

Storied Attunements:
Revitalizing Public Space in Downtown Sudbury

by

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Abstract

Expressed in various art forms and across diverse media, narratives communicate universal themes that enable audiences to identify with the work despite references to culturally, geographically and temporally-specific details. As non-visual carriers of narrative, stories and music in particular rely on the involvement of the audience's imagination to visualize scenes, atmospheres and places. These interests orient research into the complex interrelationships between the arts of narrative, music and architecture to develop a translative framework for architectural and urban design that yields atmospherically-rich spaces inspired by place-specific narratives. Focusing on Sudbury, Ontario, four sites were selected in the downtown core for their connections to overlooked local (hi)stories apropos of the railway, the surrounding rock blackened from mining exploits, and buried creeks. Significantly, these sites are also neglected, or at best underused areas in the city, which the proposed design interventions tackle in order to stimulate an urban revitalization that shifts the emphasis away from a car-centric urban fabric to a more pedestrian-friendly, and environmentally and culturally sustainable experience. Culminating in the design of a Mist Park, a Connective Garden, an Urban Terrace and a Resource Centre with an exterior plaza, this thesis project celebrates local identity in its translation

of narrative and ambient soundscapes into locally "attuned" public spaces, offering a critical-poetic commentary on how a design approach interwoven with (hi)story and sound can contribute to a network of sensitive architectural responses that instigate an inclusive, ground-up urban revitalization.

Keywords

architecture, atmosphere, history, inclusivity, music, narrative, public space, soundscape, story, Sudbury, translation, urban revitalization



Image 1

Keyword Diagram

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I hope this makes all of you proud.

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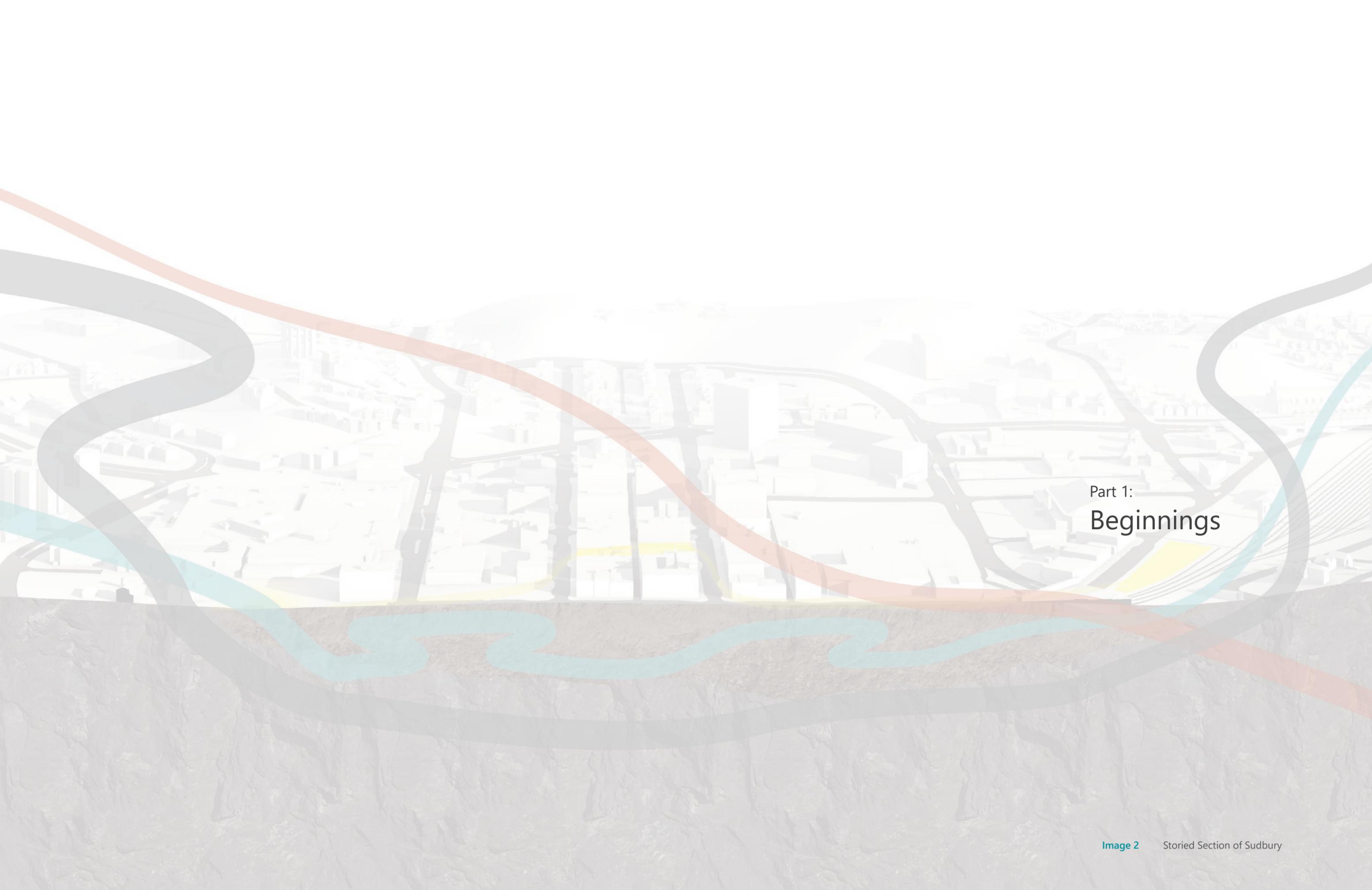
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Part 1:
Beginnings

Introduction

Architecture's inherent creation of sequential atmospheric and fully immersive experiences paired with its great capacity for communication contributes to its potential as a work of translation for other art forms that, by nature, are revealed over time. Stories and music are two such art forms, each coming to life solely in our imaginations as the works offer no visual clues for imagery, allowing the mind to fill in what is only suggested by universal themes carried through the work. These universal and non-visual characteristics also allow the arts' audiences to envision the piece in the likeness of what is familiar to them, making relatable works detailed for an unfamiliar identity. Exploring architecture as a work of translation for place-specific narratives that highlight soundscapes in ways that enrich collective memory and contribute to urban revitalization became the central question of the thesis.

The thesis is organized in three parts, with short stories interspersed between chapters. These writings formed a part of the research and methodology of the thesis, furthering concepts explored in the chapters through a poetic lens and acting as an analytical tool to conceptualize and reflect on the concluding design proposals. The thesis' opening section examines the interrelationships between the three arts of narrative,¹ music and architecture as

expressions of atmosphere in space and time, and investigates different methods of cross-disciplinary translation. Two stories accompanying this research explore interpretations of Smetana's symphonic poem, "The Moldau." This segment concludes with the realization that each art form has the power to reveal universal themes through a focus on a specific geographic area, leading into "Part 2: Place," which presents Sudbury, in northern Ontario, as the urban context of study for the thesis. After concluding empirical and historical research into the city's local history and current realities, four sites were chosen for design interventions based on their strong ties to three place-specific yet overlooked narratives and their locations in under-used parts of Sudbury's downtown. Sound joins writing as arrangements of field recordings registering the auditory realm of the four sites are made available for listening in the form of embedded links, and short stories recount the three researched (hi)stories, finding the poetic in the uever-present past and the latent potential in the present. "Part 3: Composition" commences with a description of a sound installation that functions as a catalyst for design, joining the themes of narrative, music, space, and translation in four sculptural Figures that personify the atmospheres of the four sites. The design process continues in the programming and design of a Mist

Park, a Connective Garden, an Urban Terrace and a Resource Centre with an outdoor plaza, all public spaces that embody a site-specific narrative while forming a system of inclusive responses to downtown Sudbury's contextual conditions in order to instigate a ground-up urban revitalization. Probing the potential of narrative architecture as generated by atmospheres with special consideration given to sound, this thesis speaks to the sense of imagination by integrating a combination of story and sound into the design process and exploring a new dimension of translation in architecture.

Notes

¹ A subtle but important distinction is being made here between the interrelated terms "narrative" and "story." Narrative is used to describe an account of events rather than the specific art form through which those events are recounted. Story, on the other hand, is used as a textual or oral form of narrative.



Image 3 The Narrative of "The Moldau"

Story:

The Moldau

Stories, often the most compelling ones, are passed down from parent to child across ages and oceans. My mother told me the story of "The Moldau" symphony, which my grandmother had told her, and my great grandmother before her had carried it on her lips from her birthplace on the other side of the world.

The story begins high in the mountains, where the rain that drips from the stones forms a pool that moves slowly and windingly until it joins another stream. As the water travels down the slopes, it grows from a stream to a creek to a river that flows down the mountainside. It swirls, eddies, dances around rocks and trees, the stones beneath it rendered

smooth over time. At the edge of the mountains it meets a small village whose wooden houses face the river's bank, the people supported by its waters. Too quickly, the river leaves the village centre, but the last farm of the area presses close to the edge. Laughter and light and music and dancing drift down from the grounds for a wedding is taking place there. The merriment stays with the river as it passes by, but not for long. Soon sorrow finds the river and new water joins the flow, coloured by the tears of a mother grieving for her sick son who is soon to die. She cradles him in her lap and cries over his barely breathing body. The river slows to calm her, collecting her sadness in its

waters as it passes by the mother and child. As the river continues on its path, a thunderstorm brews, tossing the water and striking it with lightning, making it dangerous. The fury of the storm is terrible and the water roils with the same emotion. Just as suddenly as it comes, the storm dissipates to reveal the river's end: a shining city with a castle on its bank. The story finishes as the river continues into the countryside, winding onward through the landscape.

A Theoretical Triangle

In order to explore the manifold interrelationships between narrative, music and architecture, it is worthwhile to consider separately the connections between music and narrative, narrative and architecture, and architecture and music. Within this triangular framework the themes of atmosphere, space and time emerge as central. Atmosphere relates to a person's phenomenological experience when they encounter an art form. For example, the non-visual arts of narrative and music create imaginary sensory impressions in our minds, whereas architecture's physical presence directly influences the individual's sensory experience in or around the building. Related to this atmospheric dimension is the power different art forms have to stretch and compress space and time in our perception. While the discussion of a single connection between the terms of narrative, music and architecture may not include all of the central themes, it is only when the connections' concepts are examined in relation to one another that the themes become apparent.

Music and Narrative

Given the long-standing tradition of transforming poetry into song and narrative into instrumental melodies, perhaps the most direct relationship among the

three key terms that anchor this research is that between narrative and music. A narrative symphony that holds personal significance for me, having been passed down generationally, is "The Moldau" movement from Smetana's 1872-1879 *Má Vlast*. This piece belongs to the symphonic poem typology, defined as an orchestral score that translates literature to music, usually regional folktales and histories.¹ This musical form was popular during the nineteenth century Romantic period, which was characterized by expressive melodies that provoked imagined tableaux.² In symphonic poems, the different narratives told through the musical themes are called 'programmes,' a term shared with architecture for the function of a space.³ The programmatic narrative of "The Moldau" that was passed down to me differs somewhat from the original tale written musically by the composer in regard to the specific events, though the atmospheres created by the music apply to both versions (see "The Moldau" and "The Vltava" short stories). While the details in the narratives make the plots unique to both the piece and the place, the themes traverse time periods, geographies and cultures because they tap into universal sentiments and events, such as love and hardship. Similarly, other geographic elements like rivers are often symbolic carriers in many tales that are specific in their features but relatable

around the world. Without knowing that "The Moldau" was written about the Vltava River, it could be imagined as situated in any number of other places, such that it takes on the specific contours and histories of the listener's homeland.

Narrative and Architecture

The literature that explores the relationship between narrative and architecture falls into two general categories, namely, explorations of design methods used to convey narratives through three-dimensional space and add layers of meaning to architecture, and theorizations on the nature of time as it connects narrative to architecture. As part of the first discussion, the authors of *Narrative Architecture: A Designer's Story* write that the telling and retelling of local stories reconfirms tradition and identity in a community.⁴ Their example was the Dancing House in Prague, designed by Frank Gehry and Vlado Milunić in 1994-1996, which used a twisting form to convey the analogy of movement that symbolized the local historic narrative of a country peacefully reborn and reimagined as it transitioned from communist Czechoslovakia to a democracy (see Image 4).⁵ The building's name takes the concept further, combining with the sculptural form to imply the gaiety one feels when dancing.⁶ Another design strategy



Image 4 The Dancing House

to convey narrative is an amalgamation of smaller details that are experienced and perceived over space and time within a building and which convey a narrative when considered as a whole. These details may be abstracted geometric forms that suggest emotions as well as our own past experiences based on our interpretation of the detail, but they might also be more defined symbols in architectural ornament. Marco Frascari discusses the work of Carlo

Scarpa as an example of the abstracted geometric details that combine to create an atmospheric canvas onto which the visitor may overlay their own memories.⁷ On the other hand, Tracey Eve Winton writes about spaces of secrecy announced through specific ornamentation that is only legible to the initiated, thereby voicing the potential exclusivity of narrative architecture.⁸

Sequencing, juxtaposition, materiality and patina become complementary strategies through which details and ornament can be curated to express narratives through architecture. With each of these methods there is the companion element of time. The visitor must move through spaces in order to perceive the details, ornaments, juxtapositions and sequences and understand them as narrative unfolding. Once the narrative is understood and the visitor is immersed in it, time splits into two parallel streams: the real time of the physical world and the imagined time of the narrative.⁹ The latter correlates to the sensory experience in the mind as events unfold in the narrative. For example, if a story were to have important events take place during an evening and the subsequent day, the teller might use the phrase, "The next morning..." In the audience's mind, a full night has passed, though the phrase itself would take no longer than a few seconds to read or hear in the real world.

In this way, time was collapsed for the sake of the plot. Narratives rely on this compositional compressing and expanding of fictional time in order to make clear the storyteller's point whilst engaging the listener/reader's imagination. Architecture, as a medium through which narrative can be communicated, implements the abovementioned design strategies to express the compression or expansion of fictional time.

The narrative compositions formed by the abovementioned strategies begin to speak to the larger issue of legibility of narrative architecture, in other words, the problem of the narrative coming through only for those who already know what it is and where to look for the cues. Architectural narratives are obscure and/or superficial more often than not. The former are only fully understood by those trained in architectural design while the latter are simple, loose metaphors that lack the depth of a developed plot. This raises the question of what constitutes an architectural narrative. Does it necessitate the inclusion of a plot, which in turn requires a series of events that occur over a length of time, or can it be a single, simple concept? For example, if the former definition were to be agreed upon, does The Dancing House in Prague qualify as narrative architecture? The design had no plot to it, and the building embodied two unrelated concepts – a city

reborn and dancing happily – which makes the intended narrative difficult to interpret. The lack of definition surrounding narrative architecture also raises the question of the origin of the narrative. Paul Emmons and Luc Phinney emphasize that there are many buildings whose narratives are not what the architect intended, or where the narratives differ completely from the designer's conceptual starting point.¹⁰ These buildings might have a romanticized story attributed to them after their construction, or had historical events occur in or outside of them so that the architecture becomes a palimpsest of history or public perception.¹¹ Though there are many unanswered questions regarding the qualifications of narrative architecture, it can be agreed that a successful example has an added layer of meaning for its visitors by incorporating symbolic or atmospheric forms in sequence throughout the space that are easily identifiable as storied.

Architecture and Music

Upon examining the relationships between narrative and music, and between architecture and narrative, the third pairing, namely the relationship between architecture and music, focuses on the nature of the two arts and how each prompts a different type of human

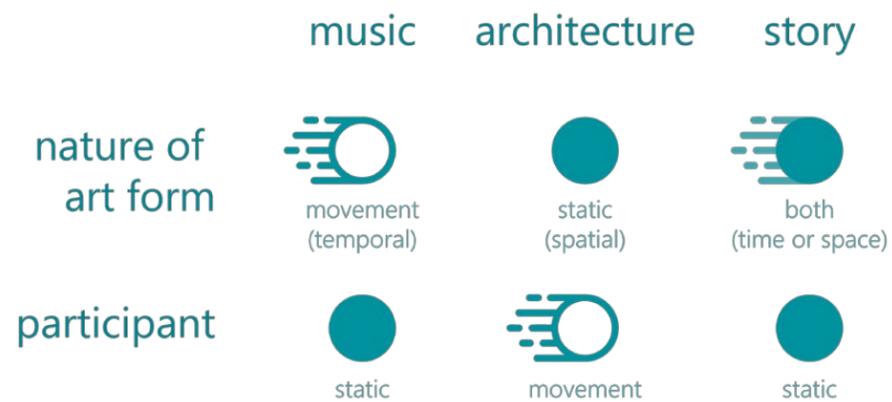


Image 5 Diagram correlating the nature of different art forms to forms of participation.

engagement. Aarati Kanekar and Galia Hanoach-Roe both discuss music as a temporal art: to experience music we hear the movement of notes, which is by default dependent on the passage of time.¹² It is expressed linearly, “becoming an entity only in retrospect, in the memory of the listener or performer.”¹³ Architecture, on the other hand, is construed as a spatial art due to both its material fixity and our perception of it is often considered to be a predominantly visual experience.¹⁴ Yet these classifications are limiting, for we visualize spaces when we hear music, and as we move through architecture, our embodied experience is informed by all of our senses. Each art is taken in sequentially, whether that is through the flow of melody or the path we take through a sequence of spaces. Both music and architecture create fully

immersive experiences and are therefore both temporal and spatial in nature.

There are other differences and similarities. Colin Ripley points out that music and space cannot exist without one another; sound cannot be made without space, and with the exception of completely sound-absorbing chambers, space is never fully quiet.¹⁵ Another commonality between architecture and music identified by Charles Jencks is the use of proportion. The mathematical ratios of perfection were applied as much to musical theory for harmonies and tempos as they were to spatial dimensions.¹⁶ Despite the commonalities between music and architecture, a major difference involves our participation with the work. Music, which requires time to experience and understand

it, does not require that the listener to move in order to participate with it. On the other hand, architecture requires that the visitor experience a space by walking through it, though the space itself is static.¹⁷ Thus, an inverse relationship is formed between the nature of these art forms and our participation with each.

The Triangle

Some common elements discussed only in the context of one relationship may be applied to all three, particularly the concepts of time, space and memory. Time was examined in narrative in a dual sense, namely real time and fictional time, but this relates to any completely immersive experience. As we are transported by narrative, music and architecture we fall out of the rhythm of real time and the sensory experience could last minutes or hours. The nature of temporal and spatial arts and how we engage with them is a substantial component of the relationship between music and architecture, but stories can be described in the same way. That said, the distinction of story as a spatial or temporal art becomes more challenging to neatly define due to storytelling being either of an oral or a written tradition. Oral stories share with music the temporal

aspect of needing the passage of time to exist, while written stories are akin to architecture in that they are communicated and experienced through a material object. Lastly, the concept of memory has been discussed, but in slightly different ways. Both stories and music exist only in memory, as we understand them only after the mind remembers what the previous notes/ words were and connects them together as a whole composition. Architecture, on the other hand, is an active participant in the memory of place as it bears the physical evidence of history through usage, additions damage and patina. These inevitable changes to buildings over time add new layers of interpretation by both visitor and builder, and serve as a reminder that designs melding narrative, music and architecture cannot be rigid in their communicative capacity. They must be “open works,” creations that lend themselves to multiple interpretations and remain available to different understandings across geographies and ages.¹⁸ Architecture that conveys a musical narrative must not be too detailed so as to be so specific that it loses relevance to time and context. It must express the atmospheres of the narrative and/or music in a manner that hints at continued reinterpretation while also taking into consideration the living events that will surround it and be attributed to it.

Notes

¹ Hugh Macdonald, "Symphonic Poem," Grove Music Online / Oxford Music Online, January 20, 2001. <https://www.oxfordmusiconline.com/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000027250>

² John Samson, "Romanticism," Grove Music Online / Oxford Music Online, January 20, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.23751>

³ Macdonald, "Symphonic Poem."

⁴ Sylvain De Bleeckere and Sebastian Gerards, *Narrative Architecture: A Designer's Story* (New York: Routledge, 2017), 51.

⁵ Ibid., 48.

⁶ Ibid., 49.

⁷ Marco Frascari, "The Tell-The Tale-TheDetail," *VIA 7: The Building of Architecture* (1984): 23-37.

⁸ Tracey Eve Winton, "Architecture Sub Rosa: Another Tell-Tale Detail, with Confabulations and Digressions," in *Confabulations: Storytelling in Architecture*, ed. Paul Emmons, Marcia Feuerstein, and Carolina Dayer (New York: Ashgate, 2017), 94-103.

⁹ De Bleeckere and Gerards, *Narrative Architecture*, 49.

¹⁰ Paul Emmons and Luc Phinney, "Introduction," in *Confabulations: Storytelling in Architecture*, ed. Paul Emmons, Marcia Feuerstein, and Carolina Dayer (New York: Ashgate, 2017), 6.

¹¹ David Leatherbarrow, "Buildings Remember," in *Confabulations: Storytelling in Architecture*, ed. Paul Emmons, Marcia Feuerstein, and Carolina Dayer (New York: Routledge, 2015), 61.

¹² Aarati Kanekar, *Architecture's Pretexts: Spaces of Translation* (New York: Routledge, 2015), 5; Roger Scruton, "Experiencing Architecture," in *The Aesthetics of Architecture* (Princeton, NJ: Princeton University Press, 1979), 81.

¹³ Galia Hanoch-Roe, "Unfolding Space through Time: Dialogues of Linearity and Modularity in Musical and Architectural Scores," in *In the Place of Sound: Architecture | Music | Acoustics*, ed. Colin Ripley, Marco Polo, and Arthur Wigglesworth (Newcastle, UK: Cambridge Scholars Publishing, 2007), 69.

¹⁴ Ibid.

¹⁵ Colin Ripley, "Introduction," in *In the Place of Sound: Architecture | Music | Acoustics*, ed. Colin Ripley, Marco Polo, and Arthur

Wigglesworth (Newcastle, UK: Cambridge Scholars Publishing, 2007), 2.

¹⁶ Charles Jencks, "Architecture Becomes Music," *Architectural Review*, May 6, 2013, <https://www.architectural-review.com/essays/architecture-becomes-music/8647050.article>

¹⁷ Ibid.

¹⁸ Umberto Eco, *The Open Work*, trans. Anna Cancogni (Cambridge, Massachusetts: Harvard University Press, 1989), 4.

Story:

The Vltava

Over a hundred years ago, a composer wove mythologies with music. His melody begins quietly with flutes and plucked violins that run together to become two streams, one warm and one cold. They join in the mountains that lift above his native Slavic landscape, forming a river of oboes, bassoons and strings. As it makes its way down the slopes, the river passes a group of hunters gathered in a meadow, blowing their horns and calling for their dogs. The hunt commences and the men move into the forest as the river flows by. Horns and woodwinds turn to strings once more as the Vltava comes to a village where a farmer has just married his bride. The party is lively and joyful, its music set to a rhythm made for dancing. As night falls, the wedding reception ends and the river comes to a gorge. At midnight, secretive water nymphs that usually remain hidden emerge to bathe on the shores. Violins, flutes, two horns and a harp play softly, creating a tableau of sparkling water and beautiful creatures illuminated by the blue light of the moon. As the sun rises, the landscape changes and the river runs through the St. John's rapids. The melody is turbulent as the rapids are hazardous, cymbals crashing and tympani rumbling while the rest of the orchestra plays the danger of the water. Just as suddenly as they appeared, the music of the rapids dissipates and after

a breath, the melody swells triumphantly as the Vltava reaches Prague, city of kings and castles. Trumpets announce the grandeur of the scene in a climactic fanfare that fades to waves of strings. The story ends with the city, but the music lingers slightly before finishing with two last beats, telling of the river carrying on into the countryside.

The Missing Element: Translation

The key to bringing narrative, music and architecture into conversation with each other is the concept of translation. This is accompanied by the process of interpretation, for the translation of a work from one medium to another entails understanding the original before bringing its meaning to life in a new art form. The new translated work is now a separate entity from the original such that the translated piece is not a copy but a reincarnation taking on new emphasis and structure.¹ This in turn speaks to the concept of notation, which plays an important role in interpretation and translation both as a thinking tool, and as a communicative graphic in its finalized form. This relationship may be thought of analogically as a sketch compared to a drawing. Artists, musicians, filmmakers, choreographers, and other creators of artistic works, all rely on a form of graphic notation to elaborate their initial ideas as a vital part of the process that leads to the final work. In contrast, the architect's creations remain largely within the realm of translative notation. In his essay, "Translations from Drawing to Building," Robin Evans observes that while other artists spend little time on conceptual studies and focus the majority of their efforts on the final piece, architects very rarely do any work on the final product, being the building.² Instead, architects complete representations of an imagined

building that, in one way or another, will not be accurate to the final work due to changes during the construction of the project.³ Other arts have the ability to work through their final medium as they design it. Musicians, for example, might further their compositions as they write a (graphic) score while also testing them on an instrument.⁴ The communicative type of notation reintroduces interpretation, and is common to narrative, architecture and music. In the latter two, the graphic notation acts as instructions issued by the architect or composer to be followed by a third party in order to create the final piece. This process

of translation between artists' intentions and builders'/conductors'/musicians' interpretation of those instructions adds new layers and technologies to the creation of the final work.⁵ The art of written storytelling stands in contrast to this, as the author communicates the narrative through text, which is itself the final work. The commonality between all these art forms, however, is their dependence on the presence and interpretation of the visitor/listener/reader for the work to come alive.

More interesting and challenging than translating an idea into a realized

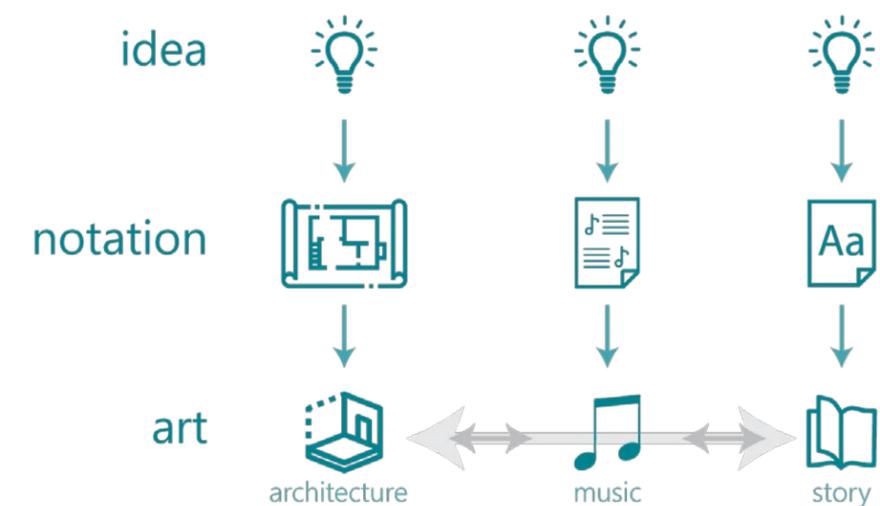


Image 7 Diagram of translation through notation in different art forms.

work within a given artistic field is the act of translation across art forms. Tomek Smierzchalski offers compelling insight into this question through his descriptions of his process of translating jazz music into architectural drawings. He has two methods: an objective critical analysis and a subjective, analogous approach. The first takes the temporal structure of music, rhythm and tempo, and maps them as a proportional guideline for the structure of the architecture, resulting in a very direct correspondence between the two-dimensional representation of music and that of space.⁶ The second method is much more interpretive, through which the author uses analogous imagery to convey what he calls the essence of the music, or in other words, its atmosphere.⁷

Smierzchalski's two translative methods can be used to analyze the design approaches of built works of Iannis Xenakis, Steven Holl and Julie Moire Messervy. Xenakis' Philips Pavilion, which he designed with Le Corbusier from 1956-58, was a three-dimensional extension of his 1953 musical composition "Metastasis."⁸ This

piece explored the concept of connecting two notes together without breaking the sound by using multiple string instruments played at different pitches to slide to a new note over specified times to create an overall change, as seen in Image 9.⁹ Xenakis translated this concept into three-dimensional space by using a series of off-kilter straight members to create a parabolic curve. The similarity between the resultant architectural form and the original graphic score is quite direct, if not literal, providing a model of Smierzchalski's structural translation. While the relationships between music and architecture had been considered before, a simple example being the connection of harmonic theory to architectural proportion, the Philip's Pavilion was new and influential in its exploration of an abstract idea in both musical composition and three-dimensional space.¹⁰ The structural approach to translation can also be applied to Steven Holl's 1991 "Stretto House". There, Holl took inspiration from the graphic score of Bartok's "Music for Strings, Percussion and Celeste" by translating the four heavy

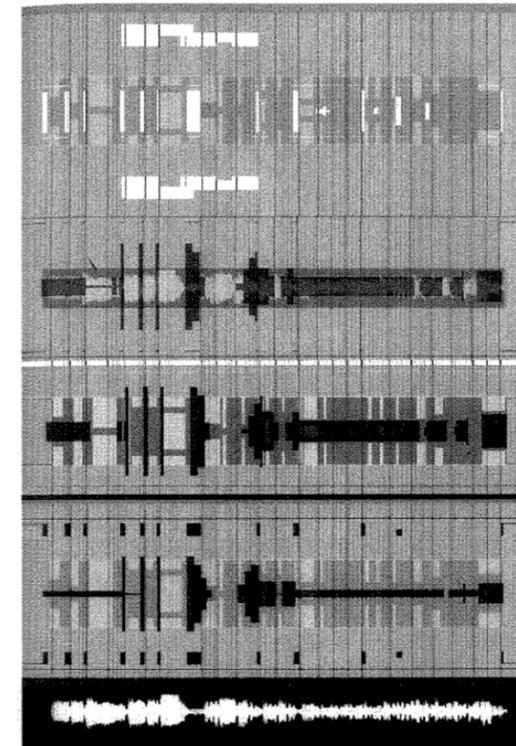


Image 8 Graphic analysis of John Coltrane's "Giant Steps."

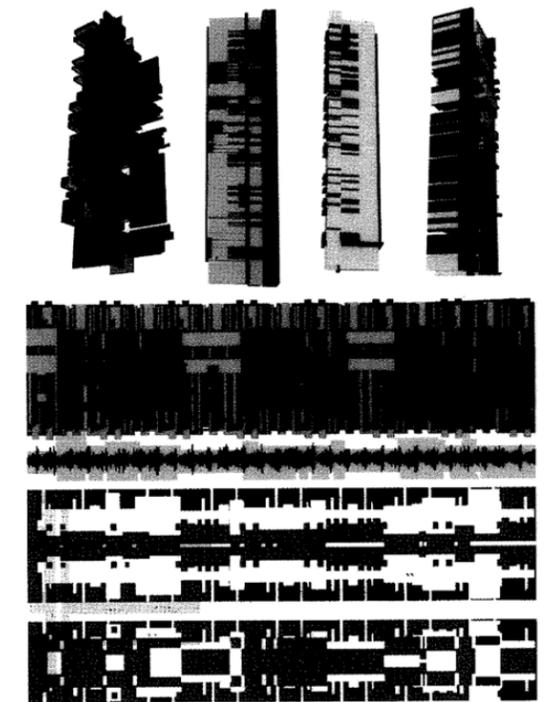


Image 9 Smierzchalski's translations from two to three dimensions.

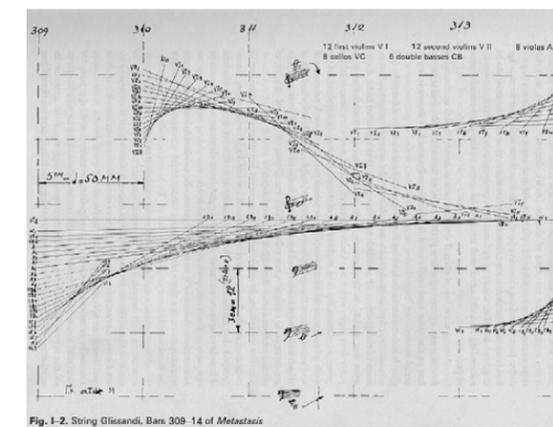


Image 10 Iannis Xenakis, Graphic Score for *Metastasis*



Image 11 Le Corbusier and Iannis Xenakis, The Philips Pavilion at Expo '58, Brussels.

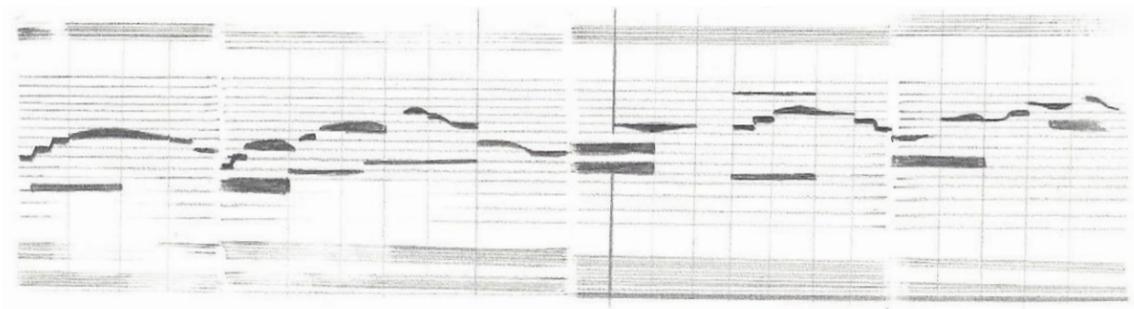


Image 12 Study of the graphic score for Bartok's *Music for Strings, Percussion and Celesta*

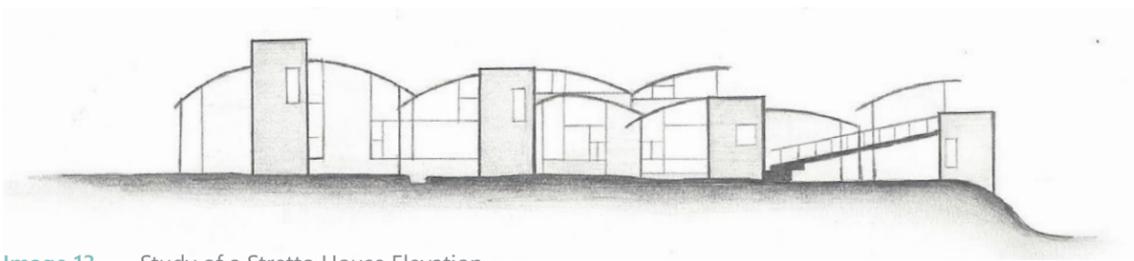
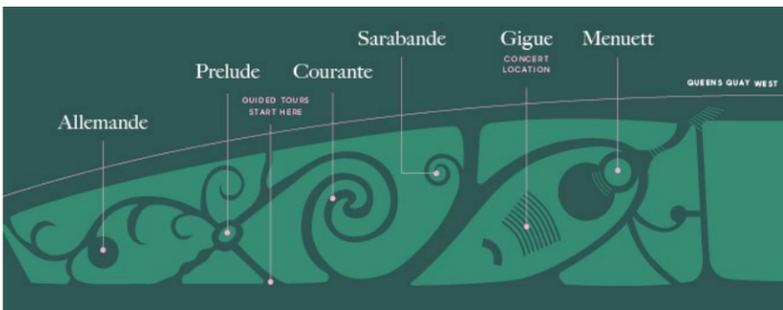


Image 13 Study of a Stretto House Elevation



Left: Image 14 Plan of the Toronto Music Garden.
Right: Image 15 "Courante" movement, Toronto Music Garden.



percussion movements as concrete blocks and the soaring strings as airy, intersecting curved roofs.¹¹ Here again, the translation between graphic score and architectural representation is literal.

Smierzchalski's analogous translation method may be used as a lens to understand the design of the Toronto Music Garden, realized in 1999 by Julie Moir Messervy in collaboration with cellist Yo-Yo Ma. The park was a translation of the first of Bach's "Six Suites for Unaccompanied Cello",¹² which resulted in swirling forms viewable in plan that are reminiscent of clefs and the scrolls of cellos.¹³ This case study is a cautionary example as the translation could not be understood without Messervy's explanation and the ability to view the park from an aerial vantage point.

In parallel to my research into processes of translation between the ideation and realization stages of a creative work, as well as translation across art forms, I drew my own translations connecting the narratives in music to architecture. I began with Smetana's "The Moldau", as the narrative is familiar, and Bach's "Passacaglia and Fugue" which inspires a series of sequenced atmospheric settings, but my attempts resulted in too direct a translation to ornament. From there, I drew the atmospheres of the narratives in music as they related to phenomenological

elements such as light, materiality and the compression and expansion of space. I began each translation by writing short stories while listening to a piece of music, the words a stream of consciousness informed by the imagined places and scenes the melodies stimulated. Only one piece had an existing narrative, implied by its title: Glinka's "La Separation." After each story was written, I then translated the emotional atmospheres of the music and narratives to three-dimensional space, using orthographic drawing techniques and sketched perspectives to convey the atmospheres of the places I saw in my mind's eye. The following images of these translative studies are paired with the handwritten text retyped below but left in their unedited forms as they were written with the music, and thus only minor grammatical and spelling errors were changed in the transcription for legibility.

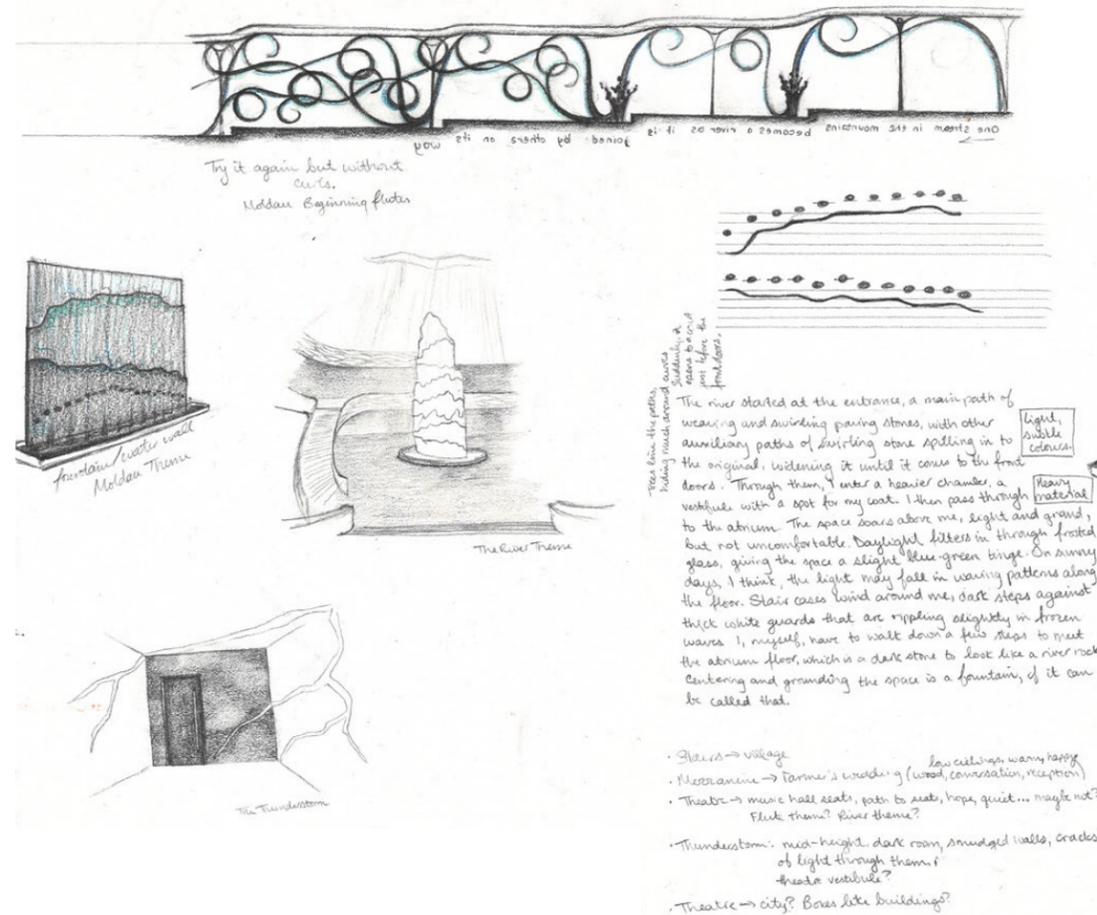


Image 16 Translation: Smetana's "The Moldau" to ornament

The river started at the entrance, a main path of weaving and swirling paving stones, with other auxiliary paths of swirling stone spilling in to the original. Widening until it comes to the front doors. Through them, I enter a heavier chamber, a vestibule with a spot for my coat. I then pass through to the atrium. The space soars above me, light and grand, but not uncomfortable. Daylight filters in through frosted glass, giving the space a slight blue-green tinge. On sunny days, I think, the light may fall in waving patterns along the floor. Stair cases wind around me, dark steps against thick white guards that are rippling slightly in frozen waves. I, myself, have to walk down a few steps to meet the atrium floor, which is a dark stone to look like a river rock. Centering and grounding the space is a fountain, if it can be called that.

Passacaglia and Fugue by Bach - NO STORY

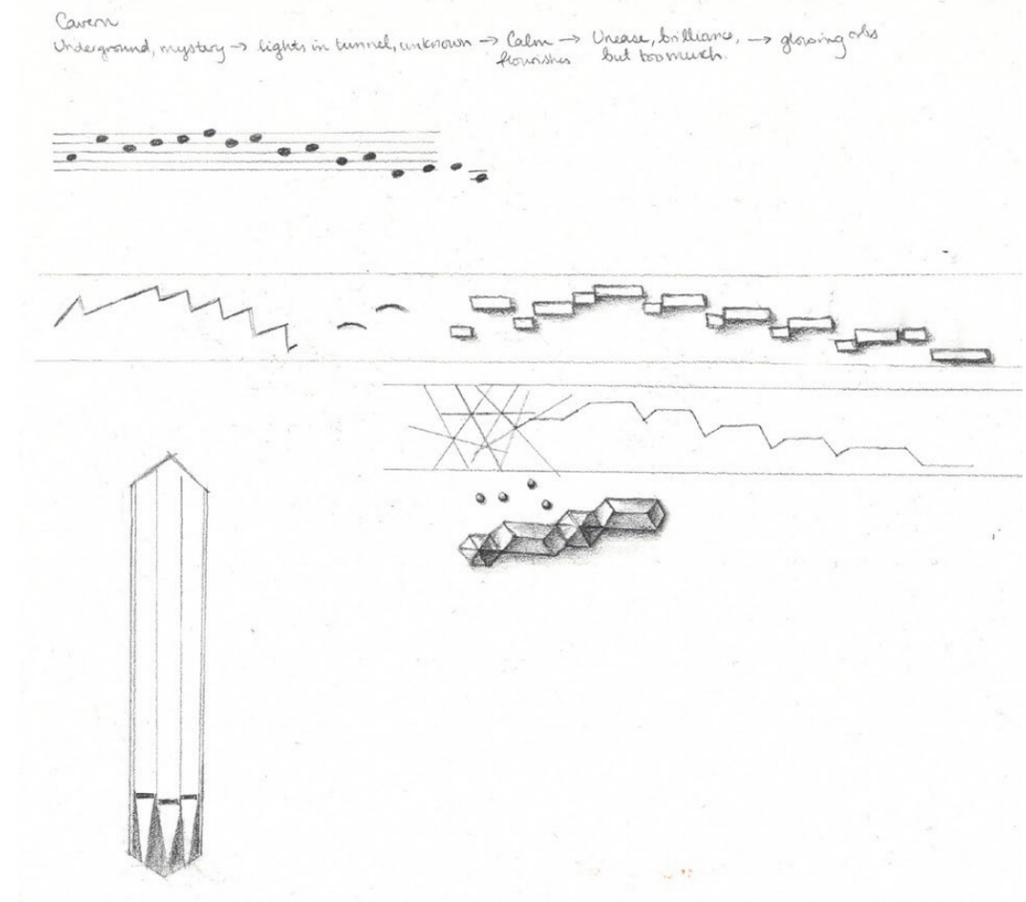


Image 17 Translation: Bach's "Passacaglia and Fugue in C Minor" to ornament

Cavern. Underground, mystery -> lights in tunnel, unknown -> calm, flourishes -> unease, brilliance, but too much -> glowing orbs

Introduction and Rondo capriccioso in A minor by Camille Saint-Saëns

Begins shyly, one person alone, in a wood with many smaller trees that are close together. The person moves slowly then a little quicker, perhaps exiting the wood and crossing a staired bridge. Runs across a square, meadow? Down a short staircase, low and narrow, which then turns a corner and the space explodes open. The music is now arrogant, cheeky, playful, flirtatious.

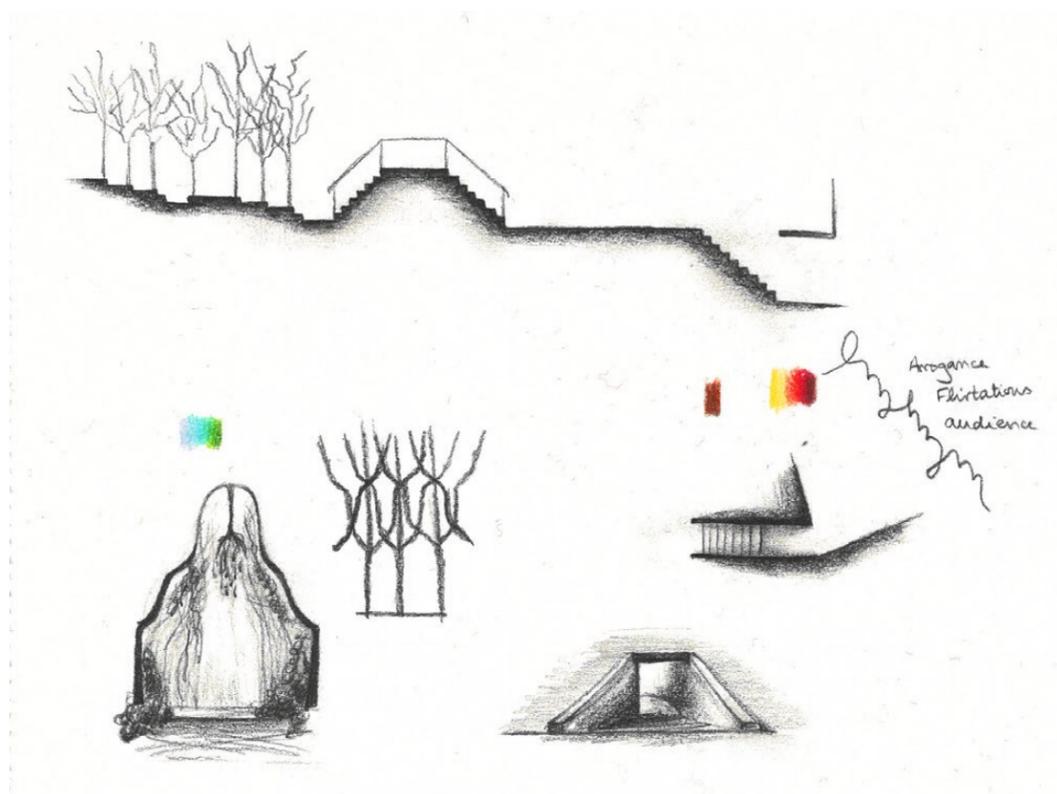


Image 18 Translation: Saints-Saëns' "Introduction and Rondo capriccioso in A minor"

Begins shyly, one person alone, in a wood with many smaller trees that are close together. The person moves slowly, then a little quicker, perhaps exiting the wood and crossing a staired bridge. Runs across a square, meadow? Down a short staircase, low and narrow, which then turns a corner and the space explodes open. The music is now arrogant, cheeky, playful, flirtatious.

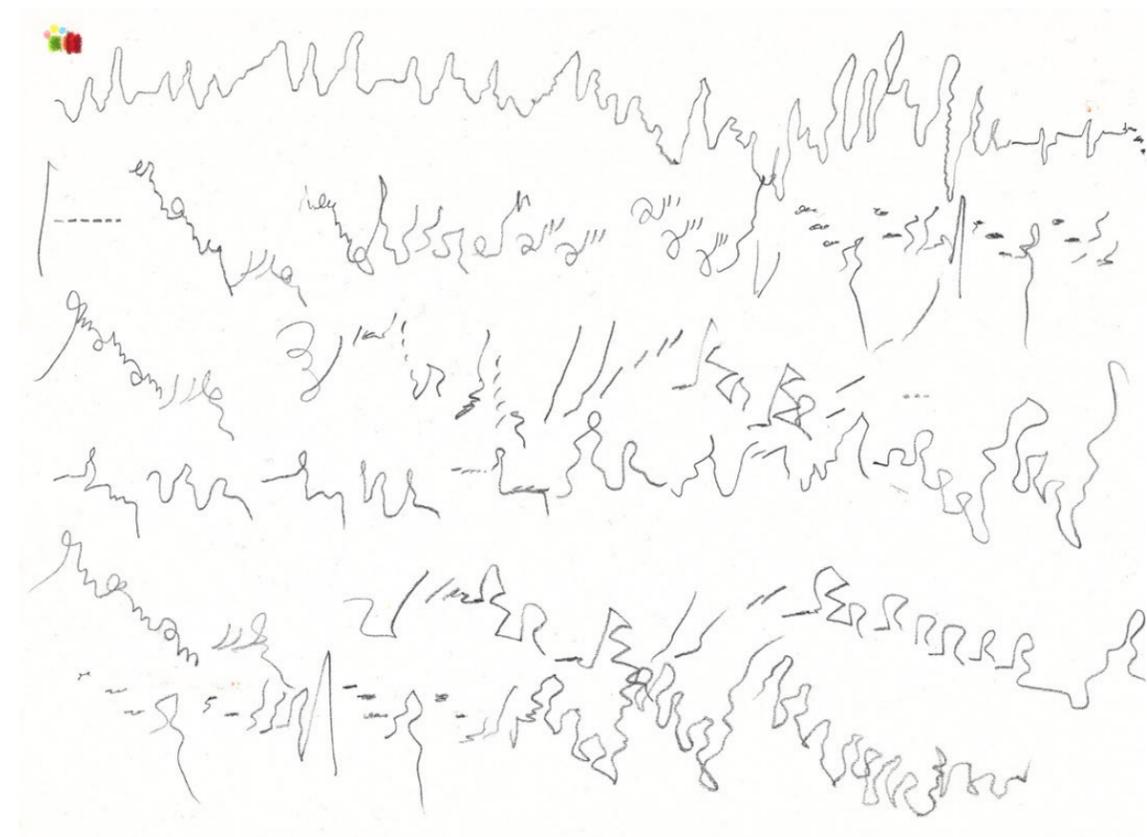
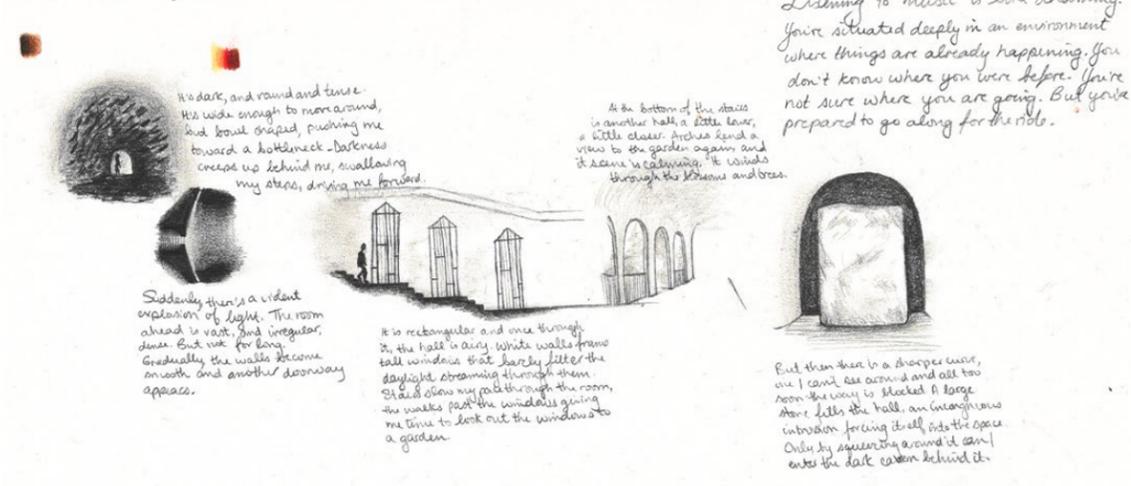


Image 19 Translation: Saints-Saëns' "Introduction" as a graphic score

The above image is a graphic exploration of the music whose atmosphere is depicted architecturally to the left, loosely following a pitch-over-time logic.

Piano Concerto no 23 by Mozart



La Separation by Glinka

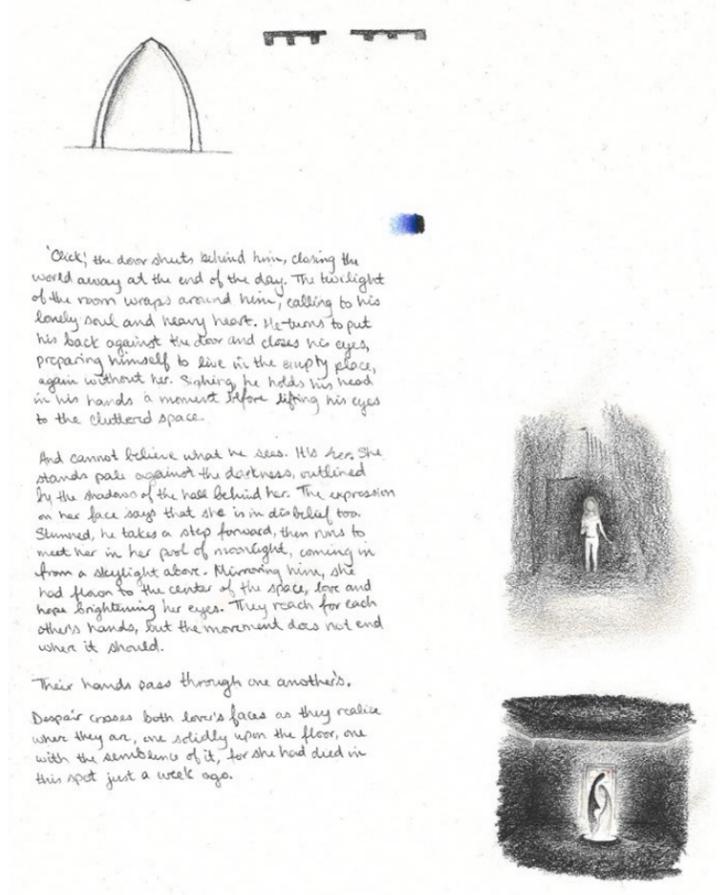


Image 20 Translation: Mozart's "Piano Concerto no. 23"

It's dark, and round and tense. It's wide enough to move around, but bowl shaped, pushing me toward a bottleneck. Darkness creeps up behind me, swallowing my steps, driving me forward.

Suddenly, there's a violent explosion of light. The room ahead is vast, and irregular, dense. But not for long. Gradually, the walls become smooth and another doorway appears.

It is rectangular and once through it, the hall is airy. White walls frame tall windows that barely filter the daylight streaming through them. Stairs slow my pace through the room, the walk past the windows giving me time to look out the windows to a garden.

At the bottom of the stairs is another hall, a little lower, a little closer. Arches lend a view to the garden again, and the scene is calming. It winds through the blossoms and trees.

But then there is a sharper curve, one I can't see around and all too soon, the way is blocked. A large stone fills the hall, an incongruous intrusion forcing itself into the space. Only by squeezing around it can I entre the dark cavern behind it.

Image 21 Translation: Glinka's "La Separation"

'Click!' the door shuts behind him, closing the world away at the end of the day. The twilight of the room wraps around him, calling to his lonely soul and heavy heart. He turns to put his back against the door and closes his eyes, preparing himself to live in the empty place, again without her. Sighing, he holds his head in his hands a moment before lifting his eyes to the cluttered space.

And cannot believe what he sees. It's her. She stands pale against the darkness, outlined by the shadows of the hall behind her. The expression on her face says that she is in disbelief too. Stunned, he takes a step forward, then runs to meet her in her pool of moonlight, coming in from a skylight above. Mirroring him, she had flown to the center of the space, love and hope brightening her eyes. They reach for each other's hands, but the movement does not end where it should.

Their hands pass through one another's.

Despair crosses both lovers' faces as they realize where they are, one solidly upon the floor, one with the semblance of it, for she had died in this spot just a week ago. Now, she is back only for one last dance.

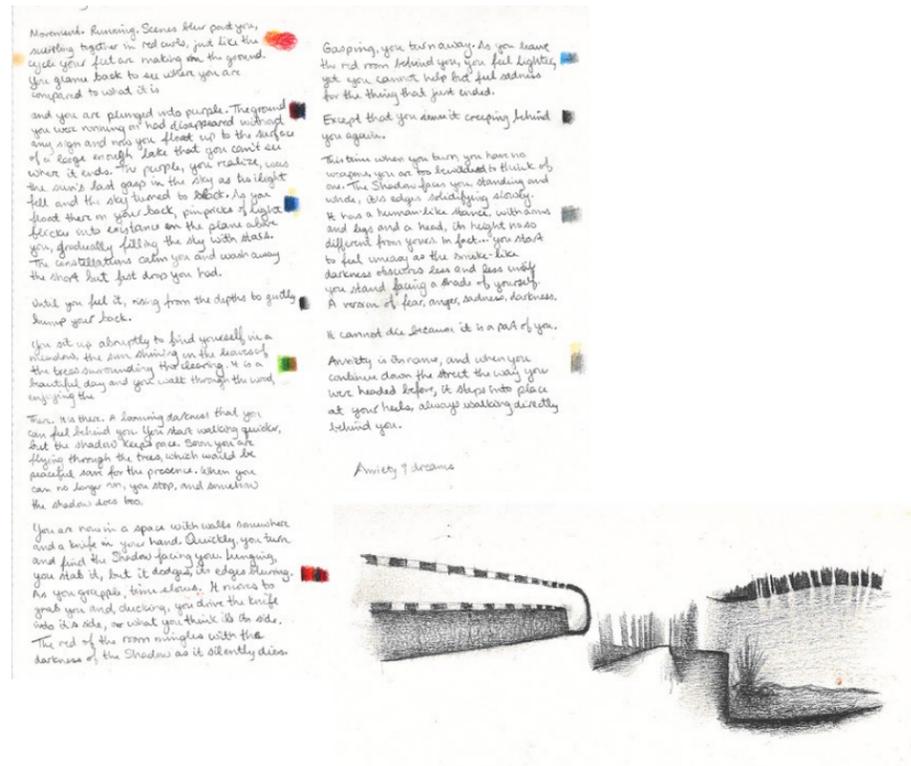


Image 22 Translation: Pärt's "Fratres"

Movement. Running. Scenes blur past you, swirling together in red curls, just like the cycle your feet are making on the ground. You glance back to see where you are compared to where it is

and you are plunged into purple. The ground you were running on had disappeared without any sign and now you float up to the surface of a large enough lake that you can't see where it ends. The purple, you realize, was the sun's last gasp in the sky as twilight fell and the sky turned to black. As you float there on your back, pinpricks of light flicker into existence on the plane above you, gradually filling the sky with stars. The constellations calm you and wash away the short but fast drop you had.

Until you feel it, rising from the depths to gently bump your back.

You sit up abruptly to find yourself in a meadow, the sun shining on the leaves of trees surrounding the clearing. It is a beautiful day and you walk through the wood, enjoying the

There. It's there. A looming darkness that you can feel behind you. You start walking quicker, but the shadow keeps pace. Soon you are flying through the trees, which would be peaceful save for the presence. When you can no longer run, you stop, and somehow, the shadow does too.

You are now in a space with walls somewhere, and a knife in your hand. Quickly, you turn and find the Shadow facing you. Lunging, you stab it, but it dodges, its edges blurring. As you grapple, time slows. It moves to grab you and, ducking, you drive the knife into its side, or what you think is its side. The red of the room mingles with the darkness of the Shadow as it silently dies.

Gasping, you turn away. As you leave the red room behind you, you feel lighter, yet you cannot help but feel sadness for the thing that just ended.

Except that you sense it creeping behind you again.

This time when you turn, you have no weapons, you are too bewildered to think of one. The Shadow faces you, standing and whole, its edges solidifying slowly. It has a human-like stance, with arms and legs and a head, its height not so different from yours. In fact...you start to feel uneasy as the smoke-like darkness obscures less and less until you stand facing a shade of yourself. A version of fear, anger, sadness, darkness.

It cannot die because it is a part of you.

Anxiety is its name, and when you continue down the street the way you were headed before, it steps into place at your heels, always walking directly behind you.



Image 23 Translation: Pärt's "Summa"

There is no hesitation. The wind is continuous as it sweeps the grassy plain. It is a vast emptiness, even the sky is an unbroken grey. And yet, within such an endless horizon, it is constantly moving, the wind making the grasses move in mesmerizing patterns, dancing back and forth.

The cliff is not sudden, nor is its appearance gradual. It is more that your awareness of it is subtle. First it is a conscious thought that the white noise of the wind is not only wind, but the crashing of waves too. You go to find it, and the sea isn't as far away as it might have appeared. Standing on the edge, you contemplate the similar patterns the wind etches into the water's surface. Two elements, so different, but so similar, a strange duality.

What might it be like to go sailing on these mesmerizing emptinesses?

Constant ebbs and flows, carrying you away...

Every drawing, however, lost something in the translation process. Either the drawings too faithfully incorporated the rhythmic structure, which privileged the music and hence, the narrative was largely lost, or they loosely portrayed the atmospheric qualities of the narrative and the music was lost. Added to this, the inescapable subjectivity of the exercise meant that each person who studied the drawings while listening to the accompanying music had a different interpretation of the narrative. Compounding these limitations was that the drawings were placeless, living only in my imagination. At this point in my process, it became very clear that my attempts at translation and the theories I was drawing upon to support them needed to be better grounded. It was in contemplating the symphonic poem that a way forward from theoretical translation emerged. As pieces of music that translate the symbols of local narratives as melody, symphonic poems are both closely bound to their geographies while simultaneously remaining open to interpretation. The example of Smetana's "The Moldau" illustrates specific regional myths surrounding the Vltava River, but because the symbol of the river is a universal one, the setting of the music could be imagined as anywhere in the world. If that is the case, then could the thinking be reversed? Could finding similar universal

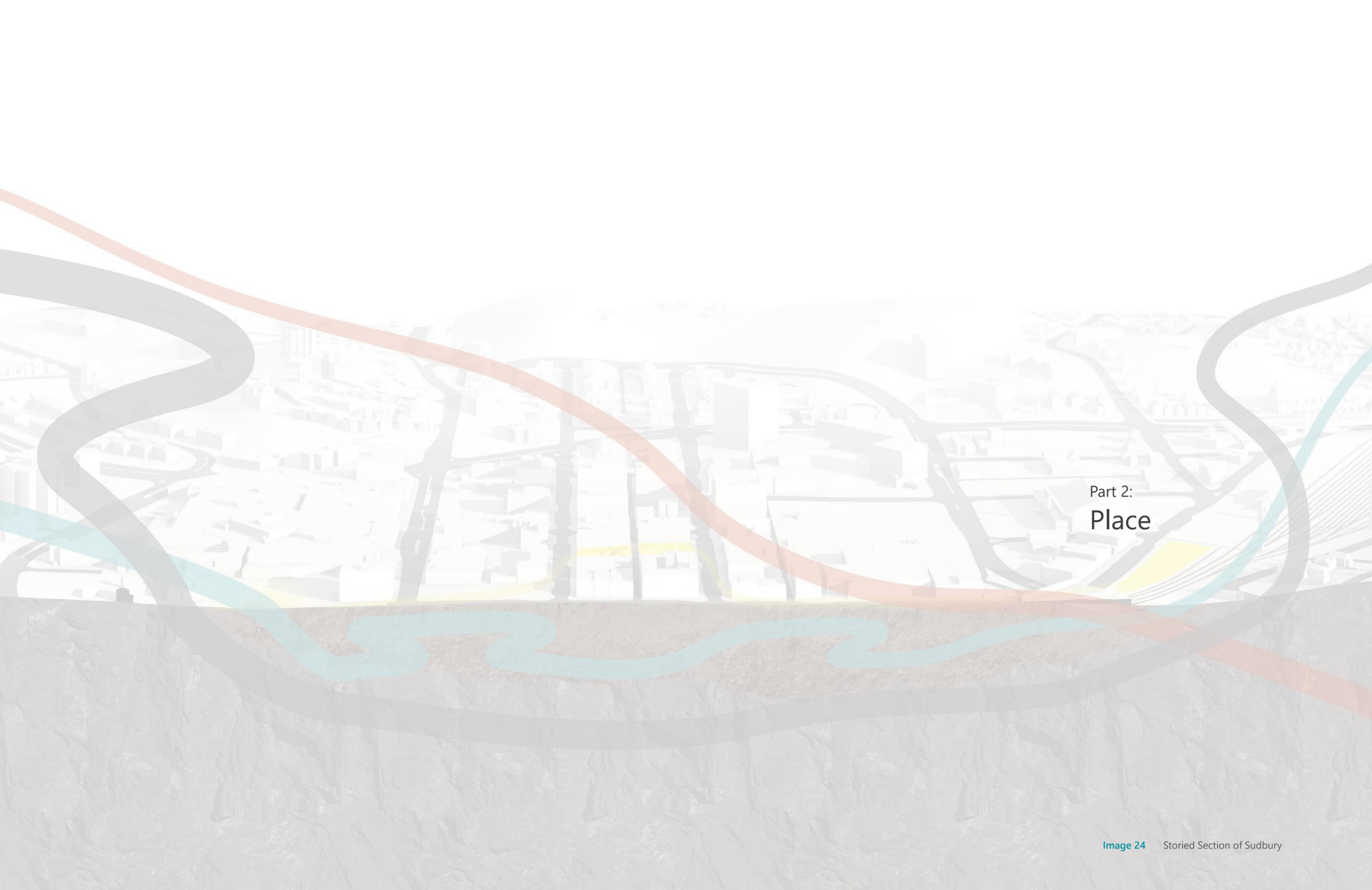
elements in a specific place reveal forgotten or hidden local narratives that in turn could inspire architectural programmes, just as narrative inspires the symphonic poem's musical program?

This question guided a new methodology that focused on site as the provider of physical, narrative and atmospheric constraints that would inform architectural interventions which combine uncovered narratives and sounds of place. For the atmospheres of the interventions to encourage immersive experiences that resonate with the people who visit them, the site was required to be a pedestrian one. It was also necessary that the site be visited and revisited in order to understand, document and analyze its ambiances and functions. As an understudied city laden with unique stories, Sudbury, Ontario was chosen as the region for the thesis project. While the sprawl of the City of Greater Sudbury has fostered a dependency upon the individual's car, the city's small downtown core has the potential to be made more walkable and is in need of urban revitalization. The precise locations for architectural interventions within the downtown emerged from empirical studies of Sudbury's downtown's atmospheres coupled with historical and geographical research to reveal under-celebrated narratives.

Notes

- ¹ Aarati Kanekar, *Architecture's Pretexts: Spaces of Translation* (New York: Routledge, 2015), 1-2.
- ² Robin Evans, *Translations from Drawing to Building and Other Essays* (London: Architectural Association, 1997), 160.
- ³ *Ibid.*, 156.
- ⁴ Iannis Xenakis and Sharon E. Kanach, *Music and Architecture: Architectural Projects, Texts, and Realizations* (Hillsdale, NY: Pendragon Press, 2008), xix.
- ⁵ Galia Hanoch-Roe, "Unfolding Space through Time: Dialogues of Linearity and Modularity in Musical and Architectural Scores," in *In the Place of Sound: Architecture | Music | Acoustics*, ed. Colin Ripley, Marco Polo, and Arthur Wigglesworth (Newcastle, UK: Cambridge Scholars Publishing, 2007), 69.
- ⁶ Tomek Smierzchalski, "Designed by Music: An Investigation into the Process of Using Music to Design Architecture," in *In the Place of Sound: Architecture | Music | Acoustics*, ed. Colin Ripley, Marco Polo, and Arthur Wigglesworth (Newcastle, UK: Cambridge Scholars Publishing, 2007), 63.

- ⁷ *Ibid.*
- ⁸ Xenakis and Kanach, *Music and Architecture*, 99.
- ⁹ *Ibid.*
- ¹⁰ Charles Jencks, "Architecture Becomes Music," *Architectural Review*, May 6, 2013, <https://www.architectural-review.com/essays/architecture-becomes-music/8647050.article>.
- ¹¹ Robert McCarter, "Stretto House," in *Steven Holl* (London: Phaidon Press Limited, 2015), 91.
- ¹² Margaret Goodfellow and Phil Goodfellow, "Toronto Music Garden," in *A Guidebook to Contemporary Architecture in Toronto* (Vancouver: D&M Publishers Inc., 2010), 134.
- ¹³ Julie Moir Messervy, "Inspired Design: What Are the Basic Elements of a Garden?" *Fine Gardening*, Accessed October 2019, <https://www.finegardening.com/article/inspired-design-what-are-the-basic-elements-of-a-garden>.



Part 2:
Place



Story:

A Caged Creek

At the edge of the resting place of a fallen star, a creek forms from two streams. Each meanders and twists, drawing closer and closer until they meet at a town. Brick and wood and concrete border the creek as it flows along the ridge of the star-formed crater. It arrives at a plain where the buildings stop for a time and the creek has the space to spread, winding thinner tendrils through a marsh beneath tall pines. A city reaches it too quickly, one it used to battle with. The city's people had built their homes and trains at a spot where the creek met another, and in spring the two would leap over their banks to toy with the land and

the rocks and the buildings. The creeks always won, covering streets, seeping into basements and knocking over sheds, until one day the people intervened. They dug underground and caged the creeks, banishing them beneath the city where they lurk unseen and forgotten, capturing a child from above every now and then. But the tunnel does not last for long, and where the creek's cage ends soon, it opens to homes and trees. After a time the creek is alone again, passing by a solitary tower that reaches to touch the sky, offering gifts of smoke. The creeks search for a kindred friend and finds it soon as it greets a long lake, ending its journey and its battle.

Histories of Sudbury

Sudbury, Ontario, formally known as the City of Greater Sudbury, is located approximately 400 kilometers north of the provincial capital Toronto and surrounded by a forested landscape pocketed with over 300 freshwater lakes. Though the municipality covers a large territory, much of it is sparsely populated. Communities that were once separate mining towns are linked to the historic downtown core with twisting roads and highways that navigate through the rocky topography and around multiple lakes. In researching Sudbury's local history, three neglected narratives stood out: the city's founding as a temporary railway headquarters; the area's geological roots and the impact it has had on Sudbury's industry and identity; and the disappearance of prominent waterways that once coursed freely through the downtown core.

Rail

Despite the fact that mining is known as Sudbury's main industry, it was not the reason for the city's establishment in 1883. That honour belongs to the Canadian Pacific Railway (CPR). The Montreal-based company was forging a link between Canada's coasts for both passenger and industrial trains to connect the new country



Image 26 Map of Canada featuring the City of Greater Sudbury



Image 27 Map of Ontario featuring the City of Greater Sudbury and the downtown

from coast to coast.¹ In 1882 the decision was made for the trans-Canada rail line to bypass Sault Ste. Marie in its north-western trajectory to the top of Lake Superior, and the optimal junction for the main line to meet the Sault line was at what became Sudbury.² Thus in 1883 the city was founded as a temporary headquarters for the construction workers who were building the tracks.³

For a few years, the company-owned town housed 2000 men who worked on the 253 teams responsible for the construction

of the tracks in both the east and west directions.⁴ The buildings were rough-hewn and uninsulated, not meant to last longer than they were needed and a limited range of services were provided for the town: stables, a hospital, a church, offices for the railway officials and a jail.⁵ Within two years, the tracks had been completed around Sudbury and the crews were moved to other locations.⁶ The temporary buildings raised for the construction workers were replaced and the town developed more slowly and sturdily for those who would remain to man

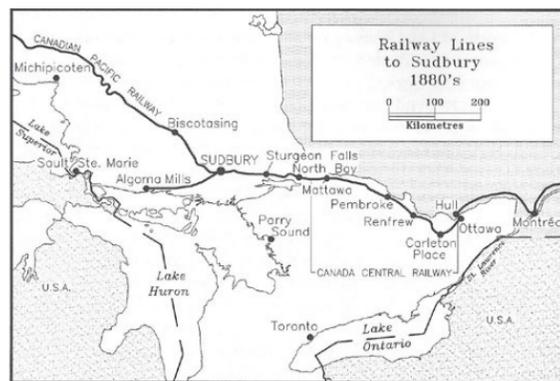


Image 28 Railway Lines to Sudbury 1880s



Image 29 The Canadian Pacific Railway Station and Train

the train station, rail junction operations and other services.⁷ In 1886, the CPR created the first urban plan for Sudbury that organized lots according to an orthogonal grid, which in turn generated irregularly shaped plots where the grid encountered the Nolin Creek to the north, the Junction Creek to the east and the newly completed curving railway tracks.⁸ Much of the street grid is still in use today and the location of the rails is unaltered, save for the building and removal of the Stobie Mine track, the planning of which can be seen in the 1886 map (see Image 30). After the trans-Canada railway construction moved beyond the Sudbury area, the development of the town came to a standstill. While there was some logging, the business was seasonal and therefore

not a stable enough industry for the town to depend upon economically.⁹ The autumn of 1885, however, brought prospectors to Sudbury in droves, searching for metals rumoured to be found in the area.¹⁰ Nickel and copper were found and the town's mining industry was begun.¹¹

Rock

It was not until 1891 that the first topographical study of the area was published by R. Bell and the origins of the metal deposits were considered.¹² Bell's map illustrated an elliptical depression just north

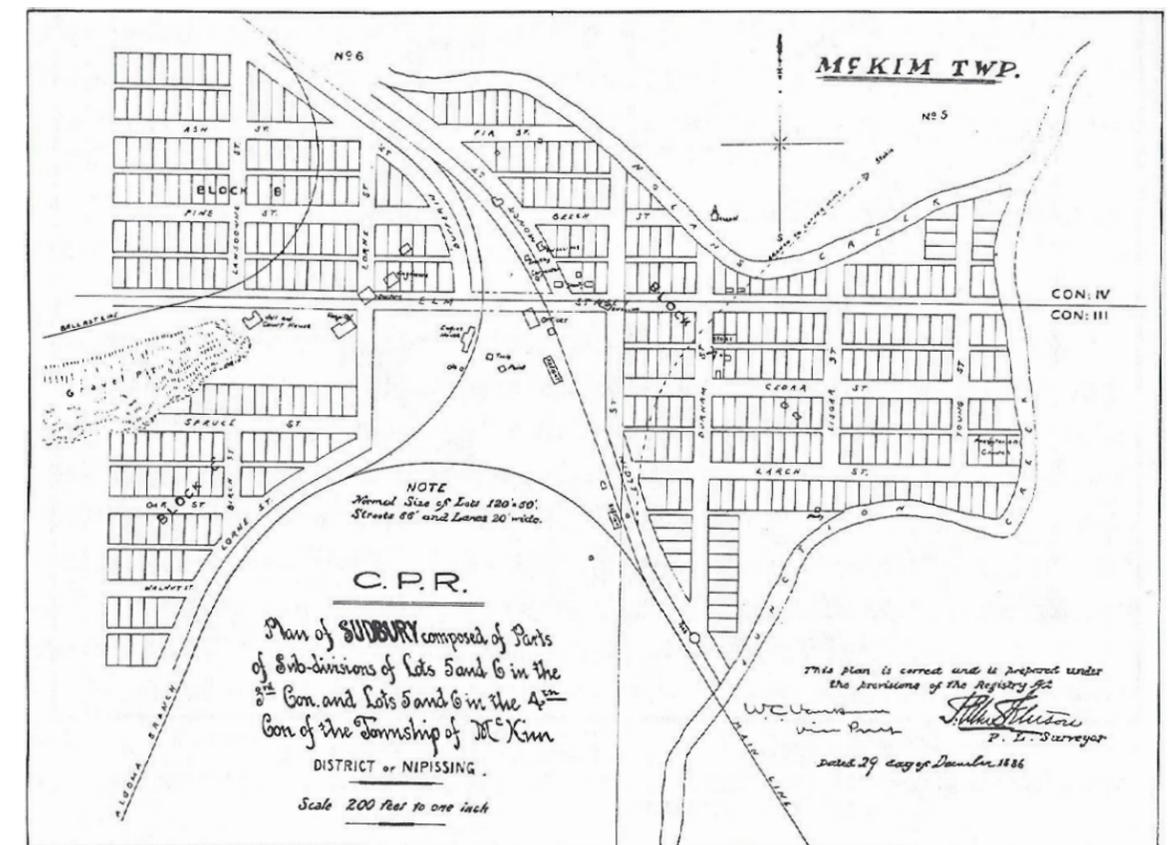


Image 30 CPR Plan of Sudbury, 1886

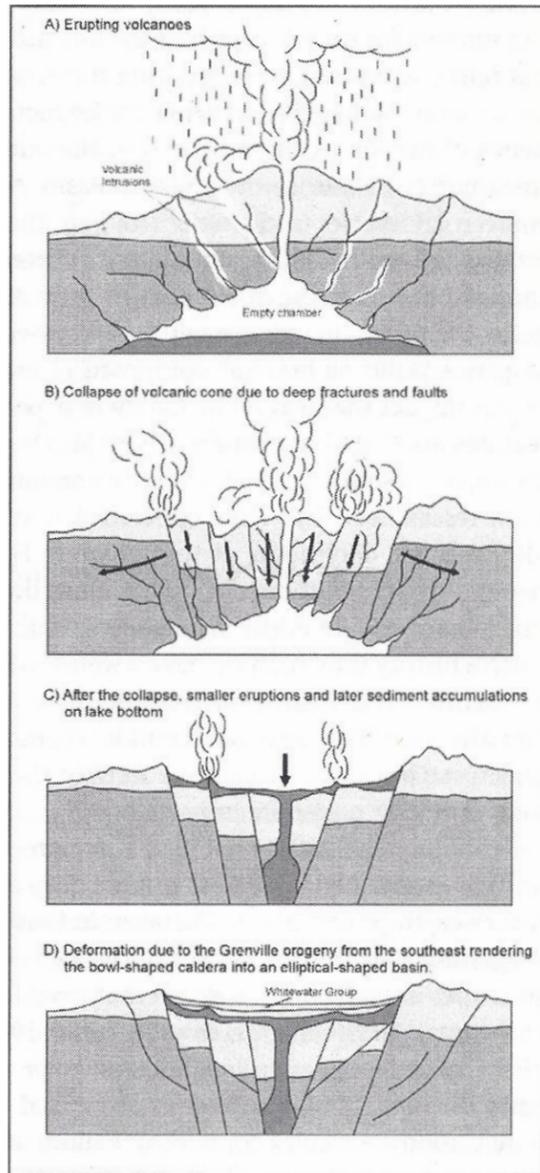


Image 31 Volcanic model of Sudbury's geological history.

of the new town of Sudbury (today referred to as the Sudbury Basin) that spurred international curiosity as to what caused such a deformation. Almost immediately theories were developed positing volcanic activity. In 1917, geologist C. W. Knight proposed that the crater was formed by a caldera.¹³ In 1959 this theory was expanded upon by Thomson and Williams who speculated that the empty volcano collapsed almost instantaneously, and any volcanic residue outside the crater ring had eroded away over time.¹⁴ All versions of the volcanic casual theory shared the belief that a welling of magma in the crater's basin had cooled to form the pockets of minerals that have been mined since 1885.¹⁵

In 1964, a new theory was proposed which is now widely accepted. Geologist Robert S. Dietz hypothesized that approximately 1.7 billion years ago, a meteorite about 4 kilometers in diameter hit the earth and exploded, forming a large crater called an astrobleme (from the Greek, meaning 'star-wound'), which shattered the existing rock and bathed the site of impact with now-liquefied minerals.¹⁶ The meteorite theory takes into account the lack of striations in the rock in the walls of the crater, and predicted the existence of shatter cone rock formations around the rim.¹⁷ Research conducted since speculates that the impact is older, the meteorite larger

in size and its crater deeper.¹⁸ The aftermath of the impact is less certain. Some sources propose that the pockets of minerals are extraterrestrial and can be attributed to the liquefaction of the meteorite upon collision, while other research asserts that the impact triggered a magma leak and the minerals are from an internal process.¹⁹ Dietz included a combination of both in his 1964 paper. While consensus is contested, it is clear that the meteorite impact caused the inclusions of minerals and metals in the Sudbury area and as such are responsible for the city's industrial development, prosperity and the subsequent devastation to the surrounding natural environment.

The nickel and copper mining that had begun in 1885 quickly evolved into Sudbury's main industry, with the first of multiple smelters being "blown in" in 1888.²⁰ The roasting process used from 1888 to 1929 to facilitate the separation of the metals from the mined ore released clouds of sulphur dioxide close to the ground.²¹ Prevailing winds swept the noxious smoke across the landscape, killing vegetation and crops, acidifying the soil that eroded away without roots to tether it, and began blackening the exposed rock.²² Unfortunately, the complaints and legal actions that were taken against the mining companies only worsened the problem because they inspired a

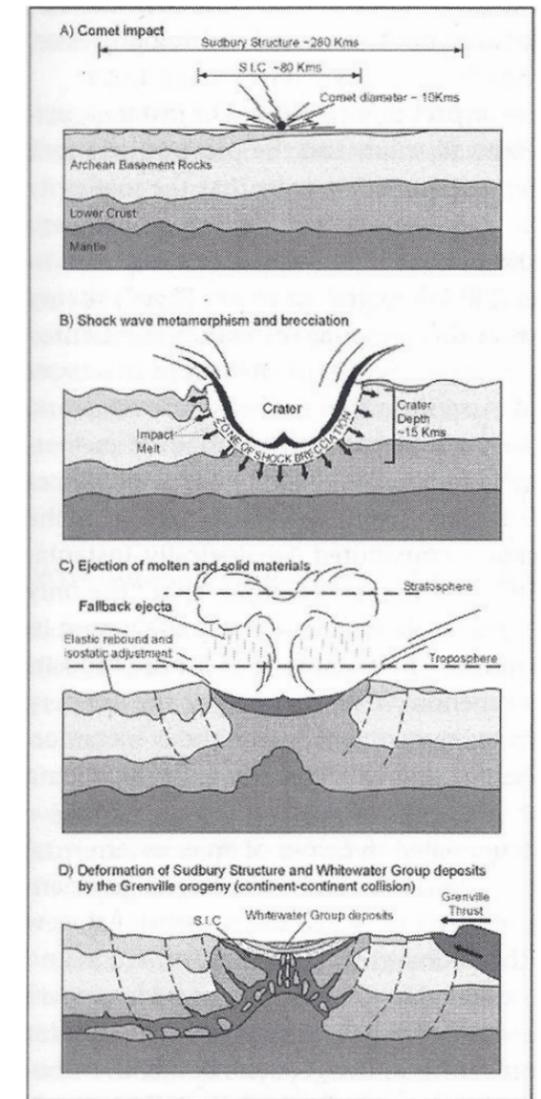


Image 32 Meteorite model of Sudbury's geological history.



Image 33 Image of Sudbury's Black Rock

non-solution.²³ As the roast yards were phased out, they were replaced with smelters and smokestacks, which were thought to dilute the toxins because they were dispersed at a higher altitude.²⁴ Instead, the stacks spread the damage of the sulphur dioxide and fine metals much further for they melded with vapour in the atmosphere to cause acid rains that burned larger swaths of vegetation, leached nutrients out of the soils, acidified lakes, and continued blackening the rock.²⁵ So barren was Sudbury's landscape that Apollo 16 astronauts visited the city to practice describing geological features before their moon-walk.²⁶ Since the 1970s, huge efforts

have been made by the mining companies, Laurentian University and the city to put in place measures to limit sulphur dioxide emissions and remediate the landscape, succeeding with soil and seed mixtures and powdered lime in the lakes.²⁷ But beneath the impressive re-greening efforts that have led to a thin layer of new growth on the rocks and young white birch forests, the rock still bears its black scar.



Image 34 Downtown Sudbury in a summer flood.

Water

The urban plan for Sudbury that was drafted in 1886 not only imposed a rigid grid on the landscape without taking into account its irregular geographic features, but it also neglected the area's annual ecological cycles. This oversight had a large impact on the new town as the Junction and Nolin Creeks would flood the area nearly every spring.²⁸ Early images show the town inundated with a few decimeters of water that would wash away roads and occasionally topple buildings.²⁹ In the 1930s,

the decision was made to moderate this flooding and implement a sewage system by constructing a box culvert to contain the creeks below ground.³⁰ While the majority of the culverts were finished by the 1960s, it was not until 1991 that the project was fully completed, ending with the northern entrance of the Junction Creek culvert.³¹ At this time the Junction Creek Conservation Authority and the municipal government had established a Master Plan for the open parts of the creek that aimed to transform downtown's derelict border into an 18 kilometer urban parkway lined with parks, playgrounds and trails.³² Though 11 kilometers of the Junction Creek Waterway

Park Trail had been completed by 2011, it does not continue through the downtown, but rather picks up again at both culvert entrances without any signage to suggest that it continues.³³ Today, both the Nolin and Junction Creeks are largely forgotten as they pass unheard and unseen below Sudbury's downtown, locked away in their cages.

Urban Revitalization

The Junction Creek Waterway Park Trail is a less dramatic example of ineffective attempts to revitalize Sudbury's downtown. In the late 1960s, after it was announced that the Borgia Street train station would be moved to a different location, the city proposed the Borgia Street Area Redevelopment Project.³⁴ The project worked in tandem with a redesign of the street grid to create the arterial Paris Street, Notre Dame Avenue and Ste. Anne Road, effectively forming a division between the downtown and any external pedestrian activity. Located north of Elm Street, the development project entailed the demolition of the entire neighborhood along the now non-existent Borgia Street, which constituted at least twenty historic brick buildings and the Queen's Hotel (see



Image 35 Durham Street from the Coulson Hotel, 1956.

Image 36).³⁵ It was replaced with around 900 residential units, a shopping mall, a department store, a supermarket, a hotel, an office tower, and 750 parking spots.³⁶ In essence the project tore down a lively human-scaled extension of the downtown and constructed in its stead a massive, expressionless and somewhat kitsch block that has been detrimental to the area. The mall, office tower and hotel now form what is called the Rainbow Centre, located at the corner of Notre Dame Avenue and Elm Street (see Image 37). The sprawling edifice has no transparency at ground level to encourage any sort of street life, and as a result, the emptying building will leave the city an ugly shell too expensive to revitalize again.



Image 36 The 1968 Preliminary Land Use Concept. The map shows the proposed arterial road changes, the Borgia District (red) and the initial massing of the Borgia Street Area Redevelopment Project (blue).



Image 37 View of Rainbow Centre from Elm Street

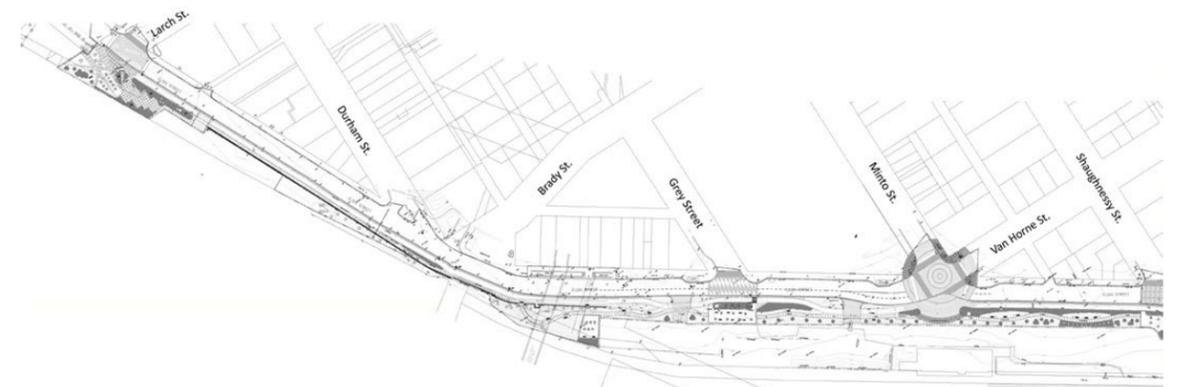


Image 38 The Revised Plan of the Elgin Greenway (2019)

A more recent revitalization attempt for Sudbury's downtown was released in 2012. In response to the lack of green space, abundance of surface parking and unpleasant streetscapes, the city proposed a Master Plan would beautify the streets by lining them with trees, reclaim parking lots with around 40 new buildings for commercial, residential, mixed-use and cultural purposes, and create 5 new parks.³⁷ The proposal was phased with 5 year, 10 year and ongoing initiatives that would transform the downtown into a vibrant destination for arts and entertainment, learning, living, working and outdoor recreation.³⁸ The Elgin Greenway was one of the 5 year park projects that would recover the large strip of parking situated between Elgin Street and the southern railway tracks with a green path dotted with themes plazas.³⁹ Initially proposed in 2011, the Greenway was revised in 2017, simplifying the walkways and plazas to little more than a planted second sidewalk with the occasional open area (see Image 38).⁴⁰ In the 9 years since its inception, only the north-most portion of the park alongside the 2017 McEwen School of Architecture has been completed, and the Master Plan remains in a similarly uninitiated state.

In researching the histories of both the City of Greater Sudbury and the downtown core, three lines of narrative

stood out: the rail, the black rock and the buried creeks. For each place-based story, there is an associated physical geographic element sited in and around the downtown core, namely, the train tracks, patches of exposed rock and the box culverts. Mapping these storied elements revealed the locations in the city where they overlap (see Image 42). Empirical investigations of these places and others within downtown Sudbury constituted a generative complement to the historic research, and lead to the selection of specific sites whose storied, atmospheric potential could be brought out through design interventions attuned to the narratives and sounds of place.

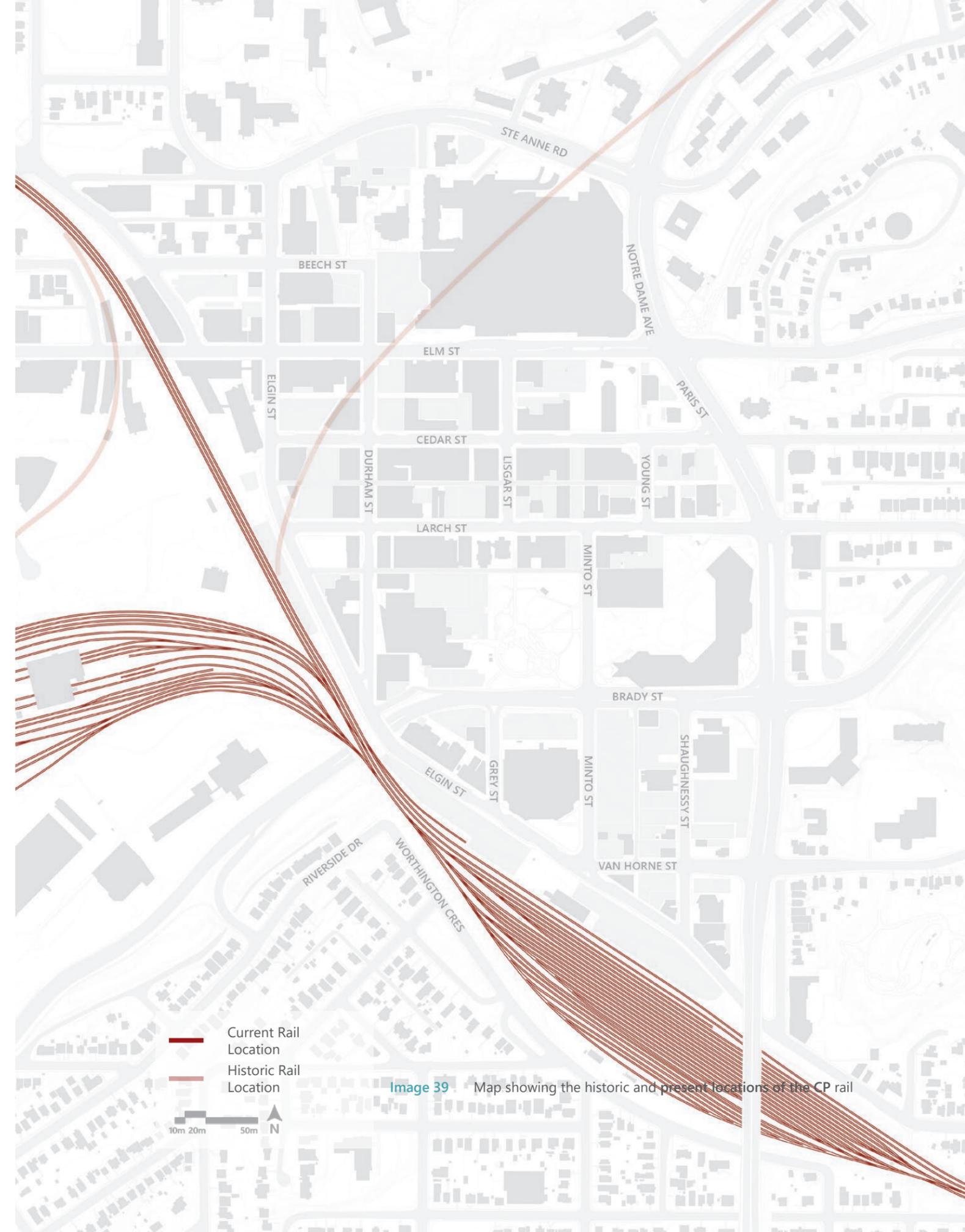
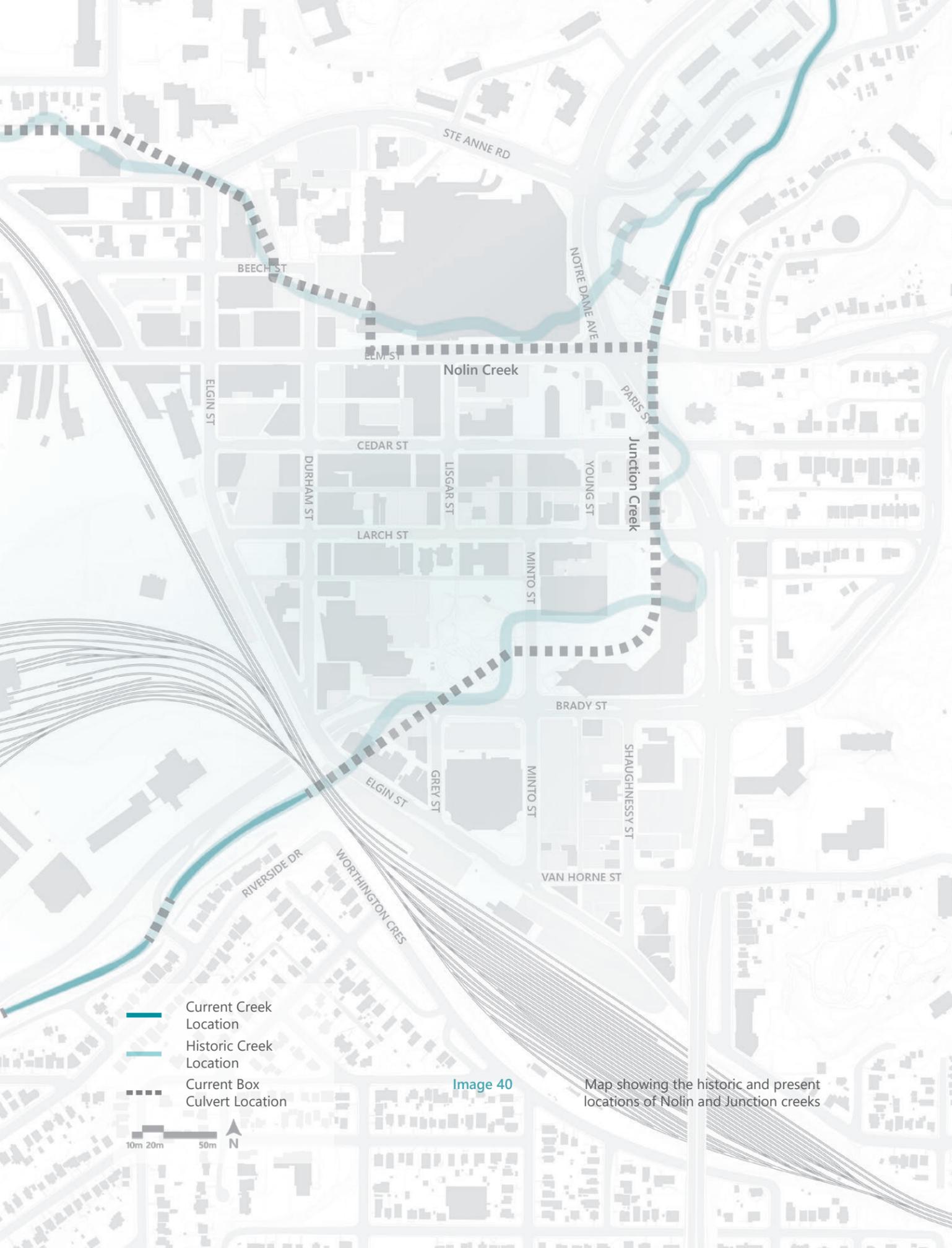


Image 39 Map showing the historic and present locations of the CP rail



— Current Creek Location
- - - Historic Creek Location
- - - Current Box Culvert Location

10m 20m 50m N

Image 40

Map showing the historic and present locations of Nolin and Junction creeks



Black Rock

10m 20m 50m N

Image 41

Map showing the visible patches of black rock



Notes

¹ C. M. Wallace, "The 1880's," in *Sudbury: Rail Town to Regional Capital*, ed. C. M. Wallace and Ashley Thomson (Toronto, ON: Dundurn Press Limited, 1993), 15.

² *Ibid.*, 13.

³ E. G. Higgins and F. A. Peake, *Sudbury Then and Now: A Pictorial History of Sudbury and Area, 1888-1973* (Sudbury: The Sudbury & District Chamber of Commerce, 1997), 16-17.

⁴ Wallace, "The 1880s," 14.

⁵ This last building was emphasized by local historians Wallace, Higgins and Peake, and is mentioned specifically by Florence Howey, the wife of Sudbury's first doctor in her memoir *Pioneering on the C.P.R.* All authors convey the desperate need for policing as the "...new town with collecting money and extra time began to attract prostitutes, dealers and stages for fights." See: Higgins and Peake, *Sudbury Then and Now*, 15-17; Wallace, "The 1880s," 15; and Florence R. Howey, *Pioneering on the C.P.R.* (Sudbury, ON: Sheridan Technical School, 1967, c1938), <http://www.transportsourcebook.ca/pioneering-on-the-cpr/potc-sudbury.php>.

⁶ Wallace, "The 1880s," 16.

⁷ Howey, *Pioneering on the C.P.R.*

⁸ Higgins and Peake, *Sudbury Then and Now*, 15.

⁹ Wallace, "The 1880s," 16.

¹⁰ Howey, *Pioneering on the C.P.R.*

¹¹ Don Munton and Owen Temby, "Smelter Fumes, Local Interests, and Political Contestation in Sudbury, Ontario, during the 1910s," *Urban History Review / Revue d'histoire urbaine* 44, no. 1/2 (2015), 27, www.jstor.org/stable/24887911.

¹² *Ibid.*, 6.

¹³ *Ibid.*

¹⁴ *Ibid.*, 10.

¹⁵ David A.B. Pearson and J. Roger Pitblado, "Geological and Geographic Setting," in *Restoration and Recovery of an Industrial Region: Progress in Restoring the Smelter-Damaged Landscape near Sudbury, Canada*, ed. David Gunn (New York, NY: Springer-Verlag, 1995), 7, <https://link.springer.com.libweb.laurentian.ca/content/pdf/10.1007%2F978-1-4612-2520-1.pdf>

¹⁶ Robert S. Dietz, "Sudbury as an Astrobleme," *The Journal of Geology*

72, no. 4 (1964), 413. www.jstor.org/stable/30060083.

¹⁷ Dietz, "Sudbury as an Astrobleme," 413; 416; Oiva W. Saarinen, *From Meteorite Impact to Constellation City: A Historical Geography of Greater Sudbury* (Waterloo: Wilfred Laurier University Press, 2013), 11-12.

¹⁸ Ibid.

¹⁹ Saarinen, *From Meteorite Impact to Constellation City*, 11-12; Pearson and Pitblado, "Geological and Geographic Setting," 7.

²⁰ Higgins and Peake, *Sudbury Then and Now*, 34.

²¹ Multiple sources estimate that 10 million tons of sulphur dioxide were released during the forty years that the roasting yards were in operation. See: Keith Winterhalder, "Early History of Human Activities in the Sudbury Area and Ecological Damage to the Landscape," *Restoration and Recovery of an Industry Region: Progress in Restoring the Smelter-Damaged Landscape near Sudbury, Canada* (New York: Springer-Verlag, 1995), 21; Saarinen, *From Meteorite Impact to Constellation City*, 262, <https://link.springer.com.libweb.laurentian.ca/content/pdf/10.1007%2F978-1-4612-2520-1.pdf>

²² Wallace, "The 1880s," 29.

²³ Saarinen, *From Meteorite Impact to Constellation City*, 263.

²⁴ Raymond R. Potvin and John J. Negusanti, "Declining Industrial Emissions, Improving Air Quality, and Reduced Damage to Vegetation," in *Restoration and Recovery of an Industrial Region: Progress in Restoring the Smelter-Damaged Landscape near Sudbury, Canada*, ed. David Gunn (New York, NY: Springer-Verlag, 1995), 51, <https://link.springer.com.libweb.laurentian.ca/content/pdf/10.1007%2F978-1-4612-2520-1.pdf>

²⁵ Carol Bangay, "The Dragon's Breath," *Alternatives* 2, no. 2 (1973), 38-39, www.jstor.org/stable/45029899.

²⁶ Pearson and Pitblado, "Geological and Geographic Setting," 9.

²⁷ Saarinen, *From Meteorite to Constellation City*, 273-296.

²⁸ C. M. Wallace, "The 1930s," *Sudbury: Rail Town to Regional Capital* (Toronto, ON: Dundurn Press Limited, 1993), 159.

²⁹ Yanick R. Gagne and Caroline Donnelly, "Junction Creek Floods," Sudbury, n.d., http://www.sudburymuseums.ca/content/w_vmuseum/presentations/junctioncreekfloods/sld001.html.

³⁰ The construction of the Junction Creek box culvert was initiated in part to create work for the unemployed during the Great Depression of the 1930s. See: Higgins and Peake, *Sudbury Then and Now*, 97.

³¹ In the 1960s, in the spirit of improving the quality of life in the city, watersheds and conservation areas were established along the Junction Creek in particular, which is the main draining watercourse along the south-eastern edge of the Sudbury Basin. See: Gwenda Hallsworth and Peter Hallsworth, "The 1960s," *Sudbury: Rail Town to Regional Capital* (Toronto, ON: Dundurn Press Limited, 1993), 227; "Junction Creek Subwatershed Study: Subwatershed Major Delineation," City of Greater Sudbury, December 2018, <https://www.greatersudbury.ca/live/environment-and-sustainability/1/lake-health/watershed-study/appendix-c1-c5-hydrology-and-hydraulics-pdf/>; Bill Bradley, "Greater Sudbury Opens Junction Creek Access Structure," Sudbury.com, June 12, 2009, <https://www.sudbury.com/local-news/greater-sudbury-opens-junction-creek-access-structure-224399>.

³² Hallsworth and Hallsworth, "The 1960s", 227; Saarinen, *From Meteorite Impact to Constellation City*, 277.

³³ Saarinen, *From Meteorite Impact to Constellation City*, 277.

³⁴ Ibid., 198, 203.

³⁵ Hallsworth and Hallsworth, "The 1960s," 226.

³⁶ Ibid.

³⁷ "The Downtown Sudbury Master Plan," The City of Greater Sudbury, March 2012, <https://www.greatersudbury.ca/play/downtown-sudbury/>.

³⁸ Ibid.

³⁹ Ibid.; "Elgin Street Greenway," City of Greater Sudbury, <https://www.greatersudbury.ca/play/downtown-sudbury/elgin-street-greenway/>.

⁴⁰ "Slow going for proposed Elgin Greenway in downtown Sudbury," *CBC News*, last modified August 8, 2016, <https://www.cbc.ca/news/canada/sudbury/elgin-greenway-downtown-sudbury-delays-1.3708693>; "Elgin Street Greenway."

Story:

The Black Rock of Sudbury

Once upon a time, a star fell to the earth, but that sounds graceful, doesn't it? As if it tripped in the air and lost its balance and softly met the ground, shimmering throughout its descent. This was not the case. The sky rained fire and the star, which was a massive and lumpy rock, came crashing down so violently that it burrowed deeply into the earth and forever marked the area. They say the world still reels with tremors because of its impact. For millennia, it stayed in its burrow while the earth shifted and grew around it, accepting the star's permanence. The star cooled and calmed, soil covered over and trees grew above it, blanketing the surface with life.

With a thriving landscape comes people. For thousands of years people would live and die in the crater of the fallen star, never staying for long, moving on when the earth and the trees and the animals told them so. It was a new people who saw the landscape and drew it from above, taking interest in its irregular shape. They found traces of the star's existence, for its crash had left small pockets of metals in the surrounding area.

So the people dug deep in search of the star. They sent the metal all around the world, once they had brought up the rock and melted the metal out of it. But there was a problem. The extreme heat required to melt the rock and metals both released other, unwanted things into the atmosphere, which spread around and beyond the crater of the fallen star. In the red of the fires, acids leapt into the air

and floated to the clouds, which took in the toxins readily. Clouds, however, are powerless to do anything but temporarily hold things until the substances fall again as liquids. And so just as the acids rose, they soon came back down.

The acid rain worked a black magic upon the landscape of the fallen star, literally. Soon there was nothing living and the topography was an undulating barren wasteland, burned and desolate. Even the rock had been scorched black, hued only when it was broken open to reveal its hidden, unburnt colours. Nothing grew, for the earth itself was sick with poison.

People, as it turns out, are both destructive and creative. They began testing ways of medicating the soils to coax life out of the deadened ground. They put filters in place to catch the harshest of chemicals before they rose to meet the clouds. They built a tower to send them higher. And slowly, very slowly, the earth started to heal. Forests stretched ever taller, animals began to thrive, and the former earthly moonscape became almost a memory. Almost.

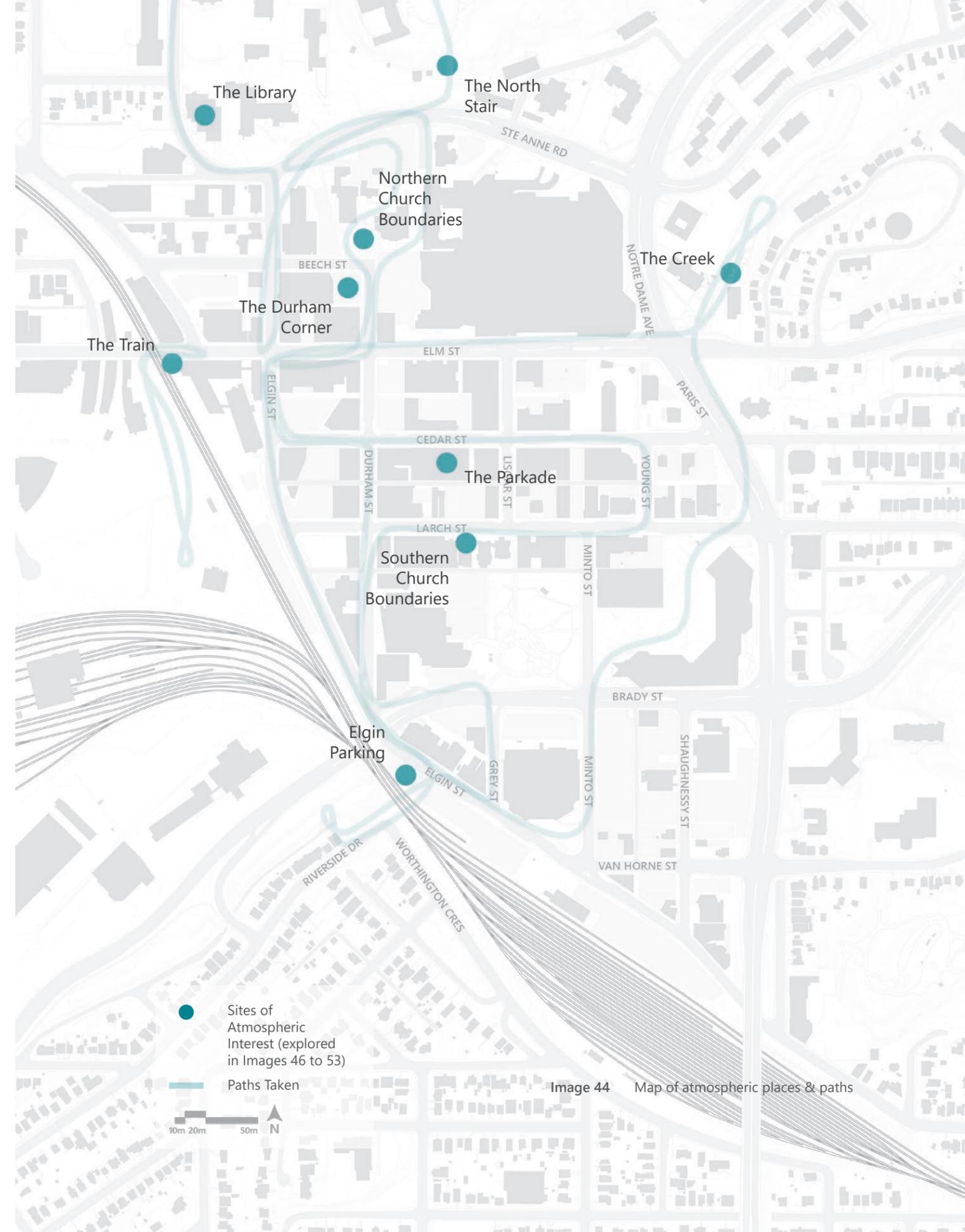
The rock remains its charred colour, a steady reminder of the bleak destruction humans wreaked on the natural world. It is a scar on the land, yet as much as scars are reminders of devastation, they are also marks of healing. For scars are proof of nature's great capacity for revival.

Image 43

A collage showing before and after images of the devastation and greening efforts of the area around Coniston Hydro Rd.

(hi)Stories of Sudbury

While studying the history and geography of Sudbury, I was also registering the ambiances, quirks and latent potential of the built environment of the downtown core. At different times of the day, on different days of the week and under different weather conditions, I would walk the streets, alleys, stairs and tunnels in and around the downtown, attentive to the visual and aural peculiarities that blend to create site-specific atmospheres. One circuit took me to the north end of the downtown where a staircase rises from the rock face behind the outmoded and dying Rainbow Centre that stands on the foundations of the old Borgia Street district. From above, it becomes apparent that the downtown is a miniature valley ringed by rocky hills that are accentuated by the few buildings perched atop them. This was an important observation: the burnt rock only protrudes from the ground at higher elevations, meaning that there is no visible trace of the black rock in the downtown core. Walking along both sides of the train tracks as far as possible, it was clear that the railway infrastructure not only creates an obstinate division between parts of the city, but that despite the rails' proximity to Elgin Street and their construction on a slightly higher elevation, they form an unspoken visual barrier that blocks the Riverside neighborhood to the south. Only at crossings are the tracks noticed. Another



site offering contrasting perspectives is the point where the Junction Creek is channelled underground. Here, the forested path with the sounds of gurgling water and chirping birds offers the possibility of an urban oasis, yet the secluded nature of this area due to the tall rock face on one side topped with buildings that face away from the trail and the narrowness of the trail offer conditions for illicit activities that render the area dangerous.

One strikingly cheerful characteristic of downtown Sudbury is the concentration of murals, most of them situated on building faces along or near to Durham Street (see Image 45), which hosts boutiques, restaurants and recreational facilities and is the road with the most pedestrian traffic in downtown.¹ These murals are highly visible and are becoming a part of the identity of downtown Sudbury, serving as markers in people's mental maps. Two additional observations about the downtown as a whole became alarmingly clear, namely: that a high proportion of the city's area is devoted to the movement and temporary storage of cars; and that there is a dearth of public space downtown, particularly cost-free, physically accessible parks and plazas. The only such spaces are Memorial Park and Tom Davies Square, which are situated adjacent to one another in the southern portion of downtown. Neither connect

well to highly walked paths and both are bordered primarily by alleyways or arterial roads, giving them the reputation of being unsafe or uninviting. These conditions provoke creative speculation on how to provide dynamic, inclusive public spaces that in turn, will encourage more sustainable modes of transportation and will contribute to the city's vibrancy and pedestrian experience.

The documentation of these findings took the form of photographs, audio and video recordings, sketches, and written stories about various sites, which combined, sought to capture the atmospheres of each place. Eight locations downtown inspired textual and pictorial translations which were first captured on squares of paper with charcoal and white ink and then creased in Turkish Map Folds so that opening them gives the impression that the illustrated story expands from within. Each folded square was then glued to the back of another and bound in a traditional hardcover to form a book that offers an illustrated commentary on downtown Sudbury's limitations and potential to become a more pedestrian-friendly city.



Image 45 Map of the locations of murals in downtown Sudbury

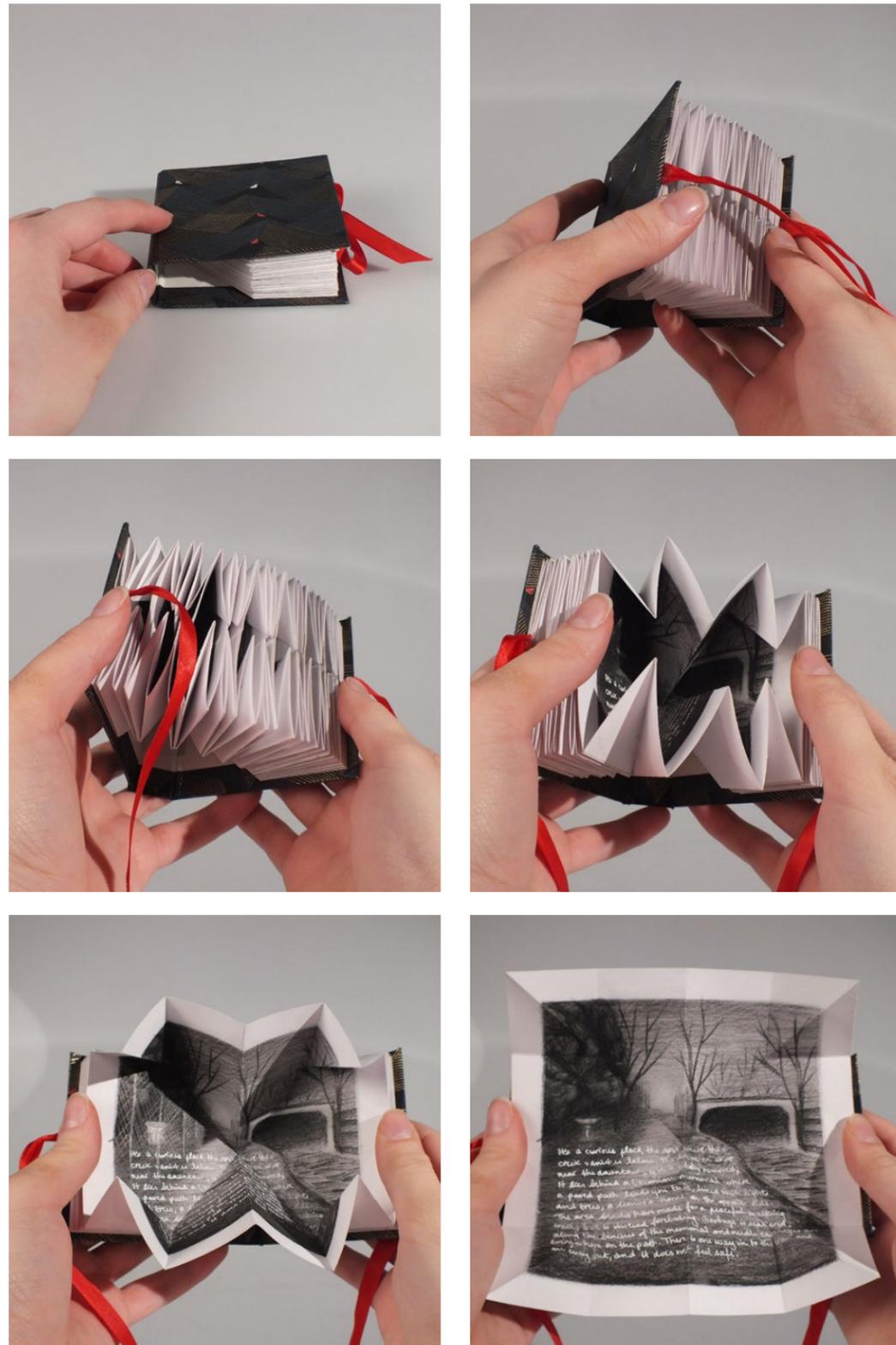


Image 46 Montage: opening the *Stories of Sudbury* book

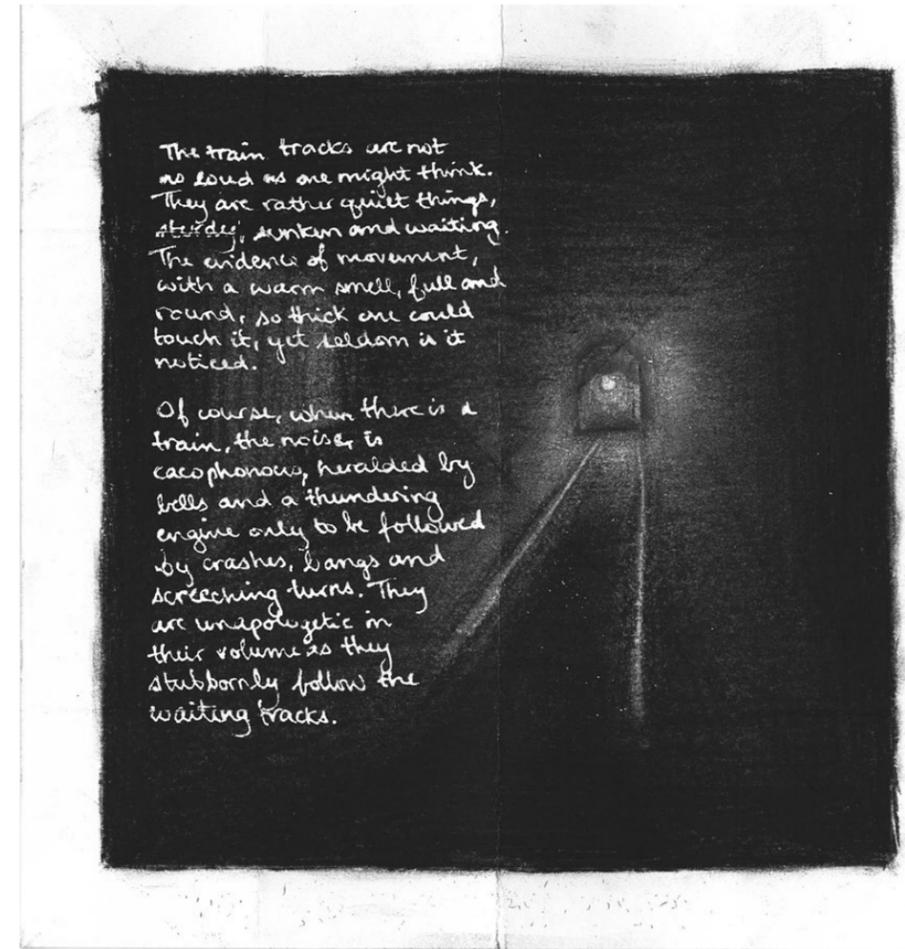


Image 47 *Stories of Sudbury*: "The Train"

The train tracks are not as loud as one might think. They are rather quiet things, sturdy, sunken and waiting. The evidence of movement, with a warm smell, full and round, so thick one could touch it, yet seldom is it noticed.

Of course, when there is a train, the noise is cacophonous, heralded by bells and a thundering engine only to be followed by crashes, bangs and screeching turns. They are unapologetic in their volume as they stubbornly follow the waiting tracks.

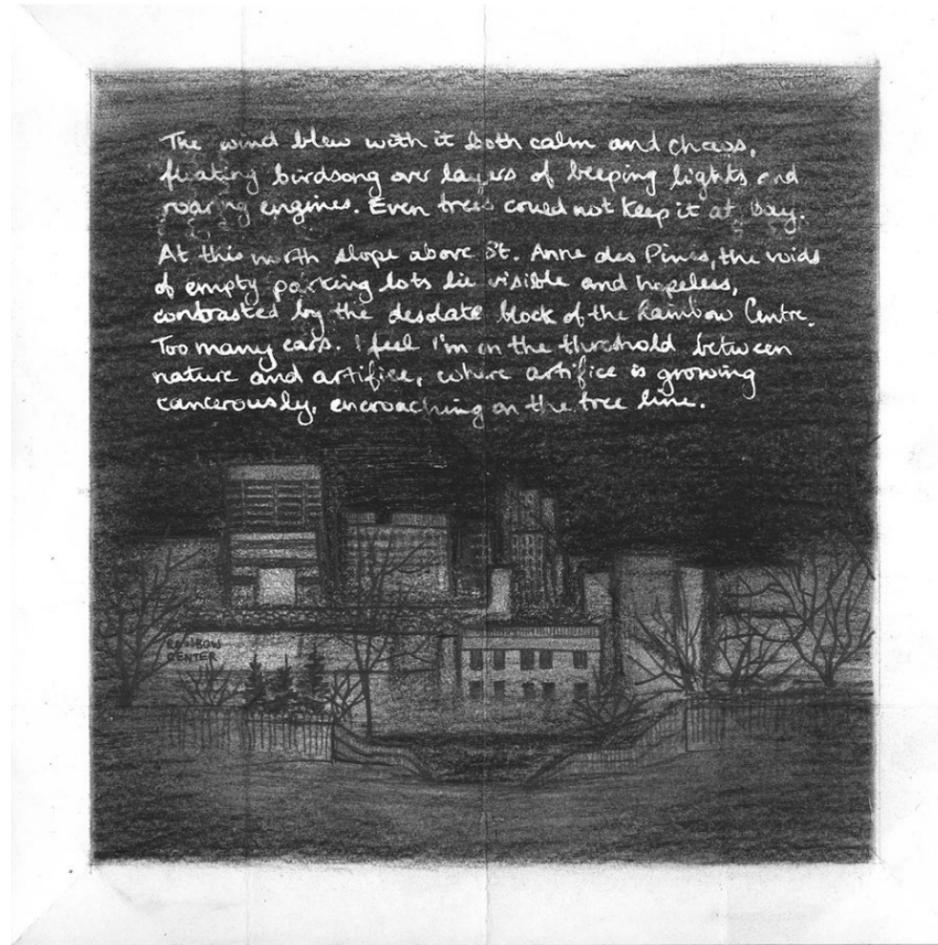


Image 48 *Stories of Sudbury*. "The North Stair"

The wind blew with it both calm and chaos, floating birdsong over layers of beeping lights and roaring engines. Even trees could not keep it at bay.

At this north slope above St. Anne des Pins, the voids of empty parking lots lie visible and hopeless, contrasted by the desolate block of the Rainbow Centre. Too many cars. I feel I'm on the threshold between nature and artifice, where artifice is growing cancerously, encroaching on the tree line.

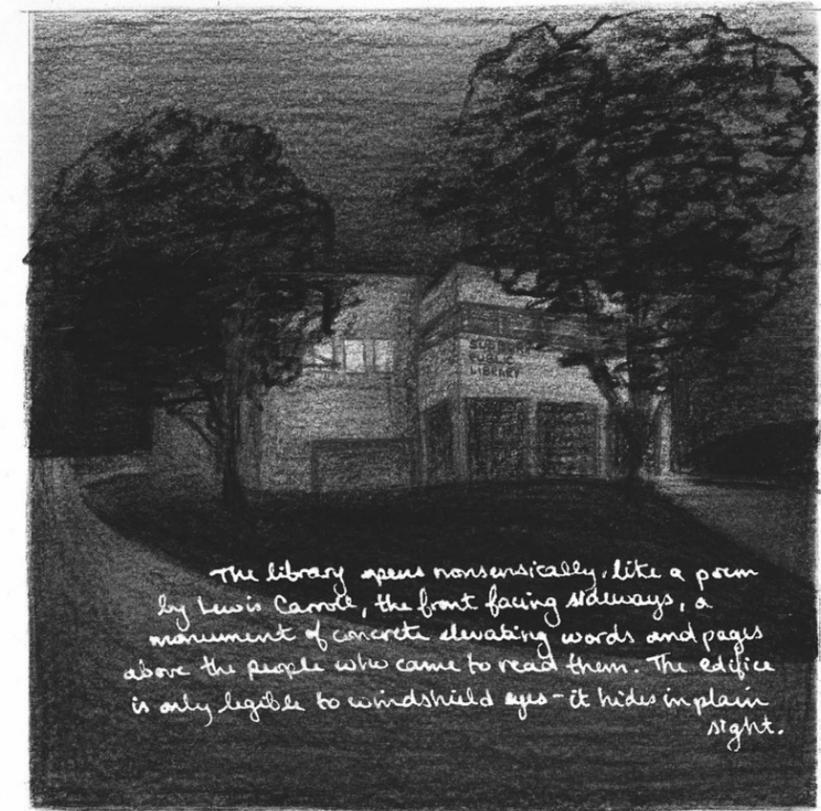


Image 49 *Stories of Sudbury*. "The Library"

The library opens nonsensically, like a poem by Lewis Carroll, the front facing sideways, a monument of concrete elevating words and pages above the people who came to read them. The edifice is only legible to windshield eyes—it hides in plain sight.

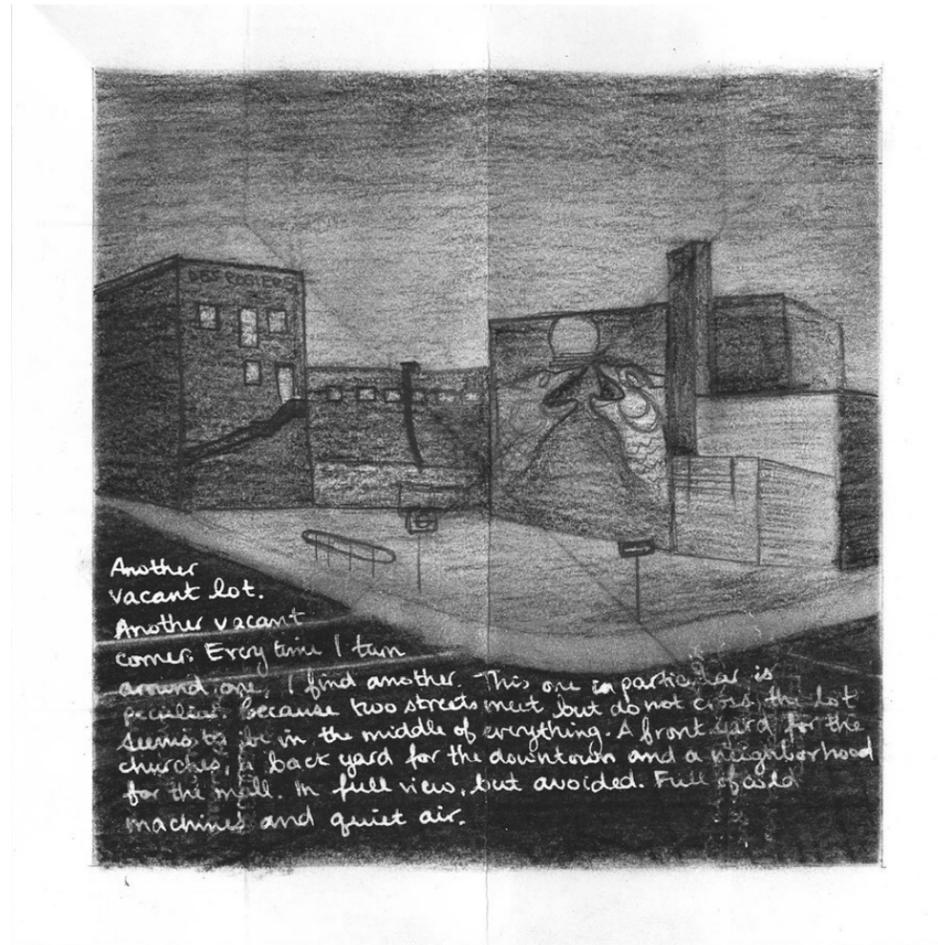


Image 50 Stories of Sudbury: "The Durham Corner"

Another vacant lot. Another vacant corner. Every time I turn around one, I find another. This one in particular is peculiar. Because two streets meet but do not cross, the lot seems to be in the middle of everything. A front yard for the churches, a back yard for the downtown and a neighborhood for the mall. In full view, but avoided. Full of cold machines and quiet air.

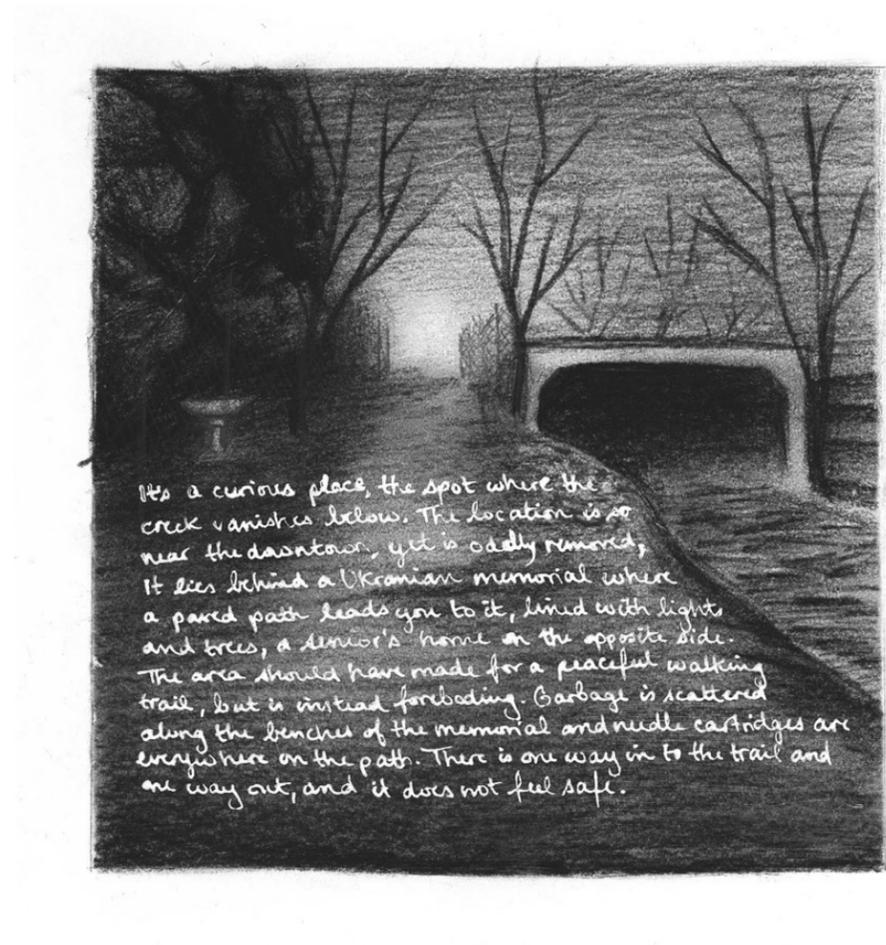


Image 51 Stories of Sudbury: "The Creek"

It's a curious place, the spot where the creek vanishes below. The location is so near the downtown, yet is oddly removed. It lies behind a Ukranian memorial where a paved path leads you to it, lined with light and trees, a senior's home on the opposite side. The area should have made for a peaceful walking trail, but is instead foreboding. Garbage is scattered along the benches of the memorial and needle cartridges are everywhere on the path. There is one way in to the trail and one way out, and it does not feel safe.

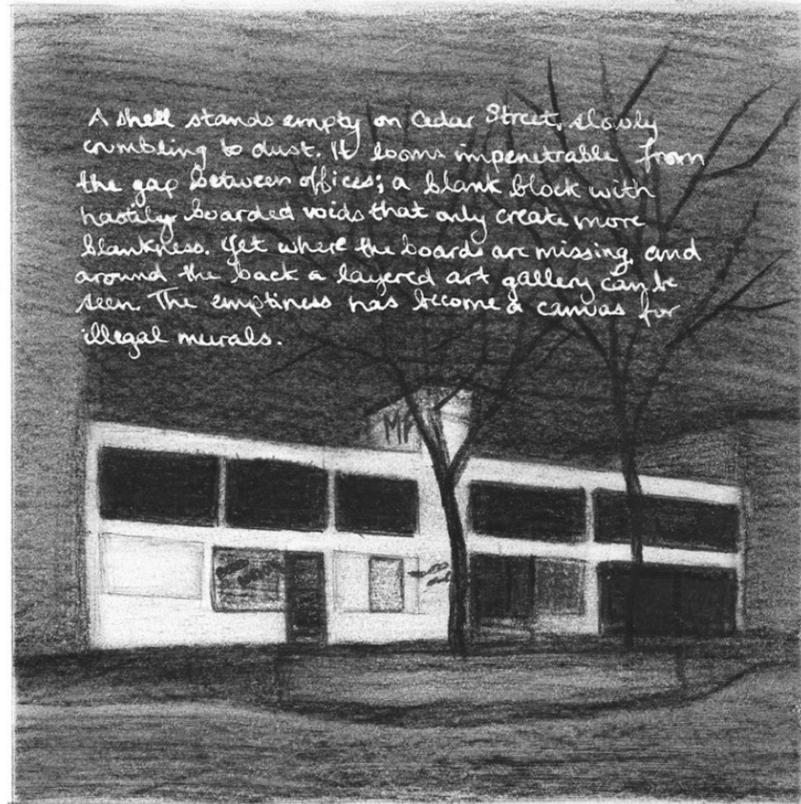


Image 52 Stories of Sudbury: "The Parkade"

A shell stands empty on Cedar Street, slowly crumbling to dust. It looms impenetrable from the gap between offices; a blank block with hastily boarded voids that only create more blankness. Yet where the boards are missing, and around the block a layered art gallery can be seen. The emptiness has become a canvas for illegal murals.

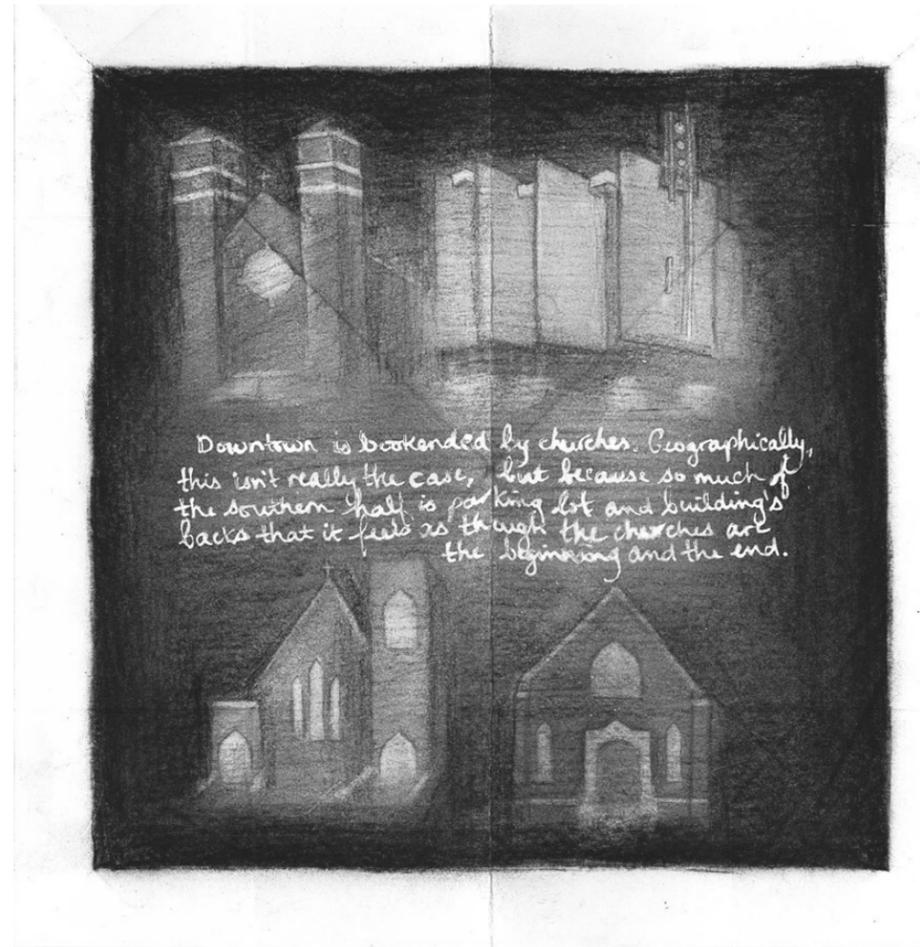


Image 53 Stories of Sudbury: "Church Boundaries"

Downtown is bookended by churches. Geographically, this isn't really the case, but because so much of the southern half is parking lot and buildings' backs that it feels as though the churches are the beginning and the end.

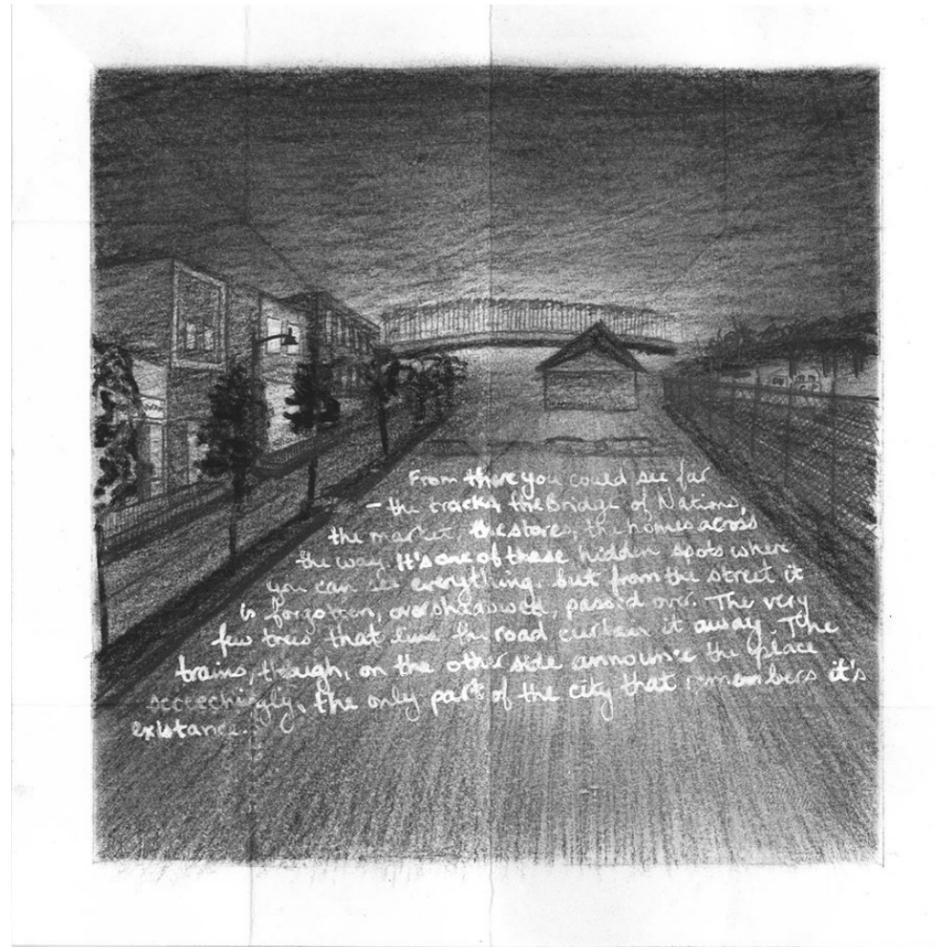


Image 54 Stories of Sudbury: "Elgin Parking"

From there, you could see far - the tracks, the Bridge of Nations, the market, the stores, the homes across the way. It's one of these hidden spots where you can see everything, but from the street it is forgotten, overshadowed, passed over. The very few trees that line the road curtain it away. The trains, though, on the other side announce the place screechingly, the only part of the city that remembers its existence.

Notes

- ¹ The annual UP Here festival is part of a grassroots movement to revitalize the downtown through music and urban murals. Initiated in 2015, the festival features the arts and music community of Sudbury with pop-up concerts, public art installations and murals. Multiple artists from both the Sudbury area and abroad are invited to contribute to the growing collection of murals found in the downtown core. Though it is true that the murals in essence highlight the numerous unattractive blank walls in the downtown, they also create an annually changing urban environment that encourages pedestrian exploration and a growing arts culture. See: "UP Here," We Live Up Here, accessed November 2019, <https://uphere.com>.



Story:

The Rail

At a point that is neither north nor south lies a city founded on one man's dream to connect a country by rail. Canada's first Prime Minister sent men out to plot the train's route across the young Confederacy's difficult terrain, and they decided that the place just below a fallen star's crater would make a good connection between the east, west and south. They set up a headquarters there, planning a town of cabins, stables and shops for the construction of the tracks that were being laid down ever closer. Yet the town was intended to be temporary, and was planned to be dismantled just as soon as the tracks passed out of its reach.

It seems that coincidence made the town a city. Lumberjacks who cut trees to be used in the rail's construction came to live in the headquarters for the summer months, and the influx of people and money demanded the establishment of more services both planned and unintended. A church was built, bringing with it a sense of permanence to the town, and a school was constructed not long after. A place with many idle men looking for fun attracted pleasure workers, dealers and staged fights, and elaborate smuggling schemes sprung up in the forests around the town. And when mining began and more people found themselves living in the region, the small city became

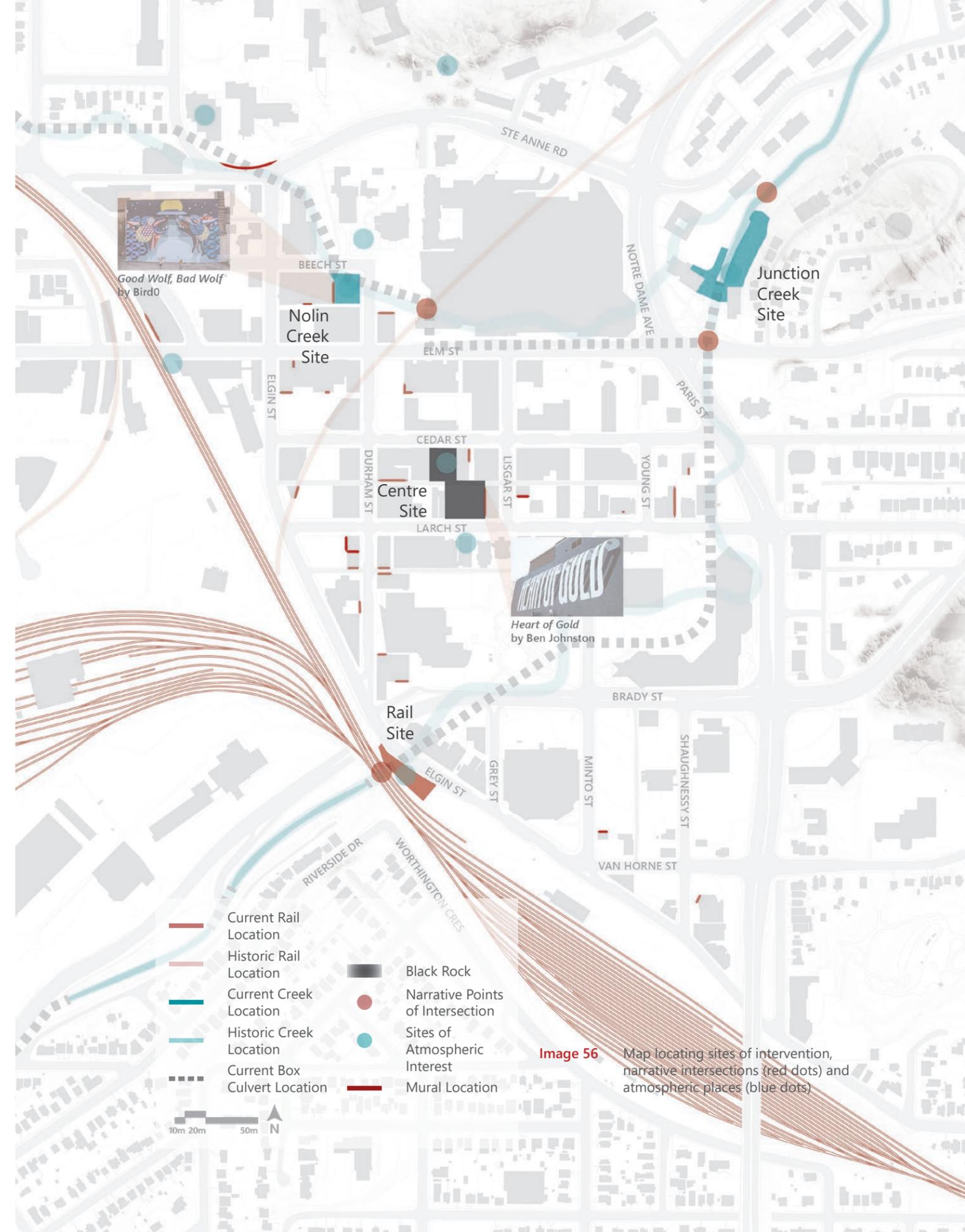
the happening place to be, with people carried back and forth from the tiny mining towns by the trains.

The city was large enough that when the tracks passed through and continued to the distant coast, it persisted as a settlement and kept growing, eventually absorbing the smaller mining towns surrounding it. Though buildings were raised and felled, the city's creeks flooded and buried, its landscape blackened and revived, the rails remain mostly unchanged from their original locations, serving as an anchor between the city's past and present.

Chapter 5
Sites

The historical and empirical research driving this thesis project uncovered the place-specific and under-celebrated narratives of rail, rock and water, as well as key locations in the city where they manifest. Mapping the physical locations of these narrative elements constructed an understanding of their intersections and relationships to the urban fabric as a whole, and led to the selection of four specific locations within downtown Sudbury, as well as a main street that connects three of them, as the optimal sites for design interventions (see Image 56). Each selected site reclaims urban space that is currently being used for surface parking, or is vacant due to its structurally unsound, decrepit state, or simply has latent potential that merits being more fully awakened.¹ Underpinning this work is a sensibility toward the broader urban context: the somewhat depressed state of the urban landscape, the lack of outdoor public space, and the disparate socioeconomic demographics of downtown. In generating discrete yet responsive interventions to these conditions, the four sites act as urban acupuncture, their positive effects spreading beyond the strict borders of each site to stimulate other revitalizing projects in the future.

The narrative of water animates the Nolin and Junction Creek sites as both feature partially or fully buried waterways



in the northern part of downtown. The rail and water narratives are interwoven at the Rail site where the train tracks that form the downtown's southern edge pass over the box culvert channeling the Junction Creek. Less direct, but equally powerful, is the analogy that emerges between the steep hills that ring the downtown and the meteorite crater that defines the geology and part of the collective identity of the region. At the heart of the downtown, the Centre site draws on this parallel to embody the narrative of the rock blackened by the nickel mining industry's noxious smoke.

An element that connects three of four sites and itself warrants urban revitalization is Durham Street, which runs north-south through the downtown in close proximity to the Centre Site; its terminal points marked by the Nolin and Rail sites, respectively. Lined with shops, eateries and recreational services, the street is the busiest and densest area in the downtown, yet it does not offer a pleasant pedestrian experience. As a result, the redesign of Durham Street is an opportunity to provide anchors of visual and aural interest to draw people and encourage pedestrian travel in the downtown core as well as increased use of the primary sites of storied intervention. Though it seems peripheral due to its distant connection to Durham Street, the Junction Creek site forms its own link to the

Rail and Centre sites. If we were to connect the box culvert openings at the northeast and southwest ends of the downtown, it would become immediately apparent that beneath the surface of the city, the Junction Creek, Rail and Centre sites are linked by an invisible, diagonal line (see Image 57). Both the Durham Street and Junction Creek axes link all three of Sudbury's founding narratives. Though each site addresses its own specific conditions and constraints, the constellation of individual design interventions in combination create a revitalizing network through the downtown by reclaiming the city's underused spaces and celebrating the buried, ignored or overlooked narratives that play a key role in Sudbury's collective identity.

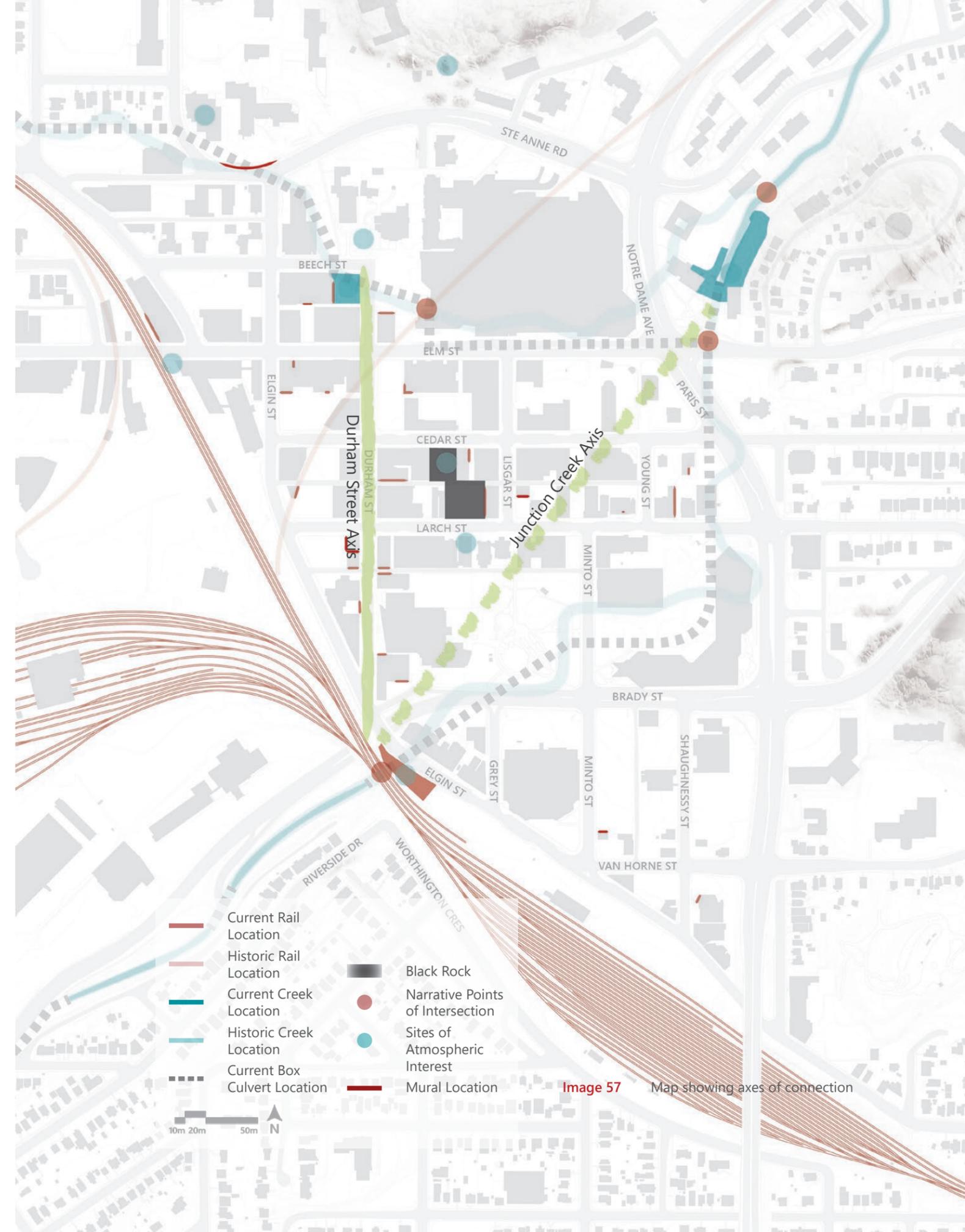


Image 57 Map showing axes of connection



Nolin Creek Site

At the northern terminus of Durham Street, the buried concrete channel that constrains the Nolin Creek loosely follows the waterway's original path in a diagonal line that runs in a southeast direction across the northeastern tip of the Nolin Creek site. At ground level, there is no trace of creek or culvert as the corner site is currently covered by two surface parking lots separated by a low guardrail. A colourful mural of stylized howling wolves adorns the back of a retrofitted opera house that constitutes the western border of the site (see Image 60). The building contains a music school, a few shops, residential units, and two nightclubs whose music bleeds through the brick walls on weekend nights to form a bass heartbeat that's audible on the site. Though the clubs' entrances are located on Beech and Elgin Streets, half of the site's current surface parking is used by revelers as a pick-up and drop-off area due to its lack of barriers and proximity to the clubs. Across Beech Street and the former opera house is a quiet seniors' residence that neighbors two churches located to the north of the site. A tree-lined path weaves between the latter two buildings to connect the churches' entrances to their back parking lots, though the path is often used by others as a short-cut to Ste Anne

Image 58 Detail of model of downtown Sudbury showing Nolin Creek site



Image 59 Key Plan: Nolin Creek site

Road and the neighborhoods beyond. The bell tower of the western-most Church of Christ the King tolls out the hour loudly enough to be heard a few blocks away, becoming a regular aural feature of the site alongside the nightclubs' music. To the east of the site, on the opposite side of Durham Street is a surface parking lot for the outmoded Rainbow Centre, though it is also used as surplus parking for the churches. This western portion of the mall's blank perimeter is interrupted only by an entrance to a small grocery store (see Image 62). Though it is historic, the southeast Mackey Building is predominantly abandoned, its assets limited to a mural on the northern façade, and two small commercial spaces opening onto the southern face of Elm Street. The buildings to the directly south of the site also open onto Elm Street, contain retail and office spaces below residences and are separated from it by a lane. The site and its immediate surroundings form one of the downtown's under-used and largely forgotten areas due to the lack of pedestrian destinations and large parking lots along the bordering sections of Durham and Beech Streets.

The aural intrigue of the Nolin Creek site owes to its surrounding buildings. Their surfaces echo sounds generated in the immediate context, yet at the centre of the site itself, all ambient sounds dampen such

that even nearby noises are quieter. This phenomenon led to the speculation that while the centre point cancels incoming noise to some degree, in an inverse fashion, any sounds generated at the central spot will be projected around the site as they are reflected by the surrounding building faces.



Soundtrack 1

To hear the ambient sounds of the site, please follow this link: https://archive.org/details/storiedattunements_nolin creek

Using headphones will provide the best stereophonic experience.

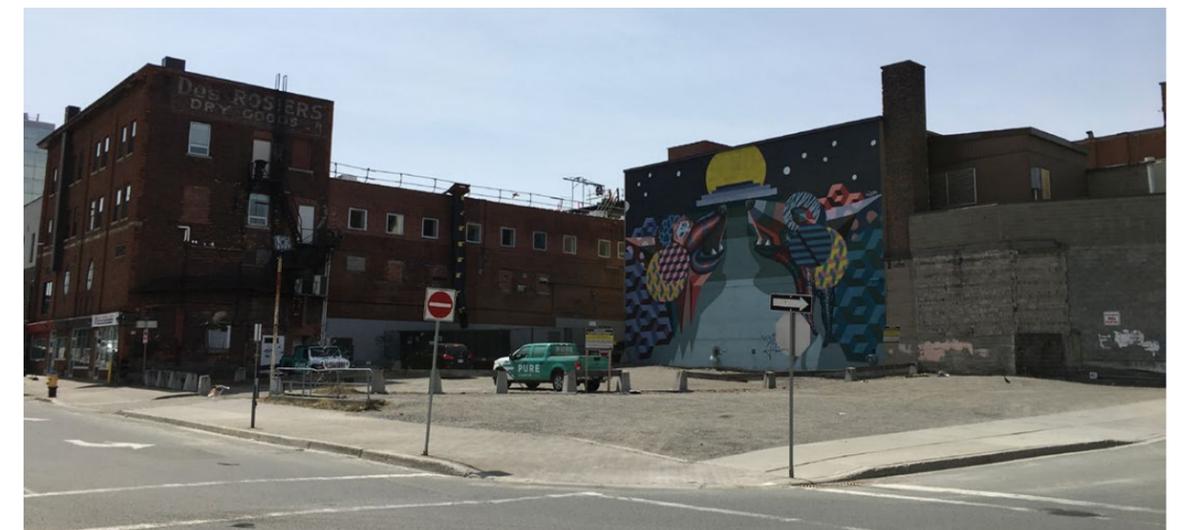


Image 60 Corner of Durham Street and Beech Street

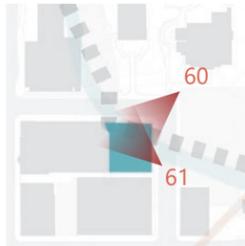


Image 61 View of Nolin Creek site from the southeast corner

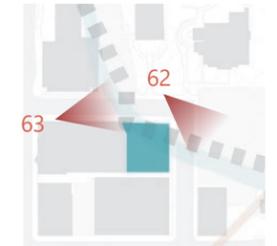


Image 62 View of Rainbow Centre and Mackey Building

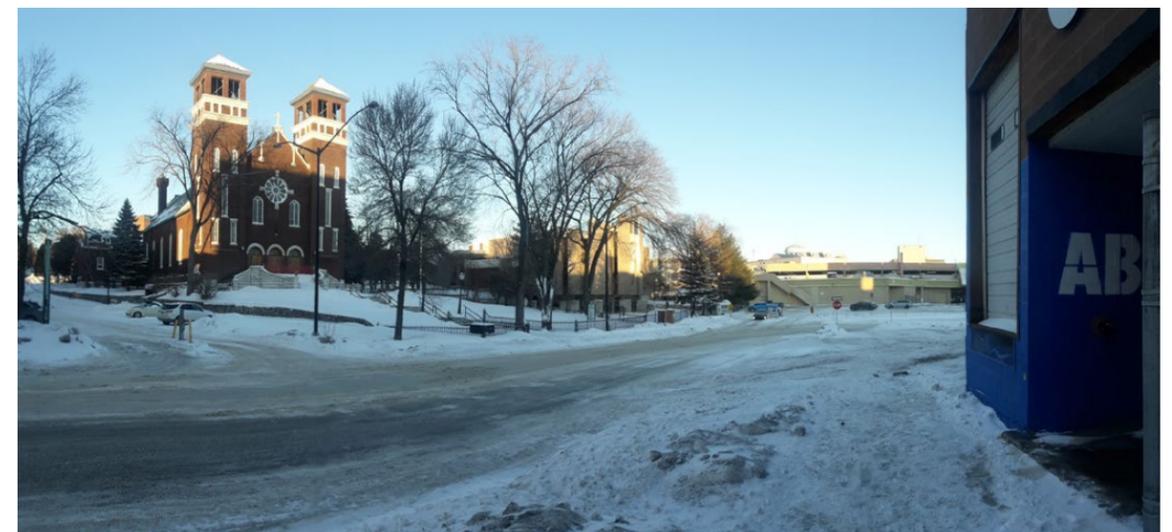


Image 63 View east from Beech Street



Junction Creek Site

At the northeast corner of Notre Dame Avenue and Lloyd Street, the small Hnatyshyn Park with a Ukrainian memorial forms the entrance to the Junction Creek Waterway Park Trail. It is this meeting of memorial and Trail at the opening of the Junction Creek box culvert that forms the beginning of the site which continues for approximately 90 metres as the Trail extends north from the culvert, running parallel to the uncovered creek (see Images 66-68). The site ends well before the Trail finishes and is marked by the termination of a chain-link fence that guards the sudden 4 metre drop to the creek's surface, a subsequent widening of the creek bed and a dwindling of trees. The fence creates an ugly barrier that encourages people to keep their distance from the creek. Where the fence ends, one feels released from the feeling of being caged that grows as one walks the trail to that point.

The three buildings that surround the site were built by Sudbury's Ukrainian community (see Image 65). On the creek's western side sits the Ukrainian Seniors' Centre residence and St. Mary's Ukrainian Catholic Church. The space between the two buildings is paved for parking and is occupied by vehicles most of the

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Image 64 Detail of model of downtown Sudbury showing Junction Creek site

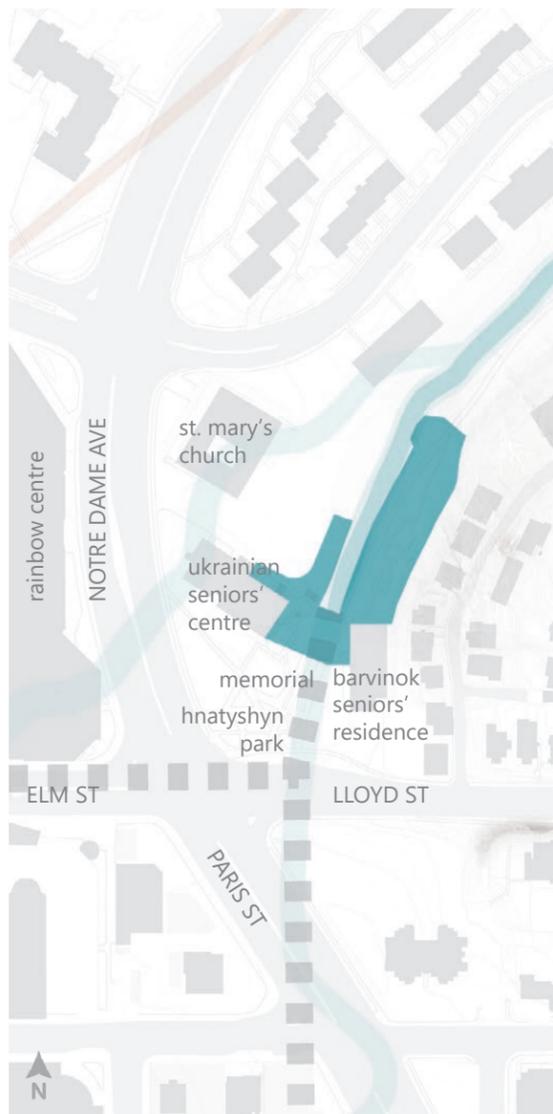


Image 65 Key Plan: Junction Creek site

time. The opposite side of the creek is mainly dominated by a large and abrupt topographic change: a rocky hill shears off in a nearly vertical 17-metre tall cliff that faces onto the creek and levels out enough to accommodate the residential neighborhood perched at the top. The steep topography intersects the creek at an angle, forming a wedge of flat ground occupied by the smaller Barvinok seniors' residence and its yard. Though both seniors' residences are operated by the same managers, the Barvinok residence is physically isolated from the rest of the community by the creek and the rock face.²

Along the Trail, the dark rock face, the trees and bushes, and the sounds of rushing water and chirping birds—which muffle some of the traffic sounds from the surrounding busy streets – all contribute to a serene atmosphere and the potential of the site to provide a break from the vehicular noise and pollution of the city. However, the seclusion of the site has also encouraged illicit activities that are at odds with the needs of the elderly residing in the area, and with individuals and families walking or cycling along the Trail. In particular, the spot at the end of the site where the fence ends is heavily used as a drug injection zone. There, needle cartridges, blue rubber tourniquets and garbage litter the ground (see Image 69). The benches at the park memorial are also

frequently used for substance abuse which may be partly explained by the fact that the Junction Creek and Ukrainian memorial sites constitute an extension of the neighboring area known for its homeless population and mental health and addiction clinics. The spots at either end of the Junction Creek site's trail where traces of substance abuse abound currently contribute a sense of danger to what has the potential to be a beautiful and restorative urban oasis.



Soundtrack 2

To hear the ambient sounds of the site, please follow this link: https://archive.org/details/storiedattunements_junctioncreek

Using headphones will provide the best stereophonic experience.



Image 66 Junction Creek Waterway Park Trail looking north

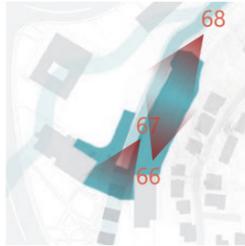


Image 67 View looking south of the box culvert

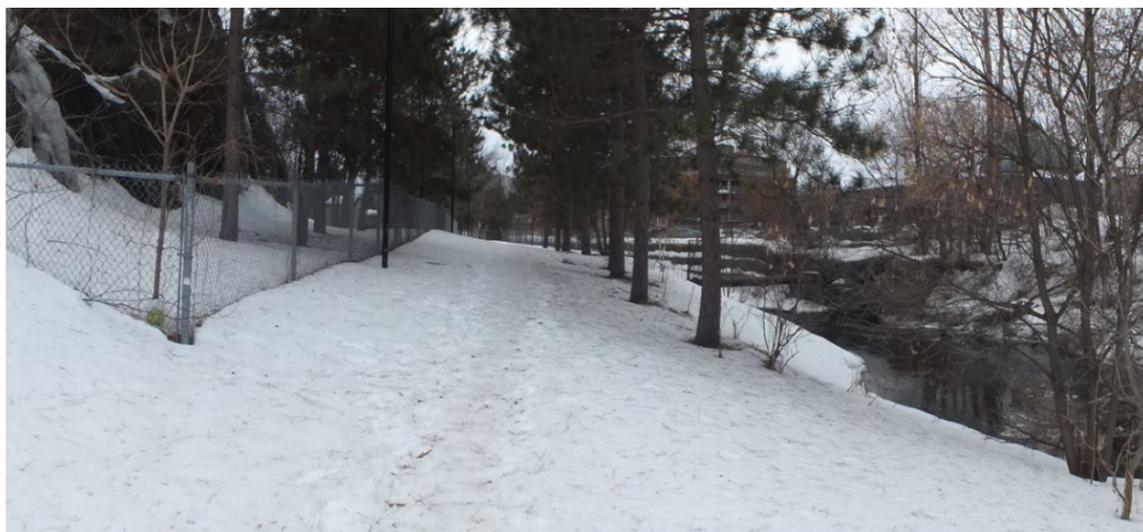
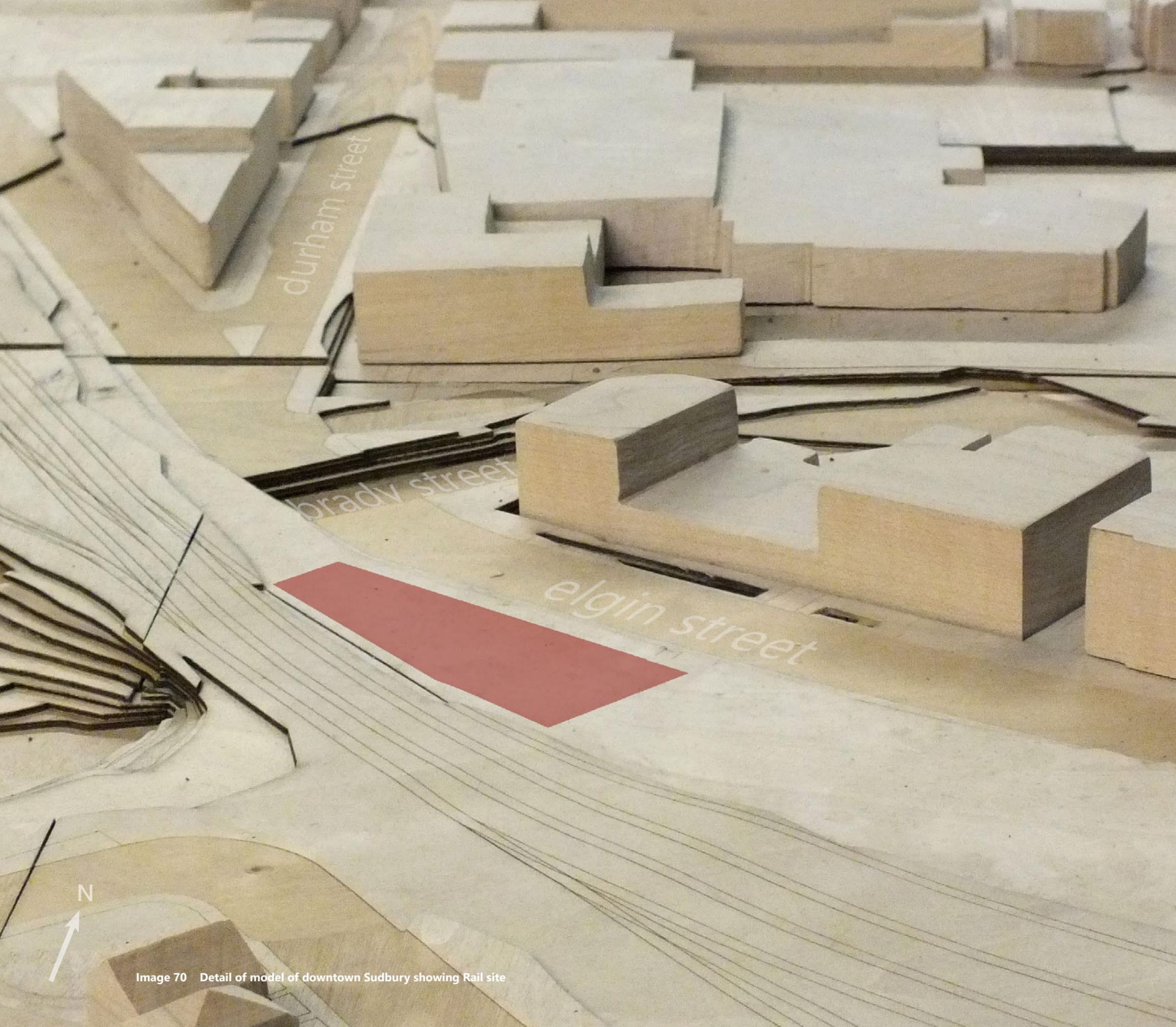


Image 68 Junction Creek Waterway Park Trail looking south



Image 69 Traces of substance abuse at the southern end of the site

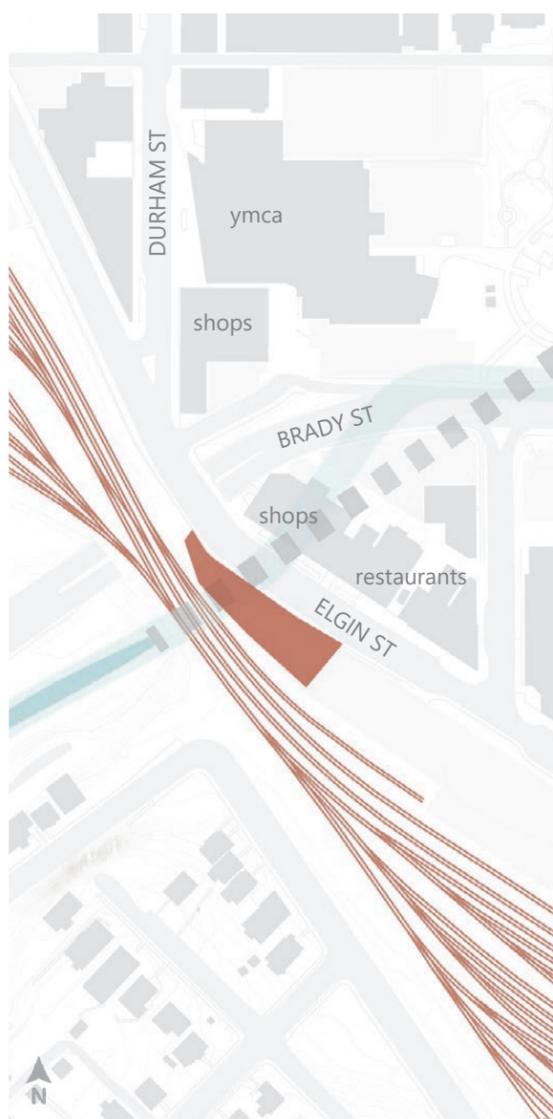


Rail Site

Just south of the point where Durham Street terminates at Elgin Street, the Rail site reclaims approximately 80 metres at the northwest part of a vast swath of municipal parking that extends in a long, linear fashion along the railroad tracks that define downtown Sudbury's southern boundary. It is near this point that three railway tracks from two separate lines merge together in a curving junction, which results in loud grinding and screeching noises from passing trains.³ The south and east lines of railway fan out to include short stretches of multiple tracks that accommodate the necessary parking and reshuffling of train cars. These activities produce sporadic collections of metronomic hisses, engine rumblings, metallic groans and clashes. Intertwined with the railway narrative of this site is the water narrative, for the Junction Creek crosses below the tracks to emerge from its culvert on the southwestern side (see Image 73). This potent intersection of narratives goes largely unnoticed as it is not possible to hear the creek above the railway's deafening sounds, or to see it from the site's vantage point 9 metres above the water level.

Directly across Elgin Street from the Rail site is a strip of stores, small galleries,

Image 70 Detail of model of downtown Sudbury showing Rail site



restaurants and bars referred to by locals as “the shops on upper Elgin,” which cater to Sudbury’s arts community. A pedestrian tunnel running beneath the rail yards offers a connection from the downtown to the residential neighborhood of Riverside Drive to the southwest (see Image 74). The stair and ramp entrances on the east side of the tunnel recently had better lighting implemented and graffiti painted over as part of an effort to make the tunnel feel safer, although it is generally deemed inadvisable to pass through it after dark. Both the arts strip and the pedestrian tunnel were taken into consideration for the city’s Elgin Greenway proposal to reclaim the significant amount of surface parking along Elgin Street. While the initial design proposed for the Greenway illustrated a greened park, an arts and entertainment plaza and a new entrance to the pedestrian tunnel, the 2019 revised version excluded the latter and left the park as little more than a grassy area with a second sidewalk (see Image 37).⁴ The city’s most recent proposal for this site, therefore, does nothing to create public space that entices pedestrians to cross the street and linger, and will leave the site as under-used as it is currently.

Image 71 Key Plan: Rail site



Soundtrack 3

To hear the ambient sounds of the site, please follow this link: https://archive.org/details/storiedattunements_rail

Using headphones will provide the best stereophonic experience.



Image 72 View from the Rail site looking southeast

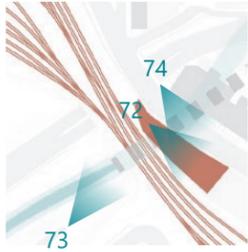


Image 73 View of southern end of the Junction Creek Box Culvert



Image 74 View of the Rail site and pedestrian tunnel ramp.

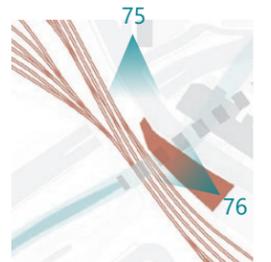
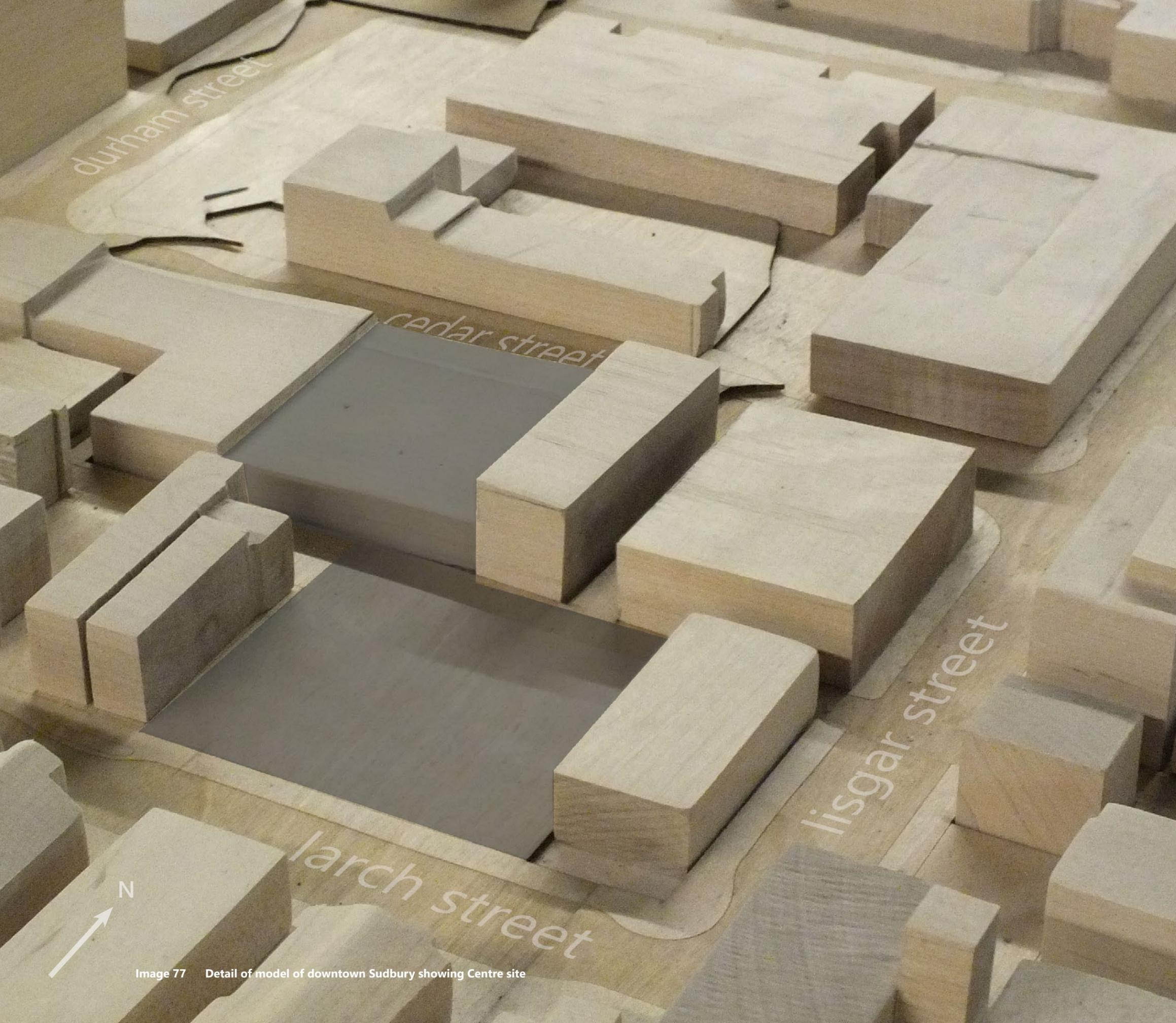


Image 75 View of the Rail site looking west.



Image 76 View of the Rail site from Durham Street



Centre Site

Located in the middle of the urban block bounded by Cedar, Durham, Larch and Lisgar Streets, the chosen site is composed of two adjacent spaces with a back lane running between them. The northern half of the site features an abandoned two-storey parking structure with two dilapidated storefronts on the ground floor, which has been abandoned since its hasty closure in 2014 after it was determined that the concrete structure was unsound.⁵ An urban relic that offers partial shelter for some of the downtown's homeless community, the parkade is also an informal art gallery of sorts, its surfaces host to graffiti. The southern half of the site fronting Larch Street offers two continuous surface parking lots with a mural spelling out "Heart of Gold" as a backdrop on the east side. The built and unbuilt halves that are chosen as the Centre site together create a notable void at the heart of Sudbury's downtown. Under normal circumstances, the stillness of the Centre site would be countered by the liveliness of the surrounding buildings, particularly the sounds coming from Peddlers Pub Eatery and the Japanese restaurant Sapporo Ichibang, both located in the building immediately west of the parkade. Both of these establishments would attract people along Cedar Street, particularly during the summer months when the sidewalk would be commandeered

Image 77 Detail of model of downtown Sudbury showing Centre site

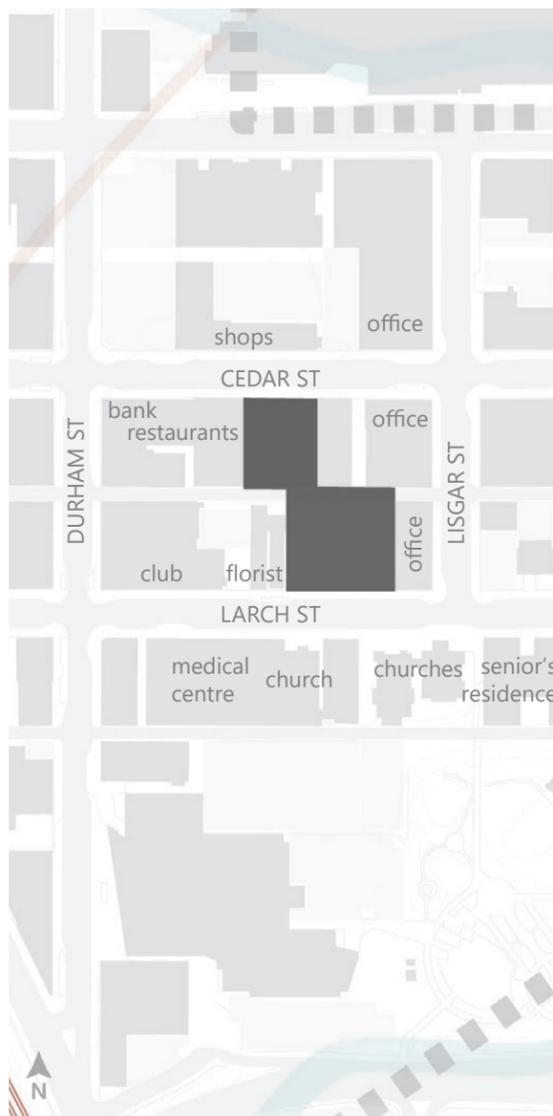


Image 78 Key Plan: Centre site

as a street patio, and people would usually be seen smoking outside at night. However, an electrical fire in the basement of the pub in November 2019 necessitated the closure of both restaurants and displaced the tenants living above.⁶ Thus my research into the atmospheres of this site and my efforts to capture its aural qualities in early 2020 have yielded soundscapes that are atypically subdued.

In addition to Peddlers Pub and Sapporo, Cedar Street is lined with banks, shops, restaurants, governmental office buildings, the transit terminal and several mental health and addiction clinics, all of which generate many passersby from a variety of socioeconomic groups. The transit terminal's proximity to the site also generates much vehicular traffic as bus routes travel along Cedar Street to exit downtown. By contrast, Larch Street does not have the same density of people passing through, mainly because a large portion of the properties on the street are closed much of the time, are vacant or are used as parking lots. The only busy places on Larch Street include the Medical Centre and the St. Andrew's complex, the latter of which contains a seniors' residence, a church, a few storefronts and a popular café. However, given that the Medical Centre is close to Durham Street and the St. Andrew's complex is east of Lisgar Street,

the pedestrians who do visit these locations have no reason to travel past the Centre site as there is currently little there to draw them.

Soundtrack 4



To hear the ambient sounds of the site, please follow this link: https://archive.org/details/storiedattunements_centre

Using headphones will provide the best stereophonic experience.



Image 79 Cedar Street facade of the abandoned parkade.

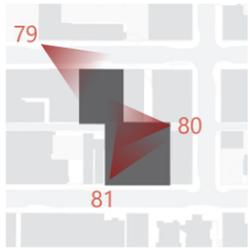


Image 80 View looking west of the lane-side facade of the parkade.

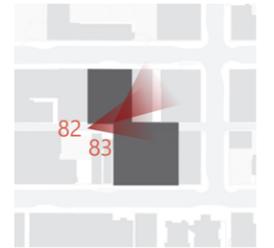


Image 82 Close-up of the graffiti on the back of the parkade.



Image 81 View of the Centre site looking north from Larch Street



Image 83 The graffitied interior of the abandoned parkade.

Notes

- ¹ Darren MacDonald, "No easy answer to solve downtown parking problems," *Sudbury.com*, January 28, 2014, <https://www.sudbury.com/local-news/no-easy-answer-to-solve-downtown-parking-problems-248942>.
- ² "Ukrainian Seniors' Centre Sudbury Ontario," *Ukrainian Seniors' Centre*, <https://www.ukrseniors.org/node/3>.
- ³ This point is the junction of lines running from Thunder Bay, Toronto and Sault Ste. Marie. See "CN-Network Map," *Canadian National Railway Company*, last modified 2020, <https://cnebusiness.geomapguide.ca/>.
- ⁴ "Elgin Street Greenway," City of Greater Sudbury, <https://www.greatersudbury.ca/play/downtown-sudbury/elgin-street-greenway/>.
- ⁵ MacDonald, "No easy answer to solve downtown parking problems."
- ⁶ Ulrichsen, Heidi, "Peddler's Pub fire: \$150K damage, 13 people living above restaurant displaced," *Sudbury.com*, November 29, 2019, <https://www.sudbury.com/local-news/peddlers-pub-fire-150k-damage-13-people-living-above-restaurant-displaced-1890187>.



Part 3:
Composition

Story:

Downtown's Hidden Voices

From unnoticed pockets of Sudbury's downtown, four voices are singing. They sound from phantasmal figures who are bound in place, calling to one another in a harmony known only to themselves.

The figure found at a corner in front of a church is demure. She shyly hides her face beneath a crown of radiating planes inscribed with memories of years past. She has not lifted her head to sing in a long time, and instead reflects others' voices with her circlet of storied surfaces, arranging new compositions from echoes. She projects the heartbeat of the nightclub beside her on the late nights it is open. She funnels children's laughter as they walk past. And she mimics the church bells as they ring out the hour. Even though she supports the sounds around her, she is not mute, for she has her own song, kept close and hidden. Her voice is the soft murmur of a buried creek, and though she hopes one day to have the strength to tilt her head upward and sing her watery ballad, she despairs that her song will remain caged and forgotten from the world above.

Her brother stands elongated at the eastern edge of the downtown, screened from view by senior's residences and a chain-link fence fringed with trees. At a first glance he is beautiful: as angular as broken rock and as graceful as soaring

trees with a voice of rushing water and bird calls. But something is out of tune. His song is strangled by seclusion and unhinged by drugs that are injected into him by shaky visitors carrying black bags. His dark mouth gapes open to perpetually swallow a creek and his balance is off, skewing his appearance. The longer the encounter with the figure the more uneasy one feels, his beauty twisting to become something fearsome and dangerous. Under the disconcerting appearance, however, he yearns for peacefulness and rejuvenation.

Across the downtown a figure belts out his song in fits and spurts. His voice rises from his squat, solid form, the music a complex rhythmic composition of rumbling, hissing, clashing, screeching. Yet there are long periods of quietness between the bass notes and pitched squeals of trains' engines. When he is not proudly vibrating from the force of the sound, the figure stands completely still, unintentionally hidden in plain sight, unnoticed and ignored. In the silence, he echoes cars' motors as they drive by or hums the soft melodies of midnight bars. Regardless of whether he is loud and moving or hushed and static, people pass by without acknowledging his existence.

The fourth figure is petrified in her place at the city's heart. She kneels

compactly in her square, her form a topography of radiating ridges and grooves, her burnt complexion black as char. The figure's core is an empty crater and tears of abandonment drip quietly onto her lap. Still, she sings with a voice of voices, harmonizing spoken questions and conversations with the swish of tires on pavement. As the years go by, singing becomes more difficult as her voice cracks and her figure crumbles. Her scorched surface splits open to reveal inner colours of rusted iron and grey rock that are slowly stretching into two parts. She dreams that when she is finally broken and reborn into a new, stronger form that she will have an expanded vocabulary of melodies to intricately weave into a new refrain.

Each of the figures waits for something: to be noticed, to be heard, to be enjoyed, to be free. Yet being bound in place themselves, they have no power but to hope that someone else will value and amplify their songs.

A Sound Installation

To explore the musical, narrative, spatial and translative concepts of the thesis through the act of making, a sound installation was conceived, acting as a catalyst for the design phase of the thesis project. The installation combined the creation of soundtracks composed from ambient noises recorded at each site at different times of day and under different climatic conditions, with the crafting of vaguely anthropomorphic sculptural figures that embody the physical and atmospheric qualities of the four sites. Each conceptual figure is composed of three integrated parts: a sculptural head that condenses the particularities of place; a tall, minimalist base on which the head rests; and a speaker hidden within the body of the base like a throbbing heart. Designed as a streamlined piece of millwork that tapers outward at the bottom for stability, each wooden base features a metal mesh front that allows for each figure's "song" to emanate from the speaker concealed on a shelf within. The base's clean composition seeks to focus attention away from the support itself and onto the sculptural heads that conceptualize the spirit and soundtrack particular to each site.

The ambient noises recorded at each of the four sites were composed into four individual soundtracks that play in synchronization from the speakers within the figures. The composition takes into

account the three-dimensional nature of the installation so that prominent sounds from each of the sites are orchestrated to sound as though they are in conversation with each other across space. Church bells from the Nolin Creek figure call to a squeaky gate from the Centre figure which is interrupted by a train engine's hydraulics from the Rail figure that fade to cawing crows from the Junction figure. The recording and curated amalgamation of these soundscapes constitute a dimension to the site analysis that is attuned to the unnoticed aural atmospheres of each location.

Since the conceptual exercise produced vastly different designs, it was crucial to develop a consistent material palette that would tie the sites together and have the potential to be translated to the final architectural interventions of the thesis project. As an overlooked material that is deeply ingrained in Sudbury's collective identity, metal mesh was chosen to be this connective element. Various meshes can be found around the city in locations like cliff-mounted screens that protect vehicles and people from falling stones, in the mines as a method of securing blasted rock tunnels, in industrial facilities as flooring or walls among other applications. This close relationship to place anchors the material's physical attributes as a porous material with limitless design potential in the

crafting of the shape and size of openings, the thickness of the metal, its colour and additional layering to create illusions. In the figures, the metal mesh was used to illustrate the thesis' preliminary design intentions for each site as the perforated material has the ability to show what is planned but not yet built.

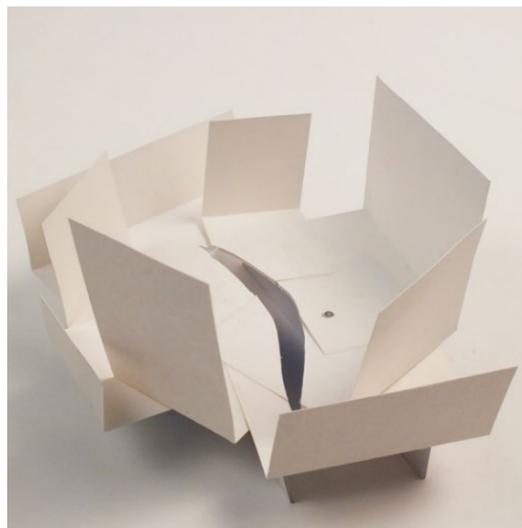


Image 86 Nolin Study Model 1

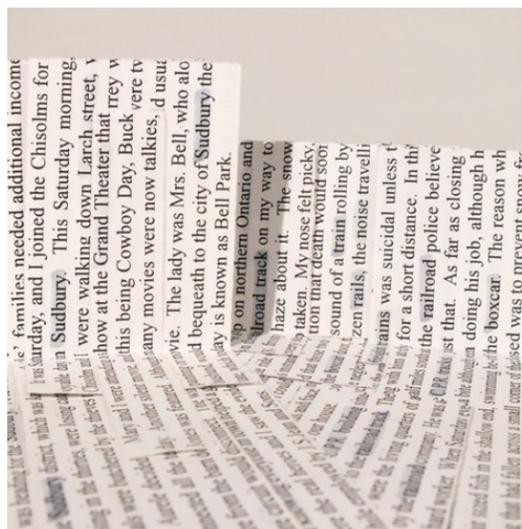


Image 87 Nolin Study Model 2

Nolin Creek Conceptual Figure

Constructed of cut pages from the memoir *When a Nickel was Worth a Nickel* self-published by Lorenzo Lalonde in 1998, this figure conceptualizes the acoustic qualities of the Nolin Creek Site, where the buildings that frame the parking lot funnel and echo surrounding sounds. By abstracting the buildings into thin, flat surfaces arranged in a radial pattern, the figure translates into material form the speculation that the quietest zone is, in fact, the sound-throwing point located at the site's centre. The paper material the figure's head is constructed from allows the petal-like surfaces to fold up from the horizontal "ground" plane, each curating passages from the memoir that contain words such as rail, rock, Junction Creek, story, CPR, mine and church to relate the geography of the site to the narrative threads of the thesis. This exploration of the aural and narrative qualities of the site prompted the design intention to bring to the surface the sounds of the buried Nolin Creek, materialized in the figure as a metal mesh cylinder that elevates the storied sculpture from the base below.



Image 88 Head of Nolin Figure on Acoustic Test Base

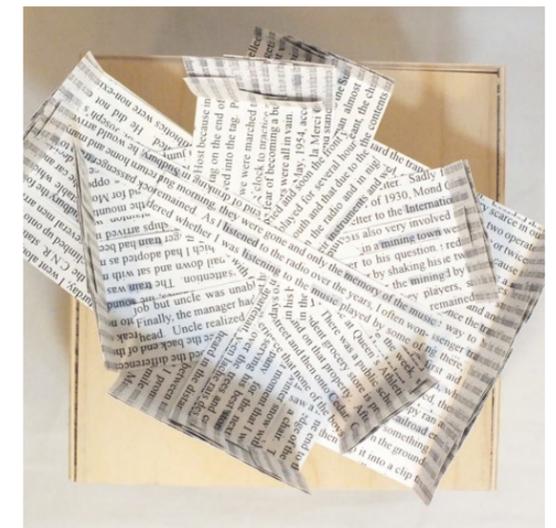


Image 89 Head of Nolin Figure: Top View

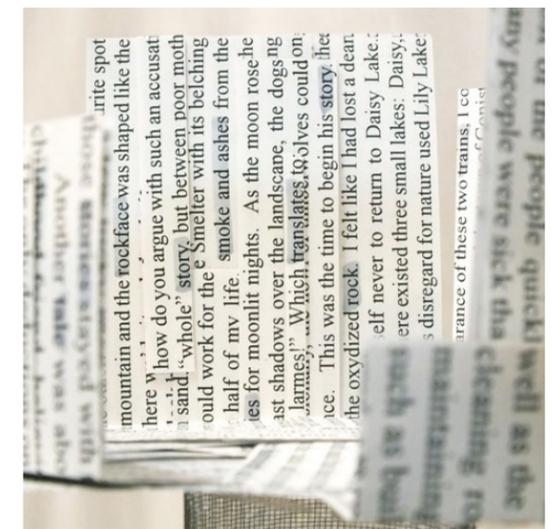


Image 90 Head of Nolin Figure: Detail



Image 91 Junction Study Model 1



Image 92 Junction Study Model 2

Junction Creek Conceptual Figure

As the site with the most intense atmospheric impact, the Junction Creek figure quickly came into being as a representation of the immediate beauty of the location with an underlying sense of danger. This manifested as two angular 'walls' that extend from the wooden base and hint at both the narrowness of the site as well as the faceted rock face that borders the east side of the existing trail. Between the two 'walls' is a more literal interpretation of the Junction Creek, with a forest of trees lining a narrow waterway of fabric. Yet upon closer inspection, it becomes apparent that the trees are made of needles punching through the slanted ground plane, alluding to the detritus of drug abuse that litters the north end of the site. In addition to being off-kilter, the ground is raised to express the isolated atmosphere of place. The division the site creates in the surrounding context paired with the isolation-induced illicit activities drove the design proposal of a bridge connecting the two sides of the creek. This is represented as a thin mesh piece skewered onto the needles of the figure.



Image 93 Head of Junction Figure on Acoustic Test Base

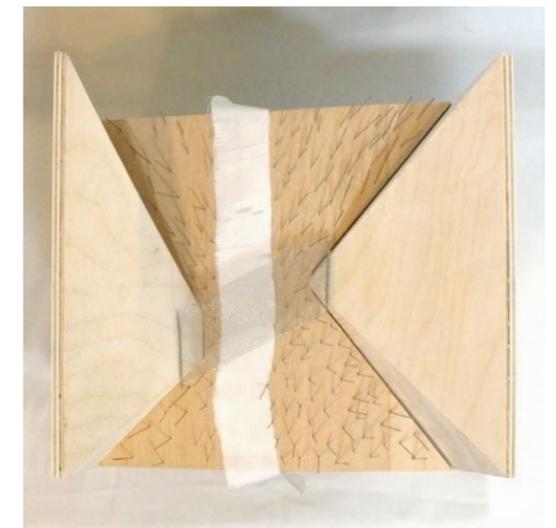


Image 94 Head of Junction Figure: Top View

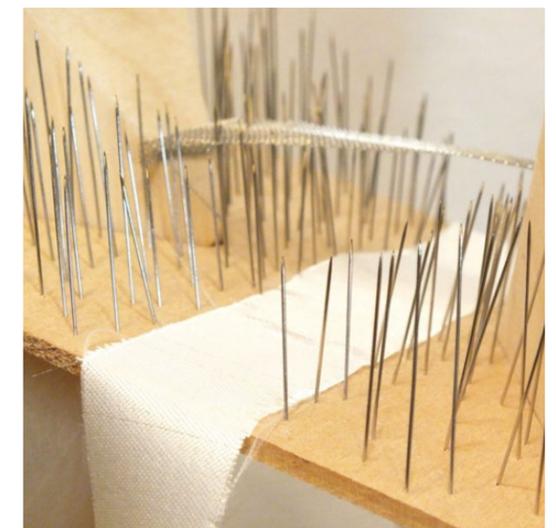


Image 95 Head of Junction Figure: Detail

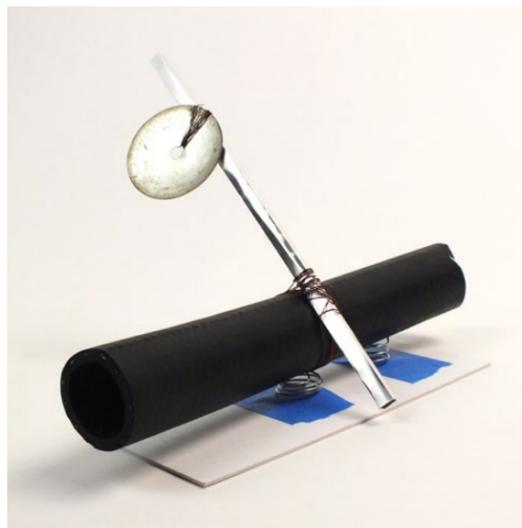


Image 96 Rail Study Model 1



Image 97 Rail Study Model 2

Rail Conceptual Figure

The composition of the Rail Site figure is inspired by the intersection of the rail and Junction Creek narratives, the materiality of those elements and the acoustic vibrations of the site. A twisted piece of rusted metal used in railway construction wraps itself around a length of black hose used for domestic hot water lines. The solid metal is a reminder of both the material of rails and the weight of a train; the dark hose is reminiscent of a tunnel or culvert and its material association with plumbing ties the element to the Junction Creek. The figure's hidden element is movement: the wooden platform on which it sits is attached to the base with springs such that the figure vibrates with the low bass notes of the recorded train noises that emanate from the speaker. The intersection of the site's narratives influenced the design intuition of the appropriateness for a look-out point, incorporated in the figure as a metal mesh platform rising above the rest of the figure.



Image 98 Head of Rail Figure on Acoustic Test Base



Image 99 Head of Rail Figure: Top View



Image 100 Head of Rail Figure: Detail



Image 101 Centre Study Model 1



Image 102 CentreStudy Model 2

Centre Conceptual Figure

To connect this figure to the black rock narrative, a crater was carved from a solid mass of differently coloured plasticines beneath a top layer of black, representing both the macrocosmic geological Sudbury basin formed by the meteorite's crash as well as the microcosm of the "crater" of Sudbury's downtown. The diagonally split and repositioned halves of the figure emphasize that the blackening of the rock is a surface condition and allows for the display of the rock's natural colouring to come through. The split also represents the divide in the Centre site caused by a lane, as well as the design intuition leading to the creation of a new angled pedestrian path through the architectural intervention. This was realized in metal mesh as a rectangular prism that serves as an abstract gesture for a building.



Image 103 Head of Centre Figure on Acoustic Test Base



Image 104 Head of Centre Figure: Top View



Image 105 Head of Centre Figure: Detail



Image 106 Render of Figures in the Resource Centre's Permanent Gallery

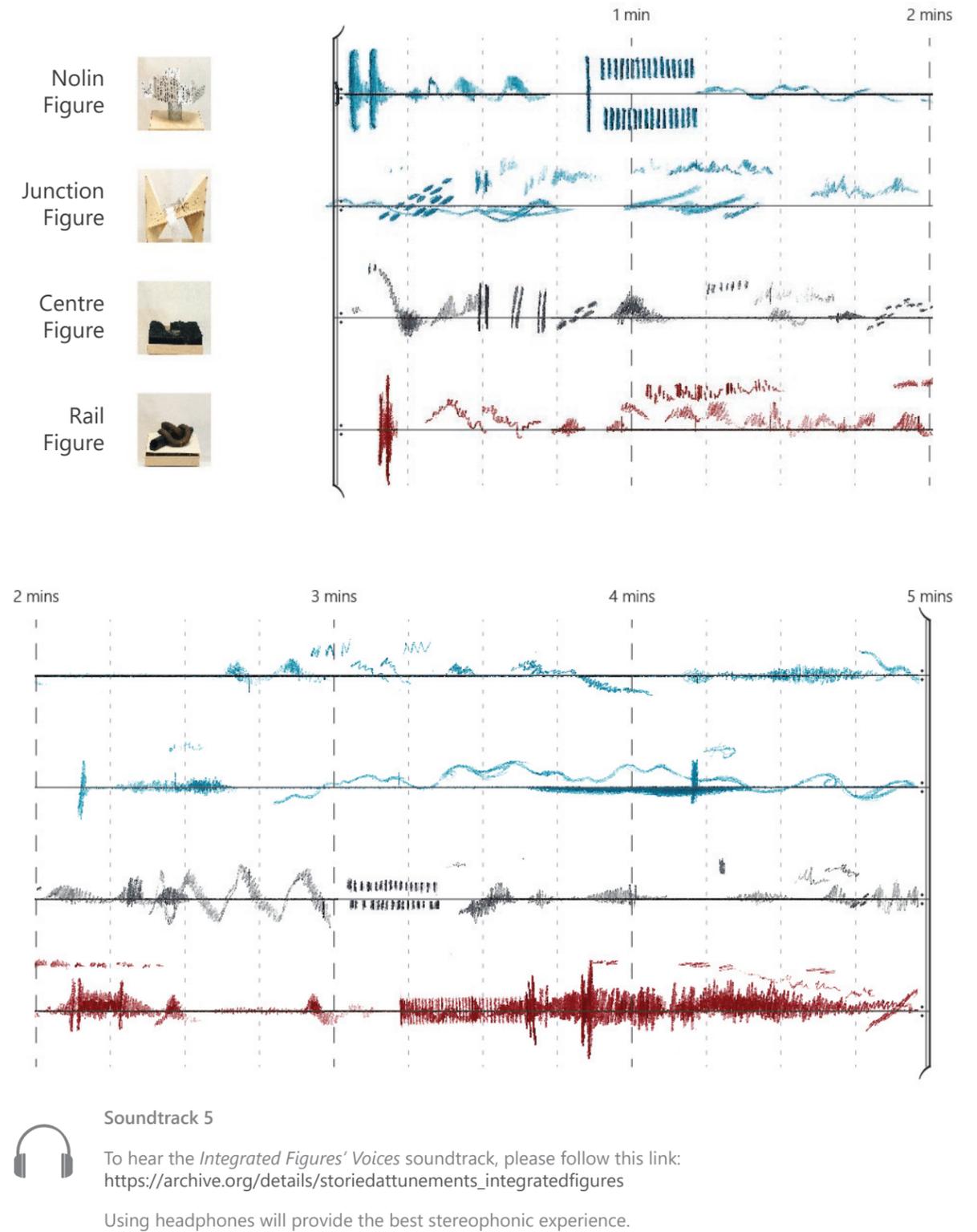


Image 107 Graphic Score for the Integrated Figures' Voices soundtrack

Programmes & Precedents

The design of the sites' programmes brought with it an unexpected challenge. To successfully integrate (hi)stories with human-scaled design, the functions of the interventions must meld the idealized concepts of the narratives with a practical response to each site's physical and demographic constraints while considering existing atmospheric qualities. The prominent theme of local identity that runs through all three (hi)stories of rail, rock and water, paired with the lack of welcoming public spaces in Sudbury's downtown, indicate a necessity for public functions at all sites. However, it is in designing the specific programmes of the four interventions to encompass the individual poetic and realistic particularities of each place that the crux of the issue lies.

The three sites that embody the rail and creek narratives all have contextual conditions that imply open outdoor programmes. This response at the Nolin Creek and Rail sites anchors Durham Street with accessible landscaped public spaces, which also comply with the exterior nature of their train and water narratives. Since the Junction Creek site is currently secluded, an open landscaped programme was an intuitive move to transform the site into a safe destination characterized by the creek and the adjacent rock face. The Centre site, however, demanded a public building

in addition to an exterior public space. This edifice will link the lively pedestrian experience of Durham Street to the east part of downtown with an interior programme that acts on the opportunity to bring together the disparate groups of people that move around the site. The building's location at the heart of both the downtown and the geography of the four sites also completes the connections between all the interventions.

Nolin Creek Site

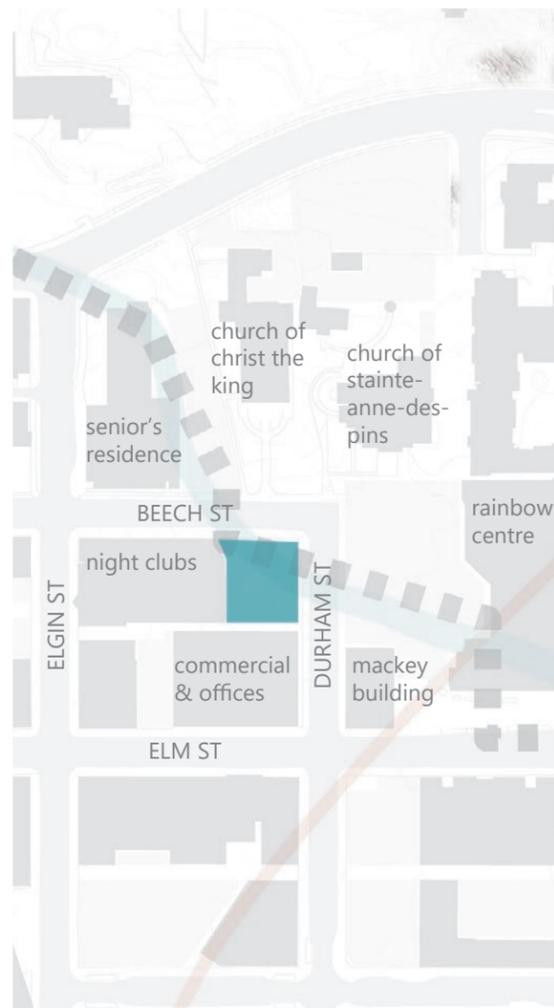


Image 108 Key Plan: Nolin Creek Site

The desire to highlight water in both its physical and aural forms as a narrative strategy to bring to life the conceptual phrase “the caging of the creek” resulted in the design of a park with a splash pad. This idea was refined to a mist park as water was considered in all seasons; mist has the capability to be vaporous in the warmer months and freeze on surfaces when it is cold. This provided an opportunity to incorporate metal mesh into the design as a material with the potential to catch water vapour and allow it to freeze in place at cold temperatures. The mesh also acts as the cage element in the key phrase. The mist park also elevates the splash pad to an elegant destination that the seniors who live at the nearby residence would be willing to use with or without grandchildren, and the churches’ congregations could use for gatherings after services.

Tanner Fountain

1984, Harvard University campus, Boston, MA;
Peter Walker

A circular cluster of 159 locally sourced boulders are arranged in concentric rings, the innermost clouded with mist that spouts all year round.¹ Paired with the shade of nearby trees, the fountain is a destination for chatting, reading, studying and playing as people sit, stand and jump from rock to rock on the dry outer rings.² The inspiration of this project is in its use of mist during all seasons as well as the incorporation of rocks as interactive elements.



Image 109 Tanner Fountain

House of Ice at the Cranbrook Institute of Science

1998, Bloomfield Hills, MI; Steven Holl Architects

The focus of this case study was not the 1998 addition or renovation to the building, but rather the House of Ice installation housed in the courtyard.³ The installation was designed to portray water in its frozen state as mist catches on the wire and freezes to the screen, creating a porous structure in the summer and a translucent solid enclosure in the winter.



Image 110 The House of Ice showing a detail of the screen

Place du Citoyen

2014, Chicoutimi, QC; Hovington Gauthier Architectes

This project connects two streets that border the City Hall in Chicoutimi with a pedestrian path lined with benches and fountains, which terminates in a plaza that is designed to facilitate festivals.⁴ The patterned paving and mist and liquid water fountains contribute to the vibrant atmosphere of the path, and distinctly separates it from the plaza.



Image 111 Place du Citoyen

Yue-Yuan Courtyard

2016, Suzhou, China; Z+T Studio

A contemporary take on a traditional Sozhou courtyard, the project is centered around a creek-like water feature that snakes its way through the space.⁵ The illusion of the artificial creek is seamless as the stepped depression has no border from the courtyard's surrounding pavers, fully integrating the water feature into the ground plane of the design. This project was an early study for the Nolin Creek site design examining how controlled shallow cavities can be used to create safe and beautiful fountains.



Image 112 The Yue-Yuan Courtyard

Junction Creek Site

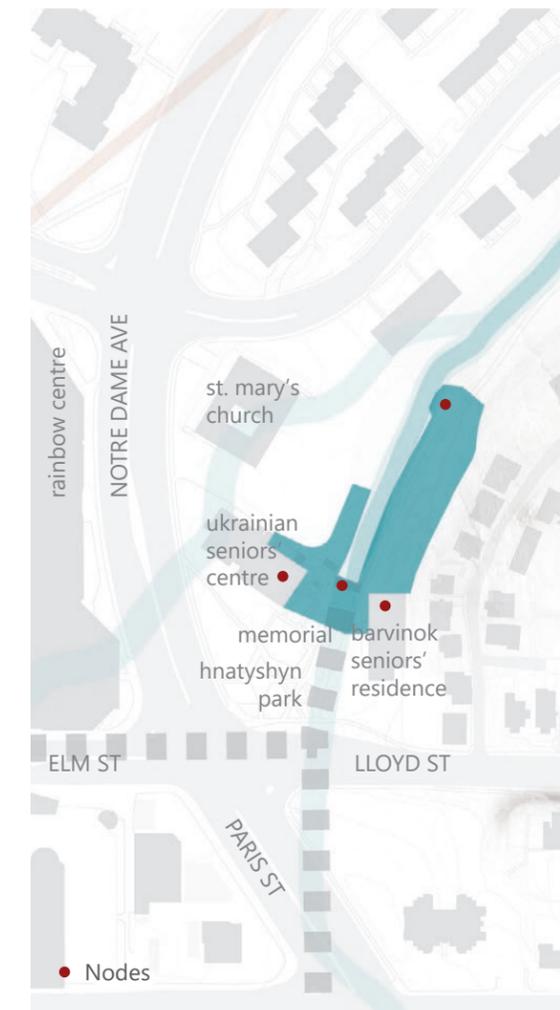


Image 113 Key Plan: Junction Creek Site

Identifying nodes of potential and current activity at the northern and southern ends of the site fueled three programmatic considerations. The first is to expose the northern node's area of substance abuse with an open design to create a safe environment for all visitors. The second, the incorporation of contemplative seating arrangements that frame visual and aural experiences of the creek narrative, particularly at a southern node's Junction Creek box culvert entrance. Lastly, the programme is required to forge a connection between the two Ukrainian seniors' residence nodes to facilitate greater use and offer a shared public space for the residents of the Ukrainian seniors' homes. A Connective Garden with a bridge and a redesign of the Junction Creek Waterway Park Trail along the site responds to the three considerations as it links all nodes with a public park that provides the residences with an outdoor meeting place.

The City Dune

2011, Copenhagen, Denmark; SLA

A public space that slopes upward to cover the roof of a parking garage, the City Dune is composed of a series of ramps interspersed with planted sections that ascend a full storey.⁶ The slightly sunken planted areas divide the paving into multiple intersecting paths, creating an open environment that allows the visitor to explore new options at each return. This project was key in understanding how intermittent planting can create an open-ended design that retains its element of safety.

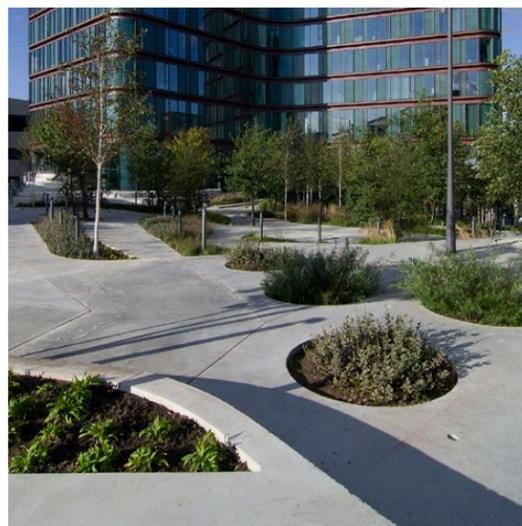


Image 114 The City Dune

Songdo International Plaza

Not yet complete, Incheon, Korea; Mikyoung Kim Design

Part of a larger urban revitalization master plan, the landscape design for the Songdo International Plaza includes a collection of gardens, walkways and plazas anchored along a storm water collection system.⁷ Image 116 depicts one of the project's water features, a sunken creek-like design with open paths beside it. Though the design does not encourage views looking into the water feature, the project is an example of landscape design that runs along a waterway without lowering the ground plane to meet it.



Image 115 Songdo International Plaza showing a sunken water feature.

Zhangjiagang Town River Reconstruction

2011, Suzhou, China, Botao Landscape

Rehabilitating both the waterway and the surrounding urban context, the Town River reconstruction focuses on one river bank, but connects both sides with a pedestrian bridge.⁸ A walkway weaves along the water's edge, leading people past stepped terraces lined with trees, secondary paths on freestanding blocks in the river and seating areas. The integration of the bridge into the park as well as the design's handling of topographical changes were an inspiration for the Junction Creek site.

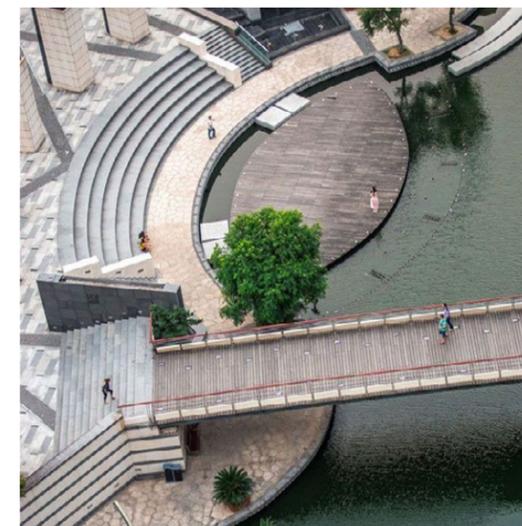


Image 116 Botao Landscape (Australia) Zhangjiagang Town River Reconstruction.

Pijinuiskaq Park

2017, Bridgewater, NS; Ekistics Plan + Design (now part of Fathom Studio)

Reclaiming space previously used for a parking structure, Pujinuiskaq Park's design revolves around three features: a ramp with small extensions that provide seating, a boardwalk at water-level and a lookout for the street.⁹ While all the elements curate views of the LaHave River, the ramp's extensions were of particular interest to the thesis for their incorporation of solid and transparent materials that frame specific vistas, which also bring the visitor closer to the river.



Image 117 Pijinuiskaq Park showing the ramp extensions and lookout

Rail Site

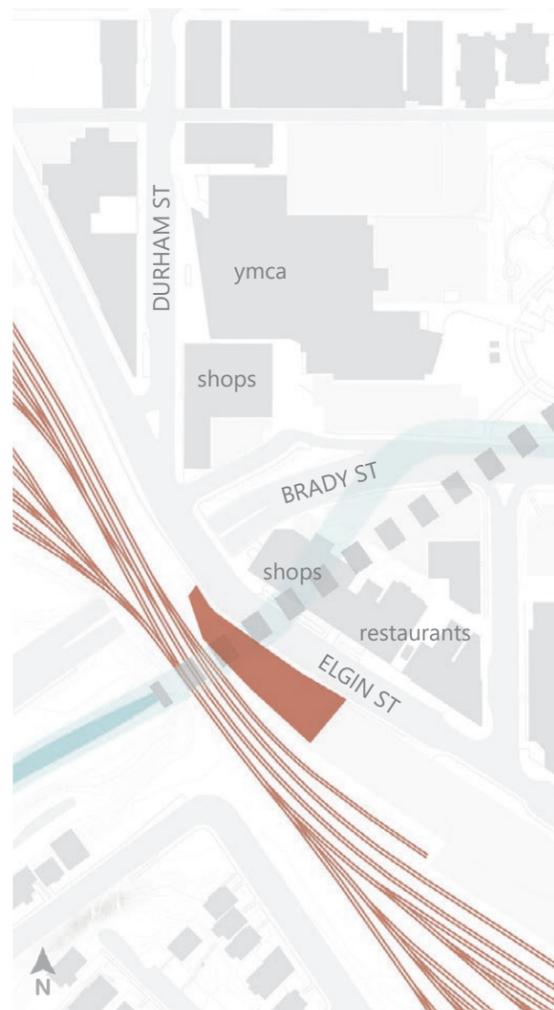


Image 118 Key Plan: Rail Site

Driving the Rail site's programmatic design is the desire to make visible the unnoticed intersection of the train and creek narratives as well as a response to the site's context, namely, "the shops on upper Elgin" and the pedestrian tunnel. The resulting public space acts on these ideas by amalgamating a new ramped entrance to the pedestrian tunnel with a terraced outdoor extension for the arts community across Elgin Street featuring an elevated sculptural piece that draws awareness to the aural vibrations of passing trains and the water of the Junction Creek. This narrative element was inspired by Caroline Locke's work with cymatics (the visual patterns of sonic vibrations as portrayed on fluid materials – see Image 122) and incites creative speculation on how to incorporate sound and water in a raised look-out point that keeps both rail and creek physically inaccessible from the site for safety reasons.

The Highline

2014, New York City, NY; James Corner Field Operations, Diller Scofidio + Renfro and Piet Oudolf

A portion of New York City's disused elevated railway system was reclaimed as an urban path and park, connecting neighborhoods with a public green space.¹⁰ The walkway snakes through trees, shrubs and grasses, dotted with water features and furniture that is extruded from the long pavers or sits neatly atop the preserved rail tracks. This project was influential for its celebration of local history as the High Line transforms an overlooked rail feature into a very well-used urban destination.



Image 119 The Highline showing the integration of train tracks

Robson Square

1983, Vancouver, BC; Arthur Erickson & Cornelia Oberlander

Connecting Vancouver's courthouse and art gallery, Robson Square links the street to the upper floors of the provincial courts with a series of plazas, pools and stramps.¹¹ The tiered public space provides areas of different atmospheres that encourage both individual and group activities, including skating during the winter and dancing and other arts in the summer.¹² The composition of pool, terraced plaza and stramp were the objects of study for this precedent.



Image 120 Robson Square

Acoustic Anvil

2018, Vancouver, BC; Maskull Lasserre

The massive red anvil installation placed in Leg-in-Boot Square, Vancouver, is a symbol of the harbour's past as a shipyard.¹³ The scale of the piece incites curiosity and draws people closer where they discover an instrument's f-shaped sound-hole in the anvil's centre that emits the sounds of the ocean.¹⁴ The installation was of interest to this thesis for its homage to the history of a site while juxtaposing that image with unnoticed place-specific sounds.



Image 121 Maskull's Acoustic Anvil

Sound Fountains

Since 2005, Various locations; Caroline Locke

This artist works with sound vibrations as they play on the surfaces of small bodies of water, creating visual experiences of a non-visual art form. In various projects, Locke captures ambient noises, including waves and heartbeats, and portrays them in these sound fountains.¹⁵ These installations were the inspiration for the narrative sculpture as an integration of train sounds as they play on water.

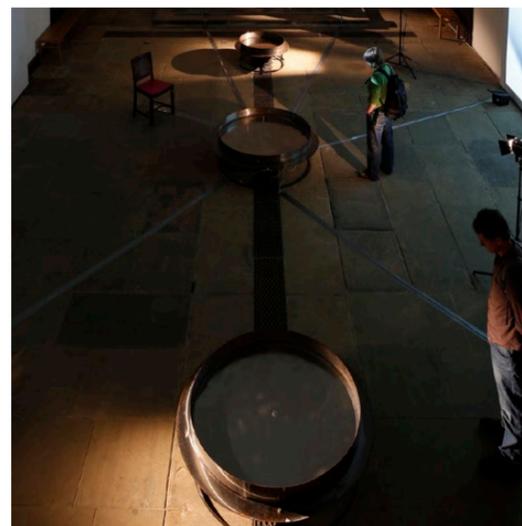


Image 122 Examples of Locke's Sound Fountains

Centre Site

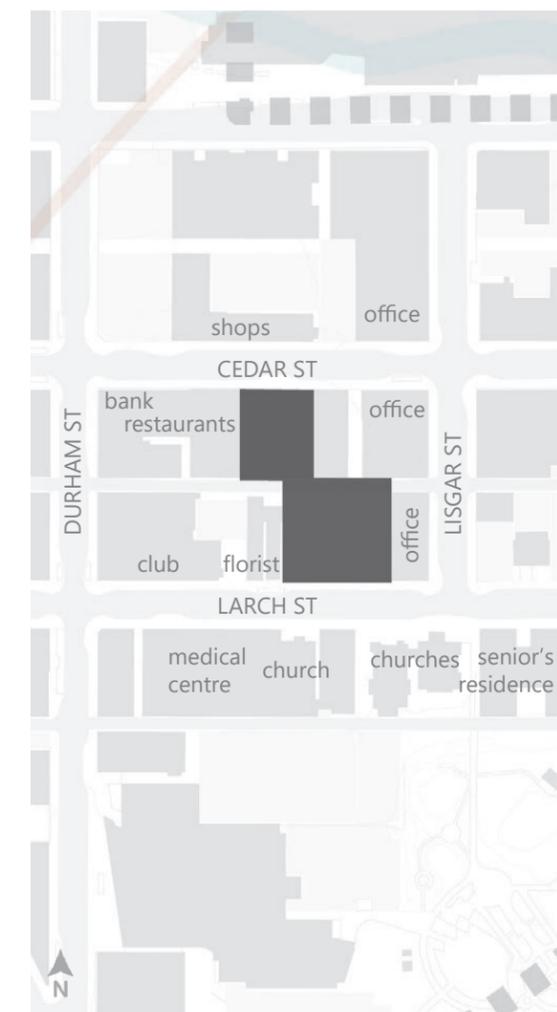


Image 123 Key Plan: Centre Site

Though the Centre site's composition of two lots immediately suggests a combination of an architectural intervention with an exterior public space, the choice of hybrid programme design was challenging. The site's narrative of the black rock and the aural dimension of the thesis does not easily merge with an inclusive public building function that addresses the varied socioeconomic groups of the surrounding context. To successfully integrate these three concepts within a building, the programme needed to encompass a few criteria. Firstly, it was important that it be at least partially cost-free in order to be inclusive, yet it could not be too targeted toward a single demographic, which would exclude others. For example, programmes like a safe injection site or transitional housing would cater to those who are underprivileged or suffering from addictions but would exclude businesspeople while a gallery or market would welcome the latter but turn away the former with the price of admission. The second criterion was that the programme must relate to both the narrative and the musical themes of the thesis, which eliminated ideas like a music school for underprivileged youth, for while it incorporated the musical theme, it did



Image 124 Resource Centre Programme Diagram

not address the narrative theme. No single programme addressed the site, its people and the thesis concepts entirely, so the building developed a new typology that combines many programmes in one.

The Resource Centre, so named in reference to the city's history of resource extraction as well as for the building's provision of supportive services, technologies and information, integrating the functions of a library, a community centre, a gallery, a museum, and a theatre into a new, site-specific hybrid. The Centre is designed for the creation, expression and documentation of local (hi)stories, though it is not exclusive to that purpose. It houses the following spaces: an amphitheatre for performances or lectures; a gallery for

temporary exhibitions; an interior public corridor connecting Cedar Street to Larch Street; a café; classroom spaces that can be rented for small formal group meetings like music lessons; a youth hangout space; rentable audio/visual equipment like cameras and microphones; a media lab; computers with specialized editing software, a flexible workspace; and listening rooms with high quality sound equipment so that those who might not have access to sound systems may enjoy music. The Larch Street portion of the site provides a public space that acts as an extension of the Resource Centre with a large open area to support a stage for concerts, festivals or a market when it is not a square for the community.

Idea Exchange Old Post Office

2018, Cambridge, ON; RHDA

Completely without books, the Idea Exchange redefines the programmatic requirements for a contemporary library.¹⁶ The building acts as a centre for socializing, learning and making, with specialized services that include Makerspaces, creative studios, rooms with white boards, open seating and desk arrangements and lending atypical items like instruments.¹⁷ This new typology was important to understand as a contemporary public building that is cost-free to users.

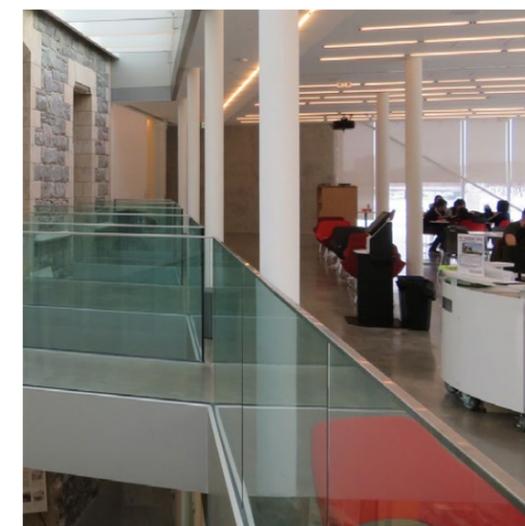


Image 125 The Idea Exchange showing an open seating area

Halifax Central Library

2014, Halifax, NS; Fowler Bauld & Mitchell and Schmidt Hammer Lassen Architects

While this project does include books, it also has a multitude of flexible spaces for reading, sitting, learning and socializing that surround an open atrium with a central stair.¹⁸ The project provides a free public space in Halifax's downtown, and with its distinctive form of stacked prisms, serves as a catalyst for revitalization.¹⁹ The library's open and adaptable plan incorporating designed areas for different age groups was an inspiration for the Resource Centre.

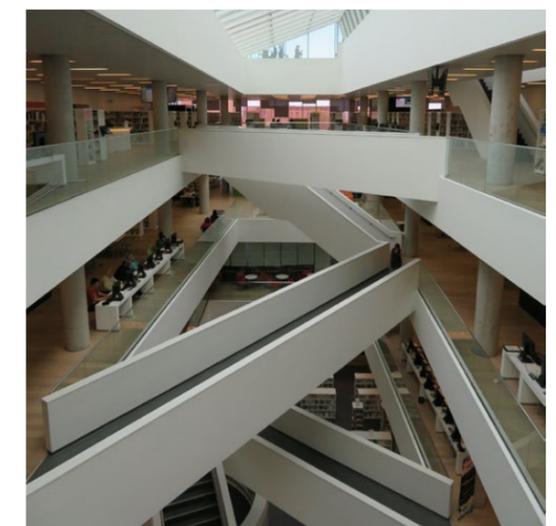


Image 126 The Halifax Central Library

Oodi Helsinki Central Library

2018, Helsinki, Finland; ALA Architects

While it is a more traditional library, Oodi includes contemporary spaces like a theatre and a Makerspace as well as open, flexible workspaces.²⁰ The building's entire top level is dedicated to reading space, interspersing low bookshelves with various individual and group seating configurations under an undulating white ceiling that floats above panoramic windows. The attractive, cozy atmosphere of the aptly named "book heaven" created by the material palette, lighting and furniture was of particular interest for the thesis.²¹



Image 127 Oodi Helsinki Central Library showing the open reading space

Poetry Foundation

2011, Chicago, IL; John Ronan Architects

Designed for the writing and presenting of poems, the Poetry Foundation includes a library, writing rooms, an exhibition gallery and a performance space.²² The building was composed as a series of layers that visitors move through and between, as exemplified by the exterior perforated zinc screen that reveals a courtyard and the Foundation's glass façade.²³ Understanding how the layering of space with screens allows for a private yet transparent silhouette that invites exploration was the lesson of this precedent.

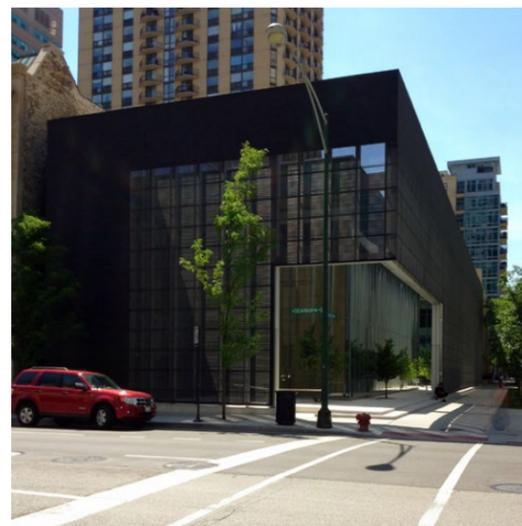


Image 128 The Poetry Foundation showing the screen facade

Notes

¹ "Tanner Fountain, Harvard University," PWP Landscape Architecture, accessed February 2020, <http://www.pwpla.com/projects/tanner-fountain-harvard-university/&details>.

² Ibid.

³ "Cranbrook Institute of Science," Steven Holl Architects, accessed February 2020, <https://www.stevenholl.com/projects/cranbrook-science-institute>.

⁴ "Place du Citoyen," Stantec, accessed February 2020, <https://www.stantec.com/en/projects/canada-projects/p/place-du-citoyen>.

⁵ "Yue-Yuan Courtyard," Z+T Studio, accessed March 2020, <http://www.ztsla.com/project/show/37.html>.

⁶ "The City Dune - SEB Bank," SLA, accessed February 2020, <https://www.sla.dk/en/projects/city-dune/>.

⁷ "Songdo International Plaza," Mikyoung Kim Design, accessed March 2020, <https://myk-d.com/projects/songdo/>.

⁸ "Zhangjiagang Town River Reconstruction / Botao Landscape," ArchDaily, November 2014, <https://www.archdaily.com/563128/zhangjiagang-town-river-reconstruction-botao-landscape>.

⁹ "Town of Bridgewater," Fathom Studio, accessed March 2020, <https://fathomstudio.ca/our-work/town-of-bridgewater>.

¹⁰ "Design," Friends of the High Line, accessed February 2020, <https://www.thehighline.org/design/>.

¹¹ "Robson Square (May 01, 2011)," *Canadian Architect*, May 2011, <https://www.canadianarchitect.com/robson-square-2/>.

¹² "Robson Square," Vancouver Heritage Foundation, accessed March 2020, <https://www.vancouverheritagefoundation.org/place-that-matters/robson-square/>.

¹³ Maskull Lasserre, "Acoustic Anvil: A Small Weight to Forge the Sea," Vancouver Biennale, accessed February 2020, <https://www.vancouverbiennale.com/artworks/acoustic-anvil-a-small-weight-to-forge-the-sea/>.

¹⁴ Ibid.

¹⁵ "Artwork," Caroline Locke, accessed March 2020, <https://www.carolinelocke.org/photography>.

¹⁶ "Idea Exchange Old Post Office," RDHA, accessed March 2020, <https://www.rdharch.com/old-post-office-idea-exchange-1>.

¹⁷ "Idea Exchange Old Post Office Library / RHDA," ArchDaily, June 2019, <https://www.archdaily.com/918530/idea-exchange-old-post-office-community-center-rdha>.

¹⁸ "New Halifax Central Library / schmidt hammer lassen architects + Fowler Bauld & Mitchell," ArchDaily, December 2014, <https://www.archdaily.com/577039/new-halifax-central-library-schmidt-hammer-lassen>.

¹⁹ "Halifax Central Library," FBM, accessed March 2020, <https://fbm.ca/projects/halifax-central-library/?tab=architecture>.

²⁰ "Oodi Helsinki Central Library / ALA Architects," Archdaily, December 2018, <https://www.archdaily.com/907675/oodi-helsinki-central-library-ala-architects>.

²¹ Ibid.

²² "Poetry Foundation," John Ronan Architects, accessed March 2020, <http://www.jrarch.com/poetry-foundation-2>.

²³ "Poetry Foundation / John Ronan Architects," ArchDaily, December 2011, <https://www.archdaily.com/189339/poetry-foundation-john-ronan-architects>.

Durham Street

The redesign of Durham Street stitches together the Nolin Creek, Centre and Rail sites by reclaiming part of the road for pedestrians and cyclists. The one-way street was reduced to a single lane of traffic in order to implement a bike lane and widen sidewalks by an extra metre for street furniture and

planting. The road narrows at intersections and pedestrian crossings to slow traffic, and lighter-coloured paving for intersections and parking forms a relationship with the grey sidewalk paving and serves as a reminder that these lighter areas are shared with pedestrians. Sudburians' current dependency upon the car was accommodated in the parallel parking spots placed strategically

to correspond with locations of shops and recreational facilities. Extended sidewalks in areas without parking provide opportunities for businesses to expand outward during part of the year to offer exterior displays or patios, thus contributing to the vibrancy of the streetscape by softening the lines between building and sidewalk.



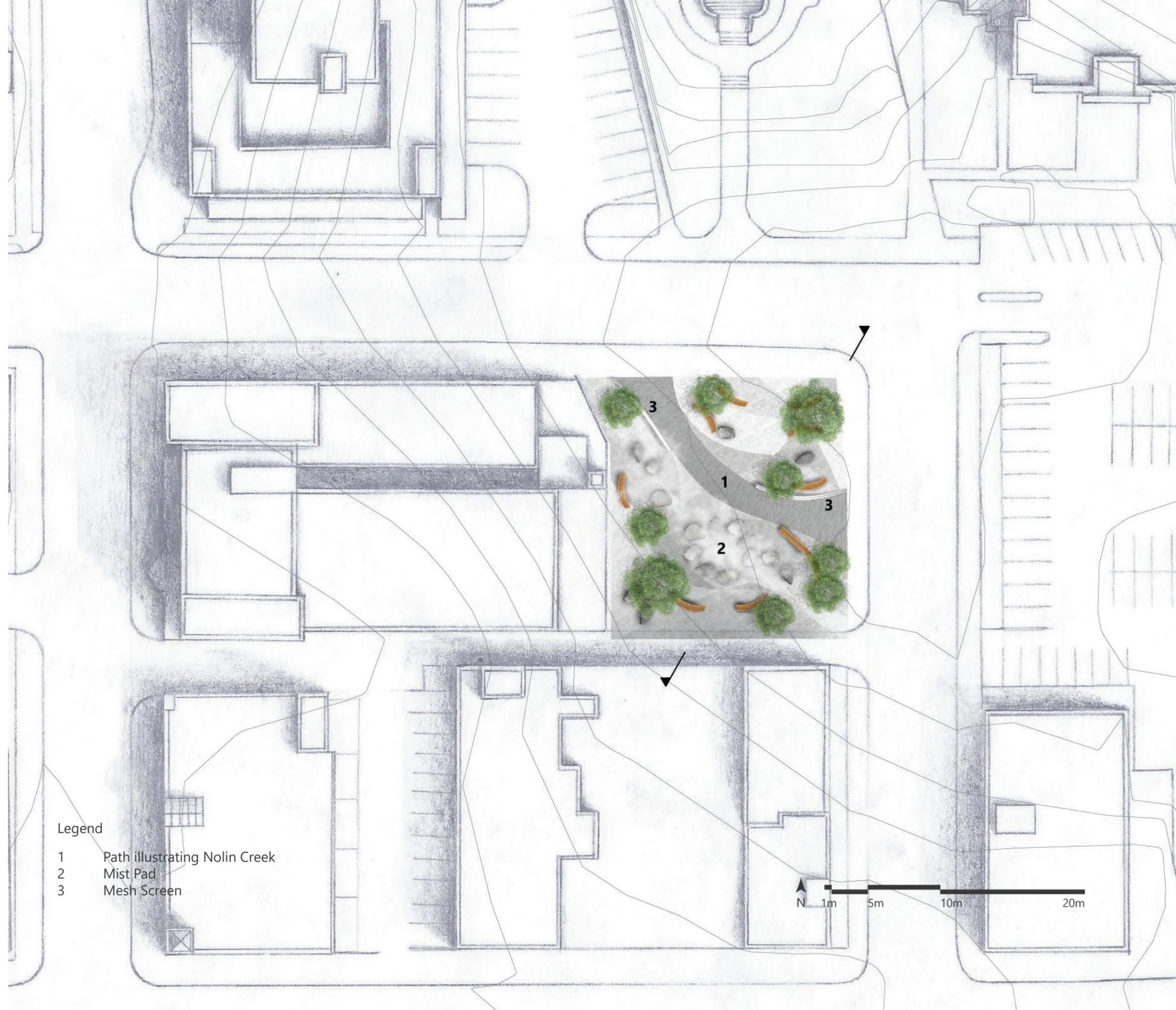
Image 129 Durham Street Redesign: Plan

Nolin Creek Site

Mist Park

A large tree planted at the site's most visible northeast corner visually attracts pedestrians walking along Durham and Beech Streets to the Mist Park, which reveals itself incrementally as visitors approach and walk through the site. Two mesh installations at the northern and eastern entrances to the park border a wide, dark path that marks the historic location of Nolin Creek below by offering a material representation of the "caging of the creek." The metaphor breaks with the end of the installations near the centre of the site, the open path free constrains as it wends past the mist splash pad. Surrounded with small, locally sourced boulders that may be used for seating or play, the fountain location at the site's central sound-throwing point amplifies the park's aquatic noises and the laughter of visitors as they interact with the mist and rock. Carefully composed intersecting curves flow from the creek path to create a rippling paving pattern that further draws awareness to the Mist Park's watery narrative so that the complete design emphasizes the site's significance as having once been the locus of a major downtown landmark.

Image 130 Nolin Creek Mist Park: Plan



Legend

- 1 Path illustrating Nolin Creek
- 2 Mist Pad
- 3 Mesh Screen

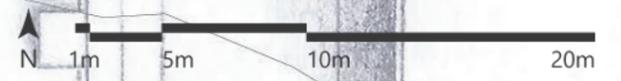




Image 131 Nolin Creek Mist Park: Section looking northwest

1m 5m 10m 20m



Image 132 Nolin Creek Mist Park: Rendering along creek path looking northwest

Junction Creek Site

Connective Garden

The Connective Garden expands the current northern terminus of the Junction Creek Waterway Park Trail by including the Barvinok seniors' residence's yard in a hardscaped design that is inclusive of those with mobility challenges, and is paved with a rippling pattern similar to that of the Nolin Creek Mist Park, which connects the two aquatic narratives. An arcing bridge featuring a metal mesh detail connects the two seniors' residences and directs pedestrians towards the gardens with a view of a corten steel sculpture reminiscent of the Junction Creek Conceptual Figure (see Images 92-96). Beyond, low planters sculpt the pavement into a variety of paths for visitors to choose from, dotted with benches and tables that offer opportunities for respites, meetings and conversation. Closer to the creek, the Trail is lowered slightly and incorporates a cantilever with benches and glass railings, bringing visitors closer to the Junction Creek to augment its aural ambiance. A seating area at the entrance to the creek's box culvert offers a similar experience, curating the vista of the bridge over the length of creek with soft rushing and dripping sounds.

Image 133 Junction Creek Connective Garden: Plan

Legend

- 1 Junction Creek Box Culvert
- 2 Bridge
- 3 Junction Creek Waterway Park Trail
- 4 Seniors' Residence Yard
- 5 Sculpture
- 6 Seating Area





Image 134 Junction Creek Connective Garden: Section through the Creek looking southeast

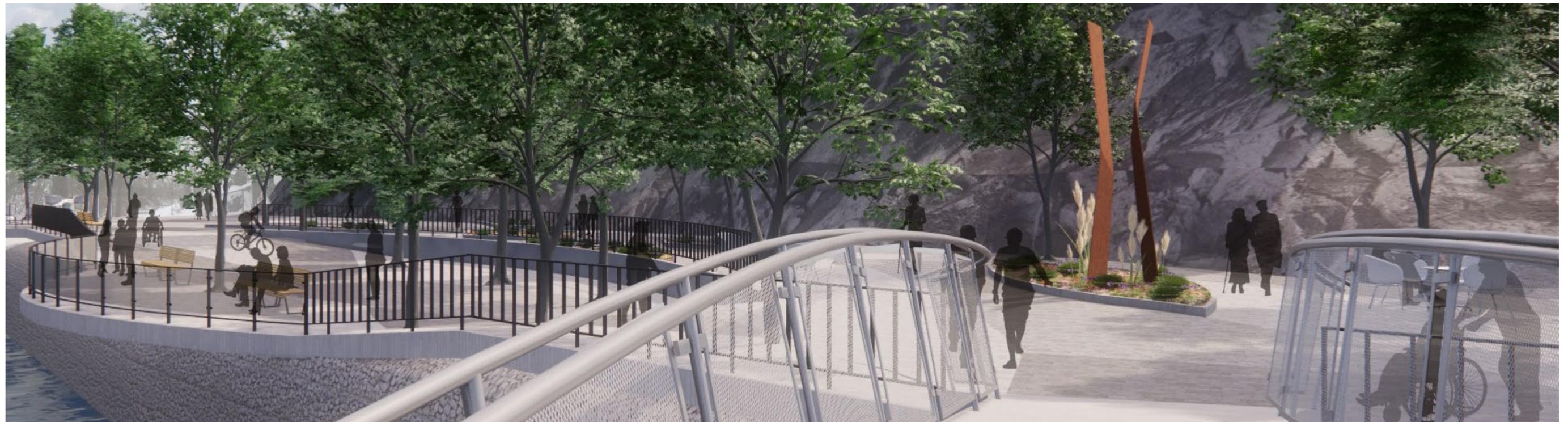


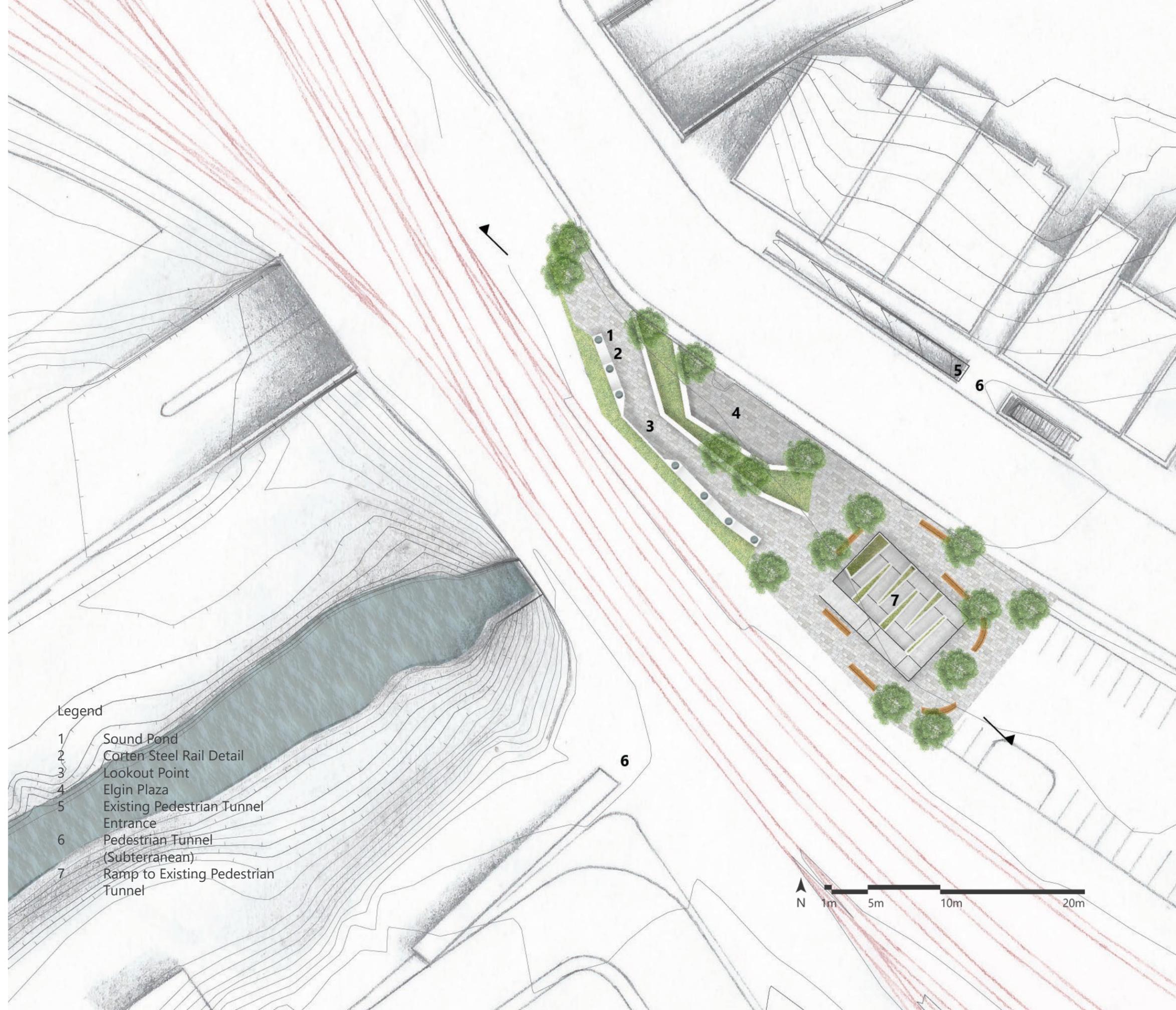
Image 135 Junction Creek Connective Garden: Rendering of bridge and park looking east

Rail Site

Urban Terrace

The Urban Terrace plays with different topographical heights as it blends the elevation change between the ground-level Elgin Plaza and the raised look-out point with stepped tiers of grass, paving and seating. The southwestern path to the look-out point framing Junction Creek beyond the rail tracks is lined with concrete blocks that each contain a pool of water fitted with a sound sensor tuned to a frequency of noise generated by passing trains and a vibration machine. These pools capture the site's narratives as they visually display sounds of the railway on water which represents the creek. The Elgin Plaza forms the extension of the "shops on upper Elgin" that can be used for activities like exhibitions and small concerts. The southeastern portion of the site features an open switchback ramp descending to the existing pedestrian tunnel that traverses below the site, bringing natural light to the tunnel to create a safer environment that also encourages pedestrians to frequent the Urban Terrace and plaza above.

Image 136 Railway Urban Terrace: Plan



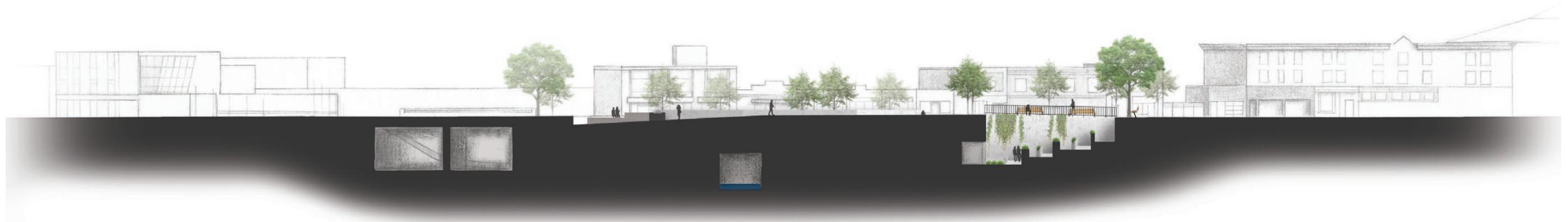


Image 137 Railway Urban Terrace: Section looking east



Image 138 Railway Urban Terrace: Rendering of terrace looking west

Centre Site

Resource Centre

Exploring a new building typology, the Resource Centre provides Sudbury's downtown with cost-free public spaces geared toward the creation and presentation of local (hi)stories. The public ground level intertwines the black rock narrative with galleries, a café, a performance space and the adjoining plaza while the second and third floors offer spaces for group activities and individual programmes, respectively. The narrative begins with the Cedar Street façade, a collaged mesh screen symbolizing the impact of the meteorite while leading to the building's entrance. From the lobby, a perspective of the conceptual figures is featured in the permanent gallery behind a vertical fountain whose curtains of falling water combine with the sounds of soft splashes to reference the acid rain that blackened Sudbury's rock. The third plot point in the narrative is embodied by the amphitheatre at the back which forms a black crater in the building and may be discovered by following the interior street and the resonances of performances occurring there. Lastly, the interior street opens to the exterior plaza, which

Image 139 Resource Centre: Rendering of Cedar Street façade in the evening

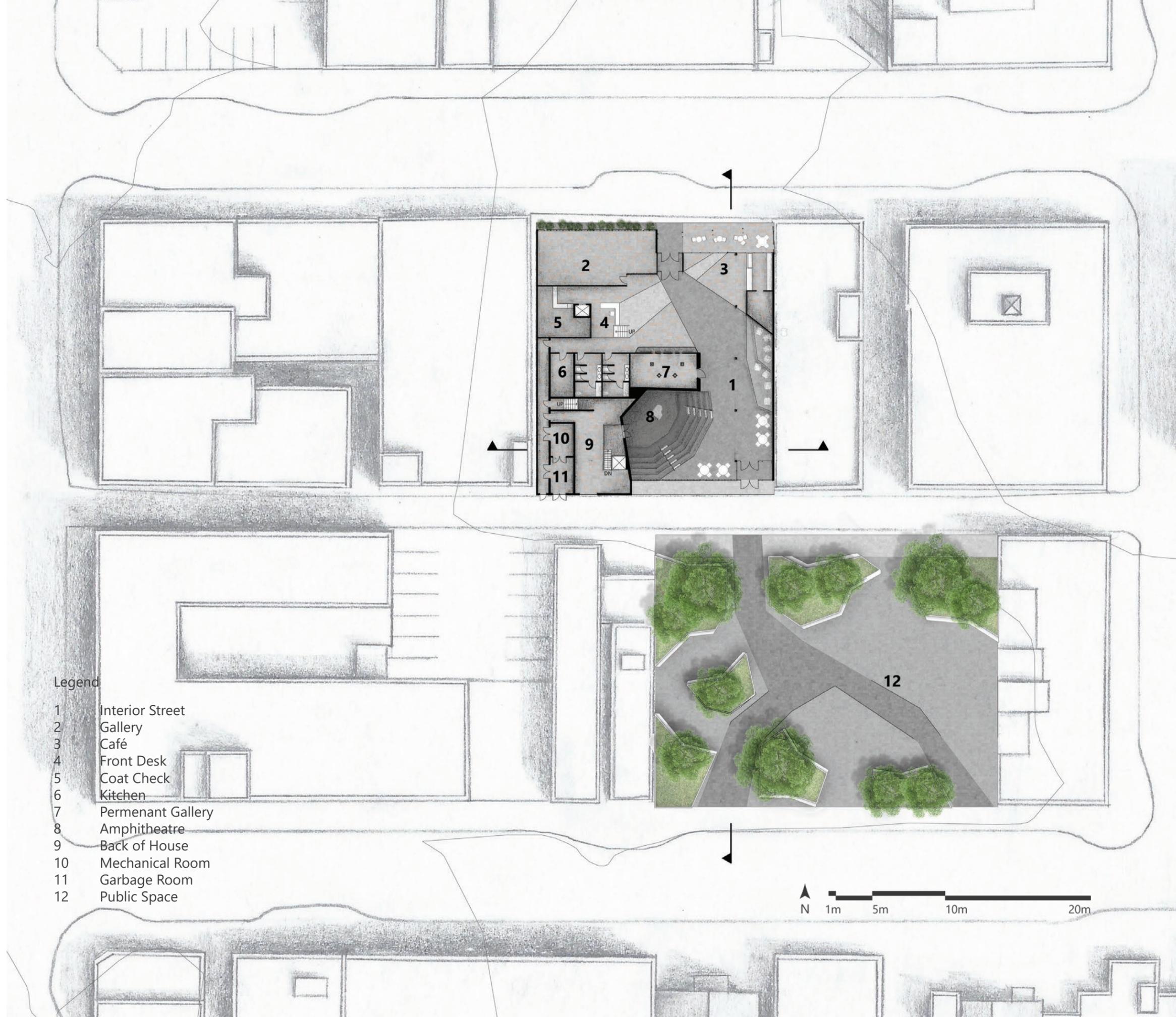


incorporates grassy mounds and trees rising from dark paving, materializing the re-greening of the landscape and new growth for the narrative's future.

A series of meshes guide the visitor through the building (see Image XX). A hexagonal pattern inspired by industrial perforated metal forms a lattice on the ground level ceiling that draws visitors along the interior street while a ribbon of square woven mesh lines the stairwells, indicating upper floors. The structure of the northern and southern curtain walls is designed with the same hexagonal pattern as the interior street, covered with a dark metal openwork screen resembling the outlines of stones that refer the black rock narrative of the site (see Image XX). This layered screen is most prominent in the double-height reading and workspace as it creates ever-shifting intricate shadows during the day (see Image XX).

The building completes the translation of narrative and music to architecture with a practical design response that acts as a launching point for creative experimentation, a platform to share productions, and a hub for socializing and

Image 140 Resource Centre: Plan Level 1

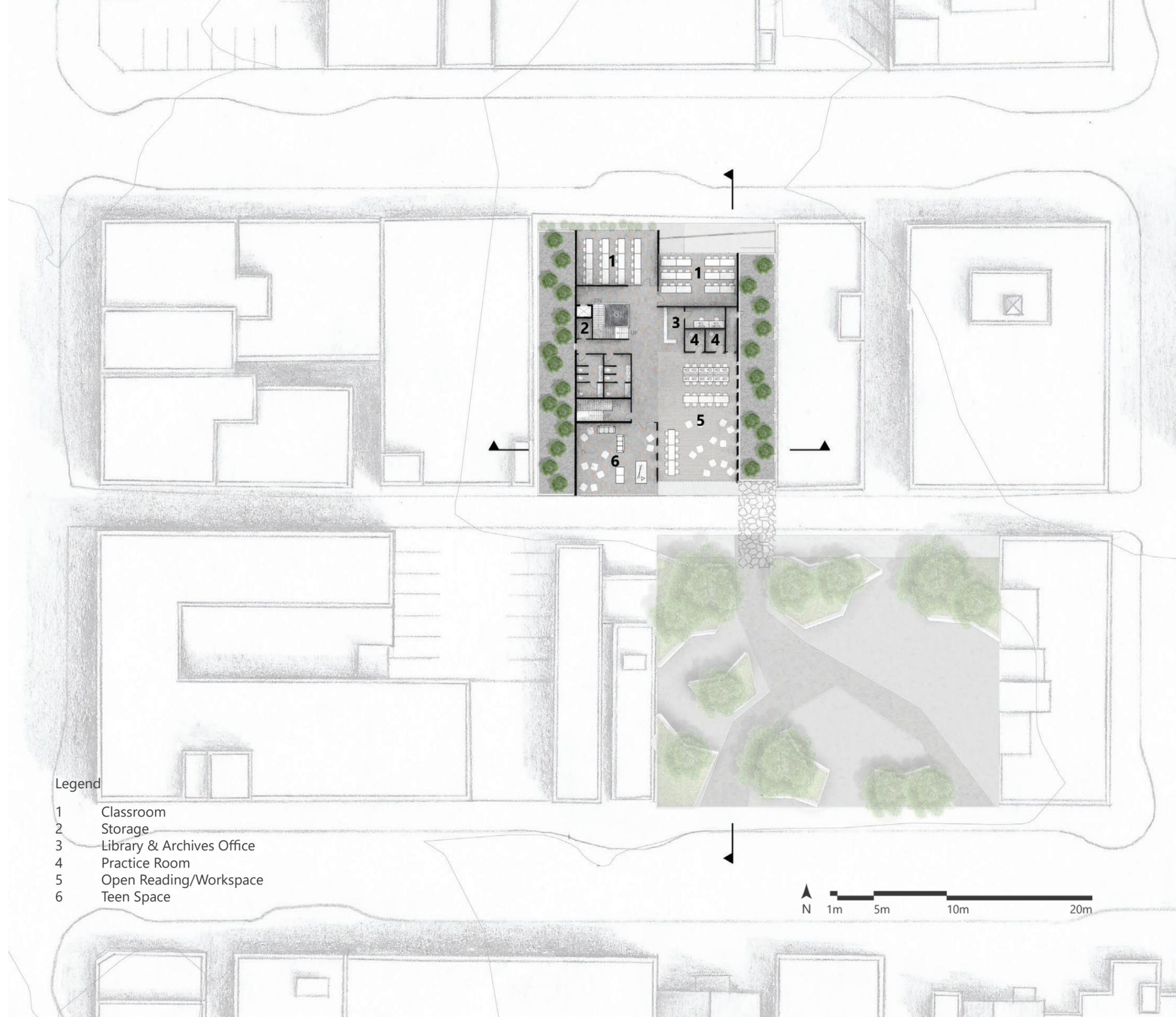


Legend

- 1 Interior Street
- 2 Gallery
- 3 Café
- 4 Front Desk
- 5 Coat Check
- 6 Kitchen
- 7 Permanent Gallery
- 8 Amphitheatre
- 9 Back of House
- 10 Mechanical Room
- 11 Garbage Room
- 12 Public Space

community engagement. The permanent gallery displays the Conceptual Figures sound installation at the heart of the building, representing the Resource Centre's primary purpose as a facility for the exploration of local stories and sounds (see Image 107). Many spaces may be rented for private functions; for instance, in addition to their purposes for the display and experiencing of narrative creations, the rotating gallery and amphitheatre may host exhibitions, lectures, or business events, with the nearby kitchen available to support catering. The classrooms may be similarly let for activities like external club meetings or courses. The reading/workspace on the second floor contains flexible seating arrangements looking out to the adjacent plaza that give the multi-functional space an open, comfortable ambiance. Informational and media expertise are available at the Library & Archives and A/V offices, connecting visitors with resources to help them realize their productions. Recreational spaces take the form of the teen hangout and listening rooms, the former providing a refuge that is neither school nor street, nor home for youth while the latter constitutes soundproofed rooms with audio equipment, allowing those who might not have access

Image 141 Resource Centre: Plan Level 2

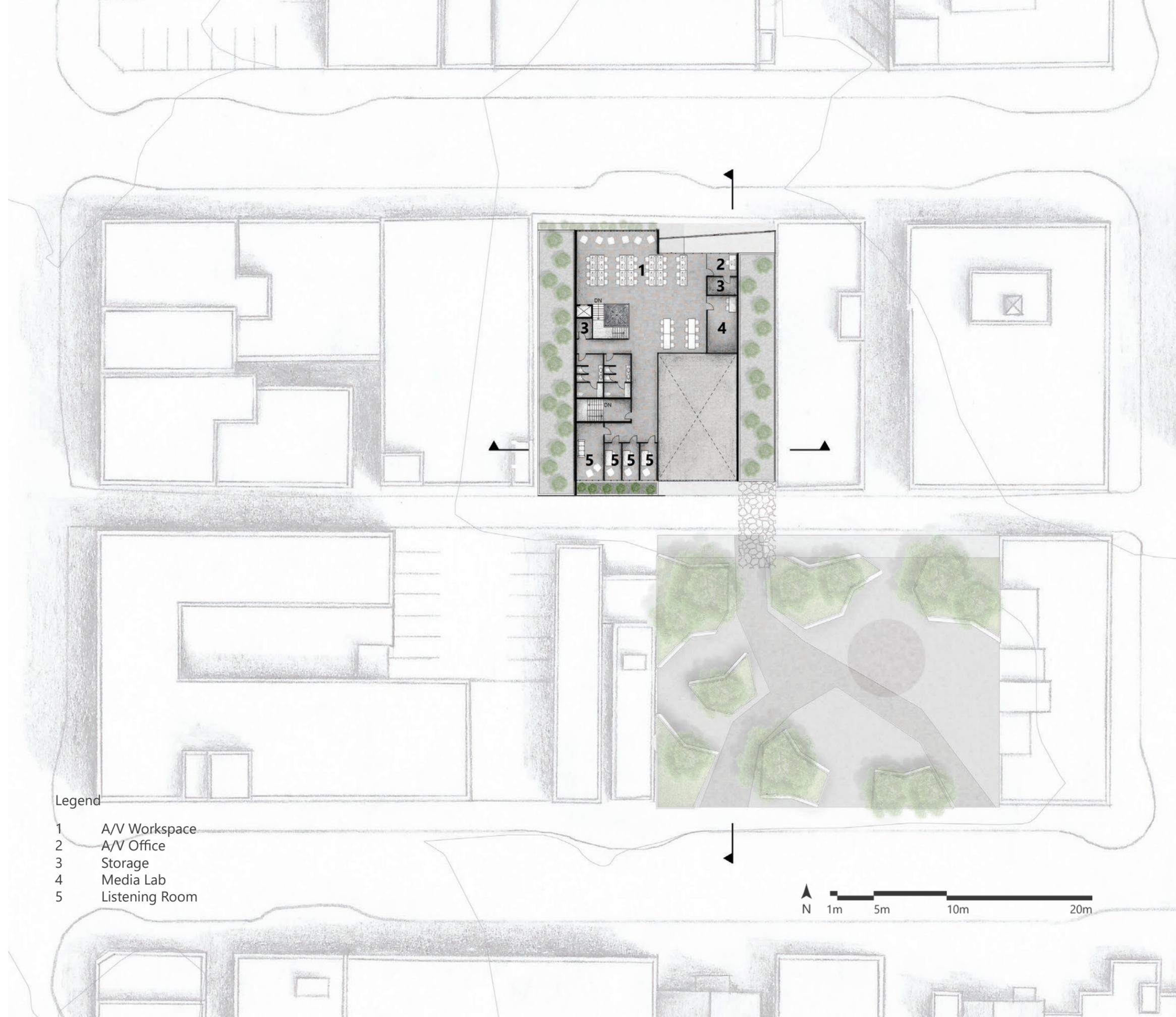


Legend

- 1 Classroom
- 2 Storage
- 3 Library & Archives Office
- 4 Practice Room
- 5 Open Reading/Workspace
- 6 Teen Space



to sound systems to enjoy music. Finally, the exterior plaza completes the Resource Centre, continuing the interior street's path to Larch Street, as it winds through mounds integrated with seating to an open square with the "Heart of Gold" mural forming a backdrop at the east end of the site. This blank canvas onto which stages and markets may be constructed is visible from Durham Street, attracting pedestrians to the space as it changes with each new event. As a whole, the Resource Centre and plaza contribute spaces for public gatherings and individual contemplation that are accessible during all seasons, filling a void in downtown Sudbury's centre.



Legend

- 1 A/V Workspace
- 2 A/V Office
- 3 Storage
- 4 Media Lab
- 5 Listening Room

Image 142 Resource Centre: Plan Level 3

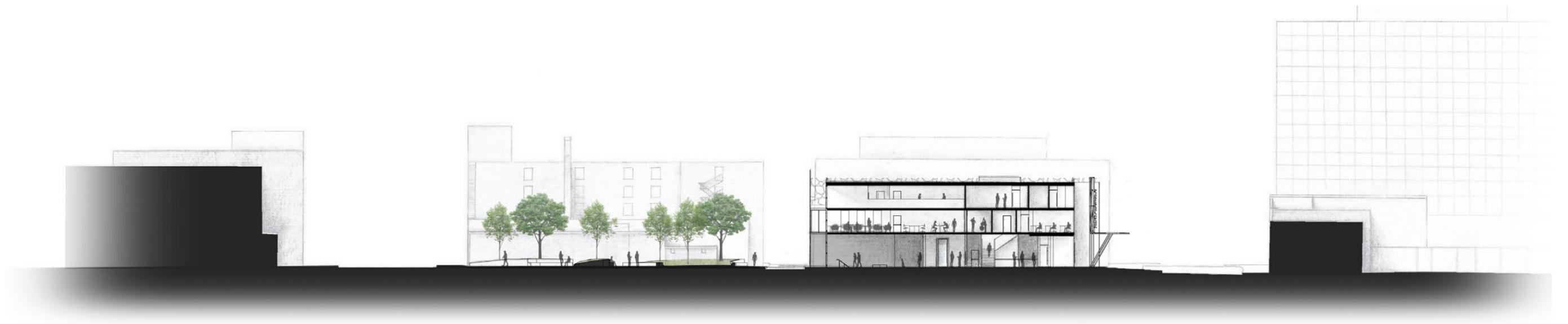


Image 143 Resource Centre: Longitudinal Section



Image 144 Resource Centre: Rendering of Plaza



Image 145 Resource Centre: Rendering of Cedar Street façade during the day



Image 146 Resource Centre: Lateral Section



Image 147 Resource Centre: Rendering of Interior Street



Image 148 Resource Centre: Rendering of Level 2 Workspace

Story:

Epilogue

From transformed pockets of Sudbury's downtown, four voices are singing. They sound from phantasmal figures who are bound in place, calling out to the city in a harmony that emboldens other dismissed voices.

The figure found at a corner in front of a church is smiling. She sings with a voice of mist that echoes a quiet buried creek. She laughs with the children who play in her lap. She speaks the quiet conversations of the elderly who come to visit her on sunny days. She mimics the footsteps of those who cross her patterned skirts simply because the walk is enjoyable. The figure still wears a crown of stories that reflects the sounds around her, but rather than hide her voice, she proudly adds her song to the others', mingling memory with modernity in a sweet manner that entices people to visit.

Her brother stands elongated at the edge of the downtown, no longer deranged with abuse and isolation. His previously uptight posture is relaxed and open, inviting his senior neighbors to join him for a stroll, singing to visitors as they contemplate the creek on benches and at tables, leading families along in their travels through the connective trail. The figure's friendly demeanour is infectious, and those who discover it share their

experiences with others until the figure's approachable home is hidden no more.

Across the downtown a figure still belts out his song in fits and spurts, but now he harmonizes two melodies: one of industrial machinations and the other of watery splashes. With one hand he lifts visitors to gaze onto an overlooked creek while expressing its story in vibrations and tremors, with the other he guards his burrowed partner against dark claustrophobia. People from across the street spend more time with him, often bringing artworks to display or instruments to play. The figure attunes himself to these gatherings, embracing them as they steadily morph into larger, anticipated arts events.

The fourth figure is no longer broken, but is built whole again. She welcomes all the community into her place at the city's heart, the patterns and colours of her clothing silently communicating her narrative of rebirth to encourage others in the telling of their own stories. Some visitors are drawn to her refuge and she keeps them company as they sit listening to music or laugh with friends. Others come seeking her advice on compositions and techniques or to diligently work alongside her on their projects. The figure becomes an ever-changing destination as

well as a tirelessly positive muse bolstering all who call on her.

Together, the remade figures breathe new life into the surrounding city, reforging links in the community as unlikely people mingle, share ideas, and come to understand one another. As their characters become better known, the figures act as a comforting renewal, reminding the city of what it once was while promising what it could be. The four figures inspire other place-sensitive interventions to seek and embody other aspects of Sudbury's identity while working in harmony to continually rejuvenate the city and celebrate its unique sounds and narratives.

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