

**Living on a Flood Plain**  
**City of Edmonton Information Session Summary**  
**Held June 3, 2014 at the Rosedale Community Hall**

**Presentations**

1. Developing within a Flood Plain  
Marty Vasquez, Planner; Roger Clemens, Chief Building Safety Codes Officer; and Craig Thomas, Senior Planner – Sustainable Development
2. Drainage Services Roles, Responsibilities and Practices  
Frank Fechner, General Supervisor, Preventative Maintenance, Drainage Services
3. City of Edmonton Insurance Advocacy Efforts  
Todd Wyman, Director of Planning, Drainage Services

**Developing within a Flood Plain**

- The Government of Alberta sets the building codes; the City of Edmonton enforces the codes.
- The City uses planning tools to guide development. This includes but is not limited to Edmonton Zoning Bylaws and Neighbourhood Area Redevelopment Plans (ARPs).
- Building Permit and Inspection Services monitor all development.
- The Government of Alberta provides information on water hazards and flood mapping to municipalities.
- The 1:25 Floodway is defined as the area that has a four per cent chance of flooding any given year. The 1:100 Flood Fringe is defined as the area that has a one per cent chance of flooding any given year.
- Development and Construction Phases are:
  1. Zoning/ARPs: Zoning Bylaws – for building and development today; ARP – for future development in the area
  2. Development Permits: Authorizes development; Balances rights of builders and neighbourhood
  3. Building Permits
  4. Construction
  5. Inspection
- Zoning Bylaws divides the city into zones. Additional regulations found within other sections of the Bylaw are called Overlays. Overlays deal with area specific issues including the Floor Protection Overlay. Overlays are available online.
- Flood Protection Overlays ensure safe and efficient use of lands within the defined floodplain
  - ✓ Building heights
  - ✓ Openings into buildings
  - ✓ Proposed use of portions of buildings
  - ✓ Grades and Landscaping details
  - ✓ Basement/Site drainage details
  - ✓ Flood mitigation methods
- Area Redevelopment Plans for Rosedale, Cloverdale and Riverdale provide adequate flood protection for all new development. This is achieved by requiring all development in the general flood risk area taking into account measures to minimize the potential for flood damage.

- In 1:25 flood plain: no development prohibited. In 1:100 flood plain: certain development types are subject to the Flood Protection Overlay. Within the Overlay:
  - Will be required to submit a certificate from a professional engineer or architect indicating specific factors have been considered in the design of the building.
  - May be required to provide information regarding grade elevation and building openings from an Alberta Land Surveyor.
  - The following examples would be considered for Overlay requirements:
    - Ground floor additions that increase the liveable floor space by 14 square meters (150 square feet)
    - Finishing a basement for a secondary suite or additional bedroom(s)
    - Rebuilding or redeveloping a structure with a larger flood vulnerable area than the original structure.
  - The following examples would not be considered for Overlay requirements:
    - Insulation
    - Upgrade to services (electrical/wiring)
    - New roofing
    - Finishing a basement for recreation areas
    - Ground floor additions of less than 14 square meters (150 square feet)

### **Building Permits and Inspection Services**

- City of Edmonton regulates the Alberta Building Code. Current edition is from 2006. Code only applies to new buildings. Code does not apply to existing buildings unless they are being renovated, and then only the renovations must meet the existing code.
- Code does not regulate the location of buildings. 2013 Building Code Bulletins only apply to persons applying for Disaster Recovery Funding.
- If a structure is being (re)developed one or more permits may be required:
  - Building permit – structural repairs, weeping tile, sump pumps
  - HVAC changes to heating or ducts
  - Plumbing and Gas changes to water heater and supply or drain piping, back flow prevention.
  - Electrical – changes to panel or wiring
- The two stages to permit and inspections are progress inspections and final inspection

### **Drainage Services Roles, Responsibilities and Practices**

- Three types of sewer system exist in Edmonton:
  1. Sanitary – takes household sewage to treatment plants.
  2. Storm – takes stormwater to storm outfalls.
  3. Combined – both sanitary and storm. It's the oldest system in the city.
- The Dales all have combined services however some separation has taken place. Heavy rain can lead to combined system overflows. Over time Edmonton would like to eliminate the combined system.
- The stormwater outfalls are closed by floodgates when the river level rises to a certain height, but this also keeps the stormwater trapped in the system.
- New neighbourhoods are connected to separate sanitary and storm systems. Older neighbourhoods are slowly being converted to this standard as opportunity arises.
- Drainage is constantly inspecting, repairing and upgrading the systems.

- Drainage Operations is on call 24/7 – 365. Contact 311 to report drainage issues.
- Flood mitigation is not prevention. There will always be a risk and the city needs to determine what is acceptable for its neighbourhoods.

### Flooding in Edmonton

- River flooding:
  - Worst river flood occurred in 1915. 1972 and 1986 also saw bad river floods.
  - These are caused by upstream snowmelt and aggravated by intense rain.
  - Upstream dams have reduced river flooding risks since the early 1970s. A river basin of 80,000 square kilometres collects rain and transports it through Edmonton.
  - When the outflow floodgates are shut due to storm activities it can trap stormwater in low laying areas. Six river gates can be closed in Edmonton.
  - Drainage Services will sandbag at risk properties but they cannot sandbag entire communities.
- Storm flooding:
  - Widespread storms impact the entire city. Localized storms impact certain communities.
  - When the storm system reaches capacity flooding can occur. Hail can plug catch basins.
  - Safety issues can arise from flooded overpasses and rising stormwater lakes.
  - Best way to report flood issues is through 311. Drainage Services also tracks social media, news media and other city departments for information.
- The City prioritizes its flood response during an event:
  1. Keep roads clear for Emergency Services.
  2. Clear clogged catch basins and replace manhole covers
  3. Monitor 311 to attend the most critical areas
  4. Bring in extra staff as needed.
- The Floodproof Program is a city program enacted after 2004 floods. We will inspect your property and suggest best ways to protect your property.
- The Backflow Valve subsidy is for dwellings built before 1989. The valve helps prevent sewage/stormwater from backing up into basements. The subsidy is for up to \$1,200 including GST. Access to the valve is essential for regular inspection and maintenance.

### City of Edmonton Insurance Advocacy Efforts

- The City is advocating on behalf of homeowners with the Insurance Bureau of Canada, informing them of the special circumstances faced by homeowners in Edmonton and the flood mitigation measures underway.
- The City is doing a city-wide examination of its flooding risks and investing in reducing those risks.
- The Insurance Bureau of Canada is looking at how it assesses flood risks. It has a **consumer hotline 780-423-2212** that can provide assistance to property owners having trouble getting insurance due to flooding. They also provide advice and will advocate on your behalf.

### **Comments and Feedback**

**Q. What percentage of the sewer system in Rossdale is a combined system and what is the timetable to move to a separate system?**

A. The City's combined sewer strategy is to separate in areas where we there are quick wins, then move on to other areas when the opportunity arises. There is no timetable for completion of sewer separation in Rossdale.

**Q. Is this (sewer separation) what is going on downtown?**

A. Yes, part of the downtown project in the McDougall area is sewer separation.

**Q. What was the project last summer that took place at one of the Rossdale outfall locations?**

A. We will follow-up to get the exact details for you. (*After meeting supplement information:* In July of 2013, following a large storm event, the gabion rip-rap and the outfall's banks washed out/collapsed. Open cut repaired the collapse, adding gabion baskets, new rip-rap and two 450mm overflow pipes.)

**Q. Will the Rossdale Area Redevelopment Plan provide the opportunity to separate our sewer system?**

A. We will check the timetables of the other city departments involved in redevelopment to determine if it is feasible to coordinate a separation with their work.

**Q. When Cloverdale flooded last year, was that because the floodgates at the outfalls were closed?**

A. Outfall gates are closed to prevent neighbourhood flooding when the river is high. There is a risk that when this is done, and combined with heavy rainfall, that the system can become overloaded and cause flooding.

**Q. Does the City have a long term plan for flood mitigation in the three Dales?**

A. We are taking a proactive approach to City-wide mitigation. We are inspecting and studying our systems now...not waiting for the next major rain event to show us where work is needed. We are fixing what we know needs to be fixed now. The Dales are on the inspection list. We are looking to spend \$25 million to \$50 million a year on mitigation projects City-wide.

**Q. How important is green space to mitigation?**

A. The ability of green space to take in water during an intense storm is negligible; however green space is generally a good thing during average rain events.

**Q. I didn't appreciate seeing the 'Living on a Flood plain' billboards up in our neighbourhoods. I feel this might have a negative impact on our real estate. Are you working with realtors to give them special insight to the flood risks of the Dales?**

A. We hadn't planned on talking with realtors, but we are working to engage and communicate with as many groups as possible regarding these topics.

**Q. Will the Dub Architect project at the old brewery site be large enough to trigger the need to separate our sewer system, and is this new development in the flood plain?**

A. As planning on that project proceeds we will make sure it has minimal impact on the area's sewers. Many portions and parcels of this development lie outside of the 1:100 flood plain. The Dub project phases for parcels outside the floodplain will not be subject to the provisions of the Flood Overlay.

**Q. How does the Flood Overlay work if you're only partially in the flood plain area?**

A. If part of the property touches the flood plain then the Flood Overlay applies.