

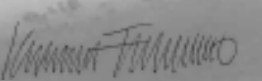


4TH STREET SW UNDERPASS ENHANCEMENT DESIGN DEVELOPMENT REPORT

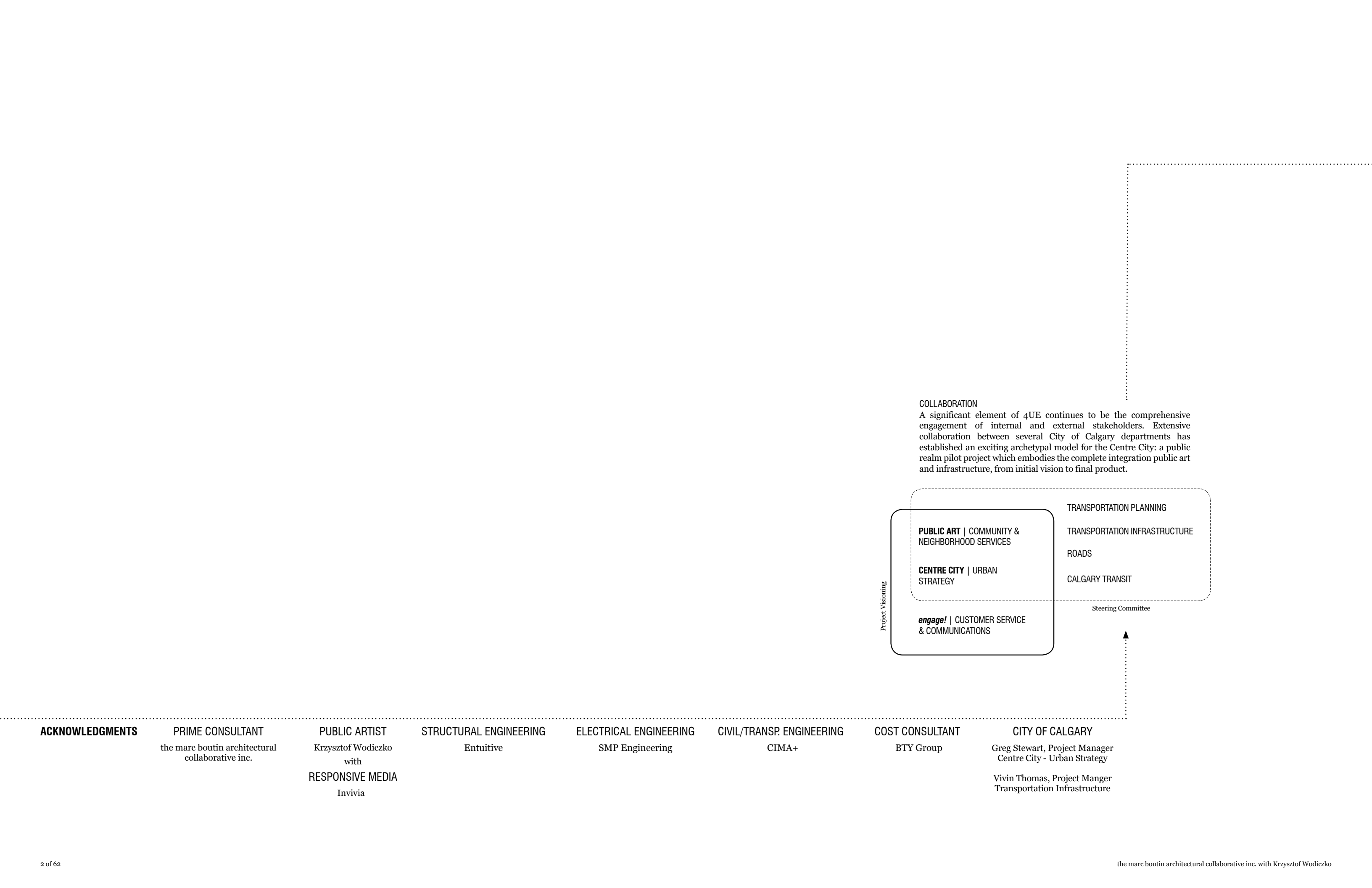
Date of Issue: May 10, 2016



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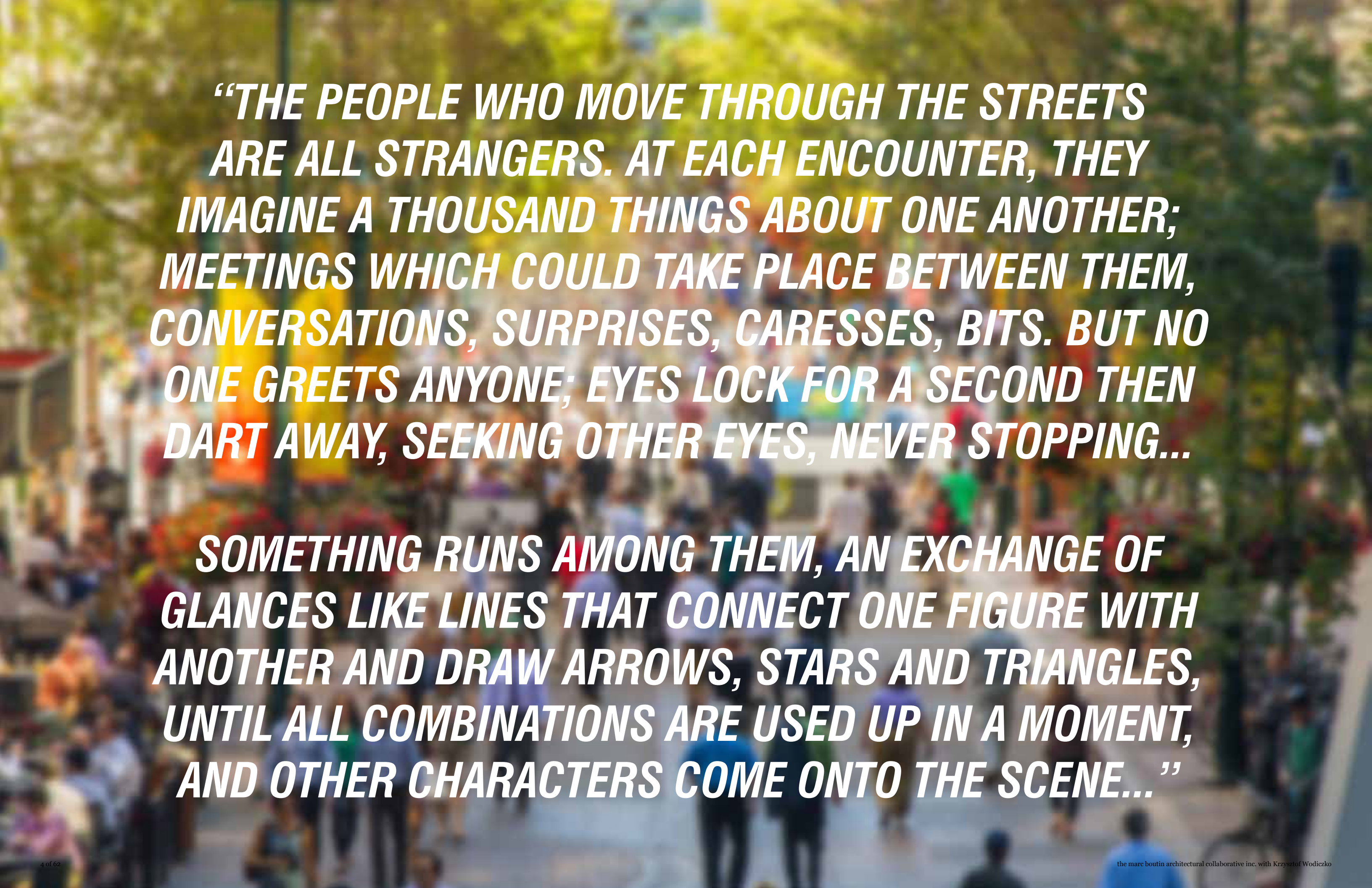


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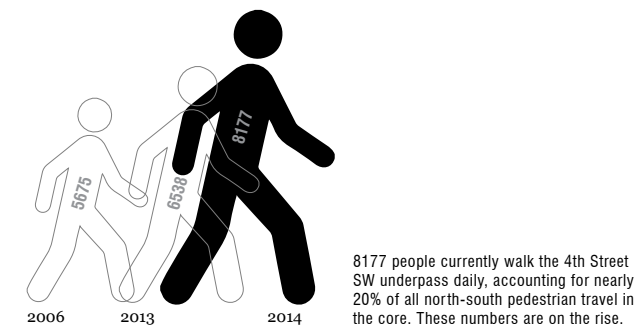
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***“THE PEOPLE WHO MOVE THROUGH THE STREETS
ARE ALL STRANGERS. AT EACH ENCOUNTER, THEY
IMAGINE A THOUSAND THINGS ABOUT ONE ANOTHER;
MEETINGS WHICH COULD TAKE PLACE BETWEEN THEM,
CONVERSATIONS, SURPRISES, CARESSES, BITS. BUT NO
ONE GREETES ANYONE; EYES LOCK FOR A SECOND THEN
DART AWAY, SEEKING OTHER EYES, NEVER STOPPING...***

***SOMETHING RUNS AMONG THEM, AN EXCHANGE OF
GLANCES LIKE LINES THAT CONNECT ONE FIGURE WITH
ANOTHER AND DRAW ARROWS, STARS AND TRIANGLES,
UNTIL ALL COMBINATIONS ARE USED UP IN A MOMENT,
AND OTHER CHARACTERS COME ONTO THE SCENE...”***



EXECUTIVE SUMMARY

Calgary’s growth has historically been linked to the Canadian Pacific Railway. Since 1883, the CPR corridor has been the heart of the City – symbolically, physically and economically. Situated between 8th Avenue and 10th Avenue SW, the 4th Street SW Underpass (including the CP Bridge and 9th Avenue crossing) remains a main gateway and key corridor for pedestrian and vehicle movement between the Beltline and Downtown communities.

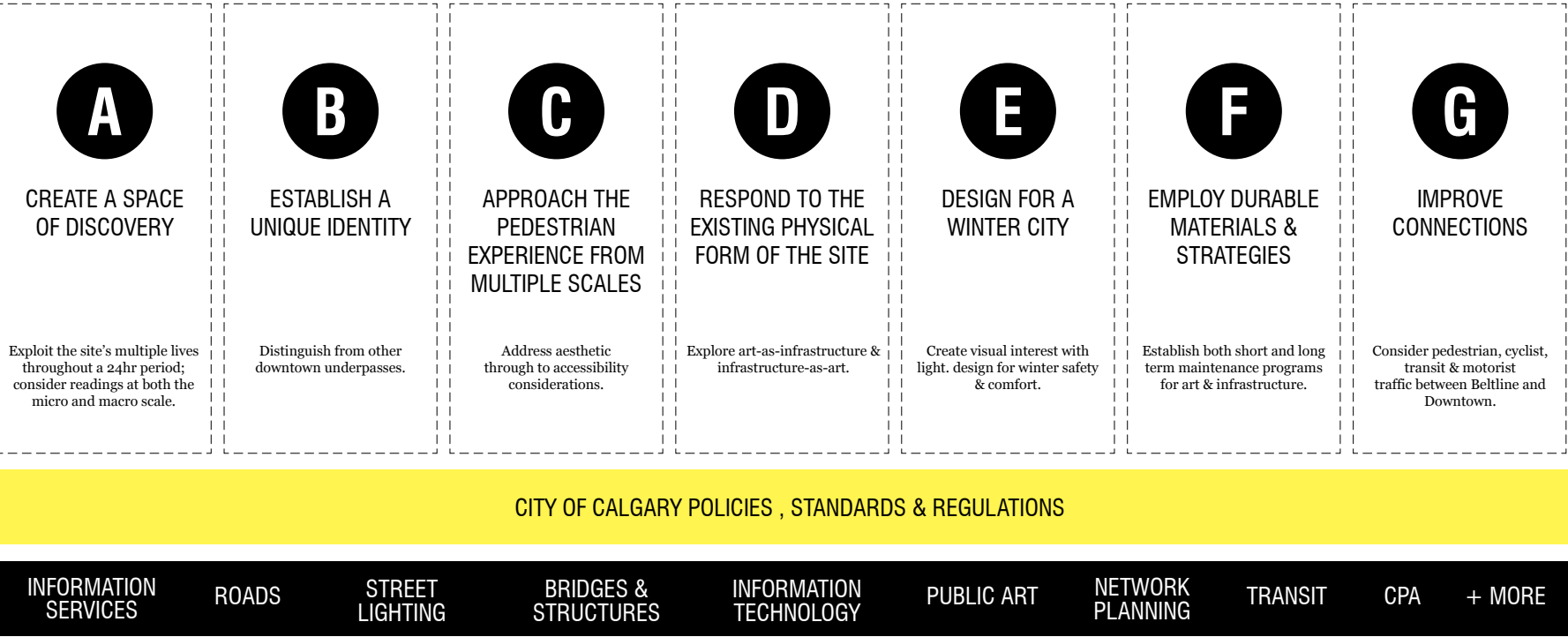
The physical state of deterioration of the 4th Street SW underpass is in contradiction to this critical mobility and gateway function: inactive edges, limited accessibility, poor lighting levels, and an overall deterioration of materials require immediate attention. In 2010, the site was identified by The City of Calgary as a priority project for improvement. With the support of community and business groups from Calgary’s Centre City, The City of Calgary officially launched planning, design and public art services for the project in January of 2015.

The framework for the 4th Street SW Underpass Enhancement Project is a result of hundreds of hours of dedicated public engagement, as described within several landmark City of Calgary documents. True to this course, a significant element of the Schematic Design phase has been the continued engagement of internal and external stakeholders. Working closely with the Design Team, interested individuals were offered four critical opportunities to participate in the creative process: identifying issues, finding collective solutions and influencing the project as a process and a product.

The result is a design focused on enabling and encouraging pedestrian movement through the provision of a safe, comfortable and attractive public space. The redesign considers conditions of safety, cleanliness, lighting, egress, accessibility, and materials to enhance the overall experience traveling through the underpass.

Founded on the idea of reclaiming city infrastructure as a ‘space for conversation’, an integrated public art and urban design strategy repositions the site as a better connected street, ready to be explored. The introduction of animated light and colour, responding to the flow of people through the space, ensures the redesign remains evocative, varied and timeless.

Intended to be read in conjunction with the Schematic Design Report (issued November 2015), the following document provides an update on the Design Team’s progress throughout the Design Development phase of the project.



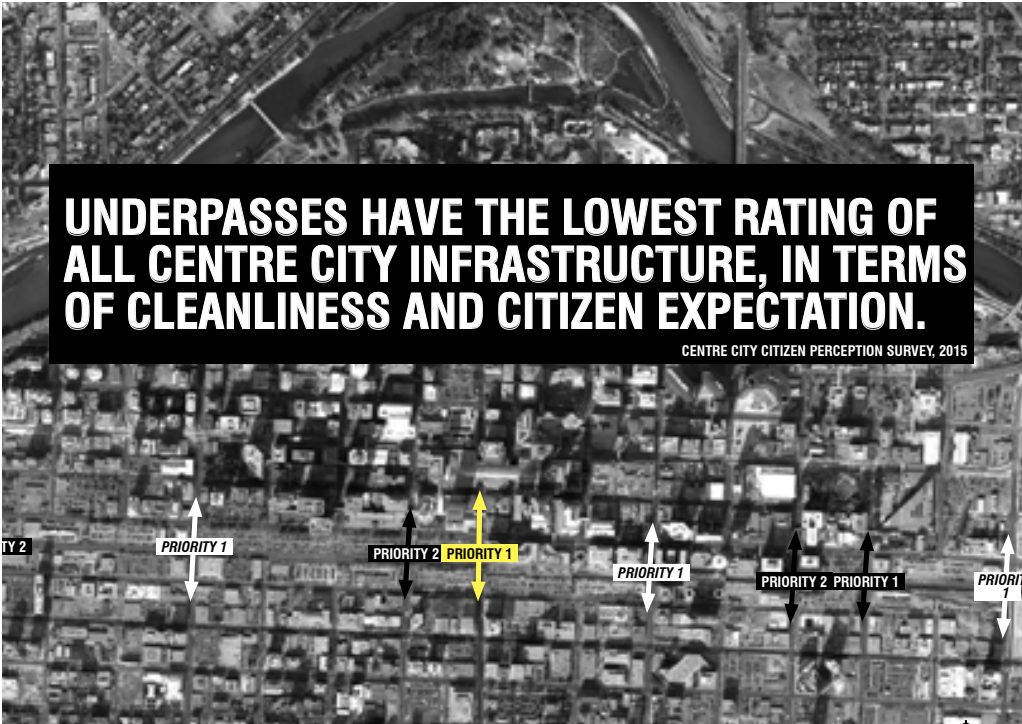
MANDATES, POLICIES & APPROVALS

The 4th Street SW Underpass Enhancement is a unique project typology for The City of Calgary: it represents the integration of public art and infrastructure, of material effects and urban design, and of digital architecture and city building. For this interdisciplinary scope, the key to a successful delivery remains the clear definition of a regulatory context in which to understand, evaluate, and ultimate integrate the asset.

The 4UE Project Team has invested significant time during the Design Development phase to better understand this context through three parallel streams:

- 1. Design Mandates: Rigorous stakeholder engagement during Schematic Design culminated in seven project-specific qualitative metrics to guide the evolution of the design;
- 2. Existing City of Calgary Policies, Specifications, and Regulations: Good practices, specific standards & binding parameters were identified and accounted for in the current design; and
- 3. On-going Dialogue with Specific Business Units: To highlight and mitigate risks associated with products and process.

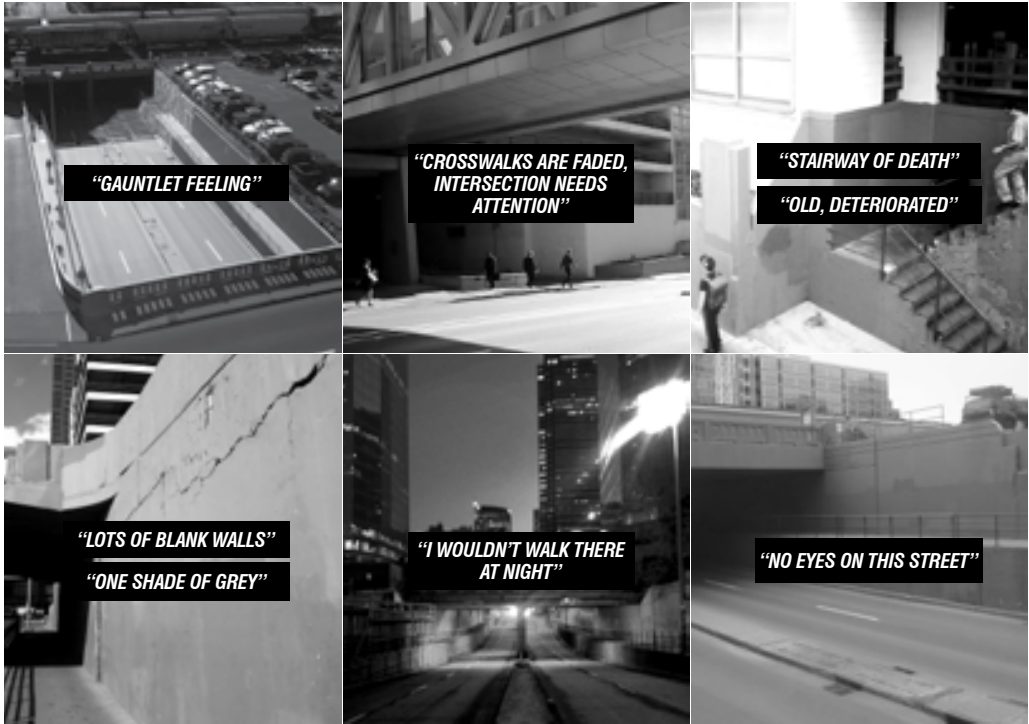
Throughout the following document, information obtained through the aforementioned streams has been highlighted for continued review and approval.



ARGUMENT 1 - 4th Street SW is part of a broader initiative by The City of Calgary to improve the experience of the downtown underpasses.



ARGUMENT 2 - Stretching two complete urban blocks, 4th Street SW is one of Calgary's busiest pedestrian corridors into the downtown core.



ARGUMENT 3 - The experience of moving through the corridor is contradiction to its critical mobility function.



A MECHANIZED PUBLIC REALM BECOMES A SPACE OF REMOVAL.

ARGUMENT 4 - The consequence of those observations: visitors become mechanized in their movement through the space - isolated in their focus, anxious of those around them.

DESIGN OVERVIEW

WHY 4TH STREET SW?

The 4th Street SW Underpass Enhancement is one project within a broader lineage of improvements to the downtown underpasses. Beset by safety, accessibility, and material issues, the underpasses’ have long been identified as a priority area for improvement. 4th Street SW, in particular, is one of the busiest north-pedestrian corridors in and out of the core; despite serving over 8100 people daily, the physical state of deterioration is in contradiction to its critical mobility and gateway function.

At the outset of the design process, engagement with the Project’s key internal and external stakeholders generated a comprehensive and collaborative understanding of these existing site conditions. As a result of the safety and comfort concerns, movement through the space can be observed as highly mechanical, singular in focus, isolated in feeling and driven by a desire to exit: a collective recognition of the 4th Street SW underpass as both a physical and perceptual space of removal.



ARGUMENT 5 - Ironically, an infrastructure design to enhance connection has created a space of removal.



ARGUMENT 6 - Through public art & infrastructure, the infrastructure is reclaimed as a space for conversation in the city.



ARGUMENT 7 - The public art narrative is conditioned by, and choreographed to, physical characteristics inherent to the site.



ARGUMENT 8 - The experience of this narrative is latent in the everyday experience of Calgarians.

WHAT IS THE DESIGN STRATEGY?

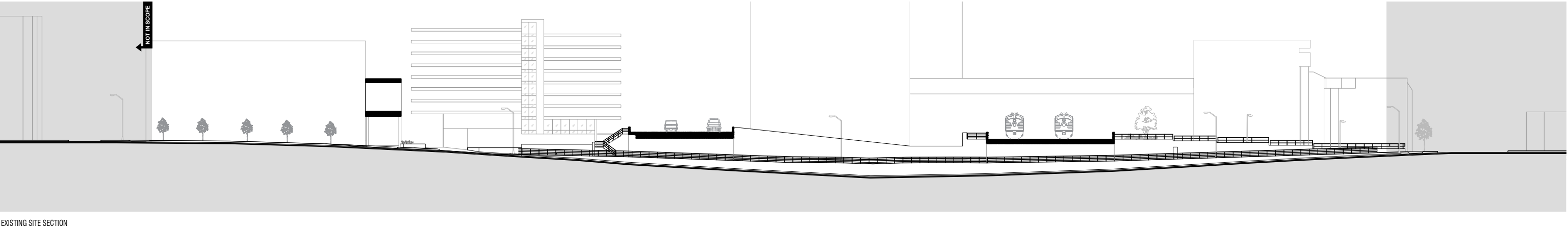
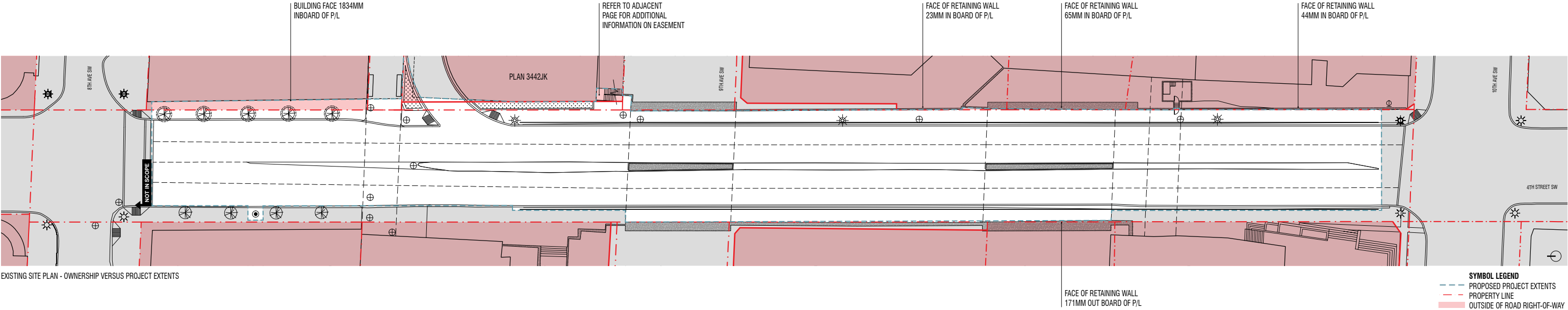
Ironically, an infrastructure intended improve connectivity within The City has come to embody the most uncomfortable and removed of Calgary’s public spaces: a barrier to our city’s thriving public realm.

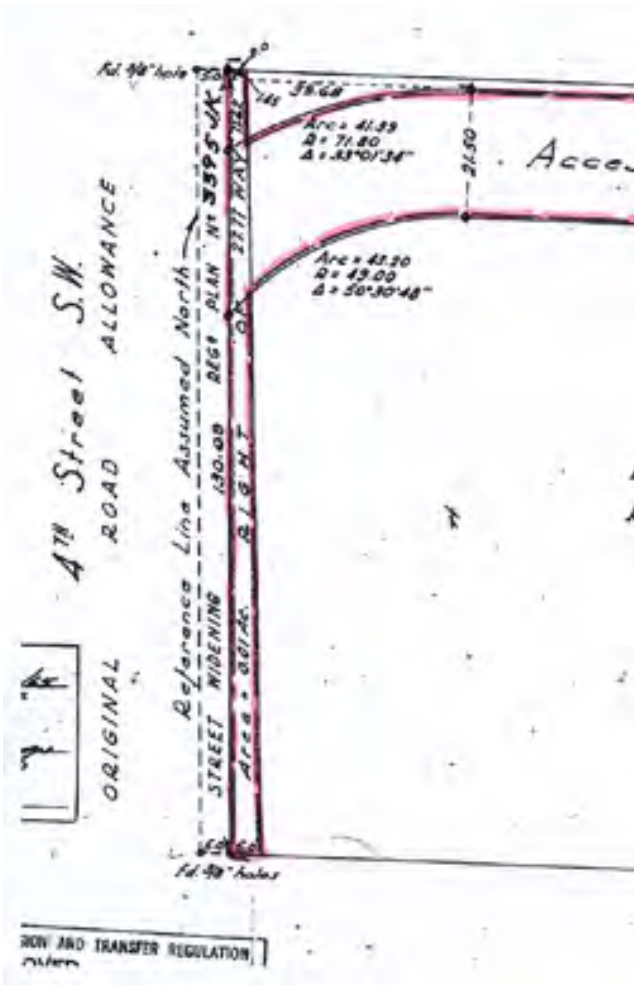
In response, the 4th Street SW Underpass Enhancement project is founded on the notion of reclaiming this ‘space of removal’ as a ‘space for conversation’. By augmenting spatial experiences latent in existing site’s geometry, both the urban design and public art are understood - in terms of narrative, intention and material - as part of an everyday experience.

In other words, a comprehensive series of integrated public art and infrastructure strategies culminate to reposition the site as a singular, better connected, and healthier street.

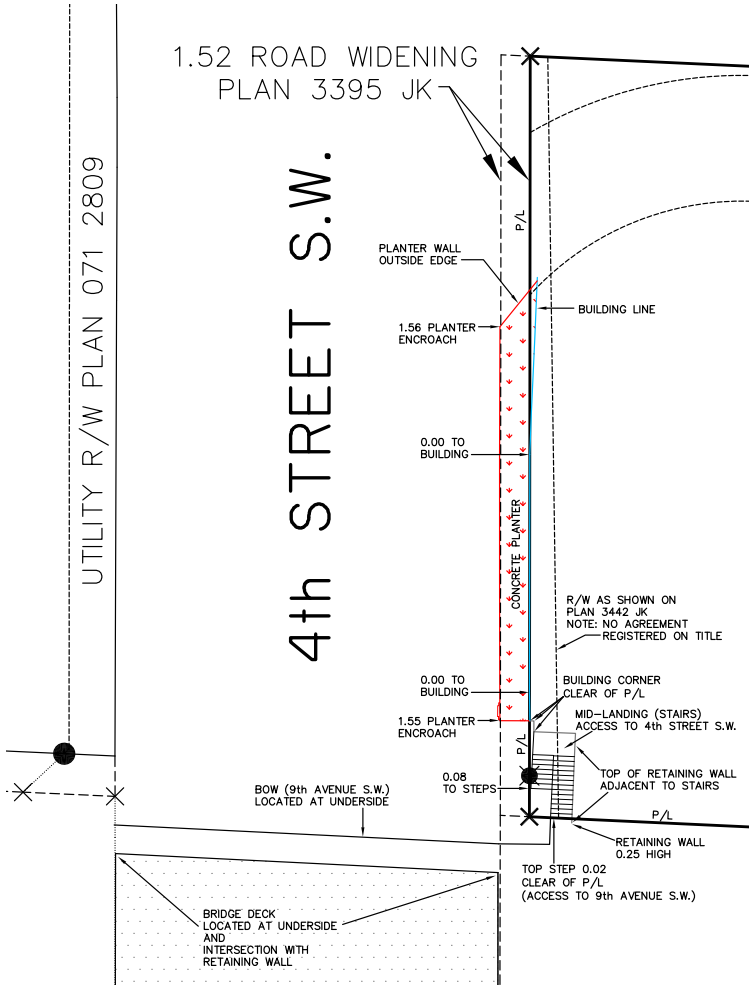








PLAN 3442JK, PROVINCIAL ARCHIVES



PLAN 3442JK, CITY OF CALGARY FIELD SURVEY

PROJECT EXTENTS

Pragmatic and poetic urban design improvements encompass the full extent of the pedestrian realm, stretching from 8th to 10th Avenue SW; however, with two significant redevelopments already increasing the permeability along the NW and SW corners of the project site, enhancements to the public realm have been focused along the remaining north and south edges.

EXISTING CONTEXT & CRITICAL INFORMATION

As part of the Design Development, LIDAR point cloud data provided by The City of Calgary (in conjunction with ground-truthing through conventional surveying techniques) was used by a third party land surveyor to generate legal survey and plans at two elevations: at sidewalk level along 4th Street SW and at bridge level along 9th Avenue SW. Six additional survey markers, countersunk into concrete walks and/or curbs, were located (with coordinates) on the plan to facilitate coordination during construction.

A mapping of the project extents within the context of adjoining property ownership can be found on the adjacent page. Locations and extents of potential encroachment have been noted where applicable. A copy of the complete site survey can be found in Appendix 1.1.

NORTH-EAST STAIR & PLAN 3224JK

A plan drawing for the Brookfield Development property, a parkade located NE of 4th Street SW, was obtained by The City of Calgary's Information Services from the provincial archives. The drawing revealed two right-of-ways on the property: a 'Right-of-Way' running north-south, and an 'Access-Right-of-Way' running east-west. A field survey conducted by The City established that the existing NE stair sits inboard of the property line, and straddles the 'Right-of-Way'.

In trying to determine the extents of the property as it relates to the NE stair, easement 8746JD associated with the property was pulled. Although this document describes an 'Access-Right-of-Way', it makes no mention of a 'Right-of-Way'. That said, the easement does describe an area "marked red on the attached plan". Note, an historical land titles search did not yield a separate agreement for the 'Right-of-Way'.

Information Services has evaluated the plan information, in conjunction with the written easement, and offered the following opinion on the boundaries of the easement:

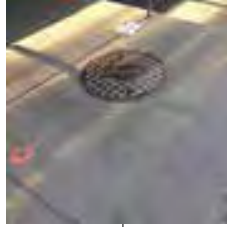
"In regards to the Right-of-Way along the west boundary of the parcel at 4 ST SW, I was not able to conclusively determine whether the easement applies. The wording in the agreement makes reference to the area highlighted in red on the plan and we were able to get the original mylar shipped from Provincial Archives to the Calgary LTO office for closer inspection. However, other wording in the easement seems to refer only to the Access ROW, so it is not absolutely clear."

As the NE stair is scheduled for improvement as part of the project scope, additional discussion between The City of Calgary and Brookfield Development towards formalizing approval of improvements to this area will be required. All supporting documentation can be found within Appendix 1.1.

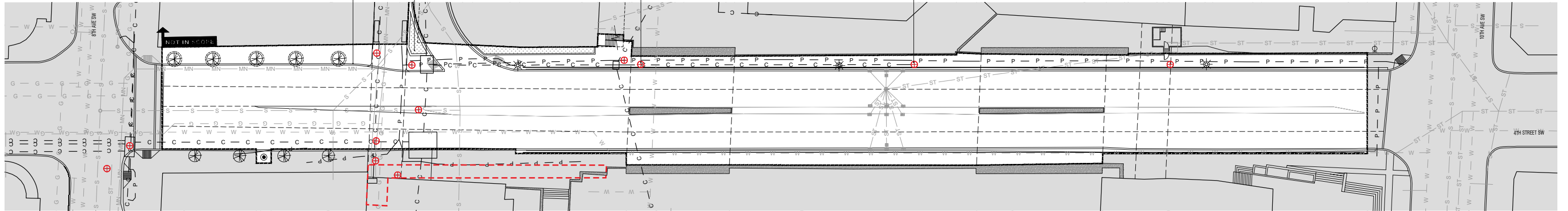
STORM WATER DRAIN TO BE RELOCATED UNKNOWN DRAIN IN PLANTER



MANHOLE ACCESS REQUIRED IN PROPOSED DESIGN

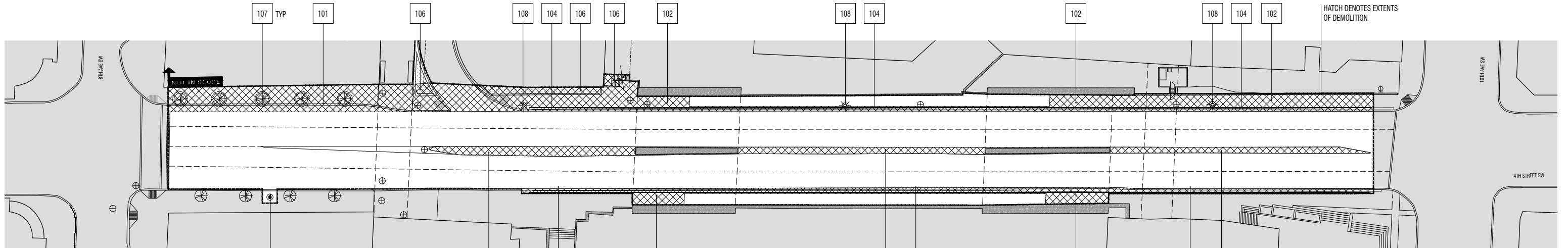


MANHOLE ACCESS REQUIRED IN PROPOSED DESIGN

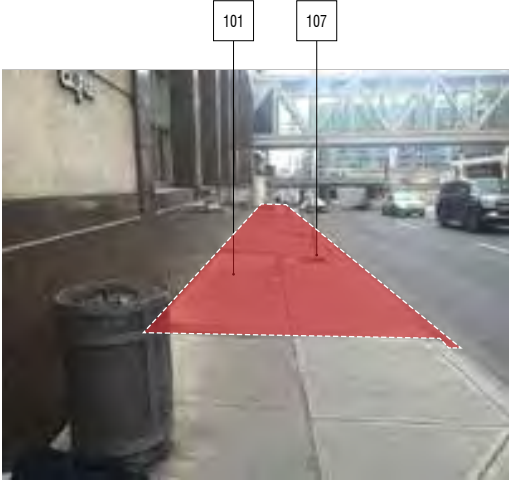


EXISTING SITE PLAN - UTILITIES

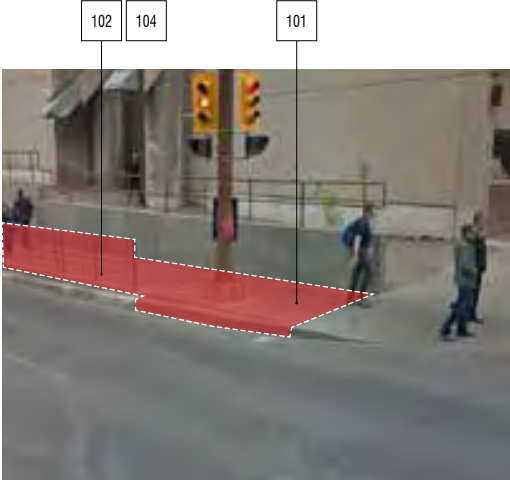
SYMBOL LEGEND
--- UTILITY RIGHT OF WAY
⊕ MAN HOLE



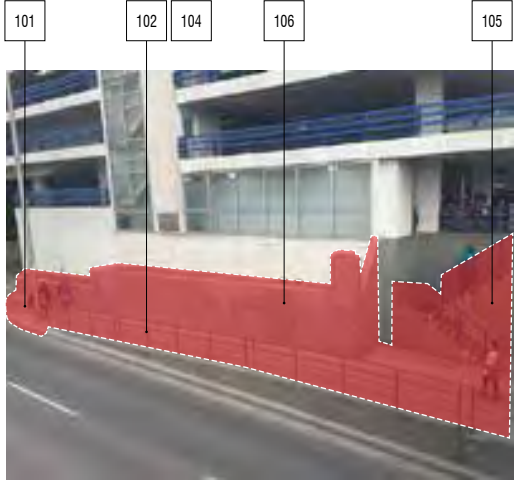
EXISTING SITE DEMO PLAN



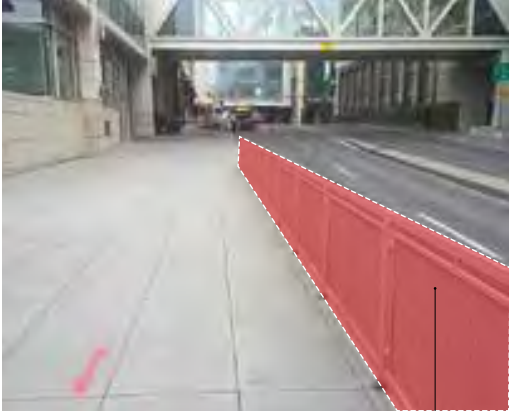
EXTENTS OF SIDEWALK DEMOLITION - NORTH EAST SIDE



EXTENTS OF DEMOLITION - SOUTH EAST SIDE



EXTENTS OF DEMOLITION - NE STAIR & PLANTER



EXTENTS OF DEMOLITION - NORTH WEST SIDE



EXTENTS OF DEMOLITION - SOUTH WEST SIDE - By Others



EXTENTS OF DEMOLITION - SIDEWALK @ BRIDGE, TYPICAL

SITE UTILITIES

In conjunction with the City of Calgary’s as-built block profile data, a third-party utilities locate was conducted as part of the legal and site survey. The location of existing catch basins, drains, utilities, vaults and manholes have coordinated with the proposed design. That said, despite best efforts to pro-actively map underground services, a known-unknown is the precise location and condition of the duct banks. To mitigate this risk, an elevated walking surface limits the extent of concrete sidewalk demolition. In addition, a strategic planning meeting has been scheduled with applicable utilities to both review existing information on the life cycle of services and identify strategies to ascertain the actual condition of the services (such as selective demolition ahead of construction).

CYCLING

In establishing the extents of scope, three key assumptions surrounding use by cyclists have been included:

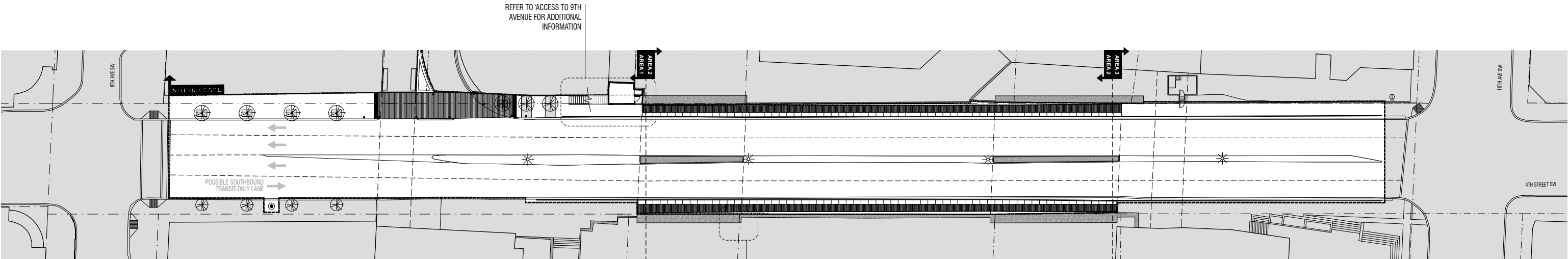
- 1. Cycle track improvements to the north corners are not part of this project scope;
- 2. Current traffic lane widths do not permit the inclusion of a shared and/or dedicated cycle lane; and
- 3. Intersections (and traffic signals) are outside of the project scope.

During Design Development, the Design Team reviewed the existing traffic lane width conditions with representatives from Transportation. Through those discussions it was established that shared and/or dedicated cycle lanes are not appropriate given the physical constraints of the existing context.

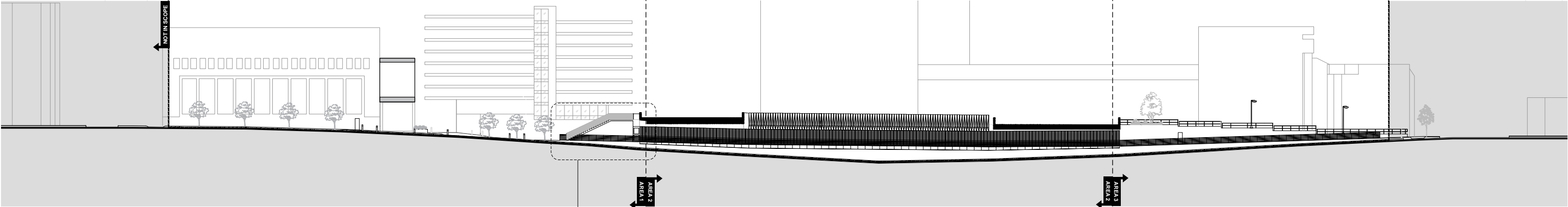
Based on the available width of the existing sidewalks, in conjunction with the width requirements for a shared sidewalk/cycle lane (as specified in the *Bicycle Policy & Needs Report* and the *Complete Street Policy*), there is not enough clearance on the walkway to safely accommodate both cyclists and pedestrians.

In other words, due to existing constraints within this space, cyclists are to continue to share the roadway in the proposed design. Enhancements such as improved markers at multi-modal crossovers and LED street lighting will improve the driving and cyclist experience alike.

KEYNOTES		SYMBOL LEGEND	
TAG	101	EXISTING SIDEWALK, RAMPS, CURB & GUTTER	- P - POWER
	102	EXISTING SIDEWALK, ABOVE RETAINING WALL	- C - CABLE
	103	EXISTING MEDIAN	- W - WATER
	104	EXISTING GUARD RAIL	- ST - STORM WATER
	105	EXISTING STAIR & GUARD RAIL, FROM 9TH AVENUE	- S - SANITARY
	106	EXISTING PLANTER	- G - GAS LINE
	107	EXISTING STREET TREES, BASINS & GRATE	- MN - METRONET
	108	EXISTING STREET LIGHT POLE C/W CONCRETE BASE	
	109	EXISTING STREET LIGHT POLE, BASE TO REMAIN	



PROPOSED SITE PLAN



PROPOSED SITE SECTION

***PUBLIC ART AS A UNIQUE SPATIAL EXPERIENCE:
ANTICIPATION, REFLECTION, CONVERSATION.***



AREA 1 & 3
SPACE OF ANTICIPATION



AREA 2
SPACE OF REFLECTION



AREA 2
SPACE OF CONVERSATION

AREAS FOR INTERVENTION

Based on the inherent geometry of the site, the project can be understood through three distinct zones:

- Area 1 – North of the Bridges
- Area 2 – Under & Between Bridges
- Area 3 – South of the Bridges

The following sections outline multi-scalar improvements specific to these three areas.

