

**To**  
**Cc**  
**From** David Mack  
**Date** 01 March 2011 Updated 18 March 2011  
**Project** Hamilton Rapid Transit B-Line **Project No.** 22249801  
**Subject** Post Consultation Alignment Changes

This note sets out a number of possible changes to the layout of the B-Line LRT alignment following on from DW2 v1.1. The list of changes below includes issues which have arisen from continuing internal (SDG) modelling and scheme development, changes put forward by the City of Hamilton and issues raised during the public consultation.

A draft set of DW2 v2.0 drawings accompanies this note. These show the proposed changes, together with alternatives in some locations. A decision is required on which of the alternatives presented are to be incorporated into the formal DW2 v2.0 issue.

Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
1.	<b>McMaster Terminus</b> Develop alternative terminus location	<b>Advantages:</b> Better waiting environment than middle of road Better serves the hospital and University campus Provision for extension to University Plaza/Dundas Integration with GO Bus terminal <b>Disadvantages:</b>		Drg No DW2v2.0-B01.2 prepared showing stop on north side of Main at University Boulevard and terminus and relocated GO Bus Terminal adjacent to Cootes Drive. <b>Update 15 March:</b> Discussed with McMaster 1 March. Proximity of terminus

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Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
		Additional cost, run time (and possibly fleet size)		to SEM may be more of an issue than previously thought. McMaster to respond on EMI issues, before further consideration of layout.
2.	<b>Main Street West U-Turn</b> Additional U-turn facility(ies) to be provided on Main Street West Possible westbound to eastbound facility in the vicinity of Cline Ave/Dow Ave to be considered.	<b>Advantages:</b> Minimises additional access distance for properties which become right-in, right-out. In particular should allow for school buses, deliveries and waste collection vehicles serving Columbia International College at 1015, 1033 and 1057 Main West. <b>Disadvantages:</b> Possible loss of eastbound traffic capacity (likely to be minimal)	Provision of separate left turn lane on approach to facility will require additional land from north or south side of Main West	Layout with U-turn at Cline Avenue shown on draft drg no DW2v2.0-B02


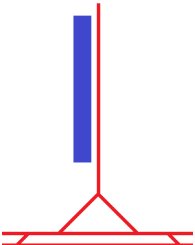
Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
3.	<b>Highway 403 Crossing Alignment</b> Two alignments shown on DW1 and DW2 drawings. SNCL proposed alternative alignment which may be a better compromise between directness and bridge skew angle/span length.	<b>Advantages:</b> Span lengths and skew angles less than on DW2 alignment Lower cost, better buildability (in particular reduced construction disruption to Hwy 403) <b>Disadvantages:</b> Less smooth alignment than DW2 (minor impact)	Closer to CSO tank in Cathedral Park, but acceptable.	New alignment to be adopted as shown on draft drgs nos. DW2v2.0-B03 and DW2v2.0-B04.
4.	<b>MSF Access</b> Access link to Frid Street North MSF site (assuming this site is confirmed) to be added.	<b>Advantages:</b>  <b>Disadvantages:</b>		Not applicable as this MSF site is not being actively pursued.
5.	<b>King/Dundurn Intersection</b> Provide additional free flow traffic lane on north approach to Dundurn/King Intersection Required to accommodate traffic reassigned to Cannon St and York Boulevard	<b>Advantages:</b> Required for satisfactory operation of King/Dundurn intersection <b>Disadvantages:</b> Requires land from landscaped area at front of gas station on NW corner of intersection, but should not affect gas station operation.		Revised layout shown on draft drg no. DW2v2.0-B04

Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
6.	<b>Fortinos Access</b> Amend existing northern Fortinos Plaza access on Dundurn Street to allow left turn exits - may require traffic signals.	<b>Advantages:</b> Required since exit onto King Street East is closed by LRT <b>Disadvantages:</b> Additional traffic signals on Dundurn Street		Revised layout shown on draft drg no. DW2v2.0-B04
7.	<b>Queen Stop</b> Relocate Queen Stop to west side of intersection, similar to DW1 layout.	<b>Advantages:</b> Minimises impact on Condo development on SE corner of intersection, and existing property on NE corner Maintains sidewalk widths <b>Disadvantages:</b> Risk of trucks turning right from Queen hitting westbound platform.	Requires land from Scottish Rite and 354 King West, but it appears that relocating the Scottish Rite wall and railings is not required.	Revised layout shown on draft drg no. DW2v2.0-B05

Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
8.	<b>Caroline St Left Turn</b> Left turn from King to Caroline to be added, using existing offside lane (as there is no room for additional left turn lane).	<b>Advantages:</b> Allows for or downtown circulation Provides access Tim Hortons (235 King West) via car park access on Caroline (12 Caroline), with exiting traffic crossing LRT tracks back onto King West. <b>Disadvantages:</b> Unacceptable loss of traffic capacity through providing a separate LRT stage.	Alternative may be to provide separate left turn at Bay St as part of conversion of Bay to 2-way operation.	Revised layout with 2-way traffic on Bay Street between King Street and Main Street shown on draft drg no. DW2v2.0-B06
9.	<b>Art Gallery/Convention Centre Parking Access</b> Potential change to accommodate left turning traffic across LRT tracks	<b>Advantages:</b>  <b>Disadvantages:</b>		Revised layout with loading bay for Art Gallery shown on draft drg no. DW2v2.0-B06

Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
10.	<p><b>Catharine Street Two Way</b></p> <p>Convert Catharine Street from one way southbound to two-way between Main Street and Rebecca Street (or Wilson or Cannon).</p> <p>Consider making King 2 way between Catharine and Mary so that cars exiting the CP car park can turn left across the tracks and then turn north or south along Catharine.</p>	<p><b>Advantages:</b></p> <p>Ease access to Crowne Plaza and Effort Square from the south and west</p> <p><b>Disadvantages:</b></p> <p>Loss of on street parking on Catharine Street.</p> <p>Adds to imbalance of n/b and s/b lanes through the Downtown</p> <p>Loss of DW2 sidewalk widening if King is made 2-way between Catharine and Mary.</p>		<p>Revised layout with Catharine Street two-way between Rebecca Street and Main Street shown on draft drg no. DW2v2.0-B06</p>
11.	<p><b>Maintain Car Park Access to King Street at Walnut Stop (180 King East, Struss Brothers)</b></p> <p>Move Walnut stop approx 20m east to allow a traffic connection from car park at 180 King East to King at Mary</p>	<p><b>Advantages:</b></p> <p>Preserves (some of) the viability of Struss's car parking</p> <p><b>Disadvantages:</b></p> <p>Incompatible with LRT vision for downtown</p> <p>Reintroduces traffic to closed section of King Street, resulting in additional traffic downstream.</p> <p>Does nothing for car park accessibility from the East - which is the Struss's main concern.</p>	<p>This vacant site directly adjoining the Walnut stop should be regarded as a key TOD development site. Vehicular access to the development can be provided from Main.</p>	<p>No change to DW2 layout here.</p>

Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
12.	<b>First Place Parking Bay</b> Consider realigning roadway northwards (between Wellington St and West Ave) to allow First Place parking bay to be located against the north side of the LRT stop	<b>Advantages:</b> Locates parking bay as close as possible to First Place development, and removes need to cross King St East. <b>Disadvantages:</b> Some loss of land from grassed area opposite.		Slightly modified alignment to provide shared vehicle / pedestrian area south of LRT tracks, accessed from West Avenue shown on draft drg no. DW2v2.0-B07.
13.	<b>Wentworth Stop Relocation</b> Move eastbound platform of Wentworth Stop from east to west side of Wentworth Street (opposite westbound platform)	<b>Advantages:</b> Would allow cross-track access to car wash at 676 King Street East <b>Disadvantages:</b>	Note driveway to 656 King Street East would be completely blocked by relocated platform, although this is already effectively cut off by the westbound platform	Difference of view emerged in meetings with CoH staff. In short term relocating platform west minimises impact on car wash, in longer term car wash site is TOD opportunity and offers space for better stop environment and facilities. Decision on required on which to adopt. Draft drg no. DW2v2.0-B08 shows both platforms west of Wentworth Street.

Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
14.	<b>MSF Access</b> Access link to 30 Milton Street MSF site to be developed.	<b>Advantages:</b>  <b>Disadvantages:</b>		Draft access route with options via Sanford Avenue shown on draft drgs nos. DW2v2.0-B08, DW2v2.0-B08A, DW2v2.0-B08B.1, DW2v2.0-B08B.2.
15.	<b>Ivor Wynne Stadium Stop /Siding</b> Provide either three track / platform stop in place of current Scott Park stop as below:  Alternatively, provide siding into Scott Park with Special Events platform: 	<b>Advantages:</b> Provides additional stop capacity for enhanced services during events at the Ivor Wynne Stadium. Provides space close to the centre of the B-Line to store a disabled LRV pending removal to the MSF, thereby minimising service disruption in the event of breakdown. <b>Disadvantages:</b> Additional capital cost Requires land from Scott Park Requires stop to be moved west of current location, leading to less even stop spacing.		Slightly modified version of three track stop layout shown on draft drg no. DW2v2.0-B10.



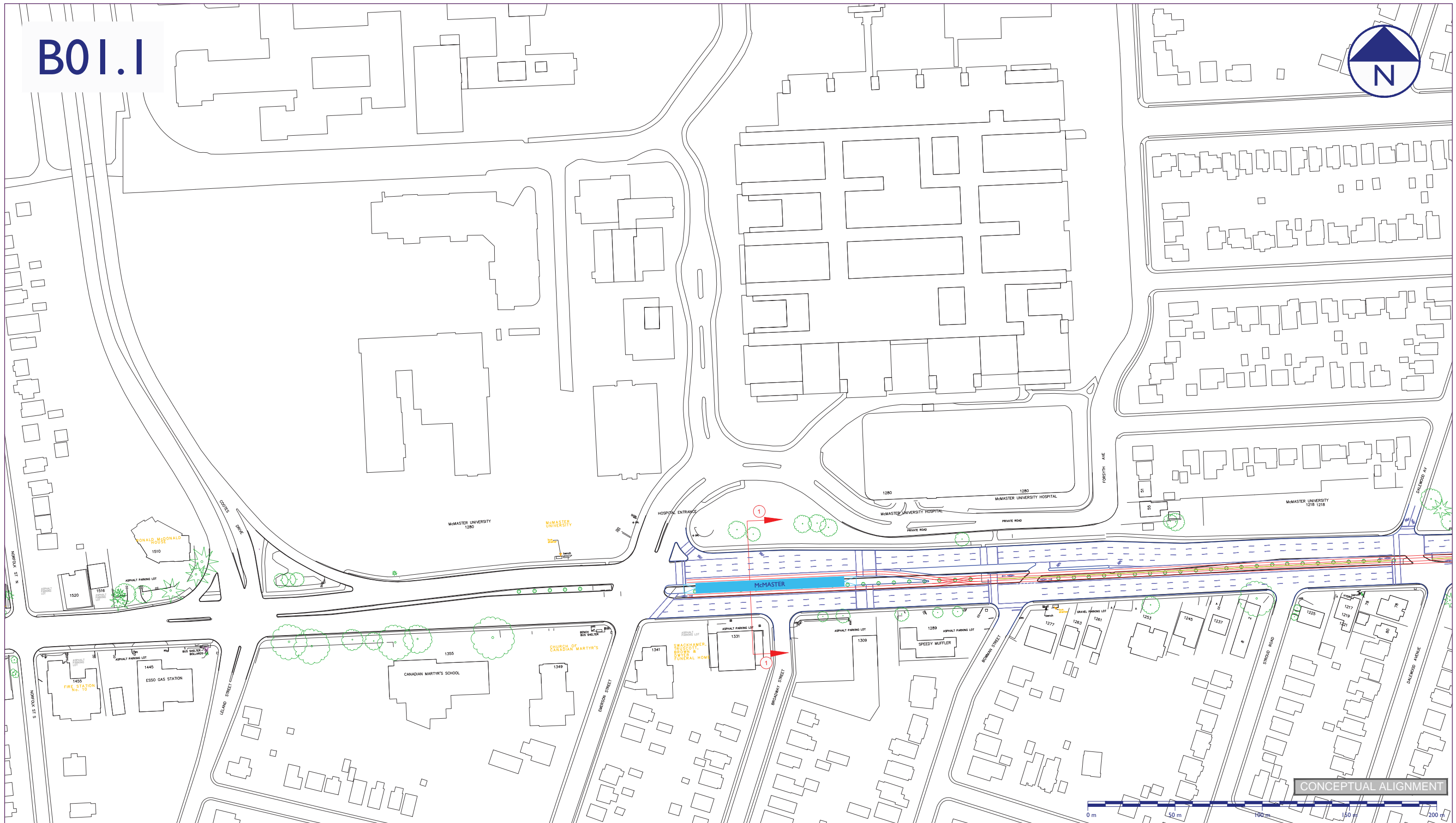
Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
16.	<b>Queenston Traffic Circle - Intersection Layout and Stop Location</b> Consider alternative layout to: <ol style="list-style-type: none"> <li>1. Relocate stop from under Hydro lines</li> <li>2. Replace Traffic Circle with signalled intersection</li> </ol>	<b>Advantages:</b> Relocating stop would address Hydro One concerns. <b>Disadvantages:</b> Relocated stop layout less satisfactory.	Traffic Circle area is a urban design/public art opportunity	Three alternative options for discussion shown on drgs nos. DW2v2.0-13.1, DW2v2.0-13.2 and DW2v2.0-13.3.
17.	<b>Queenston Road / Reid Avenue</b> Left turns from Queenston to Reid in both directions to be banned. Alternative would be dedicated left turn lanes, but there is insufficient space.	<b>Advantages:</b> Required for satisfactory intersection operation <b>Disadvantages:</b> Additional left turn ban adds to difficulty of local traffic access.	Left turn access from west available via Parkdale with little impact. Left turn access from east only serves few houses on Reid, requires U-turn at Parkdale.	Traffic signal phasing amended. No change to DW2 drawings.

Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
18.	Eastgate Terminus Layout	<p><b>Advantages:</b></p> <p>Better waiting environment than middle of road</p> <p>Better serves the shopping centre</p> <p>Provision for extension either east (as B-L-A-S-T map) and/or north (to Centennial Parkway G_ Station)</p> <p>Better integrated with local bus services</p> <p>Reduced road/utilities impact compared with DW2</p> <p><b>Disadvantages:</b></p>		<p>Initial discussions held between Eastgate owner and CoH.</p> <p>No Progress with alternative layout.</p>

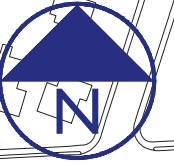
Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
19.	<b>Offline Change - York/Dundurn</b> Additional left turn required on westbound approach to accommodate traffic reassigned to Cannon Street/York Boulevard/Dundurn Street. Within existing ROW) Dundurn Street to be marked as 2 lanes southbound plus one lane northbound for a distance of 100m south of York Blvd.	<b>Advantages:</b> Required to accommodate reassigned traffic <b>Disadvantages:</b>		Proposed layout shown on drg no. DW2v2.0-B04A
20.	<b>Offline Change - Parkdale Avenue / Britannia Avenue</b> Provide new signal controlled intersection	<b>Advantages:</b> Accommodates traffic reassigned to Cannon Street route <b>Disadvantages:</b>	Not absolutely required, but desirable for improved traffic flow.	Not to be shown at this stage. May be considered once LRT is in place if traffic conditions require it.

Ref.	Proposed Change	Advantages/Disadvantages	Other Implications	Status/Recommendation
21.	<b>Offline Change - Britannia Avenue</b> Remove Stop signs on Britannia Avenue at existing Four Way Stop intersections at Tragina Avenue, Fairfield Avenue, Normanhurst Avenue and Walter Avenue. Side road Stop signs to remain	<b>Advantages:</b> Required due to extra traffic using Britannia Avenue as an alternative to Main Street eastbound  <b>Disadvantages:</b>	Potential road safety implications to be investigated, potentially introduce signalled pedestrian crossings along the route to aid pedestrian movements and guarantee movement from side roads	To be considered by the City, but no drawing changes required.

B01.1



B01.2



RELOCATED  
GO BUS  
TERMINAL

McMASTER UNIVERSITY

McMASTER UNIVERSITY  
1280

McMASTER UNIVERSITY

McMASTER MEDICAL CENTRE

McMASTER UNIVERSITY HOSPITAL  
1280

McMASTER UNIVERSITY  
1218 1218

CHRISTIAN MARTYR'S

CANADIAN MARTYR'S SCHOOL

SWACKHAMER, BRUSCOTT, BROWN & BOWEN FUNERAL HOME

SPEEDY MUFFLER

CONCEPTUAL ALIGNMENT

0 m 50 m 100 m 150 m 200 m



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### McMaster University - Option 2

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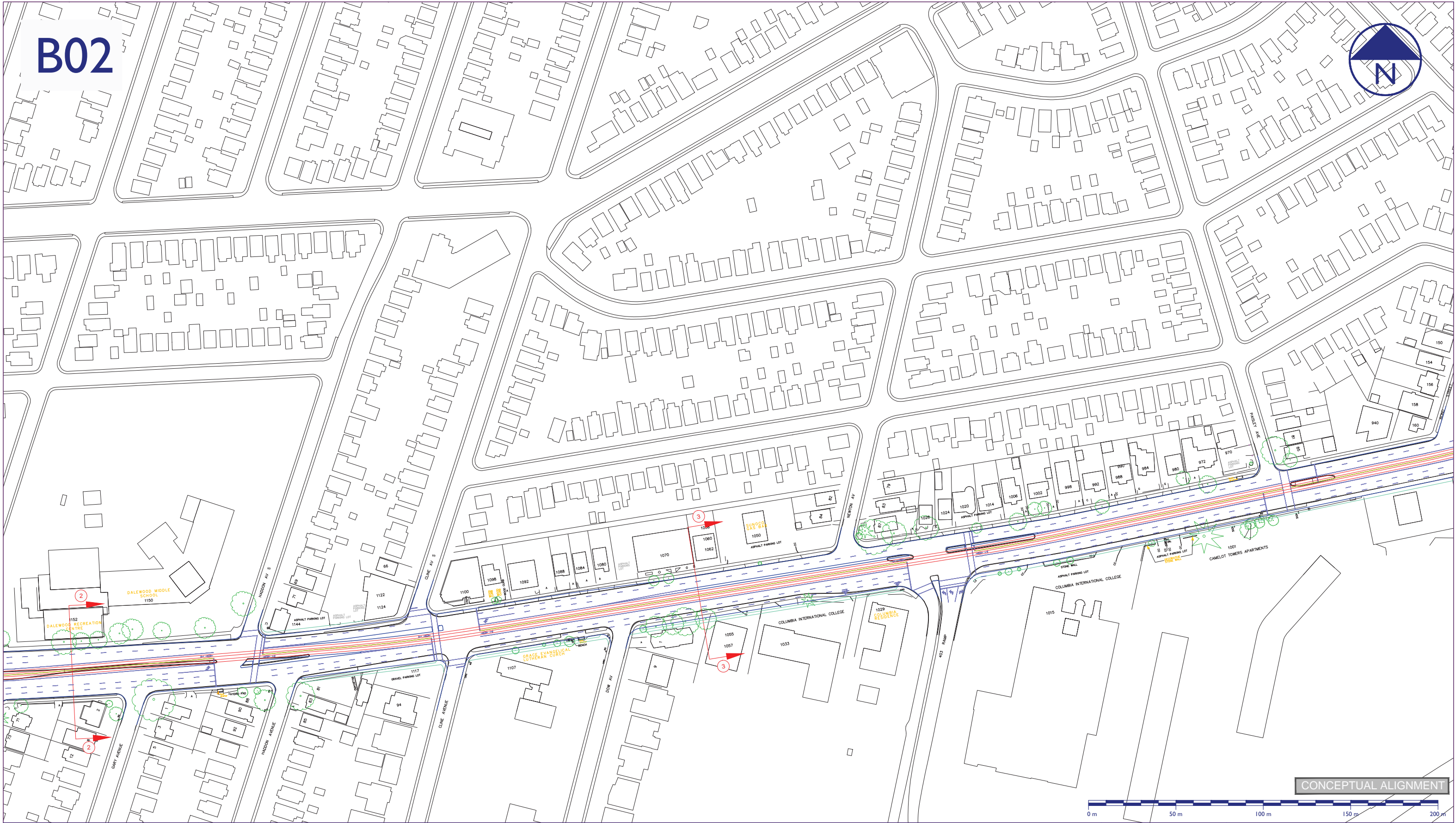
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B02



CONCEPTUAL ALIGNMENT

0 m 50 m 100 m 150 m 200 m



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## Cline Avenue

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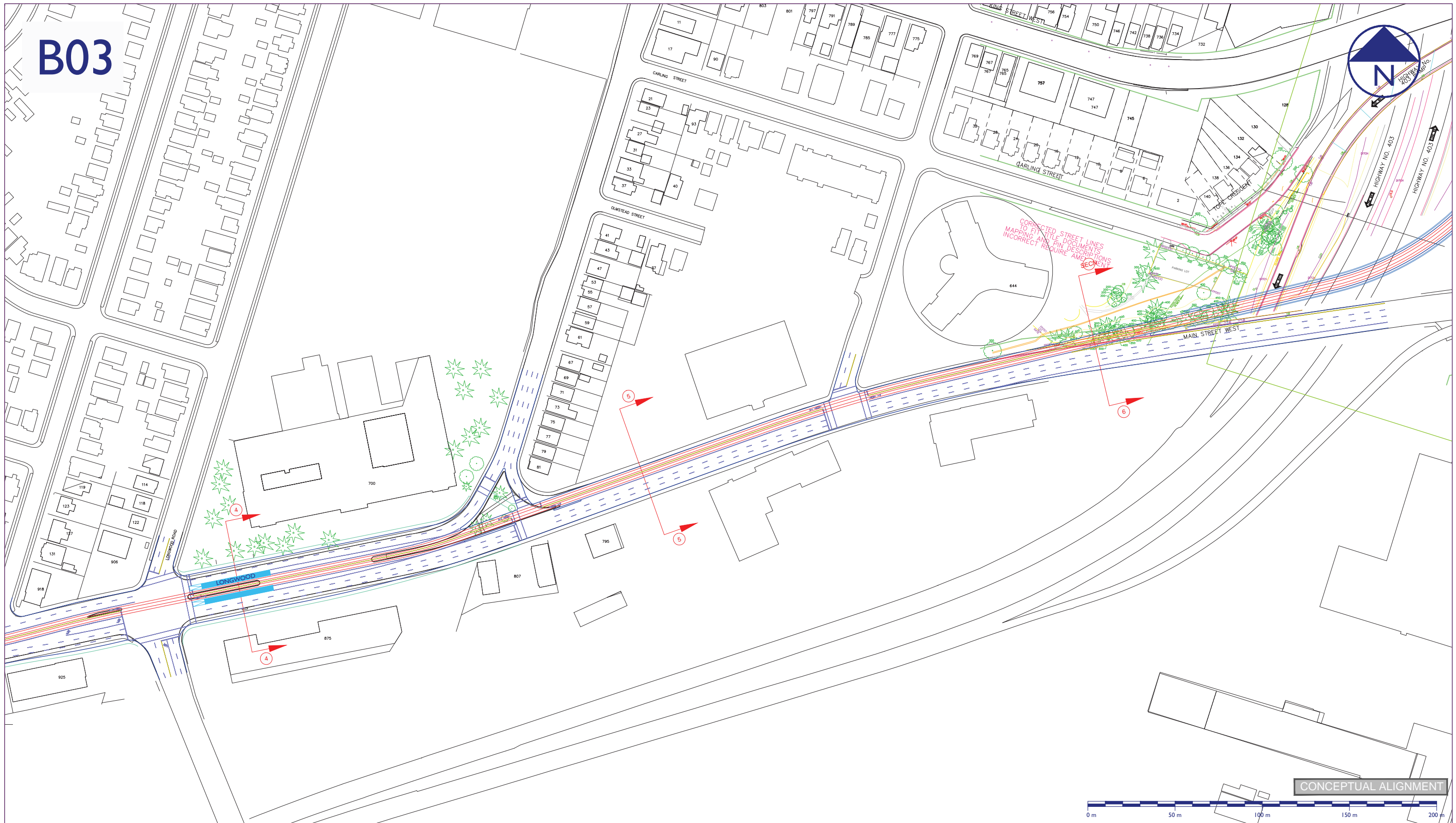
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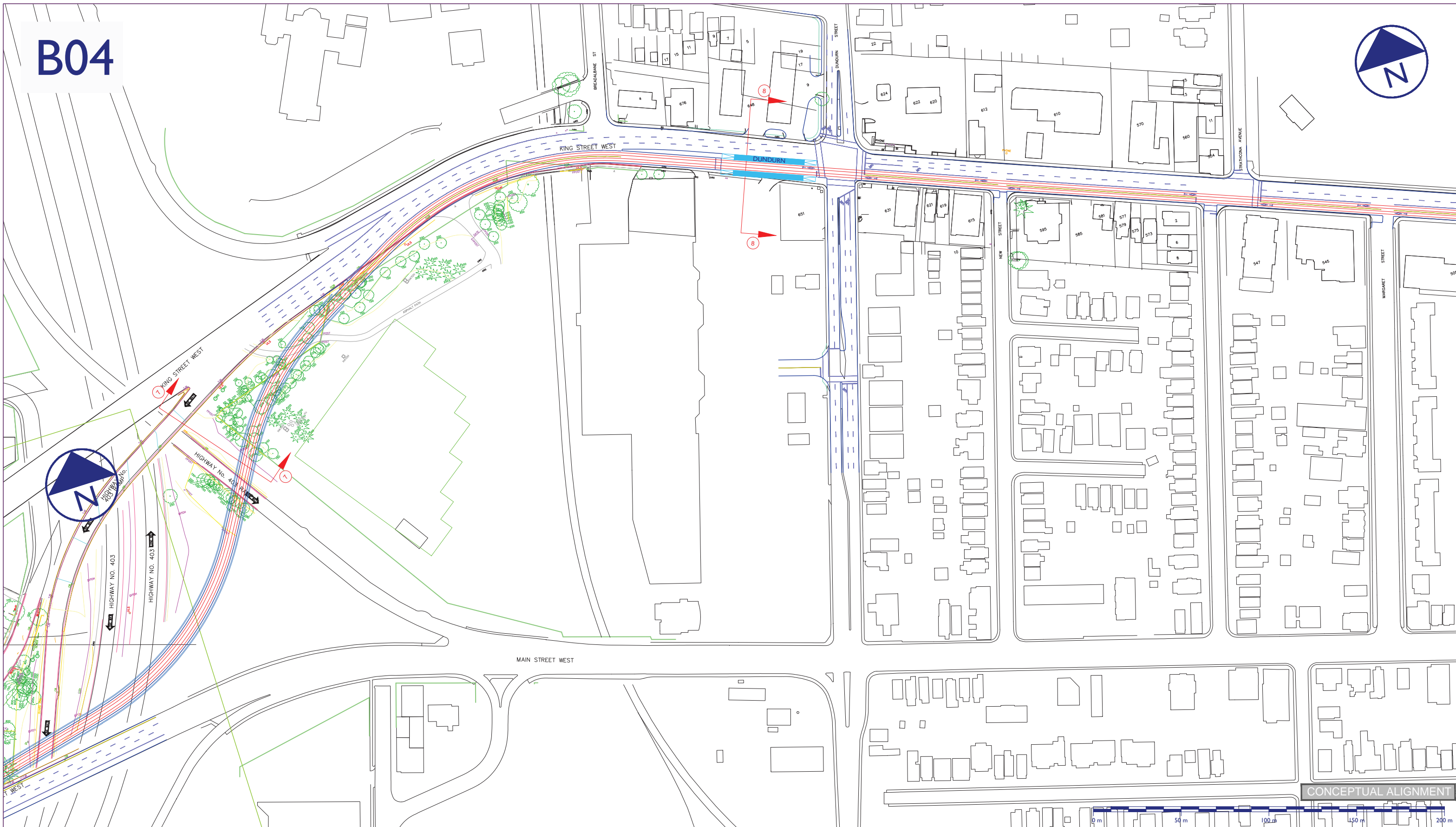


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B04



B04A



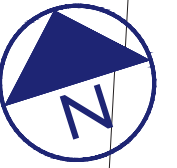
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### York Blvd / Dundurn Street

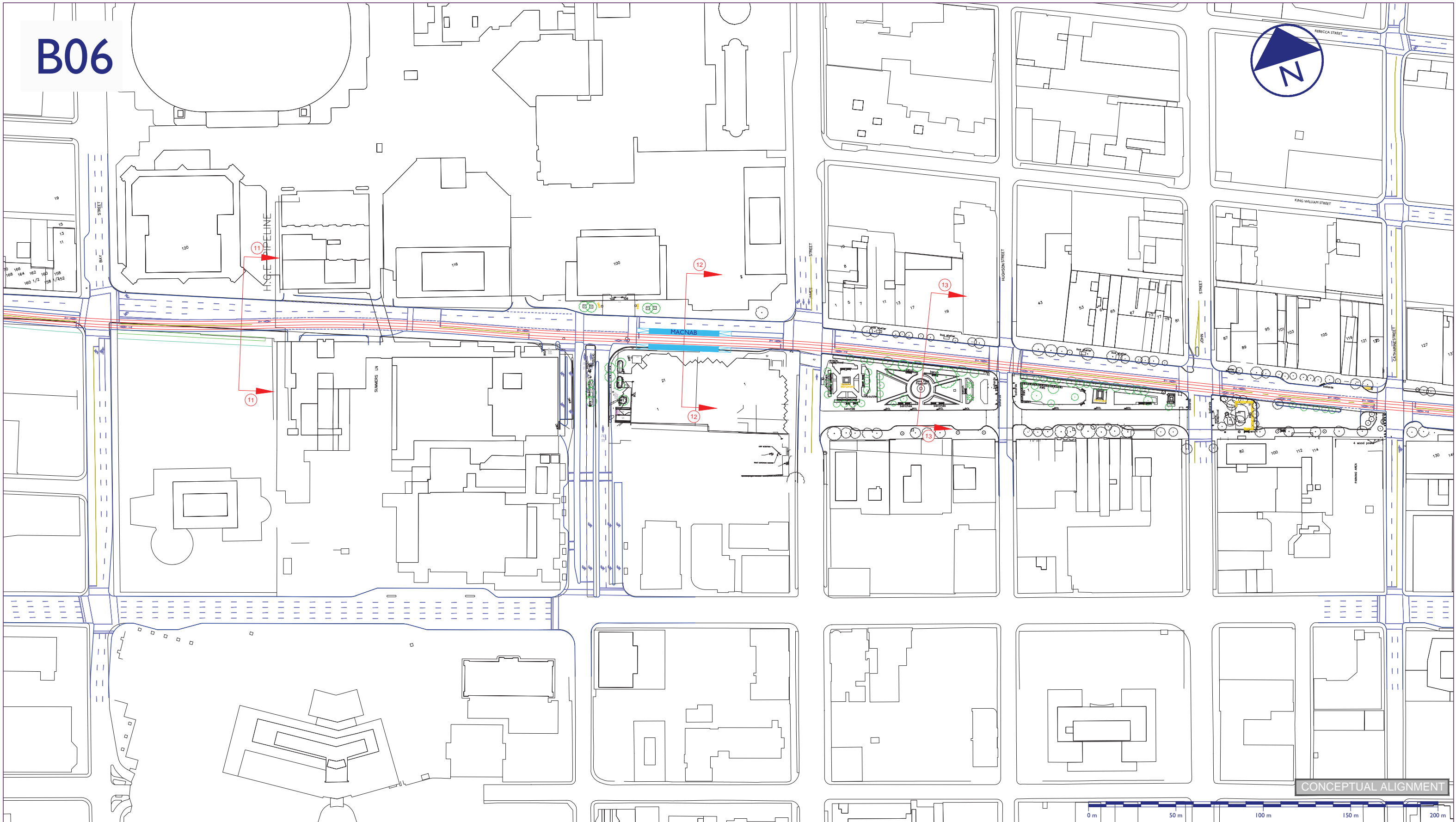
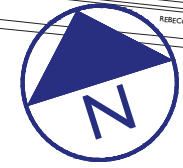
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B05

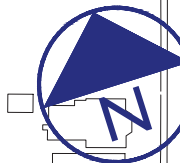


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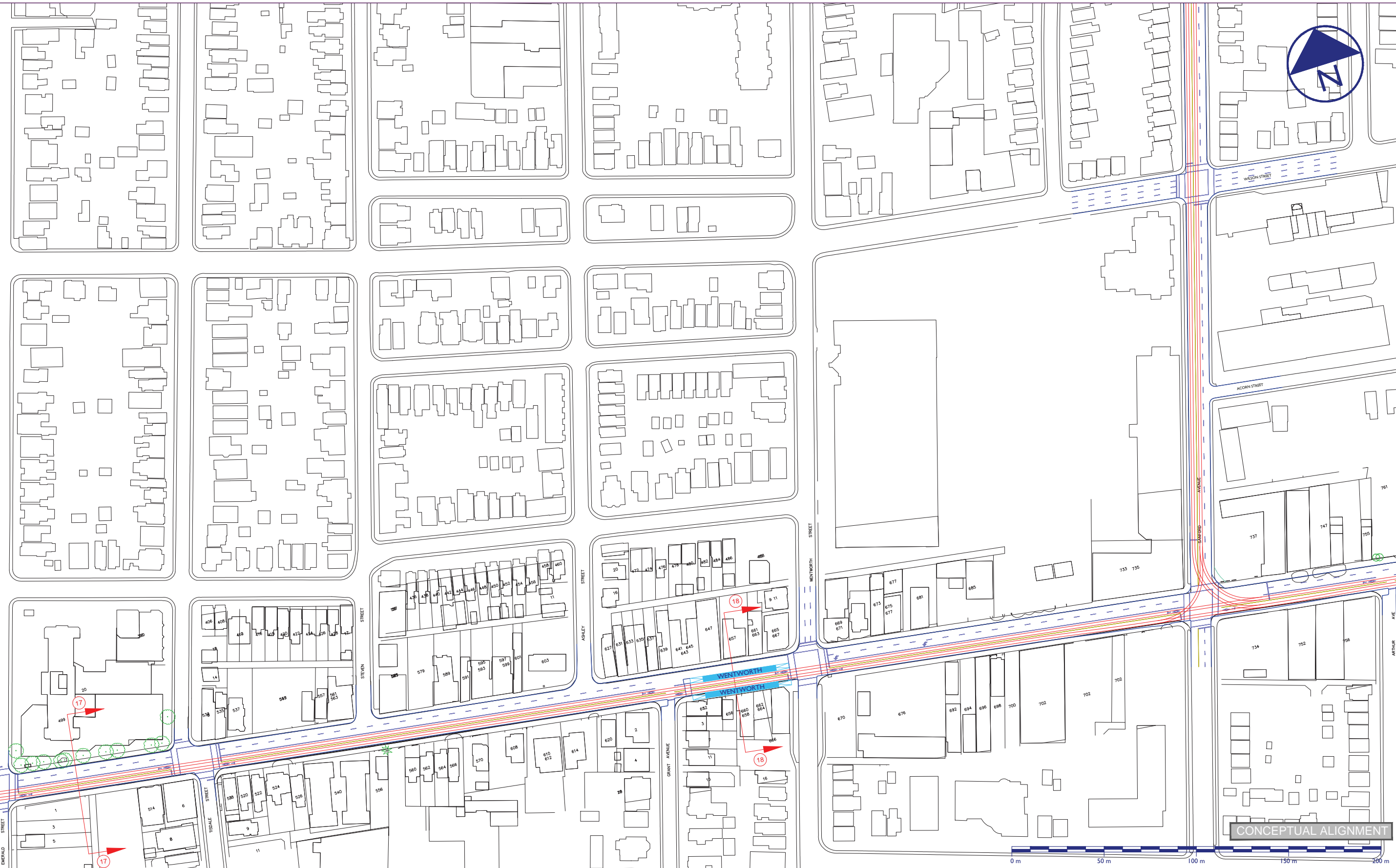
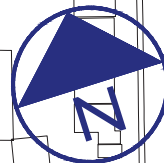




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B08



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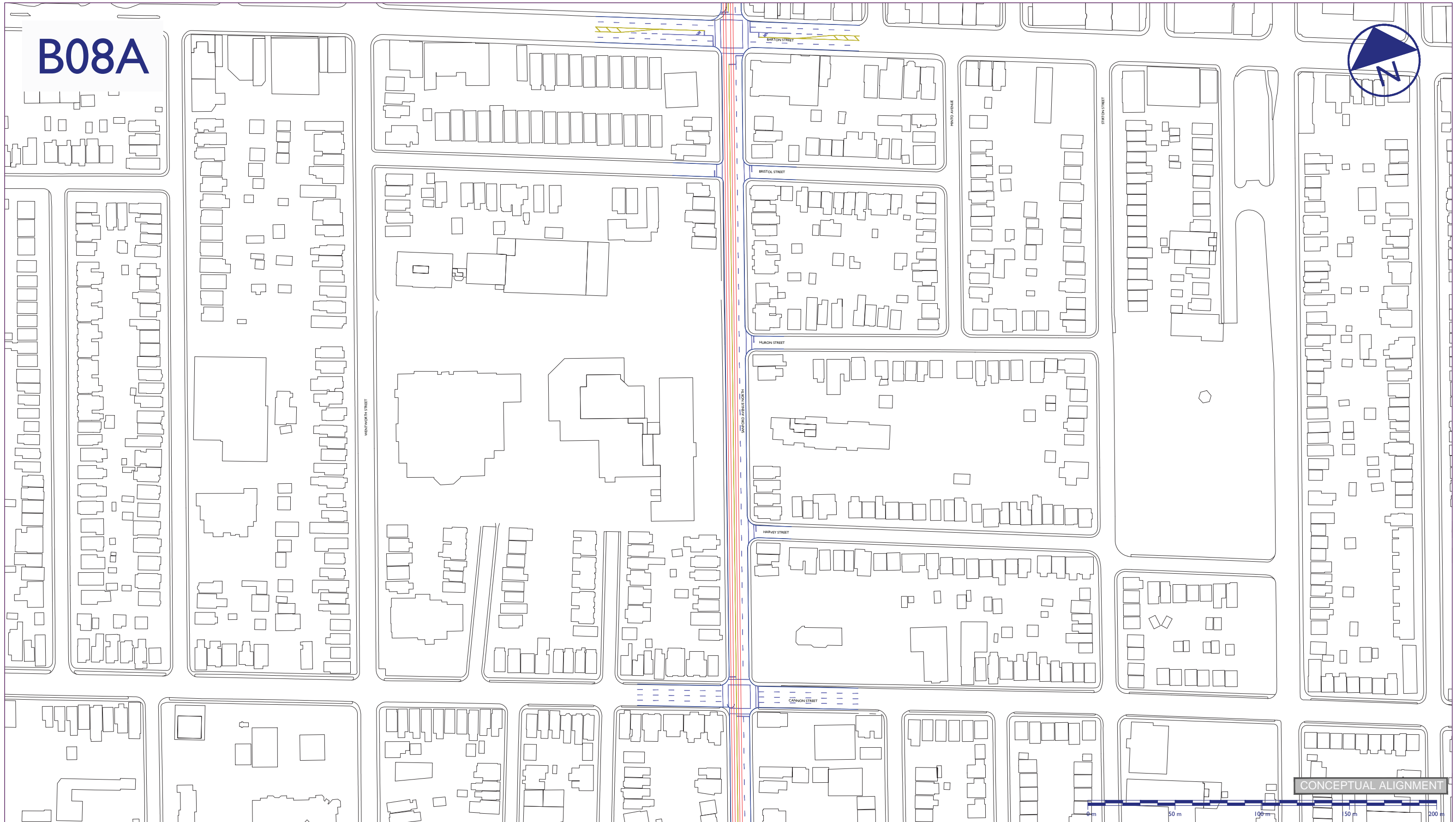
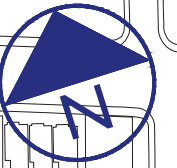
## Wentworth Street / Sanford Avenue

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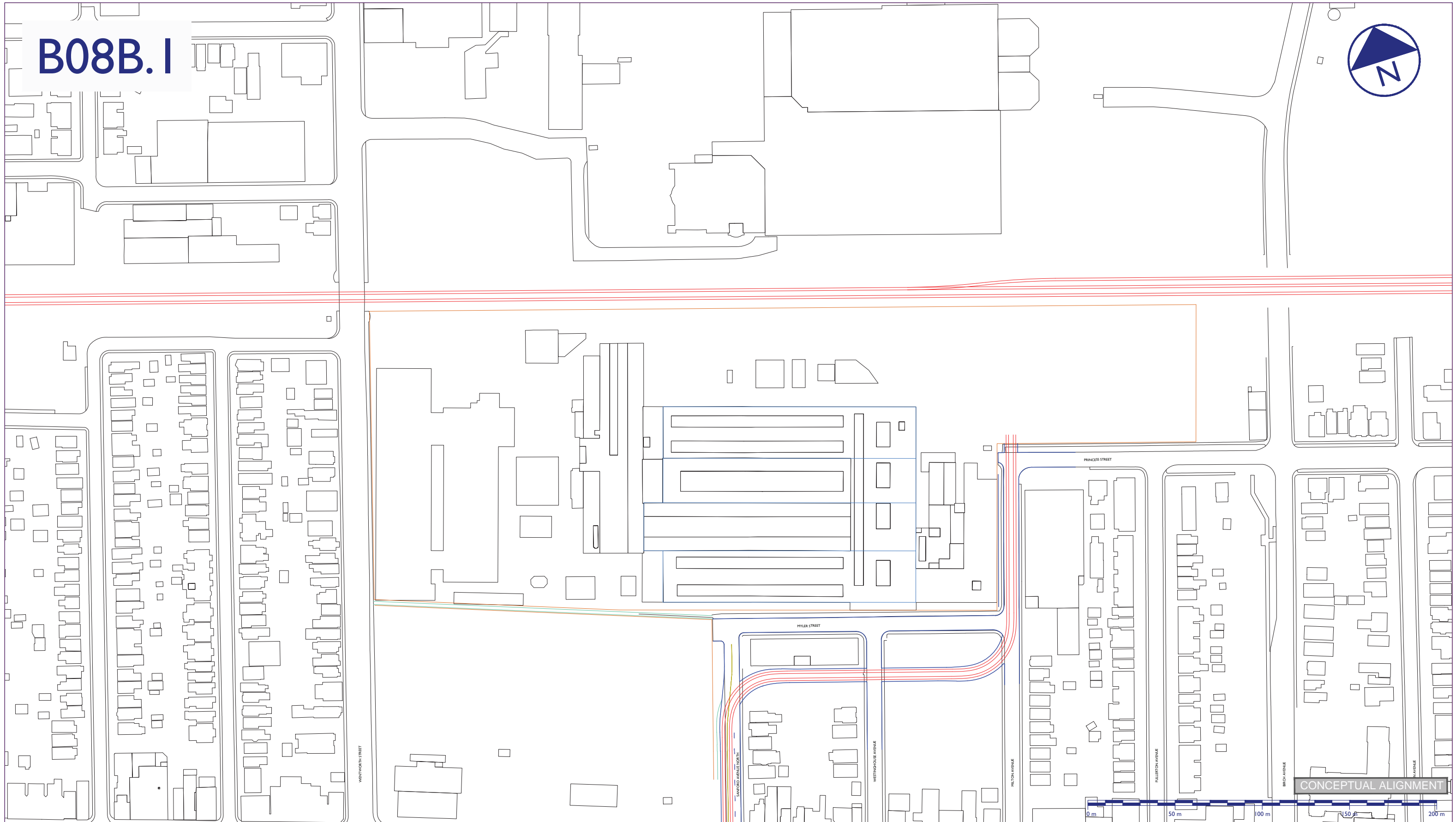
B08A



CONCEPTUAL ALIGNMENT

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B08B.1



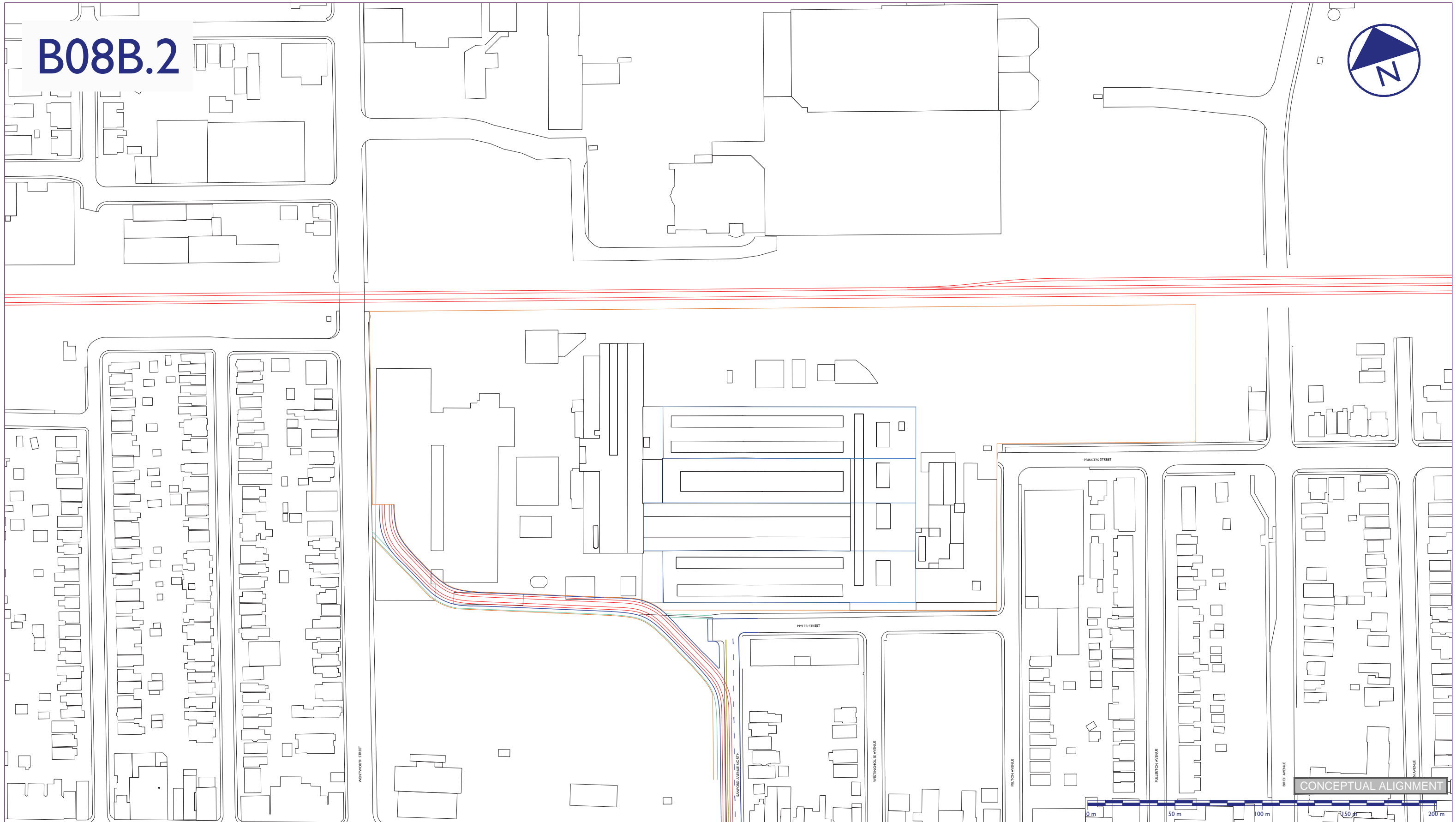
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### MSF Site at 30 Milton Avenue: Option 1 - Access via Milton Avenue

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B08B.2

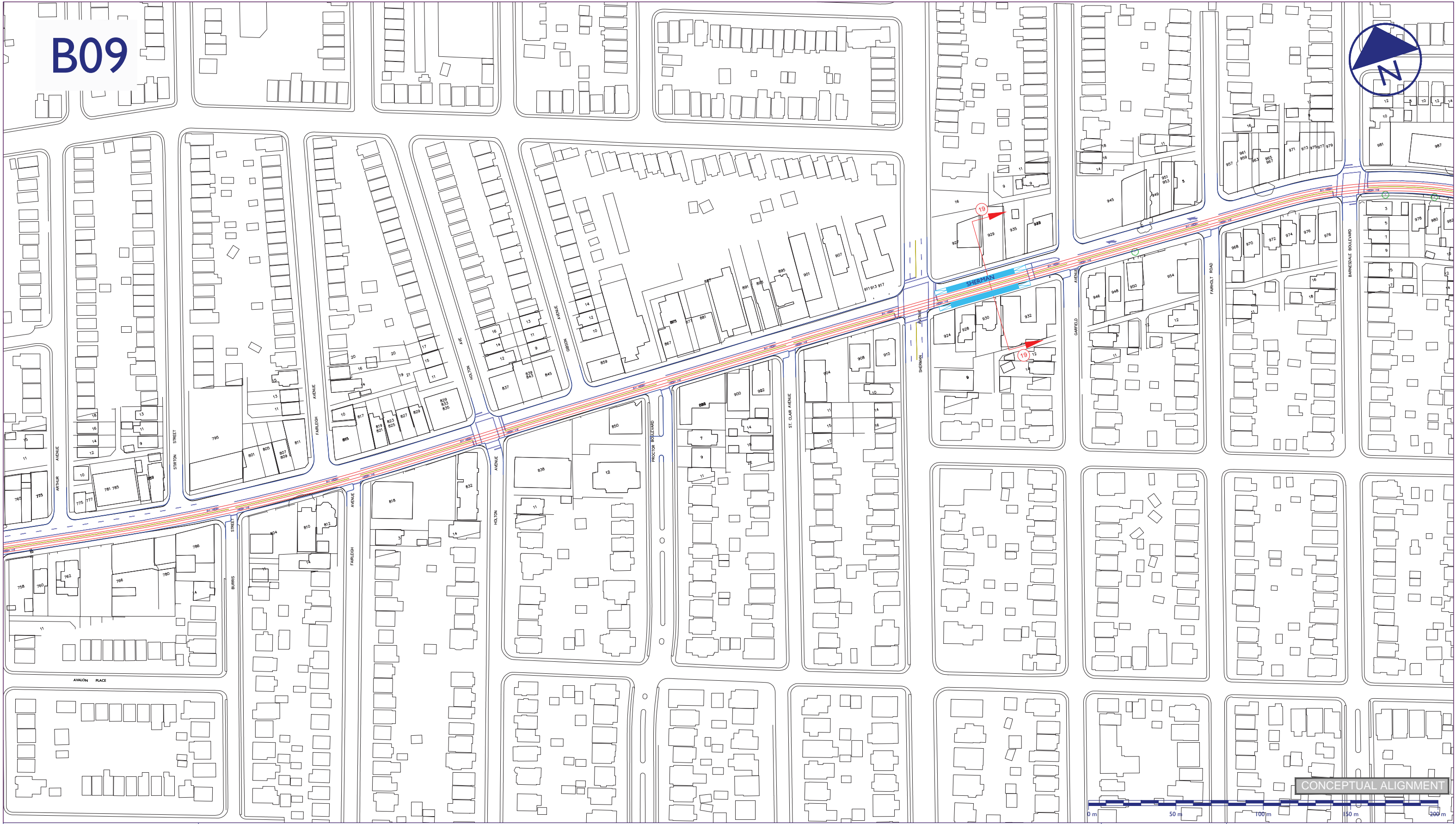
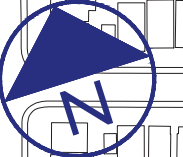


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### MSF Site at 30 Milton Avenue: Option 2 - Access via Woodland Park

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B09



# Hamilton Rapid Transit B-Line - Design Workbook 2 v2.0

## Sherman Avenue

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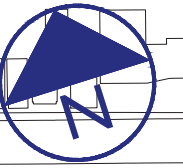


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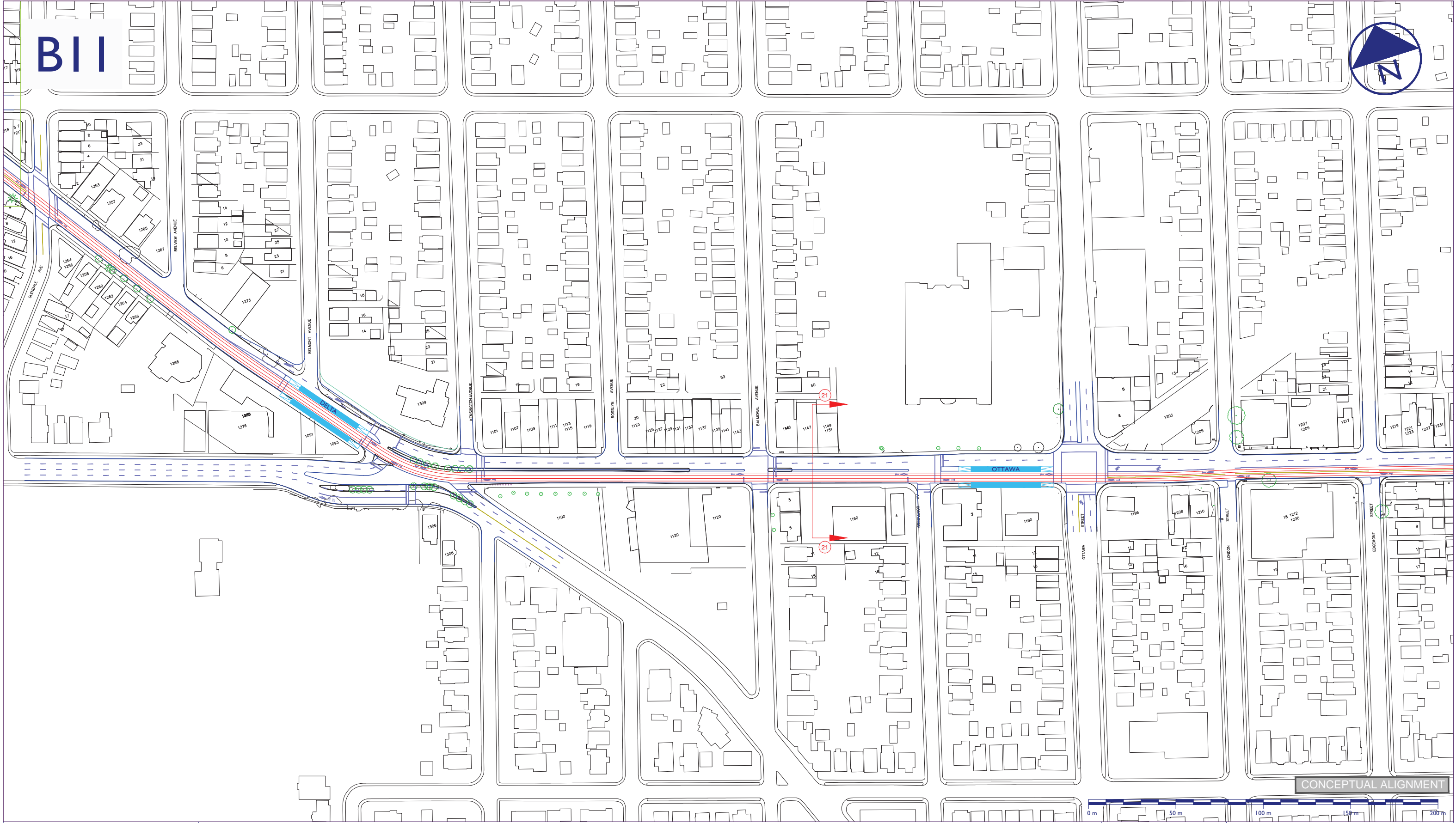
B10



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### Scott Park / Gage Avenue

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**The Delta**

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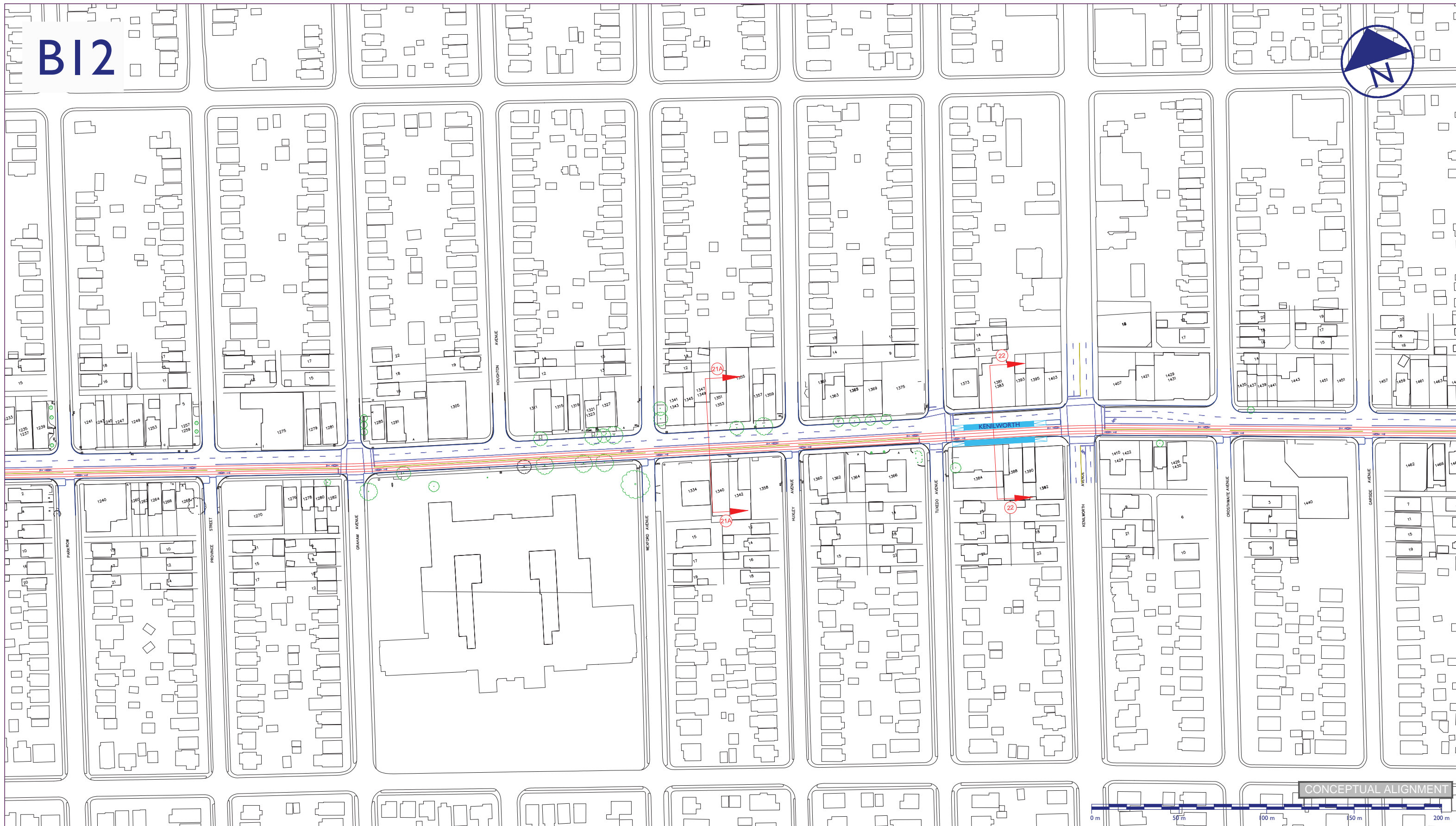
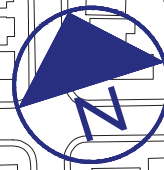


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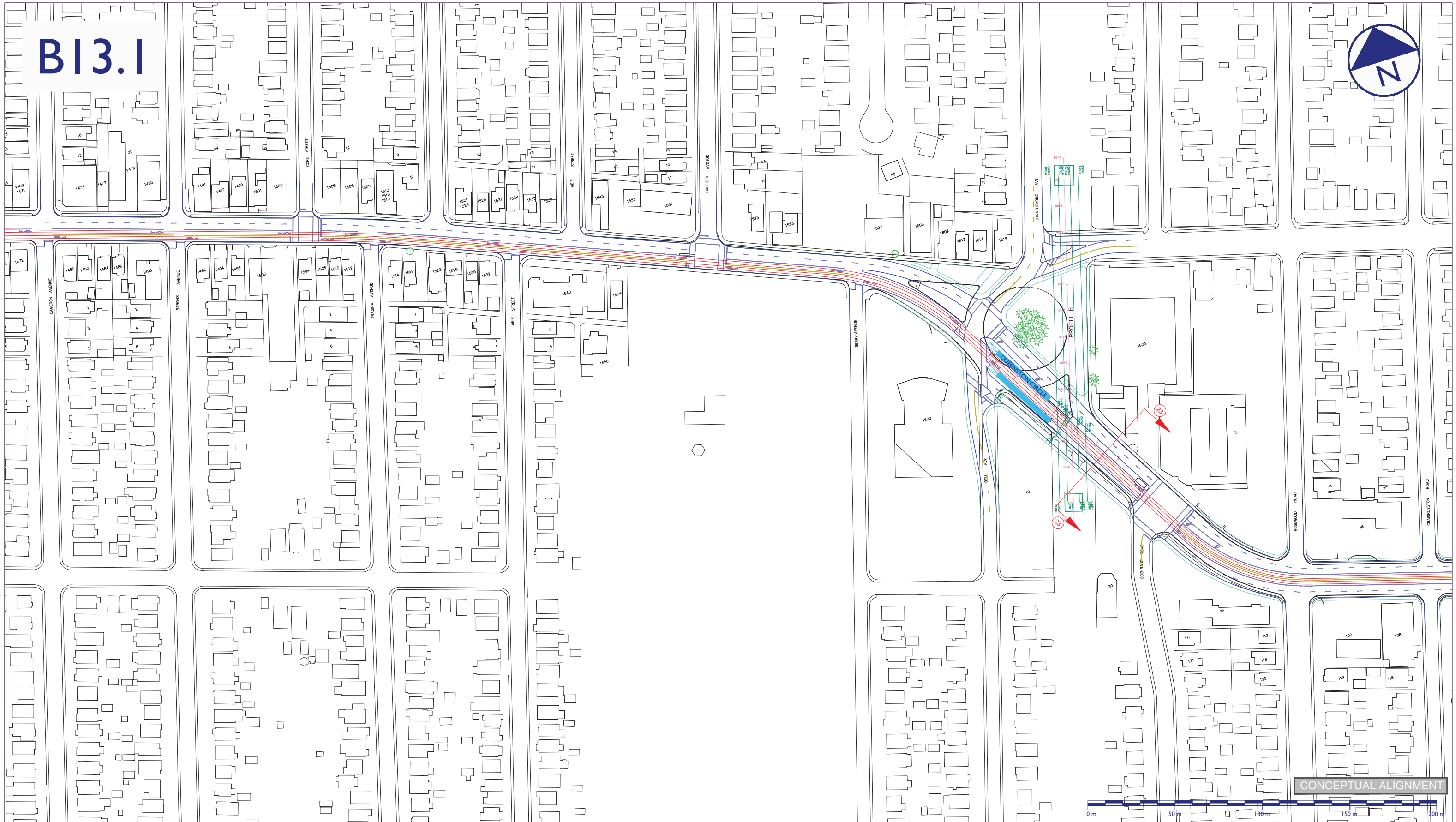
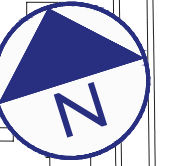
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B12

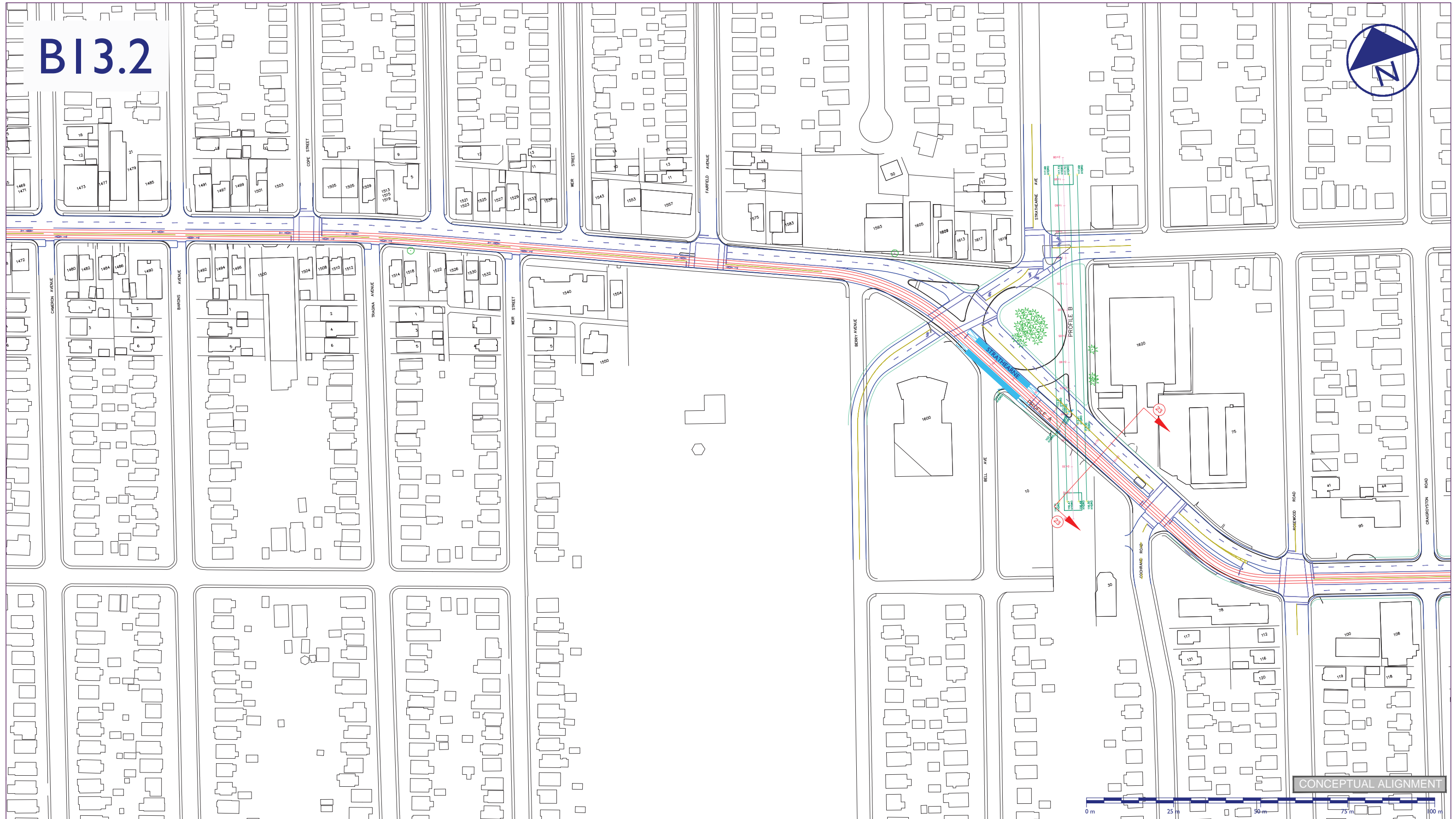
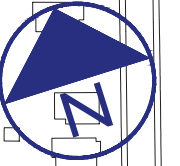


B13.1

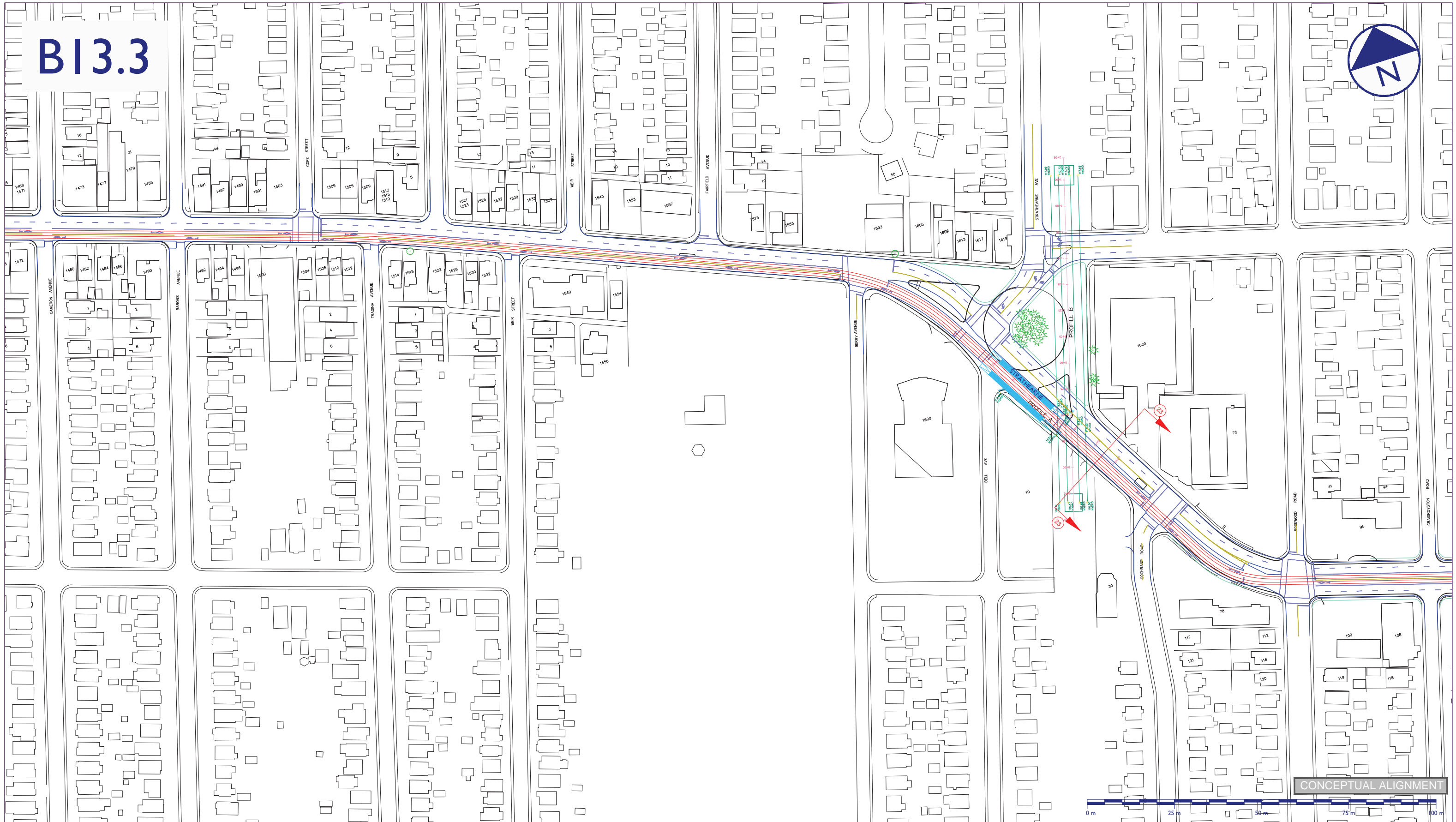
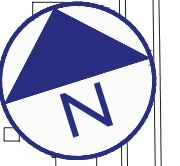




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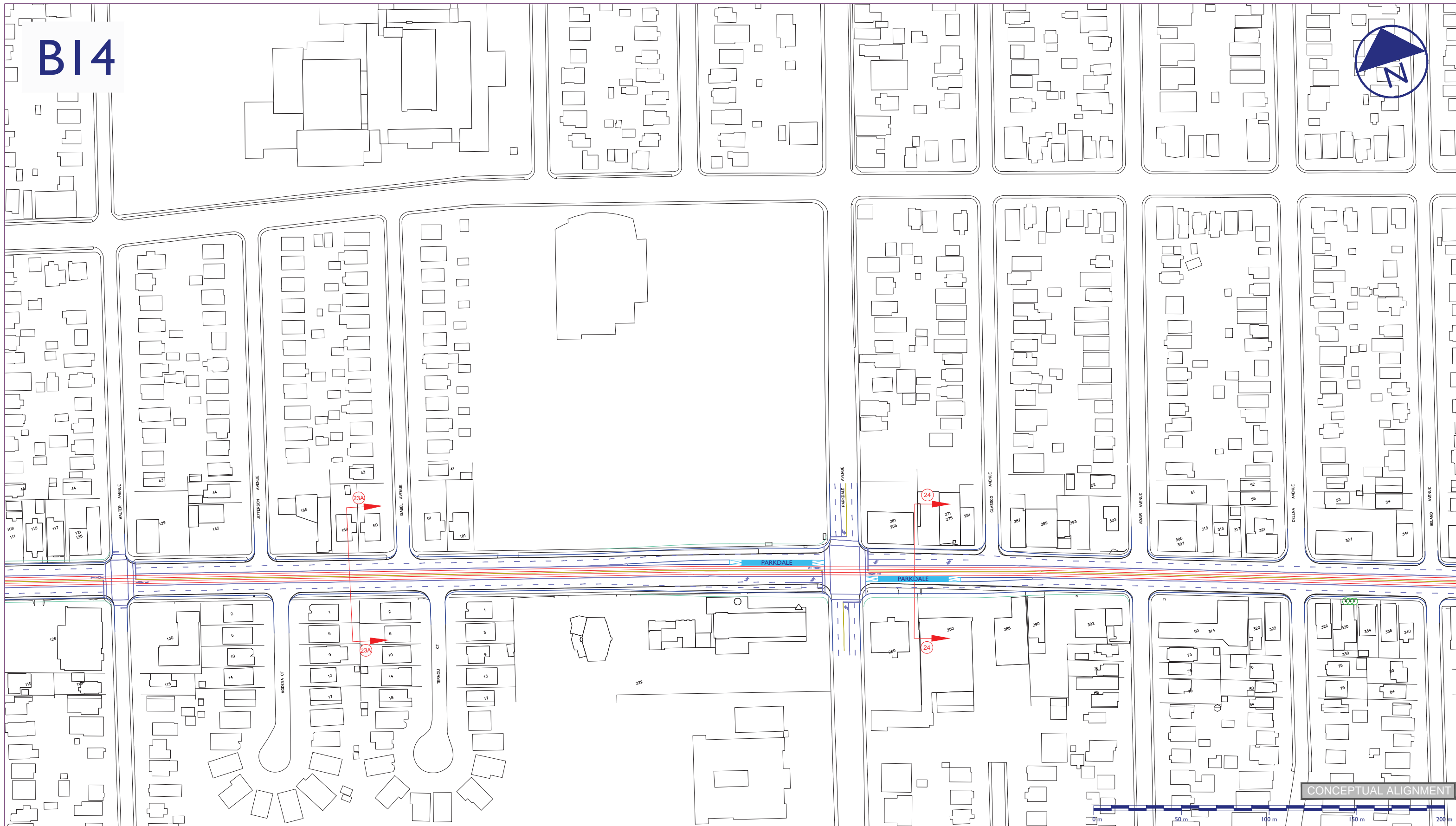
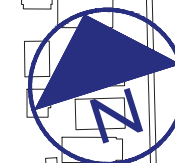


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B14



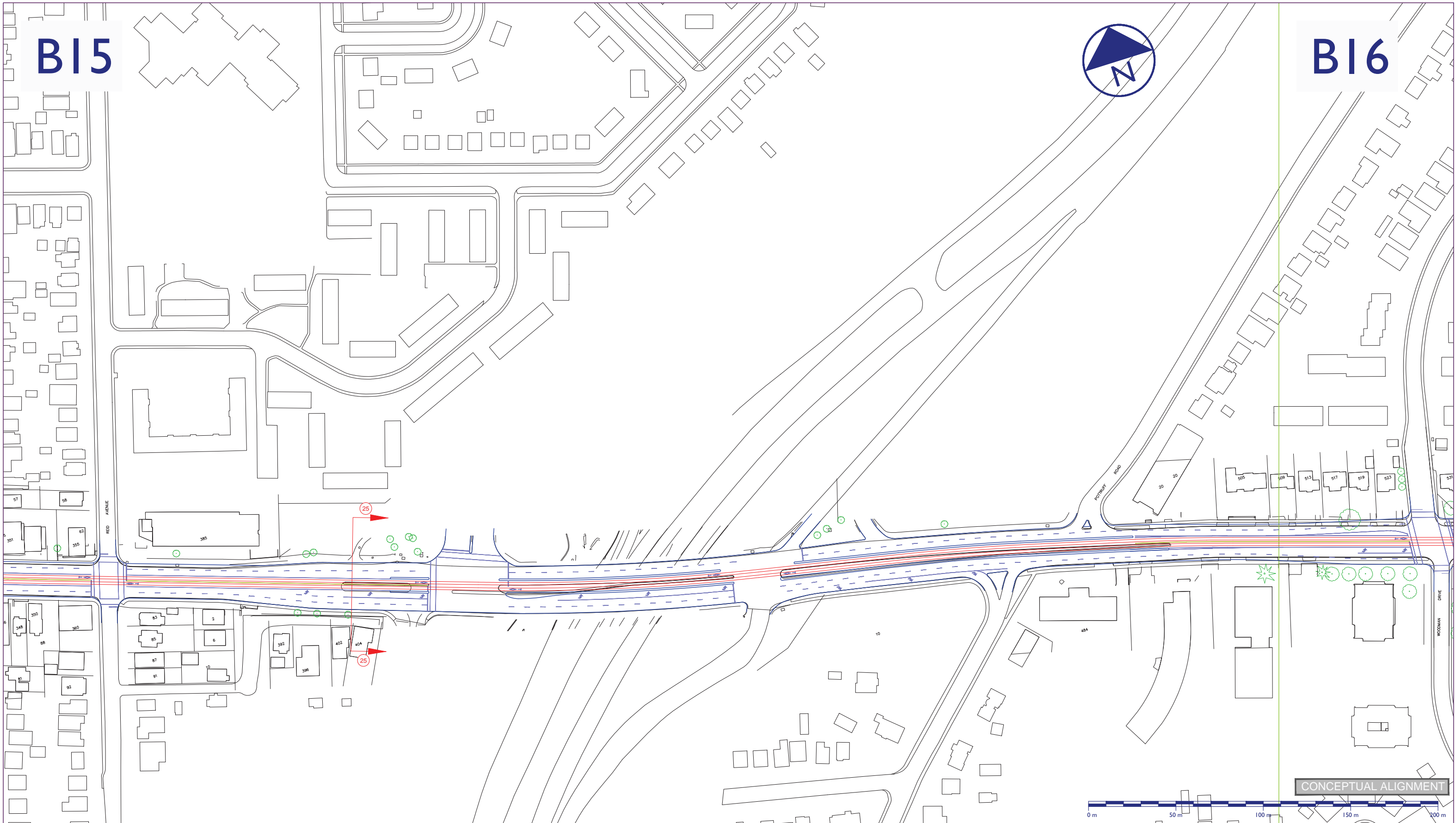
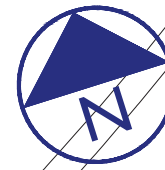
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### Parkdale Avenue

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B15

B16



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Red Hill Valley Parkway

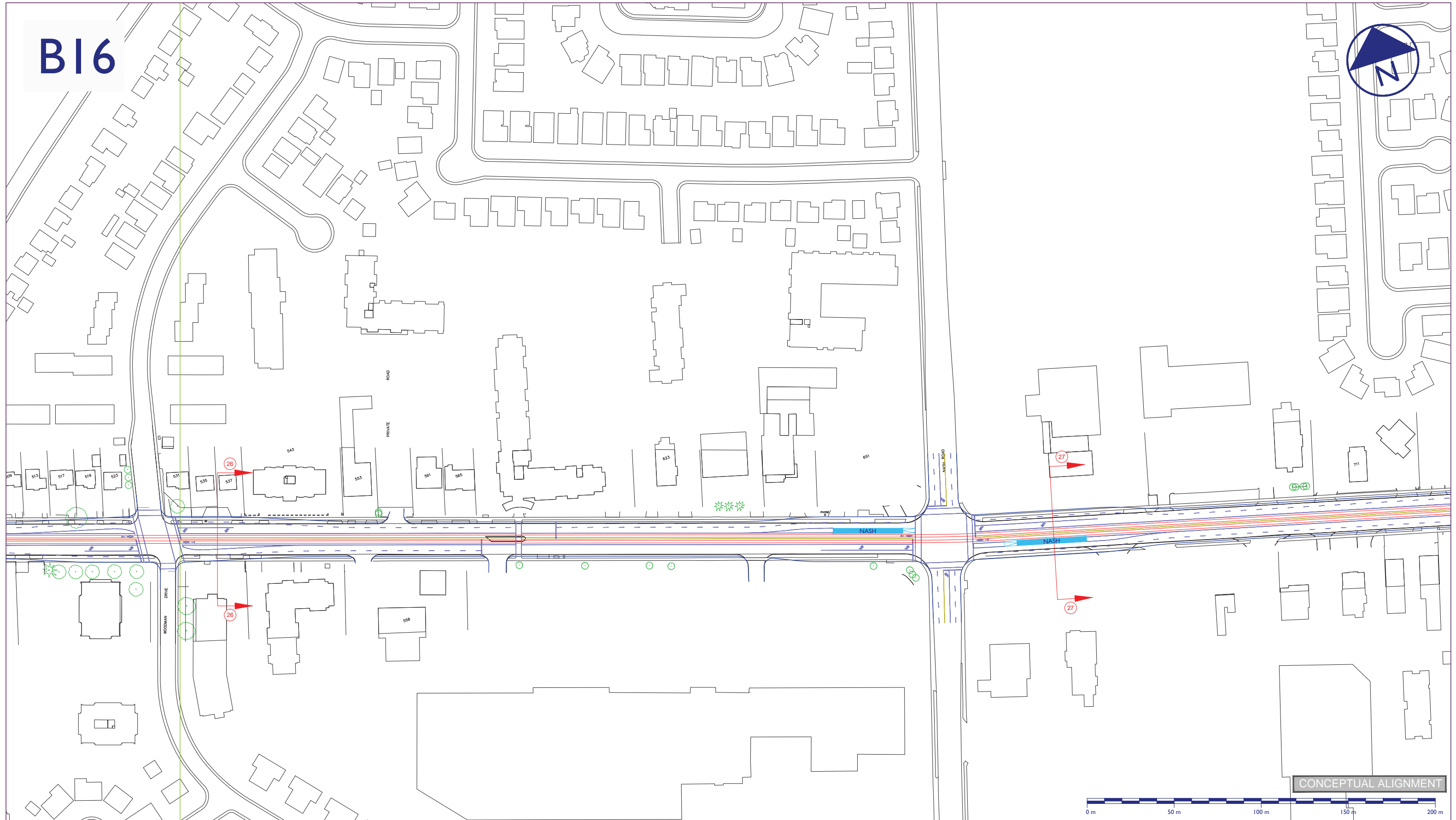
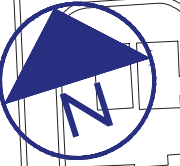
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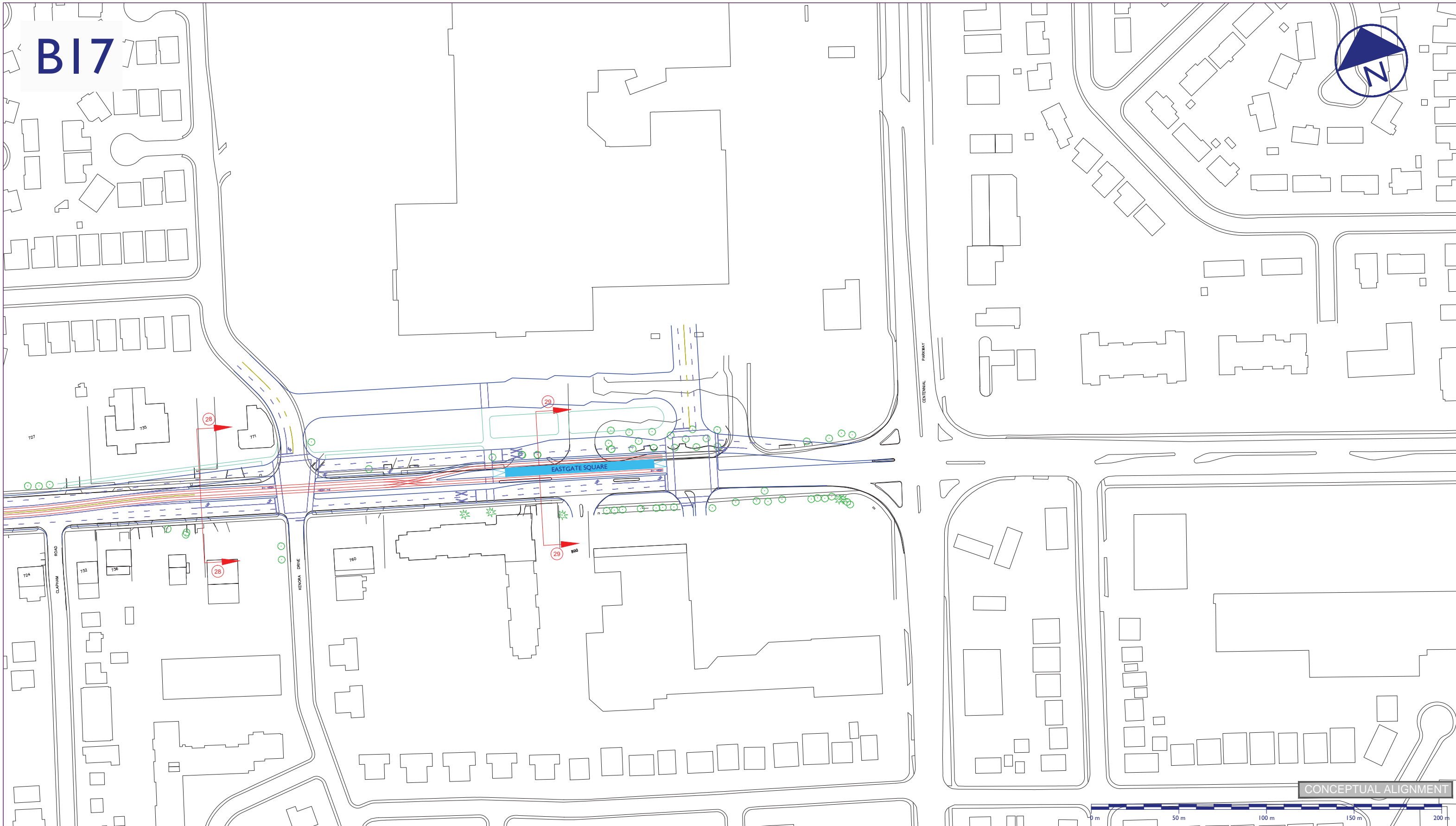
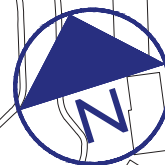
B16



CONCEPTUAL ALIGNMENT



B17



CONCEPTUAL ALIGNMENT



# Hamilton Rapid Transit B-Line - Design Workbook 2 v2.0

## Eastgate Square

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