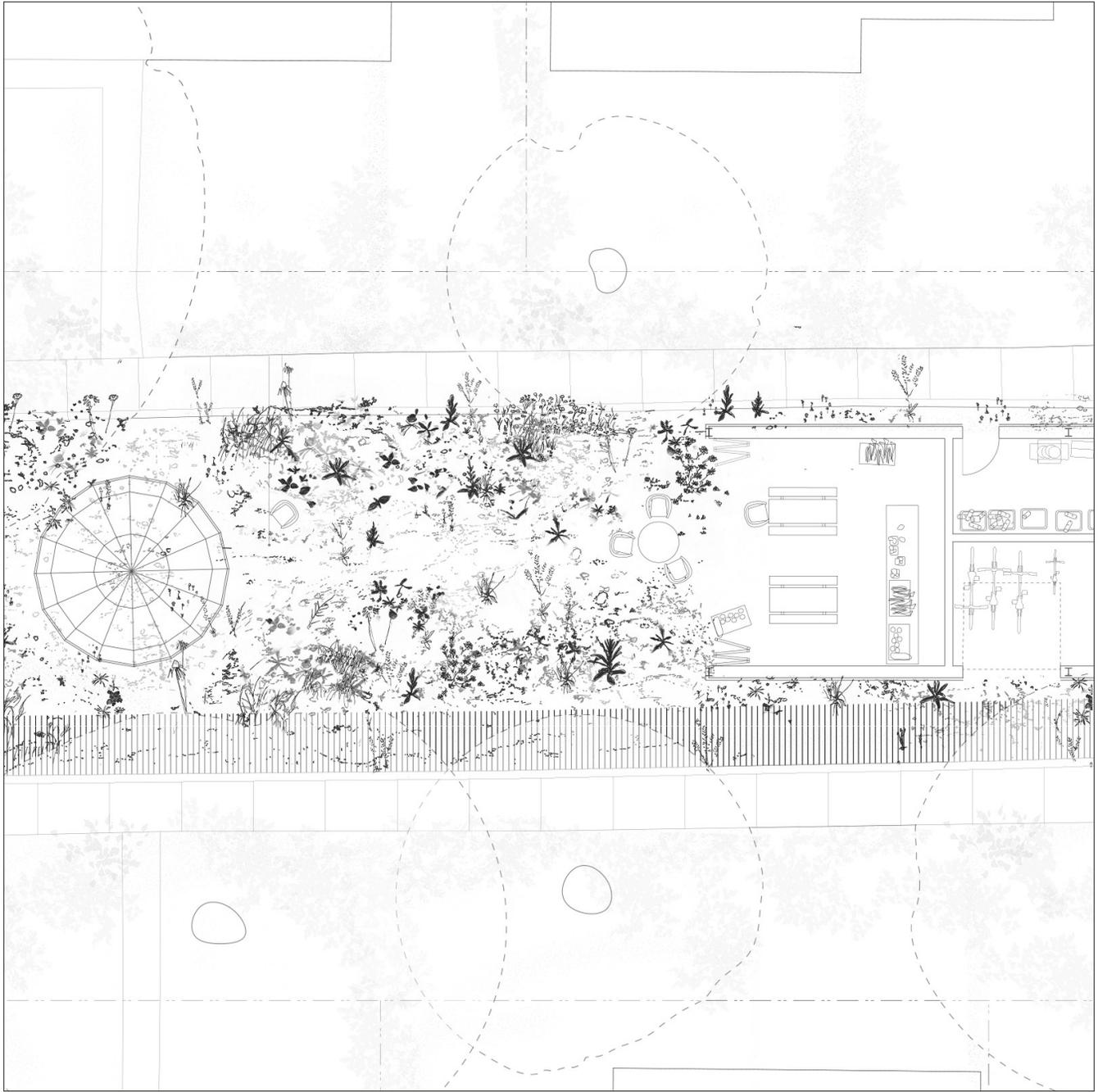


Fig. 4.32 Glencairn Avenue, ruderal aftermath as a playful landscape, plan view.



Fig. 4.33 Glencairn Avenue, ruderal aftermath as a playful landscape, early atmosphere.
Next page: Fig. 4.34 Glencairn Avenue, ruderal aftermath as a playful landscape, later atmosphere.







Fig. 4.35 Ruderal aftermath in the neighbourhood block around Anderson Street in Chinatown, plan view.



Fig. 4.36 Anderson Street, found condition. (3) on *Ruderal Map*. (video still)

Fig. 4.37 Anderson Street, ruderal aftermath occupied by Stanhorn Sumac and Raccoon.

Anderson Street, Chinatown:
Ruderal Aftermath (Edible)

Walking through Chinatown I see a lot of container gardens in nooks and front yards, but Anderson Street is seems to be too narrow for much use of front yards.

Housing is moderately dense with little canopy and greenspace here. A ruderal street could introduce more space to grow food among trees in gardens and orchards. More common space could provide breathing space for the everyday life of Anderson St's occupants.



Fig. 4.38 Anderson Street, ruderal aftermath as an edible landscape, plan view.

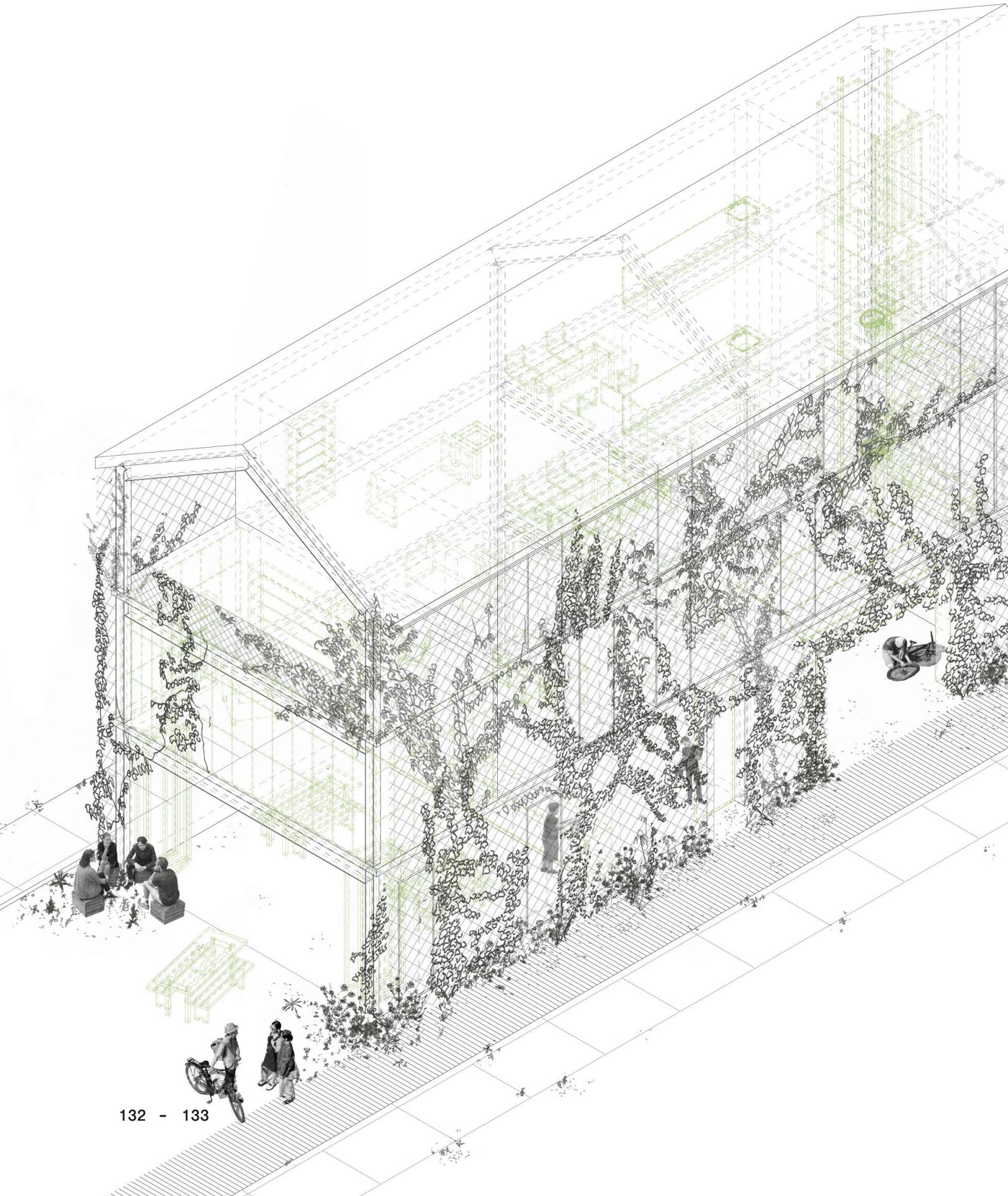


Fig. 4.39 Anderson Street, ruderal aftermath as an edible landscape, early atmosphere.

Next page: Fig. 4.40 Anderson Street, ruderal aftermath as an edible landscape, later atmosphere.







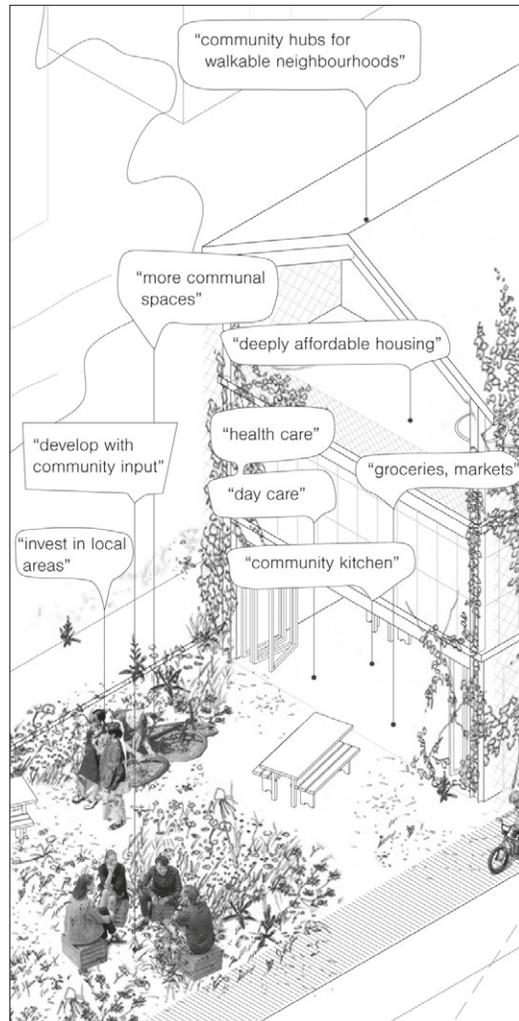
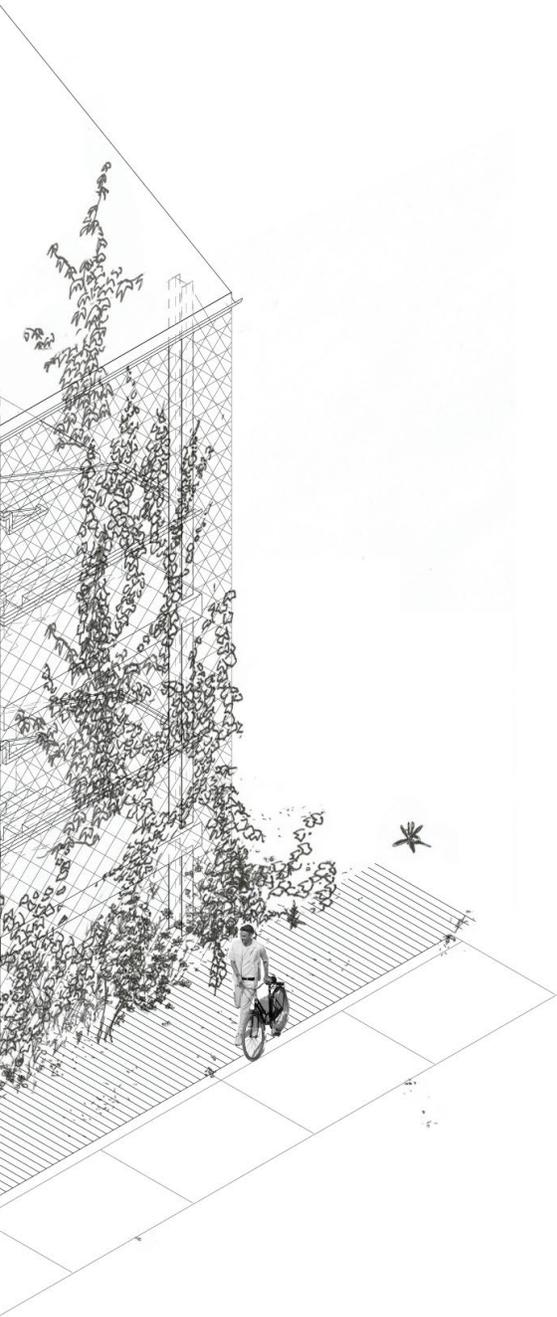
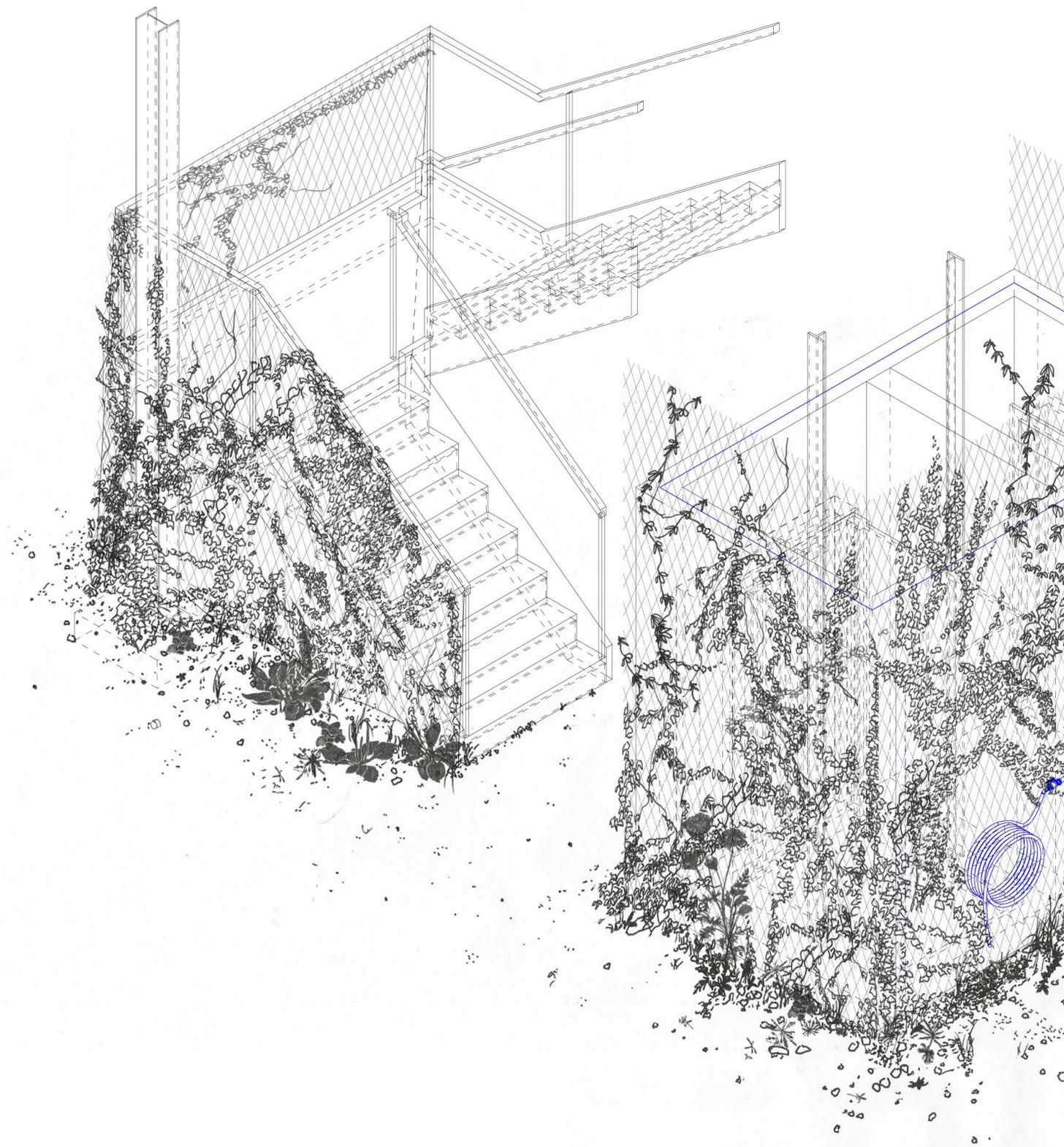
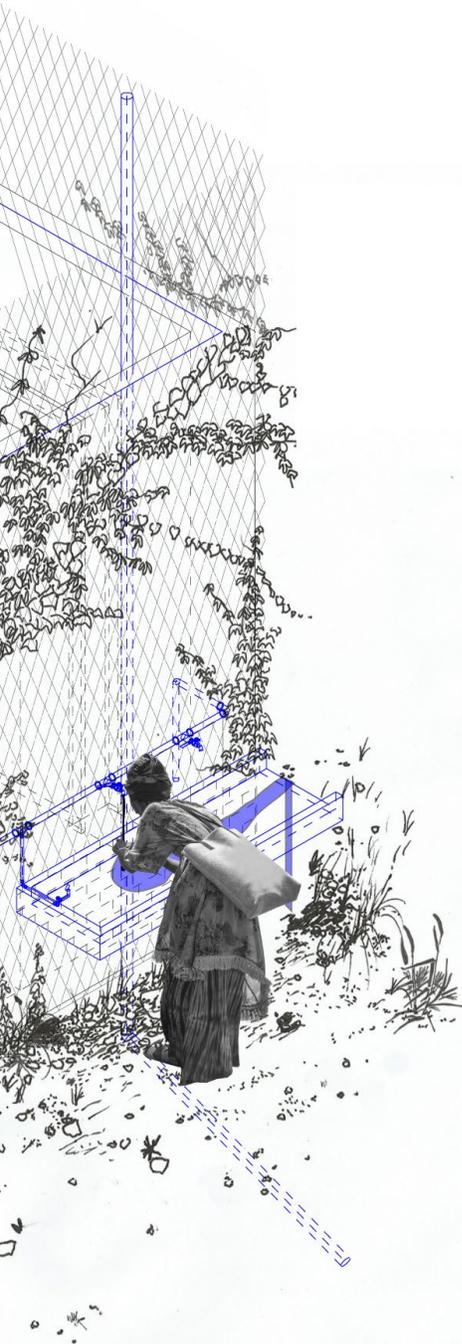


Fig 4.41 Ideas for developing community hubs as described in the *People's Official Plan*.

Fig 4.42 A growing structure.

Where to build invokes close considerations of existing canopies and building densities – but could take place in any neighbourhood. A simple modular frame with a potentially pitched gable suggests a scale and form familiar to most residential neighbourhoods in Ottawa, while being amenable to different conditions and uses. The structure is imagined to persist while the stuff of life is shown in green to be changing with daily needs.





A RUDERAL STREET

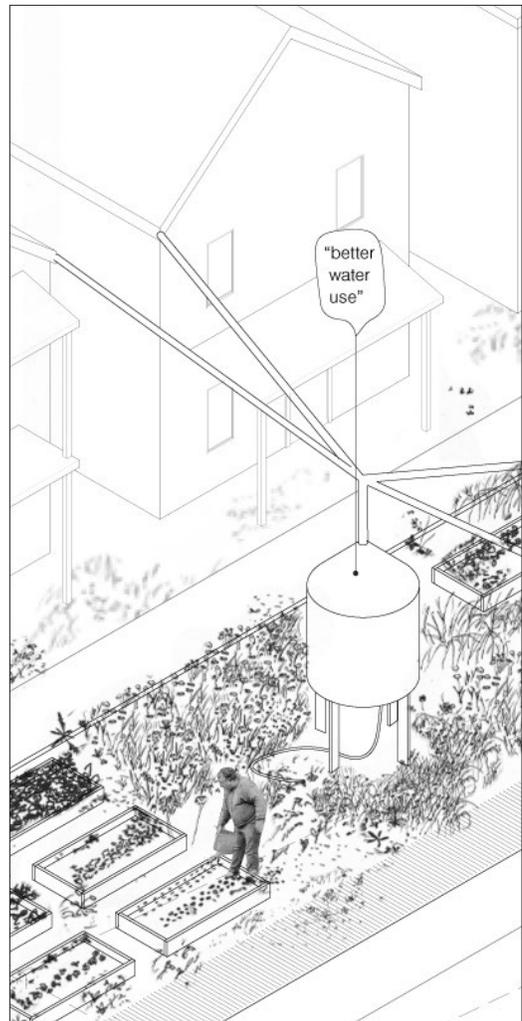


Fig 4.43 Gathering rainwater from adjacent buildings, stored for watering gardens.

Fig 4.44 Grafting public access to utilities.

At the scale of a person, this system could graft into civic amenities and ensure they are made public, that anyone can make use of a ruderal street. Here I suggested open access to water, and add a sink with taps, drinking fountain and a hose to the exterior of a potential circulation module.

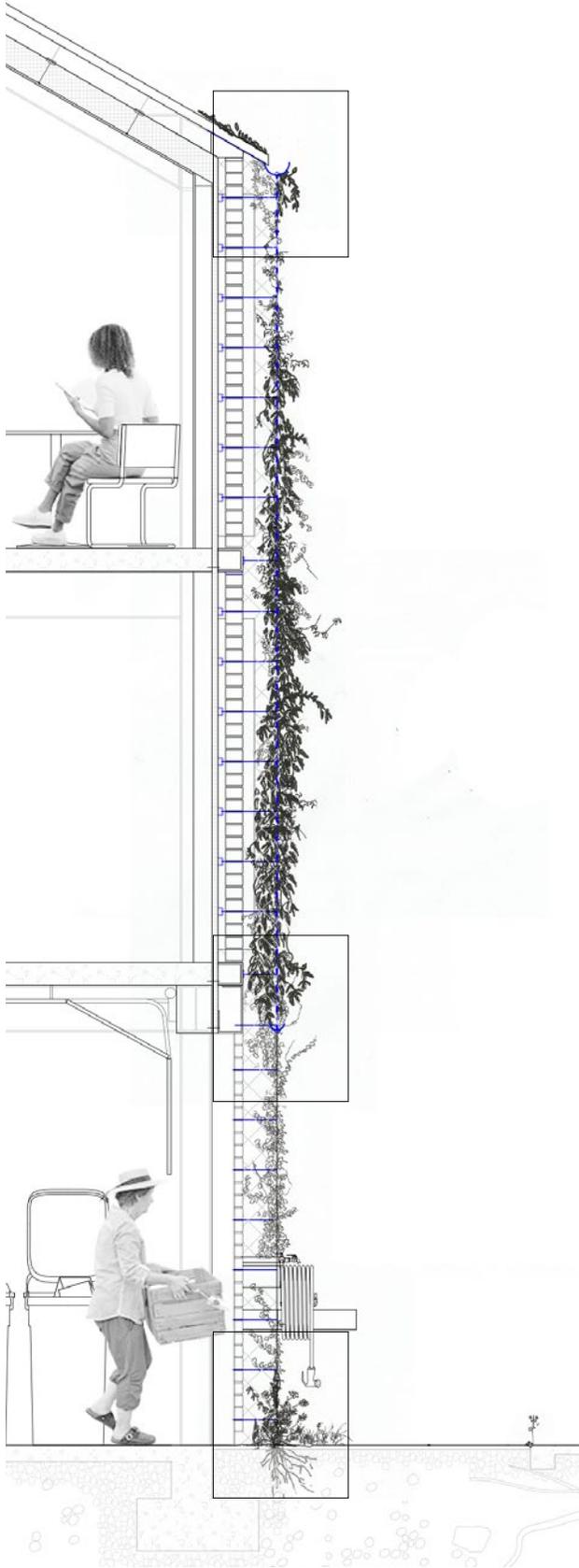


Fig. 4.45 Wall section showing growing component details.

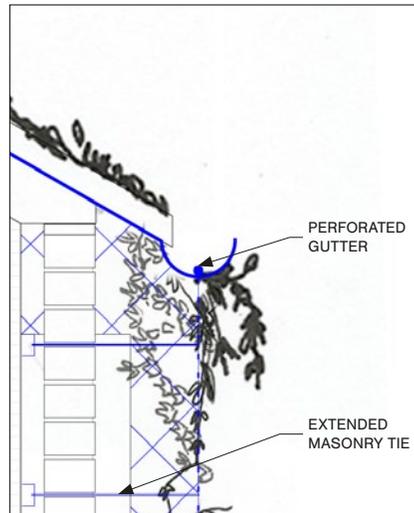


Fig. 4.46 Gutter detail.



Fig. 4.47 Suspended channel detail.

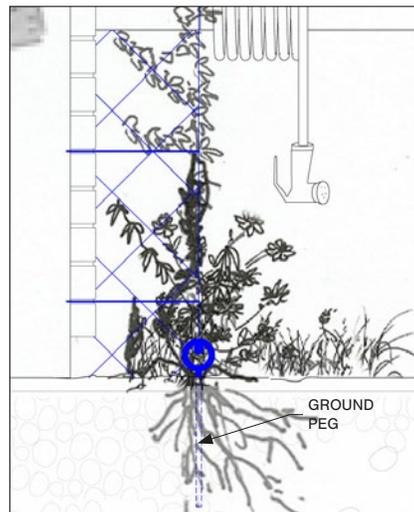


Fig. 4.48 Ground peg detail.



Fig. 4.49 Component assembly prototype. Produced as part of ARCN5302 coursework led by Lisa Moffitt, Winter 2022.

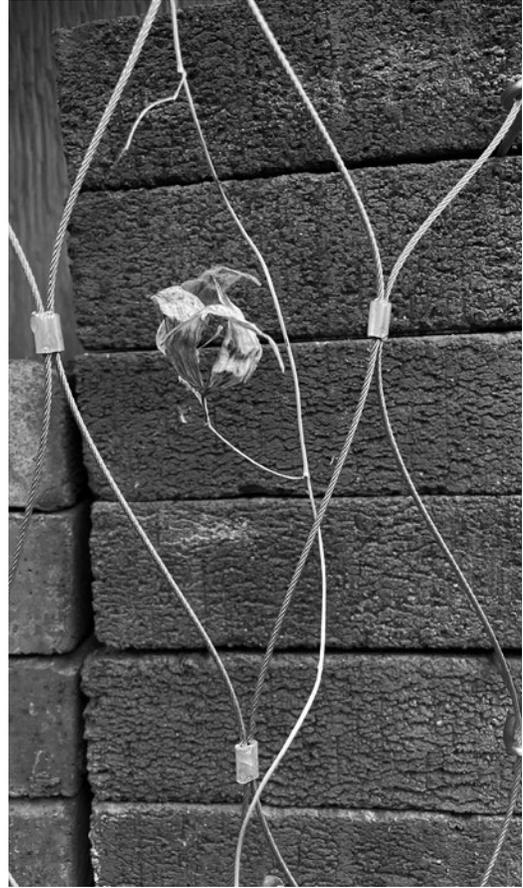


Fig. 4.50 Component assembly prototype, detail with black swallowwort. Produced as part of ARCN5302 coursework led by Lisa Moffitt, Winter 2022.

As part of a concurrent course at Carleton University led by Lisa Moffitt, I rethought modest building components like the netting I show here that secures re-purposed, weak, masonry to be tolerant of its decay, less fearful of water and more conducive for vegetative growth that creep up it.¹⁴ While supporting human safety, the netting could also support climbing plants, or a nesting spot for animals. The steel nets further functions as a soft screen between the surface of decaying masonry and the potential

viewer, reframing assumptions about perceived neglect and the value of those tasked with tending to such decaying material. In building a material prototype of the assembly, I tested how water moved through system finding it created a celebratory trickle down the net-as-rain-chain. At every scale I worked through, I tried to complicate given functions to be more accommodative for other modes and lifeways insisting on a dialogue between conceptual and physical modes of engaging with “site.”

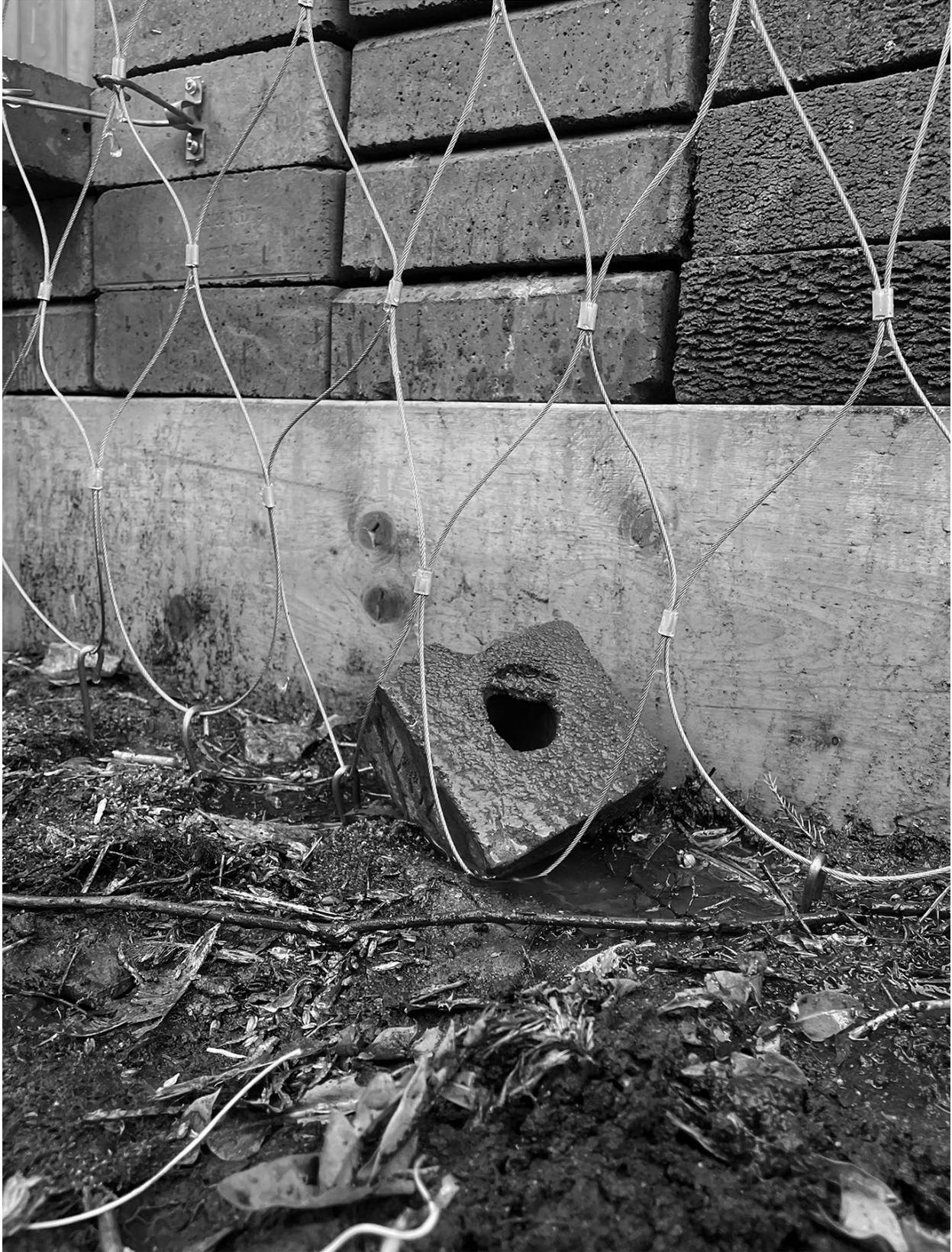


Fig. 4.51 Component assembly prototype, muddy detail.
Produced as part of ARCN5302 coursework led by Lisa Moffitt, Winter 2022.

As communities move from simply resisting extractivism to constructing the world that must rise in its rubble, protecting the fertility cycle is at the heart of the most rapidly multiplying models, from permaculture to living buildings to rainwater harvesting. Again and again, linear, one-way relationships of pure extraction are being replaced with systems that are circular and reciprocal. Seeds are saved instead of purchased. Water is recycled. Animal manure, not chemicals, is used as fertilizer, and so on. There are no hard-and-fast formulas, since the guiding principle is that every geography is different and our job, as Wes Jackson says (citing Alexander Pope), is to “consult the genius of the place.”¹⁵

This passage from Naomi Klein’s *This Changes Everything: Capitalism vs. The Climate* reads almost like science fiction, but I find a lot of encouragement in this hopeful message; to “rise from the rubble” and learn from the particulars of place is precisely the ruderal approach, for human and non-human communities together. The *People’s Official Plan* identified many solutions that are in line with the circular systems Klein refers to; by making space for the solutions people desire, a ruderal approach would create fertile ground on which novel modes of urban occupation can be tested and built in collaboration across disciplines, scales, and occupants.¹⁶ To begin caring for the cycles of earth’s natural systems, the project of unsealing ground is pressingly urgent so that life-sustaining waters can flow more freely.

To speak of impermeable ground is, most significantly, to speak of watery interfaces between bodies. This fundamental relation didn’t come to the fore for me until the final stages of the work, when I began inking weeds on paper to tell a ruderal story, and running water through the assembly prototype, returning it to the muddy ground, hydrating moss and dandelions from the same tap I drink from. Astrida Neimanis writes that “Water is between bodies, but of bodies, before us and beyond us... Water entangles our bodies in relations of gift, debt, theft, complicity, differentiation, relation.”¹⁷ In taking a ruderal approach both conceptually and materially, I became aware that I was always imbibed in these modest relations as I spent time tending to weeds.

4: Endnotes

- 1 Andrea Kahn and Carol J. Burns, "Why Site Matters," in *Site Matters : Strategies for Uncertainty through Planning and Design*, Second edition, (London: Routledge, 2021).
- 2 Social Planning Council of Ottawa, "Neighbourhood Equity Index," <https://neighbourhoodequity.ca/#domains>.
- 3 People's Official Plan alliance, *Towards a People's Official Plan*, 2021.
- 4 This is premised on Stoezter's "ruderal analytic," Bettina Stoetzer. "Ruderal Ecologies: Rethinking Nature, Migration, and the Urban Landscape in Berlin." *Cultural Anthropology* 33.2 (2018): 316.
- 5 "Composting" as a metaphor is introduced by Donna Haraway in *Staying with the Trouble : Making Kin in the Chthulucene*, (Durham: Duke University Press, 2016).
- 6 Nancy Grimm, et al. "Global Change and the Ecology of Cities," *Science (American Association for the Advancement of Science)* 319, no. 5864 (2008): 757.
- 7 Naomi Klein, *This Changes Everything: Capitalism vs. The Climate*, (New York: Simon & Schuster, 2014), 5.
- 8 Ibid., 385.
- 9 Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*, (Minneapolis: Milkweed Editions, 2013).
- 10 Jane Jacobs, *The Death and Life of Great American Cities*, (London: Jonathan Cape, 1962), 432.
- 11 Rachel Standish, et. al, "Improving City Life: Options for Ecological Restoration in Urban Landscapes and How These Might Influence Interactions Between People and Nature." *Landscape Ecology* 28, no. 6 (2012): 1213–1221.
- 12 People's Official Plan.
- 13 Social Planning Council of Ottawa.
- 14 Lisa Moffitt, "ARC5302W: Deadlic Excericises II: (Un)Rapid prototyping," (course, Carleton University, Ottawa, ON, Winter 2022).
- 15 Naomi Klein, *This Changes Everything*, 385.
- 16 People's Official Plan.
- 17 Astrida Neimanis, "Hydrofeminism: Or, On Becoming a Body of Water," *Bodies of Water: Posthuman Feminist Phenomenology*, (London: Bloomsbury Academic, 2019): 85.



Fig. 5.1 A ruderal intervention on Glencairn Avenue, May 2022.

PART 5: LEARNING FROM WEEDS

At the threshold between learning and practice in my thesis year, I wanted to dwell on questions about how an architect builds an understanding of site. Before working in a particular place, I wanted to learn how to better respect this complex entity full of existing worlds. To broaden the scope of what registers in an understanding of site, I chose to spend time working with matters that I felt were overlooked – those scrappy weeds that take root while architects deliberate. I started by working with what I had access to, at scales that I could develop and experiment with. As I read more and looked closer, wondering what a possible output might be, I found my way toward a reflective design project that is rooted in open participation, welcomes entanglements, and functions at multiple scales. Here I have proposed an approach that grows from the cracks and gaps in the structures of the world around me, to resist inheriting processes of development predicated on displacement.

To recognize the generosity of plants whose reciprocal caring Robin Wall Kimmerer describes in *Braiding Sweetgrass*, I found my first collaborators in the Box Elders that reach over the backyard where I am situated in Ottawa.¹ I know these trees with their helicopter seeds to be weedy but here they thrive in the gap between fences of my house and a power station. To tend to weeds I often spent time outside over the course of the year, working in the cyclical seasons of growth, decay, and dormancy, in Ottawa and Los Angeles. While a weed might be defined by its undesirability, in their prolific dispersion, a weed, I found, is a valuable participant in an approach to architecture that is open to many ways of making worlds. Learning from the tenacious pace of undesirable ecologies that permeate the steady going of the city that surrounded me, I sought out a process that undoes thinking as usual to find more open ways of making space. In tending to weeds I learned about ecotones of abundance growing in the gaps of things that matter.

The work of botanists, including Kimmerer and Peter Del Tredici, taught me the stories of specific plants and their quiet but tenacious world-building practices.² In getting to know a bit more of these collaborators in building environments as they breathe and decay, I started to see, a bit more clearly, the embedded and layered socialites that share common patches of ground. The novel communities that make up ruderal ecologies provided a generous framework for thinking through complex human-plant-nonhuman relations. Bettina Stoezter's careful lens on the intersections of power, plants, and marginalized occupants that make use of ruderal gaps of urban fabric illustrated the capacity for working across issues while working toward solutions for more mutual flourishing.³ In Anna Lowenhaupt Tsing's terms, a ruderal lens gave me new "tools for noticing" assemblages I wasn't previously attune to.⁴ As I learned more of the relations among plants, to humans and other animals, to fungi, soil, air, and water, I found that there is a lot of resilience in welcoming, not erasing, these complex entanglements.

As I went about my year, I often took photos and videos of the plants that would be inevitably razed for some purpose, wondering what that banal erasure signaled. I was led toward areas around construction sites concentrated in neighbourhoods

undergoing gentrification where the exposed soil and fenced-off rubble grounds created an opportunity for ruderal occupation. In noticing the momentary synchronicity of weeds and urban development, reading planning policy, and imagining alternative futures for the city I occupied, I further imbricated myself in the entanglements of real world needs and possibilities for more hospitable and sustainable modes of occupying urban ground. In the gaps of given world-planning frameworks there is space to be critical of who gets to determine what growth ought to look like and work with the real needs of people and environment, insisting on the possibility of growth without displacement.

Because ruderal ecologies bring together ‘unlikely neighbours,’ my work toward a ruderal approach implicated botanists, artists, architects, anthropologists, urban planners, and my family, as I read, worked, and talked through scales from the single dandelion and the water tap to the urban canopy and the cartography of census data. I called my thesis *Tending to Weeds* because to tend to something means both to take care, and to be drawn toward. By following the places where weeds grow, learning how they grow, and reading the work of people theorizing about them, I found avenues back into architecture with a design brief I hadn’t anticipated, proposing a care-full and necessarily incomplete approach that I could carry forward into practice. Having stopped to get to know some of the weeds around me in my thesis, I gained small of bit familiarity with these weeds and get a bit of encouragement from their pervasive urban tactics that continue to build a more abundant and hospitable world.

The potential for learning from spontaneous urban nature is being increasingly recognized, as recent publications like Matthew Gandy’s *Natura Urbana*⁵ and David Seiter’s *Spontaneous Urban Plants*⁶ tend toward weeds to see what might be found in this pervasive but often brushed-away condition. The work of a ruderal approach is broadly applicable in advocating for more accessible and engaging modes of building worlds – just as weeds spring up anywhere human desires survey land, a ruderal approach insists on a framework based on working *with* weeds, metaphorically or materially, to occupy ground more collaboratively. To welcome entanglements enables work across the gaps in space-making disciplines and traverse scales from the individual entity to the collective field; a ruderal approach is a generous *carrier bag*⁷ for rethinking how we imagine future worlds by looking more closely at the ones we pass by as we move about our everyday lives.

I set out by asking what matters to an architect, and after a year among box elders, trash-decorated bottlebrush grass, foxtails, dandelions, and dead goldenrods, my question became: how can we grow together better? That seed of a thought-what if streets were forests – germinated in winter dormancy, gathering nutrients in doodles and dioramas, and now, in the watery grounds of spring, it makes me wonder: might a gathering of unlikely neighbors in that weedy forest, of stakeholders in creation and flourishing, come to find modes of occupation based in those principles that Zoe Todd identified, of principles “rooted in reciprocity, relationships, and responsibility”?⁸



Fig. 5.2 A ruderal intervention on Glencairn Avenue, May 2022.

5: Endnotes

- 1 Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*, (Minneapolis: Milkweed Editions, 2013).
- 2 Robin Wall Kimmerer, *Braiding Sweetgrass*. Robin Wall Kimmerer, *Gathering Moss: A Natural and Cultural History of Mosses*, (Corvallis: Oregon State University Press, 2003). Peter Del Tredici, *Wild Urban Plants of the Northeast: A Field Guide*, Second edition, (Ithica: Cornell University Press, 2020).
- 3 Bettina Stoetzer. "Ruderal Ecologies: Rethinking Nature, Migration, and the Urban Landscape in Berlin." *Cultural Anthropology* 33.2 (2018): 316.
- 4 Anna Lowenhaupt Tsing, *The Mushroom at the End of the World : on the Possibility of Life in Capitalist Ruins*, (Princeton: Princeton University Press, 2015), 25.
- 5 Matthew Gandy, *Natura Urbana: Ecological Constellations in Urban Space*, (Cambridge: MIT Press, 2022).
- 6 David Seiter, *Spontaneous Urban Plants: Weeds in NYC*, (New York: Archer, 2016).
- 7 In reference to Ursula Le Guin, *The Carrier Bag Theory of Fiction*, (London: Ignota Books, 1986/2020).
- 8 Zoe Todd, "Indigenizing the Anthropocene," in *Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environment and Epistemology*, edited by Heather Davis and Etienne Turpin, (Open Humanities Press, 2015), 250.

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