

STAFF REPORT

To: RVCA Board of Directors
From: Don Maciver, MCIP RPP Director of Planning
Subject: Local Implementation Policies – Ontario Regulation 174/06
“Development, Interference with Wetlands and Alterations to Shorelines and Watercourses” in one zone regulatory floodplain
Date: November 12, 2009

Recommendation:

That the attached proposed policies to amend the RVCA’s “Policies regarding Development including the construction / reconstruction of buildings and structures, placing of fill and alterations to waterways” for development within a one-zone regulatory floodplain of a river or stream valley and this report be released immediately to our member municipalities for comment as well as posted on our web site for public input for a 30 day commenting period.

In May of 2006 the Rideau Valley Conservation Authority adopted a new regulation (Ontario Regulation 174/06) under the authority of Section 28 of the Conservation Authorities Act.

In expectation of the broader scope of this regulation staff brought forward a report at the April 2006 Board meeting wherein the following recommendation was approved:

In anticipation of the Minister’s Approval of the Rideau Valley Conservation Authority’s Regulation related to “Development, Interference with Wetlands and Alterations to Shorelines and Watercourses” (Ontario Regulation 97 /04) regulation on or prior to May 01, 2006 be it resolved that:

- 1) The Board of Directors approves the attached document titled “Transitional Procedures and Guidelines for Permission pursuant to Section 28 of the Conservation Authorities Act” (April 2006) and**
- 2) Pending completion in the near future of revised local policies, the existing “Policies Regarding Development including the Construction of Buildings and Structures, Placing of Fill, and Alterations to Waterways” (current to February 21, 2002) remain in effect except where these policies are silent on a development issue (eg. Wetlands) or where standards in the Provincial Policy Statement (2005) exceed the minimum standards in the local policy in which case the Provincial Policy shall prevail.**

The intent, in the local policies, of reference to the Provincial Policy Statement (PPS) under the Planning Act was to recognize the Provincial Policy Statement as a clear expression of the “*provincial interest*” in such matters and to ensure that the CA regulation administration policies and the policies contained in the Provincial Policy Statement complimented each

other. This approach also was intended to reduce the potential for conflict between the provincial and local CA documents (as well as between the CA and our member municipalities and our provincial partners). By virtue of a Memorandum of Agreement developed by Conservation Ontario, the Ministry of Municipal Affairs and Housing and the Ministry of Natural Resources the RVCA has the local lead for the review of policy documents and related development proposals processed under the *Planning Act* to ensure that the application has appropriate regard to Section 3.1 of the PPS. The Province retains the lead for overall policy development, approvals, programs and standards.

Since May of 2006 the RVCA has continued to operate under the umbrella of these transition provisions and interim policies. This has occurred in part because, in the Fall of 2006, a Provincial committee (formed of MNR and Conservation Ontario representatives) was struck to develop a generic policy approach for adoption / adaptation by all CA's related to their regulatory role under Section 28 of the *Conservation Authorities Act*. Development of the document included eight regional consultation sessions for Conservation Authority (CA) staff in 2007 and 2008. Our input to this process was reported to the Board of Directors at the April 2008 Board meeting. It was staffs' intent that we would transition to adapting the Conservation Ontario developed policy document to our requirements once the Provincial approvals process was completed.

Conservation Ontario Council approved referral of the draft policy document [***Draft Guidelines to Support Conservation Authority Administration of the 'Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation'***] to MNR late in the Spring of '08. A final position has not as yet been reached, however. This has been due largely to extended discussions over the scope of the term "*conservation of land*" (along with the "control of flooding", "pollution", and "erosion" the "*conservation of land*" is one of the prescribed tests in the legislation) and the meaning of the term "*interference*" as it relates to wetlands.

In the interim it remains that the RVCA's existing policies have proved to be relatively robust and defensible having withstood the test of numerous Mining and Lands Commissioner appeals over the 15 or so years they have been in place. While these existing policies are focused primarily at the flood hazard and need to be broadened more recently, and particularly since new Provincial Policies (PPS) were introduced in 2005, issues have arisen in terms of both staff and the Executive Committee dealing with the following matters:

- i) clarity regarding provisions for the extent of possible new development in the floodway,
- ii) the matter of a definition for "minor additions" has been problematic, and
- iii) use of the so-called "incrementally balanced *cut and fill*" technique in the floodway (acknowledging that site alteration generally is not promoted).

Recognizing this, under the Chairman's direction, the Executive Committee of the RVCA has been working with staff to refine our existing policies as they relate to "Development in a Floodway". From a provincial perspective all of the Rideau Valley watershed is an area of "one zone" flood plain policy. Flood fringe areas exist only behind engineered flood control works such as are found at Brewer and Windsor Parks in the (old) City of Ottawa.

The Executive Committee has met twice with staff on November 27, 2008 and on March 26, 2009. These revised policies have resulted from this dialogue. Executive Committee members have more recently re-examined these draft floodway policies and directed staff to advance them to adoption.

The approach adopted consists of an amalgamation of our existing floodway policies and those suggested by the CO committee. We believe this approach can be seen as:

- implementing the recommendations brought forward in the Draft “Guidelines to Support Conservation Authority Administration of the ‘Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation’ ” (CO April 21, 2008))
- being complimentary to the PPS and
- addressing local conditions.

These revised “Floodway” policies would be used to modify sections of the existing interim policies as follows:

- 1.2 (New Buildings and Structures on Vacant land)
- 1.3 (Additions to and Reconstruction of Existing Structures + Replacement)
- 1.5 (Floodproofing) – now becomes 1.4
- Modification to the policies for development in areas of reduced flood risk (behind dykes) – replacing S. 1.2.2 with a new S. 1.5 now to be referred to also as “flood fringe”
- Adding a new section 1.6 related to development between the flood line and the regulation limit to reflect a broadened scope of powers between the flood line and the regulation limit.
- The Fill policies (S. 2 of the existing document) also are to be modified by adding in the new section (now numbered 1.2.7 “Minor removal or placement of fill / minor site grading”) but intended to replace policy 2(ii) (“Placing of Fill”).

Some changes have been made to make certain sections of the existing RVCA policies more prescriptive so as to reduce processing times related to frequent liberal interpretation (or mis-interpretation) of the existing policies. Standards for floodproofing are an example of where this more prescriptive approach has been adopted.

The primary purpose of this report is, then, to seek the Board of Director’s approval to release these proposed revised floodway policies to our member municipalities for comment as well as to have the policies posted on our web site for public consideration and input. A 30 day commenting period is proposed. A key message in this communication should be that we believe that these policies are consistent with the intent of the Province related to protecting people from the adverse effects of the flood hazard and, as such, we believe that they are complimentary to the Provincial Policy Statement (insofar as that statement is an expression of the “provincial interest”). At the January 2010 Board meeting a report, along with a motion for adoption, will be tabled. Any input received will be summarized. The existing policies may be found posted at www.rvca.ca (“Forms and Fees”).

It is important to note that additional policy work remains to be undertaken including particularly the drafting of a more comprehensive "Introduction" section to explain the history of our regulation locally as well as the scope of the additional powers granted to us through our adoption of a regulation (Ontario Regulation 174/06) implementing the "generic regulation" (Ontario Regulation 97/04). Additionally specific policies were suggested by the CO Committee related particularly to development in "river or stream valleys", development associated with (other) hazard lands including unstable soils (marine clay and organic) as well as for interference with watercourses and development in / interference within and adjacent to wetlands. These additional natural resource and natural hazard management issues need to be considered relative to our administration program and watershed needs.

Proposed policies to amend the RVCA’s “Policies regarding Development including the construction / reconstruction of buildings and structures, placing of fill and alterations to waterways” for development within a one-zone regulatory floodplain of a river or stream valley as follows:

1.2 Development within a One-Zone Regulatory Floodplain of a River or Stream Valley

- 1) *Development* within the 1:100 year regulatory floodplain shall not be permitted except as allowed by specific policies elsewhere in this document. This includes:
 - i) new buildings and structures;
 - ii) major additions
 - iii) site grading and filling;
 - iv) development associated with flood hazard protection and bank stabilization works to allow for future / proposed development or an increase in development envelope or area within the 1:100 year regulatory floodplain;
 - v) *development* associated with new and / or the expansion of existing trailer parks / campgrounds;
 - vi) *development* associated with stormwater management facilities;
 - vii) new development on vacant lots of record;
 - viii) underground parking; and
 - ix) development on high points of land outside the floodway but within the regulatory limits of the regulation where safe access is not available.
- 2) Further to Section 1.1, development shall be prohibited within the 1:100 year floodplain including within areas of *reduced flood risk* (flood fringe) where the use is:
 - a) an institutional use associated with hospitals nursing homes preschool, school nurseries, day care and schools, where there is a threat to the safe evacuation of the sick the elderly, persons with disabilities or the young during an emergency as a result of flooding and/or failure of floodproofing measures or protection works; or
 - b) an essential emergency service such as that provided by fire, police and ambulance stations and electrical substations which would be impaired during an emergency as result of flooding, the failure of floodproofing measures and/or protection works; or
 - c) uses associated with the disposal, manufacture, treatment or storage of hazardous substances.
- 3) Notwithstanding Section 1.2 (1), public infrastructure (e.g. roads, sewers, flood and erosion control works) and various utilities (e.g. pipelines) shall generally not be permitted within the

1:100 year regulatory floodplain except where the development has been approved through a satisfactory Environmental Assessment process clearly demonstrating that there is no viable alternative and / or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, or the conservation of land will not be affected.

- 4) Notwithstanding Section 1.2 (1), development associated with public parks (e.g. passive or low intensity outdoor recreation and education, trail systems) may be permitted within the 1:100 year regulatory floodplain if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, or the conservation of land will not be affected and emergency measures for evacuation and restricted access during a hazard emergency are documented;
- 5) Notwithstanding Section 1.2(1) stream, bank, slope, and valley stabilization to protect development in existing communities and conservation or restoration projects may be permitted within the 1:100 year regulatory floodplain subject to the activity being approved through a satisfactory Environmental Assessment process clearly demonstrating that there is no viable alternative and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, or the conservation of land will not be affected;

Minor Works

- 6) Notwithstanding Section 1.2 (1), development associated with existing uses located within the 1:100 year regulatory floodplain such as minor additions, small non-habitable detached accessory buildings, pools, landscaping, retaining walls, grading, small decks, etc., may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, or the conservation of land will not be affected and the proposal is undertaken in accordance with the specific policies outlined elsewhere in this document. The submitted plans shall clearly demonstrate that:
 - a) there is no feasible alternative site outside of the regulatory floodplain for the proposed development or, in the event that there is no feasible alternative site, that the proposed minor development is located in an area of least (and acceptable) risk;
 - b) the proposed works do not create new hazards or aggravate flooding on adjacent or other properties and there are no negative upstream and downstream hydraulic impacts;
 - c) the development is protected from the flood hazard in accordance with the use and established floodproofing and protection techniques;
 - d) the proposed development will not prevent access for emergency works, maintenance, and evacuation and safe access standards are respected;

- e) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion, sediment control and site stabilization / restoration plans;
- f) natural features and/or ecological functions associated with conservation of land are protected, pollution is prevented and erosion hazards have been adequately addressed;
- g) minimum setback distances from water as expressed in this document are respected;
- h) there is no conflict with other policies in this document.

More detailed policies are contained in subsequent sections of this document.

Minor removal or placement of fill / minor site grading

7. In known or identified flood hazard areas, RVCA may approve minor site grading / minor site alteration in limited circumstances only where the proposed development or site alteration project is:

- a) in a designated flood fringe area (as determined in accordance with the PPS provisions and guidance with respect to the two zone concept), or
- b) in a floodway is in an area of already existing development where the proposed development or site alteration is considered to be both minor in nature and inconsequential in terms of its impact on the control of flooding, pollution, erosion and the conservation of land and
 - i) the site alteration (cut and fill operation) is confined to lands with ground elevations that are at present no more than 0.3 metres lower than the estimated 1:100 year water surface elevation of the river or stream (*public safety risks associated with lands that are flooded to depths of 0.3 metres or less may be considered as "minor"*)
 - ii) the area of the proposed cut or fill zone (which will be roughly equal to one another) shall not be greater than 10% of the gross area of the flood hazard zone within the parcel(s) of land affected by the proposed cut and fill
- c) safe access is available.

7(1) With respect to its impact on the control of flooding, a proposed development or site alteration will be considered to be minor and without consequence if the following criteria are addressed:

- The loss of flood plain storage volume within the 1:100 year flood plain which will result from the placement of fill shall be fully compensated for by an incrementally balanced cut (or excavation) to be carried out in close proximity to and concurrently

with the placement of the fill. The following tolerances will apply to any balanced cut and fill proposal:

- The areal extent of the flood hazard area within the river or stream reach that is affected by the proposed cut and fill operation shall not be reduced by more than 10% of the “pre-alteration” area, and
 - the volume of available flood plain storage capacity ~~within any 30 cm increment of elevation~~ within the affected river or stream reach shall not be reduced ~~by more than 10% of the pre-alteration volume~~, and
 - The minimum proposed ground elevation in the compensating excavation area shall not be lower than the minimum existing ground elevation in the proposed fill area.
- Compliance with this requirement shall be demonstrated by means of detailed plans prepared by a Professional Engineer which clearly show the existing and proposed grading in plan view and in cross section, accompanied by the designer’s computations of the volume of flood plain storage to be displaced by proposed fill and the volume of the compensating flood plain storage to be created by means off the proposed excavation, completed to the satisfaction of the RVCA.
 - The proposed site grading (cut and fill) must be designed to result in no increase in upstream water surface elevations and no increase in flow velocities in the affected river cross-sections, under a full range of potential flood discharge conditions (1:2 year to 1:100 year return periods); compliance with this requirement shall be demonstrated by means of hydraulic computations completed to the satisfaction of the RVCA .
 - Adequate overland flow routes in local drainage networks must be maintained.
 - Adequate flood-proofing measures must be incorporated into the design of all proposed structures and buildings.
- (a) In conjunction with the review and approval process the proponent, or an agent acting on their behalf, shall submit a performance deposit of a monetary value established in accordance with the approved Schedule of Fees in effect at the time of the approval. The deposit shall be submitted prior to the commencement of any *development* on the subject site.
- (b) Where minor site alterations are permitted the proponent shall submit a final as built grading plan immediately upon completion of the approved works prepared by a Professional Engineer licensed to practice in Ontario indicating that grades achieved on the site conform to those indicated on the approved plan. Where grades are satisfactory the amount of the deposit shall be refunded less a 10% administrative charge. Where the grades are not satisfactory the deposit is forfeited.
- (c) Where a subsequent Planning Act application is made the CA will not support such an application to modify the hazardous land until such time as any approved cut and fill is undertaken in accordance with the policies contained herein.

- 8) Notwithstanding Section 1.2 (1), development associated with the provision of surface parking for commercial or institutional uses may be permitted within the 1:100 year regulatory floodplain in accordance with Policy 1.2.7 (“Minor removal or placement of fill”) if it has been demonstrated to the satisfaction of the Conservation Authority that:
- (a) there is no viable alternative outside of the regulated area,
 - (b) that other policies in this document are respected,
 - (c) the control of flooding, erosion, pollution or the conservation of land will not be affected,
 - (d) flood depths on site do not exceed 0.3 metres,
 - (e) adequate provision is made through an emergency plan for clearing the lot of vehicles during times of flood threat, and
 - (f) safe pedestrian and vehicular access is achieved as defined in Section 1.4.4.

Agricultural Buildings

- 9) Agricultural buildings and facilities may be permitted where it can be demonstrated that:
- a) there is no feasible alternative site outside the 1:100 year flood hazard;
 - b) the risk of property damage is minimized through site design and flood emergency plans;
 - c) there is no residential occupancy;
 - d) the development is not utilized for continuous livestock management or habitation;
 - e) pollution risks or hazards are appropriately addressed;
 - f) floodproofing is undertaken to the extent practical, where floodproofing to the elevation of the *regulatory 1:100 year flood* is not technically feasible and
 - (g) a *net gain* in environmental quality is achieved.

Marinas

- 10) A **marina** may be permitted in accordance with other policies in this document where it can be demonstrated that:
- a) there is no loss of flood plain storage;
 - b) there is no associated residential occupancy in the flood plain;
 - c) infrastructure associated with boat mooring, docking and launching is designed to take advantage of existing impacted or open areas on the channel bank, wherever possible, and there are no harmful alterations to or loss of fish habitat;
 - d) there is no loss of provincially significant wetland;
 - e) development in the adjacent lands to a *provincially significant wetland* (PSW) is undertaken only after an Environmental Impact Statement (EIS) has been

undertaken to the satisfaction of the RVCA and constraints identified in the EIS are addressed to the satisfaction of the RVCA;

- f) where unavoidable, intrusions on locally significant natural features and on hydrologic or ecological functions are minimized including appropriate design of site, facility and/or landscape design and appropriate remedial measures are planned and implemented so as to adequately restore and enhance features and functions and achieve a net gain consistent with the Conservation Authority's "conservation of land" interests and objectives;
- g) the risk of property damage is minimized through site and facility design and the preparation of flood emergency plans; and
- h) all other federal and provincial statutory requirements are met.

Golf Courses or Golf Course Expansions

11) A ***Golf Courses or Golf Course Expansion*** may be permitted in accordance with other policies in this document, and where it can be demonstrated that:

- a) all associated permanent, closed structures including clubhouses, washrooms, septic systems and maintenance buildings are located outside of the 1:100 year flood plain;
- b) there is no loss of flood plain storage capacity associated with the proposed development and particularly as this relates to site grading;
- c) minor site grading and fill placement provisions elsewhere in this document are respected;
- d) there is no loss of provincially significant wetland;
- e) development in the adjacent lands to a *provincially significant* wetland (PSW) is undertaken only after an environmental impact study (EIS) has been undertaken to the satisfaction of the RVCA and constraints identified in the EIS are addressed to the satisfaction of the RVCA;
- f) watercourse crossings are minimized and designed in accordance with the Alteration to Watercourses policies elsewhere in this document;
- g) a *net gain* in environmental quality is achieved;
- h) the risk of property damage is minimized through site and facility design and flood emergency plans, *and*
- i) the risk of pollution from the application of fertilizers, herbicides, pesticides or insecticides or other chemical or organic compounds shall be minimized and addressed in a turf management plan prepared by a qualified professional.

Above or Below Ground Swimming Pools

(12) **Small above or below ground swimming pools** are considered under the development provisions of these policies and may be permitted associated with a single family residential land use where the effects of placement of either types of pool can be mitigated by adherence to the following requirements:

- a) floodproofing of electrical facilities to the elevation of the regulatory flood is undertaken generally in accordance with Section 1.4 (Floodproofing) of this document,
- (b) the pool and areas ancillary to it are situated outside the 1:20 year flood plain;
- (c) fill placement and hard site landscaping will be strictly limited such that any associated grade changes are negligible so as to result in no adverse effects with respect to the control of flooding, erosion, pollution or the conservation of land;
- (d) all surplus or excess fill is removed from the 1:100 year flood plain;
- (e) on site groundwater interference issues are addressed;
- (f) water setback considerations for development contained in this document are addressed and ecological and water quality impacts compensated for including consideration for a *net gain* in environmental quality.

1.3 Reconstruction / Relocation / Repairs and Renovations

- 1) Notwithstanding Section 1.2 (1), development may be permitted associated with the **reconstruction or relocation** of a building located on an existing lot of record within the 1:100 regulatory floodplain, provided that it has not been destroyed by flooding and if is demonstrated, to the satisfaction of the Conservation Authority, that the control of flooding, erosion, pollution, or conservation of land will not be affected by its reconstruction. Consideration must be given to reducing the risk of flooding and property damage through relocation of the building.

For the **reconstruction or relocation** of a building within the 1:100 regulatory floodplain the submitted plans shall clearly demonstrate that the building:

- a) can not be relocated to an area outside the flood hazard and if there is no feasible alternative site, that it is located in an area of least (and acceptable) risk; and
- b) will be protected from the flood hazard through incorporation of appropriate flood proofing measures as outlined in Section 1.4 (Floodproofing);
- c) the building would previously have been considered habitable; and
- d) will not exceed the original habitable floor area or the original footprint area of the previous structure;

Permission will generally be refused for the reconstruction of derelict or abandoned buildings in the floodway.

1.3.1 Repairs / Renovations

Any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure requires Conservation Authority approval pursuant to the regulation

Repairs and renovations to an existing dwelling or structure within the existing roofline and exterior walls and above the existing foundation that do not alter the use or potential use do not generally require the permission of the Authority. Repairs and modifications that involve any change to the existing roofline will be assessed on a case by case basis to ensure no change of use may occur.

If the repair or renovation involves the proposed building becoming larger than the existing building, the policies respecting additions to existing buildings (Section 1.3.3) shall be applied to determine if the proposed enlargement conforms to these policies.

Modification or reconstruction of foundations supporting existing buildings are deemed to be regulated, given the possible implications of such works on the potential for flood

damage and change of the use or potential use. See Section 1.4 (Floodproofing) following.

1.3.2 Foundation Reconstruction

- (a) A new foundation for an existing building or dwelling must provide a level of protection from flooding equal to or greater than that of the existing foundation. Where feasible, proponents are strongly encouraged to design for protection to the 1:100 year level in accordance with the requirements of Section 1.4 Floodproofing.
- (b) A new foundation involving a dry floodproofed full basement, where one did not exist before, will be considered under the "Addition" policies of this document.
- (c) Foundation reconstruction undertaken in accordance with a building demolition will be considered as new construction and floodproofing will be required in accordance with the floodproofing provisions (Section. 1.4) of this document.

1.3.3 Minor Additions to Existing Structures and Reconstruction of Existing Structures

Additions¹

Public safety risks are a function of the occupancy of structures and the flood susceptibility of access routes to those structures, and will be controlled by limiting the size (and thereby limiting the occupancy) of additions in dangerous or inaccessible portions of the flood-plain.

The objective of the Authority in regulating the construction of additions to existing buildings or their entire reconstruction is:

To allow for continuance of the existing use only of buildings in flood susceptible areas, while ensuring that the risk of flood damages to buildings and their contents and the risks to public safety, emergency officials and responders are not increased.

The risk of damage to buildings and their contents will be controlled by the incorporation of flood-proofing measures into building design.

¹ There was discussion at the November 25 meeting as to when these policy provisions and any dates for retroactivity would be specified. The RVCA first had written flood plain management policies for this program come into effect on October 21, 1993 and the policies relating to additions came into effect in 1999. For all practical purposes at this point in time, however, it is expected that retroactivity to October 21, 1993 will suffice. This will be written into a preamble or general provisions section of the final document.

The construction of additions to existing residential buildings, including changes to the roofline and / or an increase in the gross floor area of the building, whether on one or more storeys, and including the enclosure of decks and porches may be permitted provided:

- the development meets the policies set out below;
- the fill policies are respected;
- any addition meets the definition of “minor” as outlined in this section;
- water setback considerations are addressed

Access considerations for both vehicular and pedestrian passage will be used to determine the size of the addition which may be permitted.

1.3.3 (1) Type I Additions

Small additions may be permitted in the floodway if all of the following considerations are addressed:

- (a) the size of the addition does not exceed 20% of the gross floor area of the existing building or 20 square metres (215 square feet), whichever is the lesser;
- (b) the addition is not more vulnerable to flooding than the existing building (where possible protection to the 1:100 year flood level should be provided);
- (c) the proposal will not alter the use or have the potential to alter the use of the building or structure [the number of bedrooms both existing and proposed and the number of fixture units for bathroom(s) and kitchen will be key elements in the consideration as will the configuration of the interior space (taking into account its ability to subsequently be altered to affect the use)];
- (d) no application resulting in the cumulative exceedence of 20% of the gross floor area or 20 square metres, whichever is the lesser or, where the property fronts on a maintained municipal road, a maximum gross floor area of 93.0 square metres (1000ft²) for the existing building and the addition together¹ will be considered under this section.

1.3.3 (2) Type II Additions (Residential)

Somewhat larger additions resulting in increases of between 20% and 50% but not exceeding a maximum of 50 square metres (538 square feet) may be permitted in the floodway provided all of the following provisions are met:

- (i) the addition meets the floodproofing provisions outlined in Section 1.4; and
- (ii) the addition does not alter the use or the potential use of the building or structure; and

- (iii) access is safe as per Section 1.2.6 (Safe Access / Egress).

No application resulting in the cumulative exceedence of 50% of the gross floor area or 50 square metres (538 square feet), whichever is the lesser, shall be permitted ¹ in the floodway.

1.3.3 (3) Additions peripheral to a residential use

For both Type I and Type II additions a further addition that is peripheral in nature to the primary use such as an open deck may be permitted if:

- (i) it is small as described in 1.3.3 (1)(a) above;
- (ii) it is fully open and the overhang of the adjoining roof does not cover the deck to a significant extent (less than 10%);
- (iii) it is properly anchored to prevent flotation, will not be subject to major damage by flooding, and flood flows and water storage are not impeded.
- (iv) water setback requirements are met in conjunction with policies contained elsewhere in this document.

1.3.3 (4) Site Servicing

- (a) In all areas served by private on-site services, certification from the applicable approval authority or a Professional Engineer that the septic system is adequate to sustain the proposed use and in good working order will be required.

Systems shall be designed such that replacement systems have the bottom of the gravel layer no lower than the 1:20 year flood elevation. Advanced technology in the form of tertiary treatment systems affording a higher level of treatment and approvable for use under the Ontario Building Code may be required so as to reduce and limit the amount of fill being placed.

- (b) Where the water supply is from a drilled well, confirmation will be required that the well is floodproofed in accordance with the requirements in Section 1.4 (Floodproofing) of this document.

1.3.3 (5) Auxiliary Buildings

Conventionally designed non-residential *auxiliary buildings* smaller than 50 square metres (538 ft.²) may be permitted provided:

- they are single storey;
- where there is opportunity to locate these buildings on the property outside the floodplain this shall be done;
- where no opportunity exists to situate the building outside the flood plain the building shall be placed above the 1:20 year flood elevation;

- fill shall be minimized by removing from the property (or the floodplain) a volume of fill equal to the volume required to construct the floor of the building (meaning no or minimal grade change);
- where permitted the building must be designed and constructed to withstand the effects of flooding to regulatory flood level without structural damage;
- the development shall not affect the flood susceptibility of other properties; and
- development setback provisions as expressed in this document are respected.

The Authority will require, as a condition of permission, that goods stored in such structures must not be susceptible to damage or loss due to flooding or must be capable of being removed from the flood plain given sufficient warning of anticipated flood conditions.

Single stand alone storage buildings of less than 9.3 square metres (100 ft.²) built at existing or original grade are exempt from C.A. approval except where there are other such buildings already on the property in which case the cumulative area shall be taken into account in accordance with the Auxilliary Buildings provisions immediately preceding. Setback provisions from water as expressed in this document are also to be respected by these smaller buildings.

1.3.3 (6) Additions - Commercial / Industrial / Institutional Buildings

(1) Notwithstanding Section 1.2 (1) **additions** to existing commercial / industrial / institutional buildings or structures may be permitted where it can be demonstrated that:

- (a) the addition is 50 percent or less of the original ground floor area of the building or structure to a maximum of 100 square metres (1,076 ft. ²), or in the case of multiple additions, all additions combined are equal to or less than 50 per cent of the original ground floor area of the building or structure to a maximum footprint of 100 square metres (1,076 ft. ²), *and*
- (b) no basement is proposed and any crawl space is designed in conformity with the floodproofings requirements in Section 1.4 ;
- (c) the use is not prohibited as outlined in Section 1.2 (8) above;
- (d) the servicing provisions of this document (S. 1.3.3(4)) are respected; and
- (e) development setback provisions as expressed in this document are addressed.

(2) **Accessory Buildings or Structures** associated with commercial / industrial/ institutional uses may be permitted where it can be demonstrated that:

- a) the building or structure is greater than 9.3 square metres (100 ft. ²) but less than or equal to 100 square metres (1076 ft ²) or in the case of additions, the combined area of the existing building or structure and any proposed addition is equal to or less than 100 square metres (1,076 ft. ²);
- b) the building or structure is securely anchored such that it does not obstruct downstream culverts during a flood event where applicable;

- c) the cumulative impact of multiple accessory buildings or structures on the subject property is negligible; *and*
- d) no basement is proposed and any crawl space is designed to facilitate services only;
- e) the servicing provisions of this document (S. 1.3.3(4)) are respected and
- (f) development setback provisions as expressed in this document are respected.

1.4 FLOODPROOFING

Floodproofing includes or incorporates a combination of structural changes and / or adjustments to be included in the basic design and/or construction or alteration of individual buildings, structures or properties subject to flooding so as to reduce or mitigate the potential for flood damages.

1.4.1 General

- (a) Buildings or additions to buildings which are permitted under the Regulations shall be floodproofed to the satisfaction of the Authority.
- (b) "Floodproofing" encompasses all measures required to ensure that a structure and its contents will not sustain flood damages and to provide for the continued occupancy of the structure throughout a flood event of regulatory flood magnitude.
- (c) In many situations, floodproofing involves non-conventional design of the structural, drainage and electrical / mechanical systems of the building. Accordingly, for certain applications, the services of a licensed Professional Engineer, at the expense of the applicant, will be a requirement.
- (d) Where buildings can be approved but the services of a licensed Professional Engineer are required by this policy the designer shall produce a summary or "owner's manual" for the owner (and for subsequent owners) such that measures to be taken prior to, during and following a flood event are defined to ensure the building's suitability for ongoing human habitation and to outline ongoing maintenance responsibilities and requirements.

1.4.2 FLOODPROOFING METHODS

The following sections describe the basic options available for floodproofing typical structures and the policies of the Authority in circumstances where development may be permitted. It should be recognized that for some situations one or more of the following options may prove to be technically or economically impractical.

(a) Slab-on-Grade Construction, On Fill

- underside of slab shall be set at least 300 mm. above the 1:100 year flood level;
- structural details of foundation elements and specifications for fill materials and compaction procedures must be prepared or approved by a qualified Professional Engineer at the applicant's expense and the responsible Professional Engineer shall certify in writing that the design has taken into account regulatory flood (velocity and depth) and site (soil type, bearing capacity etc.) conditions encountered at the specific location of the development and, further, the responsible Professional Engineer must identify maintenance requirements that might be required over the design life of the structure;

- fill aspects of proposal will be governed by policies regarding the placing of fill;
- a notice to prospective purchasers be registered at the applicant's expense (see Section 1.4.5.);
- there are no effects on the control of flooding, erosion, pollution or the conservation of land associated with the development.

(b) Building Supported by Piers or Columns

- underside of main floor shall be at least 300 mm. above the 1:100 year flood level;
- structural details of foundation elements and specifications for fill materials and compaction procedures must be prepared or approved by a qualified Professional Engineer at the applicant's expense;
- the responsible Professional Engineer shall certify in writing that the design has taken into account regulatory flood (velocity and depth of flow, potential ice impact pressures) and site (soil type, bearing capacity etc.) conditions encountered at the specific location of the development and, further, the responsible Professional Engineer must identify maintenance requirements that might be required over the design life of the structure; and
- a notice to prospective purchasers shall be registered at the applicant's expense (see Section 1.4.5.).

(c) Wet Floodproofing (Floodable Crawl Space)

- underside of main floor shall be at least 300 mm above 1:100 year flood level;
- drawings must clearly indicate the means by which hydrostatic pressure is to be equalized on either side of the foundation walls and slab;
- at least two openable windows shall be provided on opposite sides of building;
- top of window sills to be not less than 150 mm below finished exterior grade (to allow flood waters into the structure relieving hydrostatic pressure as soon as flooding of the surrounding land commences);
- areas below the first floor are to remain unfinished and contain no habitable space or utilities and all mechanical and electrical equipment, heating/cooling units and ductwork are all to be located above 1:100 year flood level;
- sump pump is required (to facilitate clean-up);
- a notice to prospective purchasers be registered at the applicant's expense (see Section 1.4.5);
- the vertical height within the enclosed space under the building between the underside of the floor assembly and the ground cover directly below shall be no greater than 1800 mm.

(d) Dry Flood Proofing (Full Basement)

- underside of main floor shall be at least 300 mm. above the 1:100 year flood level;
- structural details of foundation elements and specifications for fill materials and compaction procedures must be prepared or approved by a qualified Professional Engineer at the applicant's expense;
- the responsible Professional Engineer shall certify in writing that the design has taken into account regulatory flood (velocity and depth of flow) and site (soil type, bearing capacity etc.) conditions encountered at the specific location of the development; and
- the Professional Engineer's certificate must confirm that the foundation and building are designed to withstand hydrostatic pressures and / or impact loading that would develop under water levels equivalent to the design storm [1:100 year flood level plus (minimum) 0.3 metres of freeboard];
- the responsible Professional Engineer must also identify all operation and maintenance requirements to be met in order to ensure the effective performance of the floodproofing measures over the design life of the structure; and
- a notice to prospective purchasers shall be registered on title at the applicant's expense (see Section 1.4.5).

(e) Wet Flood Proofed Full Basement

Wet flood proofed full height basements are not permitted.

1.4.3 FLOODPROOFING - Site Servicing

- (1) Notwithstanding Section 1.2 (1), the replacement of sewage disposal systems on existing lots of record may be permitted within the Regulatory floodplain if it has been demonstrated to the satisfaction of the Conservation Authority that locating the system outside the flood plain is not possible, or no part of the property above the 1:20 year flood elevation is available and, if so, that the control of flooding, erosion, pollution or the conservation of land will not be affected by the system placement.

Systems shall be designed such that replacement systems have the bottom of the gravel layer no lower than the 1:20 year flood elevation. Advanced technology in the form of tertiary treatment systems affording a higher level of treatment and approvable for use under the Ontario Building Code may be required so as to reduce and limit the amount of fill being placed.

- (2) Notwithstanding Section 1.2(1), any new well must be located no closer than a minimum of 15 metres from the water's edge. A drilled well must be capped no less than the 1:100 year flood elevation + 0.3 metres and installed and grouted fully in accordance with Ontario Regulation 903.

1.4.4 FLOODPROOFING - Safe Access / Egress (MODIFIED)

The following principles related to the facility of access / egress and associated with overall public safety and the provision of emergency services will apply:

For vehicular and pedestrian access routes (municipal roadways and private rights-of-way) safe access will be considered to be available if the depth of flooding at regulatory (1:100 year) flood level along the full length of the travelled surface of the access roadway or right-of-way is no greater than 0.3 metres.

Access / egress shall remain dry at all times for institutional buildings servicing the sick, the elderly, the disabled or the young and in buildings utilized for public safety (ie. police, fire, ambulance and other emergency measures) purposes.

1.4.5 Notice to Prospective Purchasers (Easement Agreement)

- (a) The long term effectiveness of floodproofing measures will rely on there being no inappropriate modifications made to the floodproofing system (consisting of structural elements, piers, drainage systems, backfill, and waterproof membranes and/or seals) and no inappropriate uses made of flood susceptible portions of the structure. For applications involving such floodproofing techniques, the Authority will require that an **easement agreement** be prepared according to the standard form and registered on title at the applicant's expense giving the Authority the right of access to the property only and thus providing notice of the owner's obligations and the Authority's "interest" in the lands and structure erected thereon.
- (b) The agreement, in wording satisfactory to the Authority, will generally provide information respecting the Authority's objects, jurisdiction under legislation, right of entry on the property for inspection purposes, and the owner's obligations and rights.

1.5 AREAS OF REDUCED FLOOD RISK / FLOOD FRINGE

In specific areas which have been identified as "areas of reduced flood risk" (i.e. areas protected by flood control works including dykes and pump stations) or "flood fringe" new buildings and structures on existing lots of record only and additions will be permitted provided:

ADDED

- a. *development and site alteration* and site servicing is carried out in accordance with *floodproofing standards, protection works standards, and access standards*;
- b. the use of the land remains the same in accordance with the underlying municipal land use designation (meaning that intensification will not be supported);
- c. vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies including the possible failure of flood control works;
- d. new hazards are not created and existing hazards are not aggravated; and
- e. no adverse environmental impacts will result.

Areas of reduced flood risk at the time of approval of these policies include:

- Brewer Park (old City of Ottawa)
- Windsor Park (old City of Ottawa)
- Kingsview Park (old City of Vanier)

1.6 Development Within the Allowance of the Regulatory Floodplain of River or Stream Valleys

Development may be permitted between the 1:100 year regulatory flood elevation and the “*regulation limit*” where it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be affected. To address these matters the submitted plans shall demonstrate that:

- (a) the *development* does not aggravate the flood hazard or create a new flood risk including ensuring that drainage connections for the foundation are arranged so that surcharging of the sump pump discharge or connections to the storm sewer do not result in flooding of the lower levels of the building and changes to site grading shall not result in appreciable lowering of lands adjacent to the building;
- (b) the *development* does not impede access for emergency works, maintenance and evacuation;
- (c) the potential for surficial erosion has been addressed through proper drainage, plans addressing erosion and sediment control in accordance with established practice have been prepared and the plans incorporate acceptable site stabilization/ restoration planning;
- (d) the natural features and/or ecological functions associated with the Conservation Authority’s interests related to the conservation of land are protected, pollution is prevented and erosion hazards are adequately addressed and
- (e) there is no conflict with any other provisions of this policy.