

Review of



Policy C542 Development Setbacks from River Valley/Ravine Crests



Introduction

To many residents, the North Saskatchewan River Valley and Ravine System is among Edmonton’s finest features. Managing its preservation and public access is important to many Edmontonians.

The top-of-bank¹ (TOB) is a narrow strip of upland abutting the river valley and ravine system. It is an important interface between several, sometimes competing interests including land developers and City Administration during the planning approval stages; and owners of private property “backing onto”² the top-of-bank and users of the lands along the top-of-bank seeking physical access and views into and along the river valley and ravine system. To manage this interface and protect the “edge” of the river valley and ravine system, the City of Edmonton has developed various policies, statutory plans and regulations.

This report reviews the implementation of Policy C42 Development Setbacks from River Valley/Ravine Crests approximately 15 months after its adoption in February 2010. Four months (June 7, 2010) after Policy C542 was approved, the *North Saskatchewan River Valley Area Redevelopment Plan Area Redevelopment Plan Bylaw 7188* was amended to incorporate the general purpose of the new policy and to identify its area of application adjacent to the boundary of the Area Redevelopment Plan. Further, a new business practice was applied to development permit applications such that applicants are required to provide additional information when seeking to place structures along the top-of-bank for the river valley/ravine system.

1. Policy Context

Policy C542 supersedes the Top-of-Bank (TOB) Public Roadway Policy approved by City Council in 1970 and amended in 1985 when it accompanied the *North Saskatchewan River Valley Area Redevelopment Plan Bylaw 7188*. Table 1 compares the former policy and the current policy.

Table 1 Comparison of Former Top-of-Bank Public Policy and Policy C542

	Top-of-Bank Public Roadway Policy (1985)	Policy C542 Development Setbacks from River Valley/Ravine Crests (2010)
Area of Application	New residential plan areas only	City-wide (inclusive of new and existing residential, commercial and industrial neighbourhoods)
Objectives	<ul style="list-style-type: none"> • Protect urban development from unstable slopes; and • Protect river valley and ravine system from encroachment by urban 	<ul style="list-style-type: none"> • Protect urban development from unstable slopes; • Protect river valley and ravine system from encroachment by urban

¹ The terms – top-of-bank, TOB, upland area, upland edge of the river valley and ravine system, adjacent to the edge of the river valley and ravine system – mean the same thing and are intended to be interchangeable.

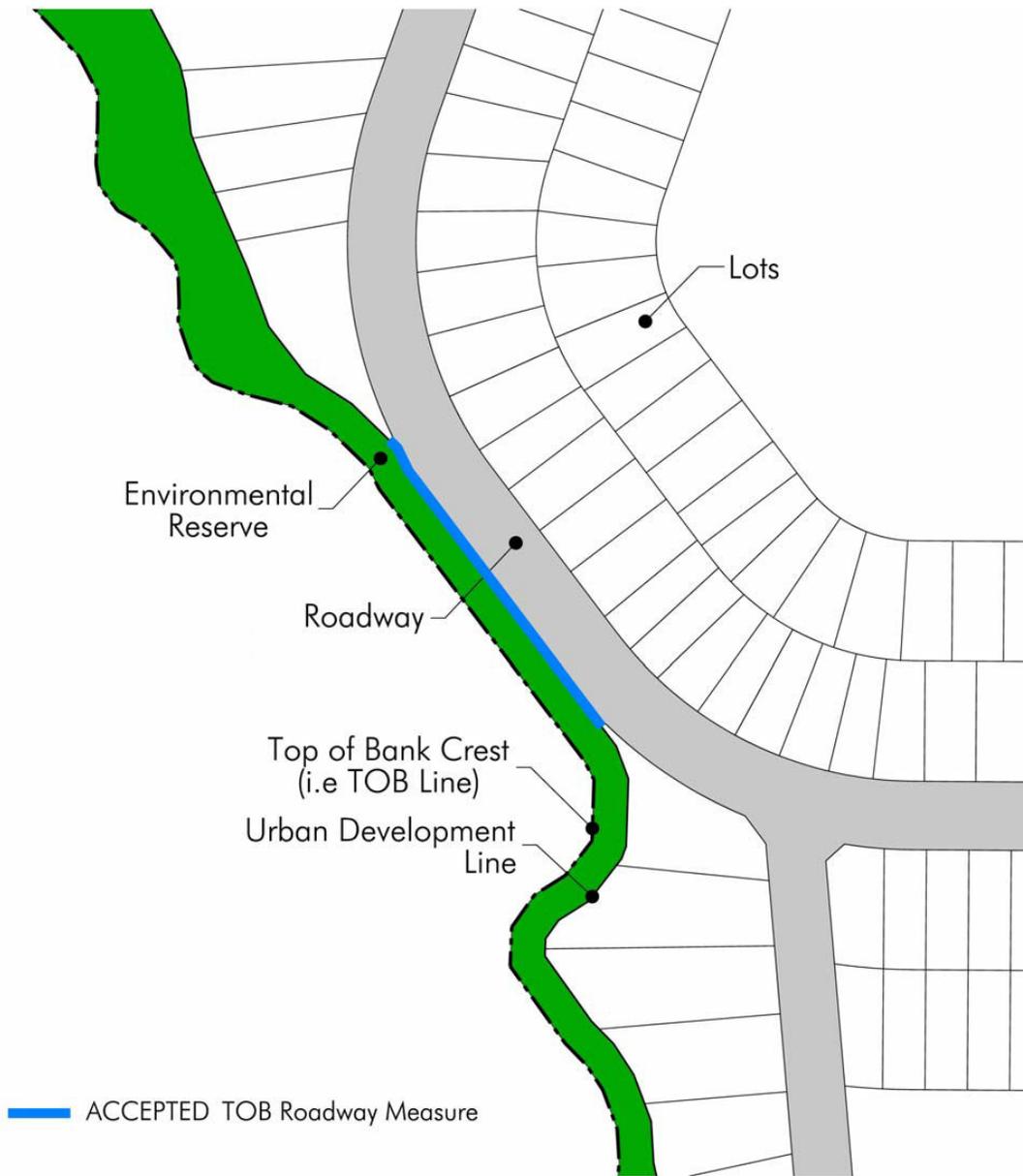
² Private property is located adjacent to the top-of-bank in two formats: fronting on, where private properties are separated by a public road; and backing on, where private properties are separated by an upland setback that is often developed with a walkway/trail to accommodate pedestrians and cyclists.

	development	development; <ul style="list-style-type: none"> • Maximize public access to river valley and ravine system; and • Ensure preservation of the river valley and ravine system as a significant visual and natural amenity feature
Means of Separating Urban Development from TOB	<ul style="list-style-type: none"> • 100% Top-of-bank roadway except where public lands abut the top-of-bank, or where the geometry of the top-of-bank precludes a roadway, then a minimum 7.5 m upland setback is provided 	<ul style="list-style-type: none"> • Continuous top-of-bank walkway a minimum of 10.0 m in depth; and • Minimum 30 % Top-of-bank roadway; or • Public lands in the form of parkland, stormwater management, and other rights of way
Private property line setback	Established arbitrarily as: <ul style="list-style-type: none"> • Minimum 7.5 m setback from top-of-bank line; or • Minimum 17.0 m (width of top-of-bank roadway) 	Established through geotechnical studies and risk management approaches: <ul style="list-style-type: none"> • Minimum 10.0 m setback from top-of-bank line, or as defined by Urban Development Line, whichever is greater; or • Minimum 10.0 m setback, or as defined by the Urban Development Land, whichever is greater, plus 17.0 m road right-of-way.
Spacing of access points to TOB by walkways	<ul style="list-style-type: none"> • No requirement 	<ul style="list-style-type: none"> • Minimum of 120 m
Planning stage considered	Primarily at subdivision	Primarily at plan formulation, but also at zoning, subdivision and development permit stages
Compensation for providing top-of-bank roadway	None	Yes, the area of land between the top-of-bank and the top-of-bank roadway (not already dedicated as parkland – see below) is deducted from the gross developable area which reduces the overall Municipal Reserve requirement
Graphic depiction of key concepts	No	Yes
Glossary of Terms	No	Yes
Attached Procedures	No	Yes

Policy C542 requires at least 30% of the top-of-bank must be developed with an abutting roadway. The policy allows a top-of-bank roadway to be provided in either of two formats. The first format, termed “traditional”, is consistent with that envisioned in the former policy where a roadway is placed as close as possible to the top-of-bank (see Figure 1) – the lands between the road and the top-of-bank being a relatively shallow in depth.³ The second format, termed “modified”, was newly introduced with Policy C542 and places parkland between the roadway and the top-of-bank. The second format measures the roadway based on the length of the adjacent top-of-bank (see Figure 2).

³ Examples of the traditional TOB roadway include Ada Boulevard, Saskatchewan Drive, Strathearn Drive where homes face the roadway and the top-of-bank on the opposite side of the roadway. Traditional top-of-bank roadways typically provided long, continuous circulation and connectivity through a neighbourhood or several neighbourhoods.

Figure 1 (Schedule A of Policy C542)



Top of Bank Roadway Measurement

February 2010

Depending on placement and configuration of the park, the length of actual roadway can be much less than the length of the adjacent top-of-bank.

Figure 2 (Schedule B of Policy C542)

TOB ROADWAY MEASUREMENT



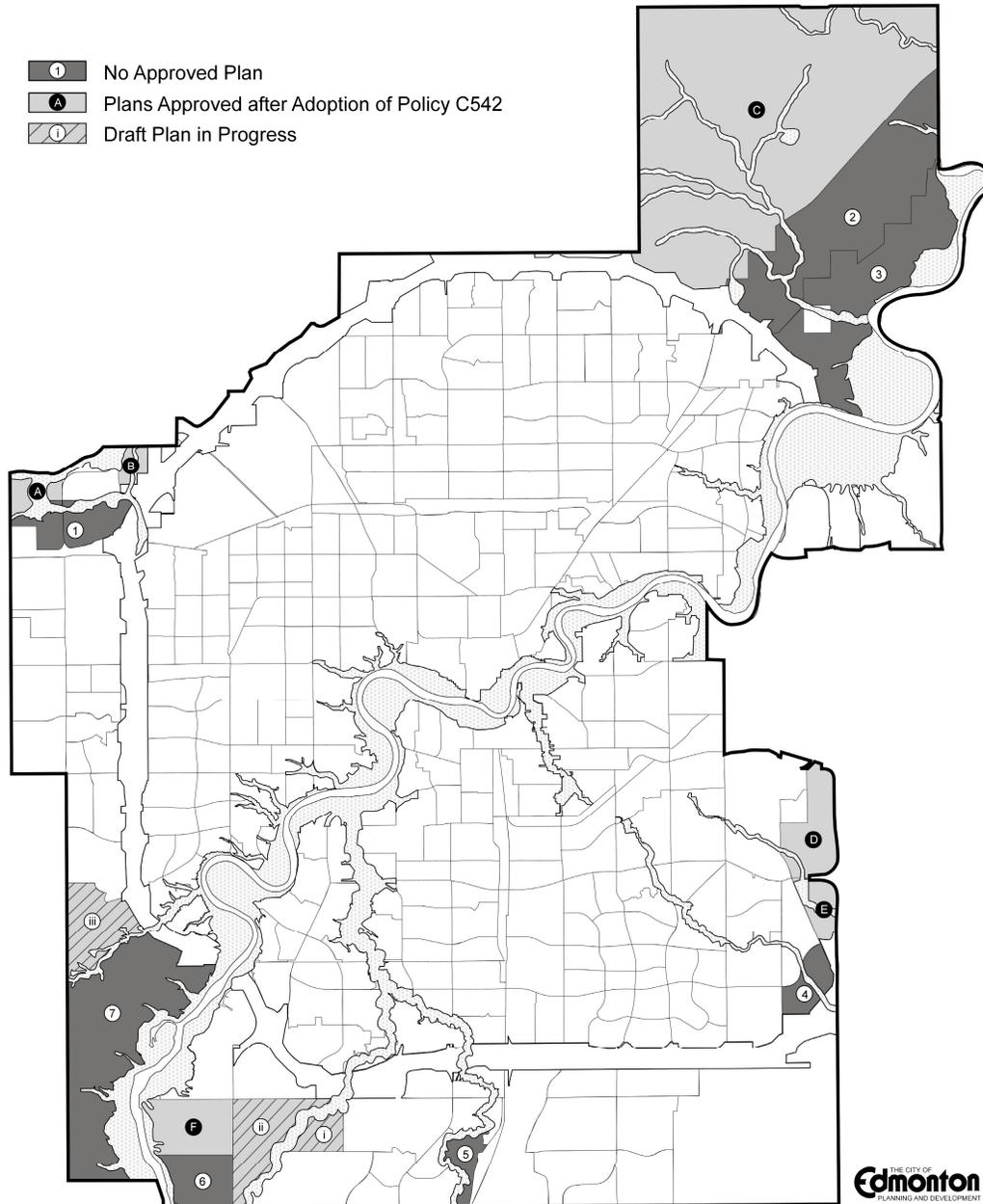
Other than a continuous minimum 10.0 m wide upland setback and a roadway for at least 30% of the top-of-bank, Policy C542 requires no minimum or maximum amount of public lands (natural areas, parkland, and stormwater management facilities, or other rights of way) along the top-of-bank. Nonetheless, the provision of parkland, in combination with a roadway, along the top-of-bank is very likely as it contributes towards the minimum 30% top-of-bank roadway requirement.

2. Development Context

At the time Policy C542 was approved, approximately 35% of the lands along the top-of-bank for the river valley and ravine system were unplanned and undeveloped. The adoption of six new plans and the pending approval of three additional plans in the past year has/will reduce the amount of unplanned lands along the top-of-bank by 20% to approximately 16% (see Map 1). Of the six approved plans, four are residential and two are industrial. The two industrial plans account for 70% of the lands along the top-of-bank brought under a statutory plan in the past year.

Major slopes (below the top-of-bank) are predominately located in the southwest and western portions of Edmonton and comprised of the river valley (1.7 km), Whitemud Creek (7.9 km), Wedgewood Ravine (4.1 km), and Blackmud Creek (0.67km).

Map 1 Area and Neighbourhood Structure Plan Activity, 2010-2011



I No Approved Plan*	A Approved Plan (2010-2011)	I Draft Plans in Progress
① Rural West Big Lake	Ⓐ Big Lake Nbhd 2 (Starling)	① (Draft) Heritage Valley Nbhd 11 NASP
② Rural North East Horse Hill	Ⓑ Big Lake Nbhd 3 (Hawks Ridge)	Ⓐ (Draft) Windermere Nbhd 4 NSP (Glenriding)
③ Rural North East South Sturgeon	Ⓒ Horsehills Energy & Technology Park ASP	Ⓑ (Draft) Edgemont NASP
④ The Meadows Nbhd 5	Ⓓ Maple Ridge Industrial ASP	
⑤ Heritage Valley Nbhd 7b	Ⓔ Maple NSP	
⑥ Windermere Nbhd 5	Ⓕ Keswick NSP	
⑦ Rural West		

* These are unplanned and undeveloped areas with no approved industrial Area Structure Plan or residential Neighbourhood Structure Plan. With the latter, an Area Structure Plan may or may not exist.

3. Analysis of Policy C542 Implementation through Area and Neighbourhood Structure Plans 2010 – 2011

Table 2 tracks land ownership (private versus public) along the top-of-bank and the composition/format of public lands along the top-of-bank as proposed under the six recently approved and three draft statutory land use plans. Land allocation information for the two approved industrial plans is not available as the technical studies required to establish the top-of-bank line or crest as well as the urban development line have not yet been completed. These studies will be completed at future stages of planning. Development along the top-of-bank has commenced in several residential neighbourhoods, one being Maple.

In all cases, a continuous minimum 10.0 m wide upland setback is being provided. At the time Policy C542 was in draft form, there was discussion as to how often it might be necessary to increase this setback to address local development issues (access for slope repair and firefighting, and Crime Prevention Through Environmental Design (CPTED) concerns). However, the instances where this setback has been increased has proven to be infrequent to date. The continuous minimum 10.0 m setback is expected to increase in areas abutting major slopes as geotechnical studies identify the need for wider setbacks to ensure future urban development is safe from slope instability.

The balance between private property backing onto the top-of-bank, and public lands (not including the continuous minimum 10.0 m setback) abutting the top-of-bank is 62% and 38%, respectively. This is a reasonable average for the four approved and three draft residential plans. However, at least one draft plan proposes less than 30% of the top-of-bank be allocated as public lands.

Except for Big Lake Neighbourhood 2, the majority of public lands along the top-of-bank are provided as parkland in combination with a roadway. The majority of public lands in Big Lake Neighbourhood 2 along the top-of-bank are provided as a school/park site in combination with a roadway. In this situation the road is rather distant from the top-of-bank.

Where parkland is provided along the top-of-bank it is generally of the same depth as the flanking backing on private lots and is typically narrow in width. This results parkland parcels that are generally ornamental and passive in nature with limited curbside parking (for those seeking to access the river valley and ravine system) and creates potential traffic congestion. To some extent the design, configuration and placement of these parkland parcels (particularly at the end of cul-de-sac) may foster the perception that they exist for exclusive use of nearby residents.

The preferred method (by developers) of providing a top-of-bank roadway is in combination with parkland. Approximately two thirds of top-of-bank roadway is provided in this format. And because parkland parcels are small in area, the top-of-bank roadway is provided in small segments. As a result, longer stretches of top-of-bank road with broad vistas of the river valley and ravine system are not provided. An additional finding is that some of these parks are being provided such that the actual length of the abutting roadway is often much less than the length of the abutting top-of-bank. Again, this results in small segments of actual roadway.

Table 2 Policy C542 and Plan Activity, 2010-2011

Approved or Draft Plan	Abutting Property Owners #	Length of Urban Development Line km	Land Use Adjacent to the Urban Development Line (approx. %)						*TOB Roadway Requirement %	Major Slopes	Public Upland Area >10 m	Development Issues	
			Private %	Park %	Utility %	Public %	Roadway %	Other %					
Approved Plans													
Big Lake Nhd 2 NSP (Starling)	4	4.7	66	3.102	12	0.564	20	0.94	4	0.188	36	Low	Rare
Big Lake Nhd 3 NSP (Hawks Ridge)	2	2.9	68	1.972	22	0.638	8	0.232	2	0.058	32	Low	Special Study Area (slope instability along Big Lake)
Keswick NSP	4	3.3	42	1.386	34	1.122	0	0	24	0.792	58	High	Non-participatory landowner - TOB to be determined
Maple NSP	2	2.4	60	1.44	2	0.048	0	0	38	0.912	40	Low	Rare
Maple Ridge Industrial ASP	n/a	2.362	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Low	No Shadow Plan Available
Horse Hills Energy and Technology Park ASP	n/a	58.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Low	No Shadow Plan Available
Draft Plans													
Draft Edgemont NASP	10	7.9	62	4.898	22	1.738	5	0.395	11	0.869	38	High	≈95%
Draft Windermere Nhd 4 NSP (Glennriding)	11	4.9	76	3.724	10	0.49	4	0.196	12	0.588	26	High	Frequent Golf Course currently within Top of Bank. Non-participatory landowners - TOB to be determined
Draft Heritage Valley Nhd 11 NASP (Jagare Ridge)	2	2.9	55	1.595	38	1.102	2	0.058	0	0	40	High	100% (15m) Special Study Area (terraced land) and Golf Course within TOB
Total Residential		29	62%	18.12	20%	5.702	6%	1.821	12%	3.407	38%		
Total Industrial		60.562											
Total		89.562		18.12		5.702		1.821		3.407			

* Policy C542 requires a minimum 30% Top of Bank Roadway requirement which should be increased where various conditions exist (see Policy 1.08). The TOB roadway requirement is measured along the urban development line for the sum of park, public utility and roadway.

Stormwater management facilities are located within or adjacent to the river valley and ravine system in 17 out of 170 existing situations and 4 out of 140 planned situations, or just over 7% of the total.

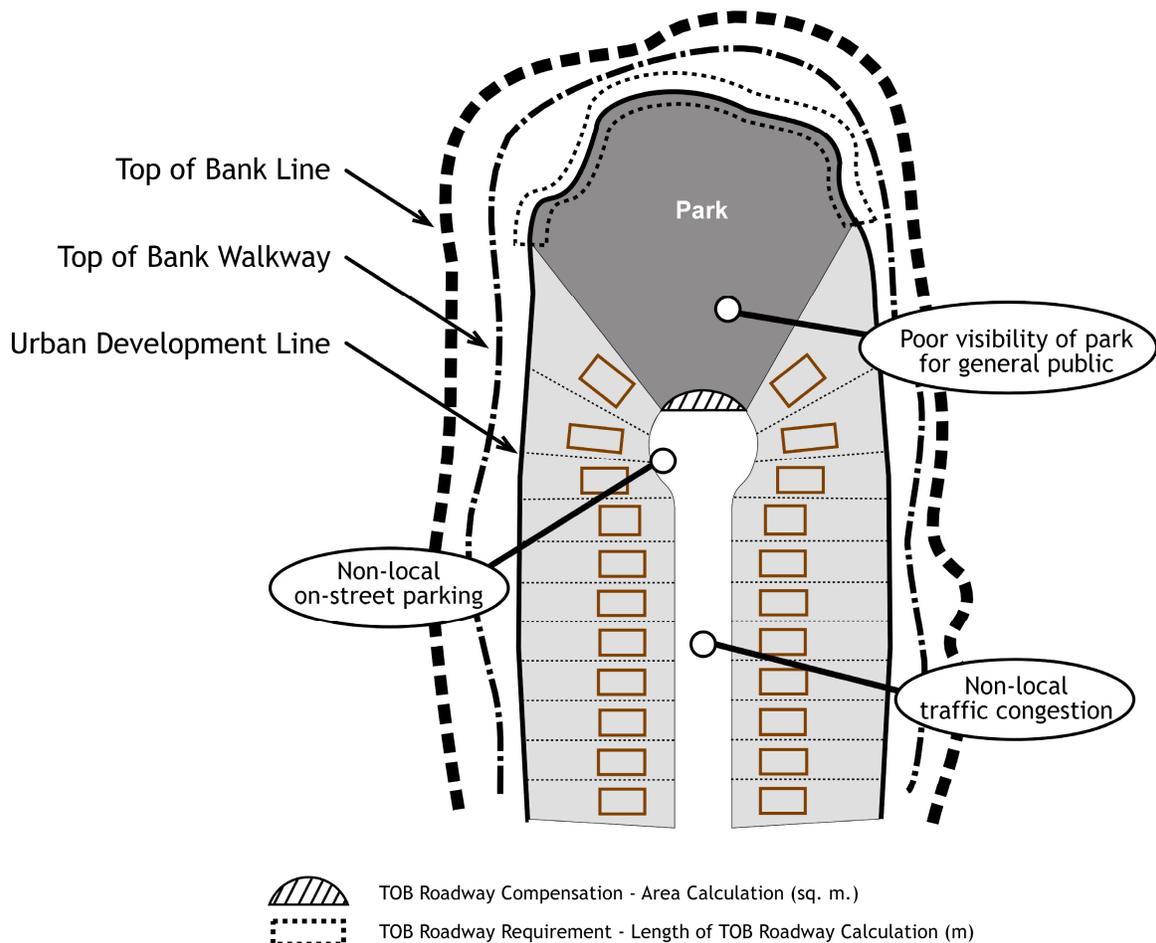
	Distance (km)	%
Approved	73.9	100.0%
Draft	15.7	20.5%
TOTAL (2010-2011) Planned TOB	89.6 km	16.2%
	Total River Valley (2010-2011) Planned:	
	Unplanned	
	437.799	100.0%
	89.562	20.5%
	70.8	16.2%

	Distance (km)
Windemere 5	1.9
Rural Northeast	34.7
Biglake Nhd 4.5	4.1
Meadows Nhd 5	2.6
Heritage Valley 7b	4.3
Rural West	23.2
TOTAL Unplanned TOB Length:	70.8 km

Figure 3 illustrates a typical small park and short top-of-bank road segment, and describes associated design concerns related to minimal parking, and poor visual and physical access, etc.

Figure 3 (Top-of-Bank Roadways and Neighbourhood/Subdivision Design Issues)

- Visual and physical access for neighbourhood residents and visitors?
- Design issues relative to parking, traffic congestion, safety, and winter accessibility for local residents and visitors?
- Actual top-of-bank roadway being provided?
- Value as top-of-bank roadway?



The placement of stormwater management facilities along the top-of-bank is often limited due to geotechnical reasons. However, developers are attracted to the placement of these facilities on terraces (below the top-of-bank) within the river valley and ravine system as this maximizes the gross developable area of the lands above the top-of-bank. Administration views the placement of these facilities below the top-of-bank as an encroachment into the river valley and ravine system; and perhaps the eventual basis for these terraces to be occupied by non-utility uses. Encroachments by urban development into the river valley and ravine system, in general, could be better addressed if the

definition of “crests” in Policy C542 were amended to “uppermost crest” and the definition of Environmental Reserve in the Municipal Government Act were clarified.

4. Next Steps

Administration is prepared to negotiate with developers on a case by case basis to ensure the size, configuration and location of parkland and roadway dedicated along the top-of-bank is fair and reasonable to both industry and to the City. However, Administration sees value in Policy C542 being amended to:

- adjust the method of measuring top-of-bank road;
- add direction for longer continuous segments of top-of-bank roadway; and
- refine the definition of “crest” to prevent encroachment of urban development into the river valley and ravine system.

Administration also supports that the definition of Environmental Reserve be clarified in the next review of the Municipal Government Act relative to better delineating non-developable areas in the river valley.