Attachment 2: Recommendations

AREAS 1, 2, 3, & 4: LOWER DON RIVER

1. TRCA staff review the high-level Mike Flood 2D floodplain impact study to confirm that there are no additional flood plain impacts resulting from the Richmond Hill corridor works.

AREA 1: LOWER DON RIVER – Realigned Richmond Hill Corridor

2. Metrolinx demonstrate that no temporary or permanent infrastructure, alterations, or construction and temporary excavations will be within 10 metres of the WDFPL footprint. If disturbance is unavoidable, Metrolinx will demonstrate that all other alternatives are not feasible to TRCA's satisfaction.
3. Metrolinx to enter into an agreement with TRCA that:
    a. Metrolinx adopts measures to mitigate impacts to the FPL to the satisfaction of TRCA.
    b. Metrolinx restore the WDFPL to original design standard or better post construction; TRCA will review and confirm the appropriateness of the restoration.
    c. TRCA review and approve any changes to the tie in point of the WDFPL, if needed.
    d. Metrolinx undertake long-term monitoring to confirm that the long-term function of the FPL is appropriately maintained after the proposed alterations, to the satisfaction of TRCA. Metrolinx will additionally be required to undertake all necessary remedial and mitigative measures, if deemed necessary as per the monitoring results, to the satisfaction of TRCA.
4. Metrolinx confirm TRCA property requirements early in the process to begin the easement.

AREA 2: LOWER DON RIVER – New Lower Don River Crossing

5. Metrolinx confirm the timing of constructing the Lower Don River crossing. If the timing of construction is before the proposed EHFPL and potential flood remediation works resulting from the BEFP Municipal Class EA north of the rail embankment, Metrolinx will need to proactively design to incorporate with future flood protection as well as provide temporary flood protection measures for their project in accordance with provincial hazard and TRCA policy.
6. Metrolinx engage with TRCA and its partners to review the flood protection strategy for this project, including optimizing project solutions, timing and funding to construct the required protection measures in advance of the funding for the permanent infrastructure.

AREA 3: LOWER DON RIVER – East Harbour Station

7. Metrolinx provide more details regarding the proposed East Harbour Station works in the Early Works Report. TRCA should be provided with sufficient time to review the full extent of the proposed works, prior to completion in accordance with the TRCA-Metrolinx SLA. Metrolinx should incorporate TRCA comments into the document prior to public review; however, if Metrolinx is unable to address TRCA comments at this stage, commitments to address comments through the VPR process should be added to the reports or provided in a separate memo.
8. Metrolinx partner with TRCA, the City of Toronto, and Waterfront Toronto to secure funding for flood protection infrastructure for the northern section of this area.
9. Metrolinx update the Early Works report to include the following: a) details on how the East Harbour Station interfaces with the DMNP, Broadview Underpass, Gardiner Expressway and Lakeshore Boulevard Realignment, and Broadview Avenue Extension; and b) potential effects and mitigation measures resulting from these studies.
10. Unless the flood proofing infrastructure to the south and north of the East Harbour Station embankment are implemented, the agency responsible for flooding impacts should be determined prior to construction and/or added as a commitment in the Early Works report.

AREA 5: UPPER DON RIVER – Millwood/Minton Crossing

11. Metrolinx conduct a geotechnical and stability review of proposed alterations as a result of the earthworks for the alignment and to assess the impact of the proposed alterations on the valley slope stability and to develop the appropriate mitigation strategy against potential erosion hazard for the valley slopes at the crossing.
12. Metrolinx identify the potential constraints on replantation of the altered areas by grading or engineering the slope for stabilization purposes as well as the permanent impacts on the ecosystem in the valley slope area.
13. Metrolinx consider a new bridge, adjacent to the Leaside Bridge that can accommodate a railway system, similar to the Bloor Street Viaduct.
14. Metrolinx undertake a more detailed natural heritage inventory and impact assessment to estimate a more up-to-date ecological impacts of the proposed alignment and to inform appropriate mitigation measures.
15. The footprint of the alterations and total piers should be reduced as much as possible allowing for optimal connectivity in the valley.
16. The proposed station in the vicinity of any crossing near the valley system should have active transportation amenities (safe pedestrian connections, lighting, lit crossings, bike parking, bike wash stations, etc.) to promote active transportation as a safe first mile/last mile option for public transit.

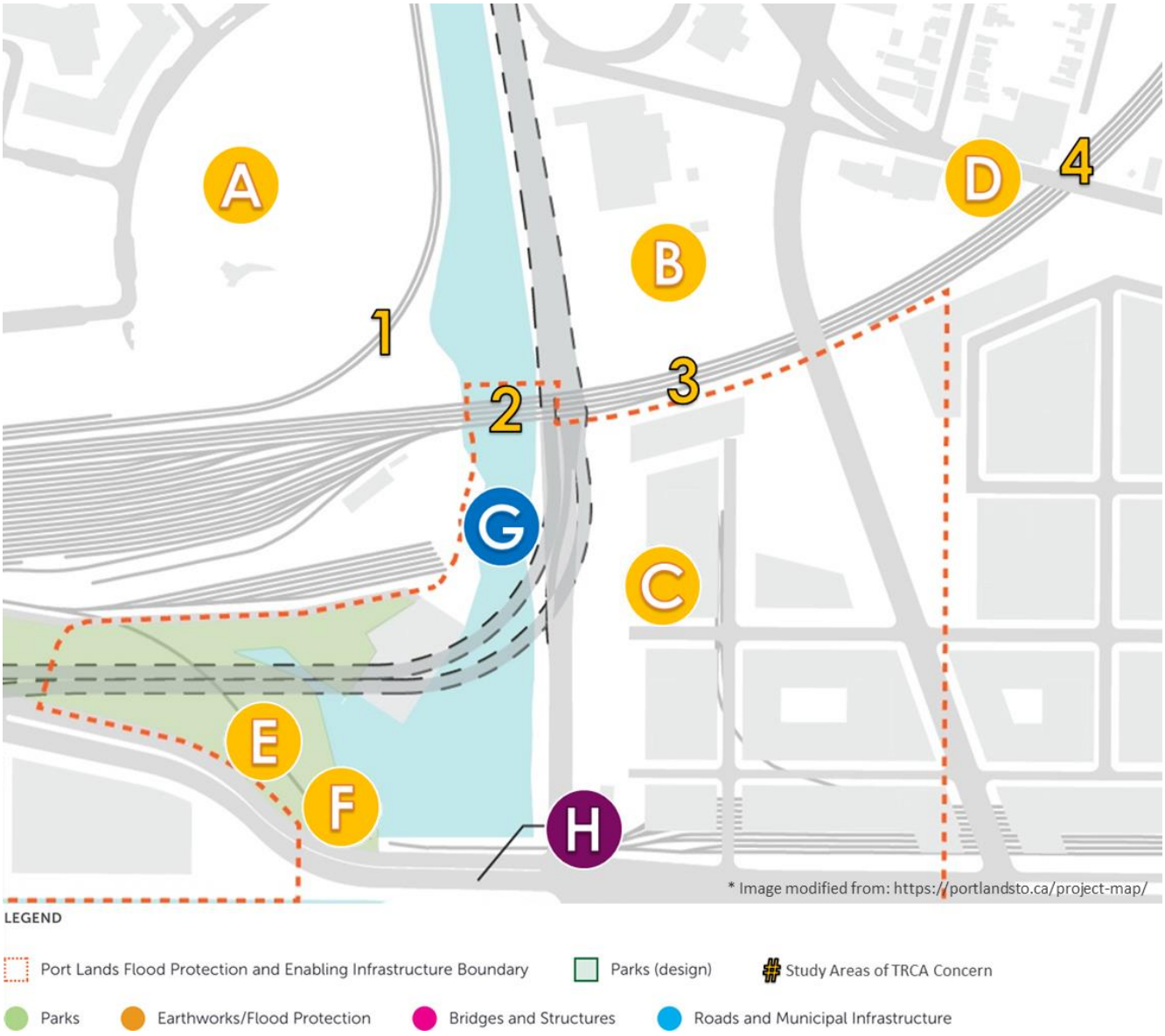
AREA 6: UPPER DON RIVER – Maintenance and Storage Facility (Wicksteed Site)

17. Metrolinx commit to conducting the slope stability study for this site (valley slopes on north/northeast and south) at this stage of the process to inform the feasibility study and to develop the options. This will include LTSTOS (with additional 6-10 m buffer) and grading information for the proposed works (including temporary), so that the extent of the disturbance as well as the appropriate mitigation strategy from the long-term erosion and slope stability hazards are identified.
18. Metrolinx to provide TRCA staff with the design criteria and conditions for the PSOS for review and approval to ensure that TRCA requirements to mitigate the erosion hazard, as well as to protect the slopes and ravines, are met.

AREA 7: UPPER DON RIVER - E.T. Seton Park Crossing (Overlea Crossing)

19. Metrolinx commit to conducting the slope stability study for this site (valley slopes on both sides of crossing and the parallel segment) at this stage of the process to inform the feasibility study and to develop the options. This will include LTSTOS and grading information for the proposed works, so that the extent of the disturbance as well as the appropriate mitigation strategy from the long-term erosion and slope stability hazards are identified.
20. Metrolinx submit a hydraulic assessment memorandum with the latest Don HEC-RAS model which demonstrates that there are no flood plain impacts with the proposed crossing.

Attachment 3: Flood Protection Infrastructure of the Lower Don



A: West Don Lands Flood Protection Landform
This area has a long history of flooding due to its unique location at the mouth of the Don River and the Keating Channel. This area used to be vacant lands, but Waterfront Toronto (WT) was charged with revitalizing the area for development. Before any development could occur, WT and TRCA undertook the Lower Don River West Remedial Flood Protection Project (LDRW) to remove the flood risk and open up approximately 210 hectares of land west of the Don River to redevelopment. This was ultimately done by constructing the WDFPL.

B: Broadview and Eastern Flood Protection Municipal Class EA (proposed - incomplete)
Located at the intersection of some of the City's most ambitious infrastructure and development projects, including a future office and retail nexus as well as key transportation initiatives, the BEFP will seek a solution to address flood vulnerability for an 8 hectare parcel of urban land just east of the Don River and south of Eastern Avenue.

C: East Harbour Flood Protection Landform (proposed - complete)

This flood protection landform will be built on the east bank of the Don River between the Metrolinx Rail Bridge over the Don Valley Parkway and Lake Shore Boulevard. It will eliminate the risk of flooding to the future East Harbour development site, east of the Don River.

D: Eastern Avenue Flood Protection

Waterfront Toronto (WT) will raise the grade of the land surrounding the Eastern Avenue underpass of the CN Rail line to help protect against flooding during major storms.

E: Sediment and Debris Management Area

Sediment and debris need to be removed regularly from the Don River to keep water flowing safely through the river valley, reduce the impact of flooding and maintain safe navigation in the inner harbour. Currently, Ports Toronto dredges mud, silt and larger debris from the Keating Channel. To allow water to flow under the Lake Shore Bridge during a major flood, the Don River needs to be widened and deepened upstream of this bridge. This will slow down the water, releasing more sand and silt onto the riverbed. To address this, WT are moving dredging operations and debris management north of Lake Shore.

F: Flow Control Weirs

WT will install a series of weirs (fences or enclosures) near the Lake Shore Bridge that will allow us to control the amount of water that enters the new river valley and the Keating Channel. This will help avoid flooding and ensure that there's always enough water flowing through the new river valley to support a healthy ecological system.

G: Gardiner Expressway & Lake Shore Boulevard East Reconfiguration

The City and WT selected "the Hybrid" as the preferred solution for the future of the elevated Gardiner Expressway and Lake Shore Boulevard East corridor between Lower Jarvis Street and Cherry Street. The Ministry of Environment and Climate Change approved the EA in November 2017. The design for this solution includes maintaining the existing elevated expressway and rebuilding the Gardiner-DVP connection and Lakeshore Boulevard East along a new alignment closer to the rail corridor.

Hydro One Integration

WT is working with Hydro One to address overhead hydro towers along the Don Roadway south of Lake Shore Boulevard and to integrate the proposed Flood Protection Landform with the existing underground high voltage cables. WT will coordinate with Hydro One to make sure the roads and flood protection features are designed to accommodate its infrastructure.

H: Lake Shore Boulevard and Rail Bridge Modifications

The existing bridge at Lake Shore Boulevard and Don Roadway and the adjacent rail bridge act as a pinch point. This restricts the flow of water, increasing flood risks. By extending the Lake Shore Bridge at its west end by three spans, WT will create a wider opening over the Keating Channel. This will allow higher, faster water to flow safely through the channel during major storms. Additional opportunities to coordinate with the Gardiner East Project may offer more significant modifications to this structure.