

Appendix C: Alternative Route Selection Correspondence

Riverside x Strachan Underground Cable Replacement

Assessment of Proposed Route Alignments by City of Toronto

Background

Hydro One is in the process of undertaking a Class Environmental Assessment for the replacement of two existing circuits between Riverside Junction and Strachan Transformer Station in the City of Toronto. These circuits have been in place for some 50 years and are in poor condition and at the end of life. Specifically, the project involves the removal of one of the circuits and replacing this with a concrete duct bank which will house two new circuits and a fiber optic cable. The project in essence is a like for like replacement within the same footprint of an existing circuit. The other circuits will be decommissioned in-situ. Overall the Project will substantially decrease the existing footprint of the combined circuits

The City of Toronto (Stephen Schijns) approached Hydro One during their Public Information Centre in June 2010 to inform them of the West Waterfront Master Plan (WWMP) and possible issues that our undertaking may pose to their future plans. One of the major objectives of this Plan is to re-align certain sections of the eastbound Lake Shore Blvd. northward to allow for increased park space along the Lake Ontario shoreline. In September 2010 Hydro One met Stephen Schijns and later in October 2010 with the Waterfront Secretariat at which time further details were presented regarding the WWMP. At the September meeting Hydro One was asked if they would consider the possibility of re-aligning portions of the existing route to accommodate the proposed plans Hydro responded to the affirmative but requested specifics regarding the location(s) of the re-alignment to be considered. In November, the City/Waterfront Secretariat provided two proposed alignments for Hydro One to consider which are: **Segment 1** (Figure 1) which deviates north from the existing cable at Parkside Drive and progresses eastward to Roncesvalles on the grass strip adjacent to the north lane of the westbound Lake Shore Blvd. At approximately Roncesvalles, the alternative alignment would reconnect with the existing cable. **Segment 2** (Figure 2) would deviate north from the existing cable at Dowling and crosses the Lake Shore Blvd to the south side of the Gardiner Expressway and progresses eastward onto the CNE grounds (approximately British Columbia Drive) where it reconnects with the existing cable.

Hydro One agreed to review the two suggested route modifications but first needed to determine if this would trigger the need for an Ontario Energy Board (Section 92) approval. If this were the case, it would delay the project by at least a year with no certainty on the outcome. Hydro One determined that this approval was not required and proceeded to evaluate the two suggested re-alignments.

Approach

During the course of undertaking the Class EA, Hydro One had collected a fair amount of information and felt that an assessment was possible based upon the information available. Consequently, the assessment of each segment was done on the basis of the in-house information, as well as, site visits to assess the physical nature of the route modifications and the constructability. The forgoing, therefore, presents a review of the technical, environmental and social advantages and disadvantages of each segment and provides Hydro One's recommendation.

It should be noted that the segment alignments provided by the City were not interpreted as fixed – that is, centre lines. Hydro One viewed these locations as approximate representations and in so doing tried to fix the optimal location to meet the needs of both parties

Assessment Segment 1: Parkside Drive to Roncesvalles Avenue approx. 660 m (Figure 1)

The existing cable route is in the median of Lake Shore Blvd West between the westbound and eastbound lanes.

City of Toronto proposed route: Grass area north of Lake Shore Blvd West westbound, south of Gardiner Expressway

General

- Proposed area is in public road allowance – may be same as existing
- Length of the route is comparable to the existing.
- Number of road crossings is the same; however, a diagonal road crossing is needed here, i.e. it is longer and hence more costly.

Technical

- Grass area is very narrow and already occupied by Bell, Toronto Hydro, storm sewers, water main, City's pump station, and high mast lighting.
- Some utilities observed in the field, not shown on TPUCC drawings.
- Number of utility crossing is less than existing route; however, this may change once missing utilities are inserted on TPUCC drawing.
- In certain areas particularly close to high mast lightings, there seems to be no room for Hydro One new duct bank.
- The new duct bank may need to be installed under the pavement in some parts or all.
- Lane closures will be needed during construction.

- Requires additional 4 – 5 months of engineering to finalize the centre line in consultation with the City, revise, and circulate and feedback/changes to TPUC drawings.
- The existing H2JK ca2 does not need to be removed.
- Additional engineering and construction cost (traffic control and restoration) due to installation under the road is expected to exceed cost savings of not removing the cable by approximately \$1M.

Environmental

- On grassed strip would remove approximately 2-4 fewer trees
- Most trees on strip are immature
- Re-alignment retains more mature tree including tree 90
- If on pavement would remove approximately 13 fewer trees

Social

- Grass strip or north lane would likely cause similar traffic disruption during construction. Anticipated that a lane closure is required in part or whole
- Northern lane would require further disruption when restored

Recommendation

- Place the alignment in the southern lane of the westbound Lake Shore Blvd. to avoid all of the utilities known to be in the grassed area
- This location
 - best reflects the current cable location from a technical perspective
 - meets Hydro One's acceptable time risk tolerance
 - eliminates the removal of any trees
 - meets the City planning objective(s)
 - reduced traffic issues because the median can be used
 - possible cost sharing with City

Segment 2: Dowling Avenue to British Columbia Road approx. 560 m (Figure 2)

Existing cable route: South of Lake Shore Blvd West eastbound.

City of Toronto proposed route: Mainly just south of Gardiner Expressway

General

- Proposed area is in public road allowance.
- Length of the route is may be shorter between 100 to 150 m depends on where the final centre line would end up,

Technical

- Number of road crossings is 6 (two abandoned, four active), as opposed to one road crossing in existing route.
- Two road crossings require crossings with two concrete base bridges and/or the closing of GE lanes.
- The proposed route is on steep land. Extensive earthwork required to allow for installation. May require remedial measures to shore Gardiner Expressway
- Engineering suggests we should seriously consider a tunnel in this area due to major grade changes, uncertainty about future grade changes in this area and bridge crossings.
- Access roads need to be installed during the construction and possibly for maintenance.
- TPUCC drawings show other utility installations just north of Lake Shore Blvd westbound away from the proposed route. This is possibly to avoid additional construction cost associated with adverse grades.
- Number of utility crossing seems to be more than existing route.
- Additional soil thermal resistivity tests are needed in the new route.
- Survey plan needs be prepared showing all infrastructures, and grading to determine the centre line because of grade changes.
- Additional engineering efforts are needed to finalize the centre line using survey plan and in consultation with the City.
- Hydro One TPUCC drawings need to be revised and circulated to other utilities for feedback/changes
- Approx. engineering time needed to do all above: 6 to 8 months. If a tunnel is required further delays would be expected.
- The existing H2JK ca2 do not need removal.
- Additional engineering and construction cost is expected to far exceed the current estimate by \$2 M to \$4 M (no tunnel). This figure must be revisited once a centre line is established and engineering solution is determined.

Environmental

- No advantages with respect to tree retention

Social

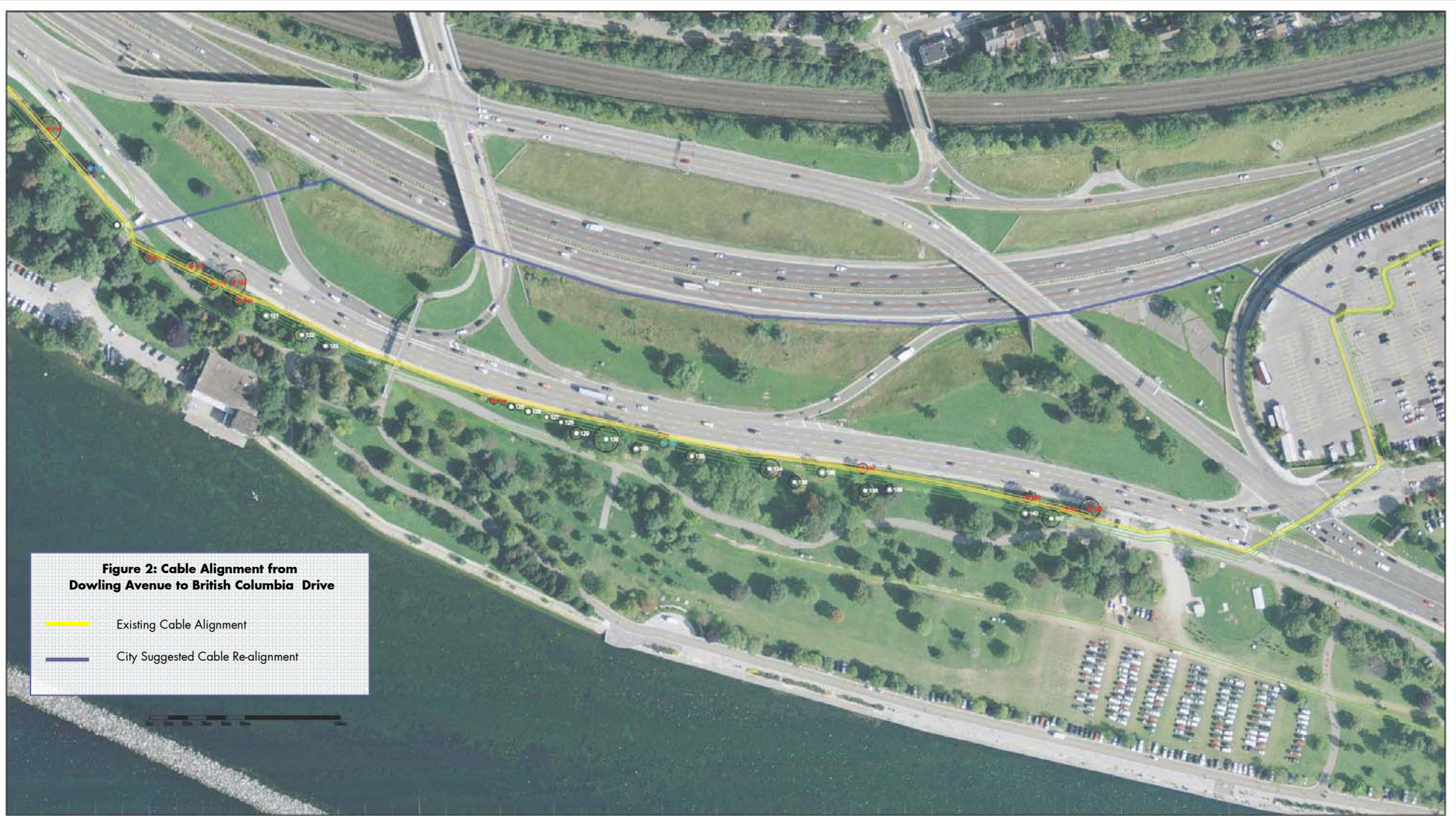
- No construction activity in the Park although this would have been scheduled for off-season

Recommendation

- To stay on existing route.
- Anticipated time delay is very conservative and could be as much as 12 months

- Cost increase is also conservative and represent more than a 10% budget over run without considering the need for a tunnel
- Hydro one management does not support the time delay because of the poor condition of the cable. This delay could jeopardize the reliability of supply to Toronto





December 24, 2010

Mehrgan Mazaheri, P.Eng.
Project Manager
Engineering & Construction Services
Hydro One
483 Bay Street – TCT 07
Toronto, ON M5G 2P5

Douglas Magee
Senior Environmental Specialist
Hydro One
North Tower, 8th floor
483 Bay Street
Toronto, ON M5G 2P5

Dear Mr. Mazaheri and Mr. Magee:

The City is responding to the “Riverside x Strachan Underground Cable Replacement: Assessment of Proposed Route Alignments by City of Toronto,” that you shared with us at our meeting of December 6, 2010.

A. Segment 1: Parkside Drive to Roncesvalles Avenue

The City acknowledges your acceptance of our proposal to realign a portion of your existing hydro corridor in the southern lane of the westbound Lake Shore Blvd. in Segment 1 from Parkside Drive to Roncesvalles Avenue. This alignment is in compliance with the *Central Waterfront Secondary Plan* and the *Western Waterfront Master Plan*, which call for reconfiguring Lake Shore Blvd. to release portions of the existing median to parkland. Your proposal also preserves a number of mature trees that would otherwise have been affected, including a native elm.

The City appreciates that your decision minimizes future risks coincident with a realignment of Lake Shore Boulevard Avenue in this area, which could necessitate a change in use for the existing roadway in which your conduit currently rests. The risks are outlined in s.2(2) of the *Public Service Works on Highways Act* in which operating corporations may face partial costs associated with labour and labour-saving devices in addition to full materials costs.

The City understands that your estimate of \$1M in additional construction cost is primarily due to traffic control and road restoration expenses. The City is unable to assist Hydro One directly with these costs but we will consider measures that would have the effect of reducing Hydro expense. We are, however, able to assist you in coordinating the necessary reviews and approvals by City staff to ensure a timely review of your application.

B. Segment 2: Dowling Avenue to British Columbia Drive

The City acknowledges your findings that realigning your conduit in the easterly Segment 2: Dowling to British Columbia Drive is cost-prohibitive and would cause delays that could negatively impact Toronto's electricity supply. However, your position does contravene Council policy in Sections A3, B15 and D25 of the *Central Waterfront Secondary Plan*, adopted April 16, 2003. It

also fails to meet the objectives of the *Western Waterfront Master Plan*, adopted by City Council on August 5-6, 2009, which include creation of nearly three hectares of new parkland at Marilyn Bell Park.

The City's position is that Hydro One improvements should respect Council policy and the first two phases of the Class EA Master Plan for municipal infrastructure that have already been completed as part of the *Western Waterfront Master Plan*. With a future realignment of Lake Shore Boulevard, portions of your existing conduit between Dowling Avenue to British Columbia Drive may rest in the middle of future parkland, constraining park planning in the area and placing Hydro One at greater risk, as outlined in the *Public Service Works on Highways Act, s. 2(2)*.

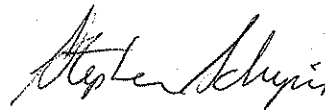
In summary, the City acknowledges your proposal to realign your hydro conduit in Segment 1: Parkside to Roncesvalles and to remain within the existing corridor in Segment 2: Dowling Avenue to British Columbia Drive, with its attendant risks of future realignment to comply with the *Central Waterfront Secondary Plan* and *Western Waterfront Master Plan*. The City will also formally review and comment on your detailed plans upon submission of your Environmental Study Report in 2011.

We look forward to working with you to realize your infrastructure renewal program in the western waterfront area.

Sincerely,



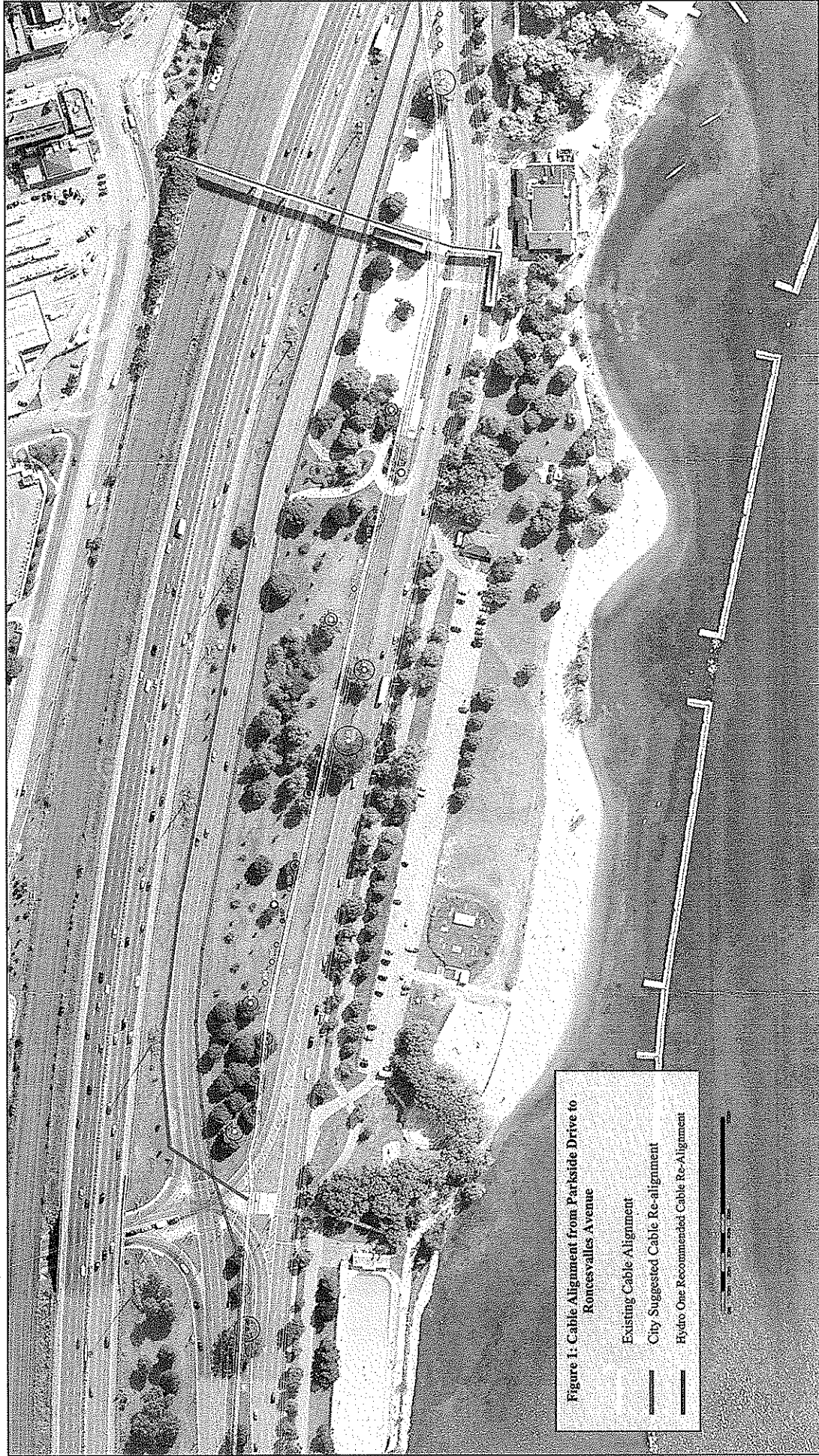
pn **Pinelopi Gramatikopoulou**
Project Manager
Waterfront Secretariat



Stephen Schijns, P.Eng.
Manager, Infrastructure Planning
Transportation Services

Attachment: CAD drawing of new alignment

cc: Jeff Climans: Infrastructure Coordination
Bruce McPherson, Avi Bachar: Technical Services
Angie Antoniou, Andre Rudnicky: Transportation Services
Ward Earle, Rob Balfour, Mike Smith, Ray Mickevicius: Legal
Steve O'Bright: Parks, Forestry & Recreation
Lou Moretto, Dan Nicholson: Planning



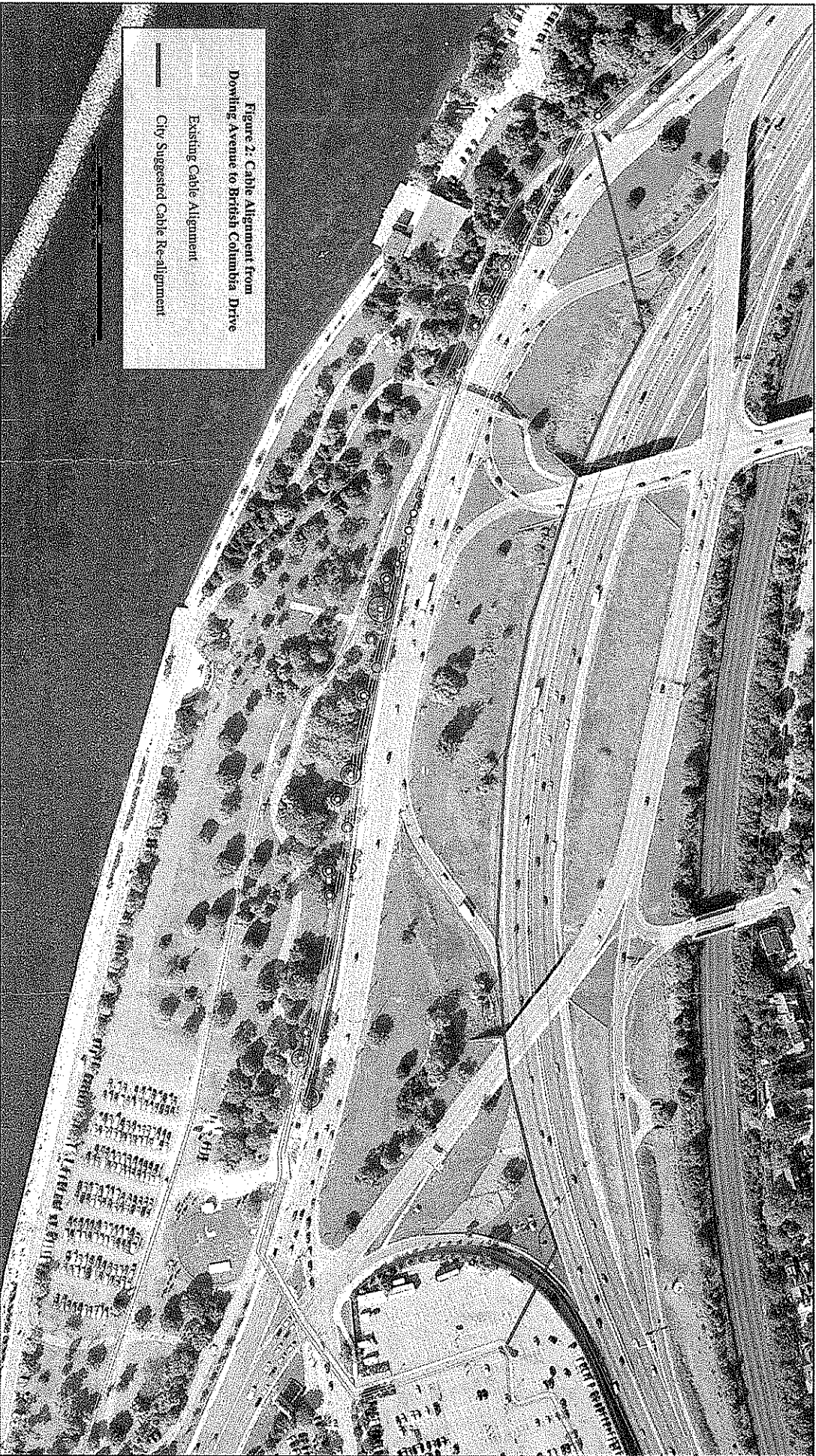


Figure 2: Cable Alignment from Dowling Avenue to British Columbia Drive

Existing Cable Alignment

City Suggested Cable Re-alignment

Efforts to date have been very helpful and we look forward to a continued close working relationship.

Sincerely:



Doug Magee

Cc: Brian McCormick: Environmental Services & approvals
Mehrgan Mazaheri, Project Management
Enza Cancilla, Public Affairs