

# Link Between Surface and Drainage Work in Neighbourhood Renewal

## Recommendation:

That the November 25, 2011, Infrastructure Services report 2011IS4612 be received for information.

## Report Summary

This report provides information on the link between the Drainage Neighbourhood Renewal Program and the Transportation Neighbourhood Renewal Program.

## Previous Council/Committee Action

At the November 3, 2011, Utility Committee meeting, the following motion was passed:

That Administration provide a report to the November 25, 2011, City Council Budget deliberations, on the link between surface and drainage work in Neighbourhood Renewal, explaining why each priority neighbourhood is funded or unfunded in each respective budget, and how they are connected causally by surface and drainage asset conditions.

## Report

### Drainage Neighbourhood Renewal Program

The City of Edmonton's Drainage Neighbourhood Renewal Program is focused on the renewal and replacement of sanitary and storm sewers. This program works in

combination with the Transportation Neighbourhood Renewal Program (focused on the renewal and rebuilding of roads, sidewalks and streetlights), and the Great Neighbourhoods Capital Program (focused on improving the livability of Edmonton neighbourhoods), to renew the physical infrastructure of neighbourhoods and create vibrant, sustainable neighbourhoods.

Drainage neighbourhood renewal work is delivered through the following methods:

- **Relining** - uses *cured-in-place* pipe material resulting in minimal disruption to pavement
- **Open Cut** - requires significant disruption to pavement

The construction needs and timing of Drainage neighbourhood renewal work are determined based on the following considerations:

- In order to avoid disturbance of new roads, sewer inspection, design and construction are undertaken generally 24 months ahead of planned Transportation neighbourhood reconstruction work in general.
- In certain neighbourhoods, sewers may be in poor condition and require renewal work to avoid disruption of drainage service due to sewer defects, even though the roadway is in satisfactory condition.
- Drainage Services only coordinates with the full reconstruction neighbourhoods and not with the overlay and micro-surfacing of neighbourhoods.

### Transportation Neighbourhood Renewal Program

The Transportation Neighbourhood Renewal Program involves approximately 300 neighbourhoods (including industrial) in Edmonton. As of 2010 year end, over 169 neighbourhood renewal needs have been identified as follows:

- 111 require reconstruction
- 58 require overlay

Transportation uses appropriate renewal approaches to maximize efficiency and life expectancy of residential roadway neighbourhood infrastructure. The following renewal methods implemented over the past ten years now provide proper treatment during life cycle to allow for a 60-year life span. These maintenance treatments are as follows:

- Microsurfacing (preventative maintenance) – year 10
- Roadway overlay – year 30
- Microsurfacing (preventative maintenance) – year 40
- Reconstruction – year 60

Locations are initially selected based on the condition of the roads, sidewalks and street lighting. The construction schedule is then refined based on other relevant factors including coordination with underground utility works, geographic locations and the opportunity to establish long-term contracts for reconstruction work. In order to facilitate the Neighbourhood Renewal Program in an efficient manner, drainage renewal must be completed prior to the road and sidewalk work in the neighbourhoods.

The Transportation Neighbourhood Renewal Program was originally intended to have sufficient sustainable funding from the Neighbourhood Tax

levy so that the Municipal Sustainability Initiative component would be phased out in 2018. This funding model was initially set at an annual 2% tax levy and would provide for the following infrastructure targets to be achieved in approximately 25 years:

- Condition rating target for roads – 3.0 out of 5.0
- 0% sidewalks in “F” condition

Based on the 2012-2014 Capital Budget these timelines have been extended beyond 30 years as the provincial funding sources have been reallocated from this program to other rehabilitation programs due to overall Capital Budget reductions.

### Neighbourhood Program Coordination

Drainage Services and Transportation Services meet on a regular basis, also with EPCOR and ATCO, on a regular basis to discuss and coordinate the Neighbourhood Renewal Program schedules.

As neighbourhoods are developed over time, various materials are used for both surface and subsurface infrastructure. The different life spans associated with the various materials create different priorities as aging of infrastructure occurs. For example, a PVC sewer has a life span of 75 to 100 years, whereas a road pavement has a life span of 25 to 60 years.

Every effort is made to efficiently schedule priorities based on actual condition, but every neighbourhood has different infrastructure renewal needs. As a result, the renewal schedules can appear to be out of sync when different infrastructure conditions exist above and below the surface.

## Link Between Surface and Drainage Work in Neighbourhood Renewal

There are three different scenarios that can come up when looking at priorities and schedules:

**1. Roadway infrastructure is bad, Drainage infrastructure is good**

When the roadway asset condition in a neighbourhood is such that it requires renewal, but the drainage infrastructure below is in good condition, only Transportation will do renewal in that neighbourhood.

**2. Roadway infrastructure is good, Drainage infrastructure is bad**

When the drainage asset condition in a neighbourhood is such that it requires renewal, but the roadway infrastructure above is in good condition, only Drainage will do renewal in that neighbourhood.

**3. Roadway infrastructure is bad, Drainage infrastructure is bad**

In the case where both assets are in bad condition, Transportation and Drainage will coordinate the timing of renewal in each neighbourhood. Drainage will try to schedule the work to be completed at a minimum of 12 months prior to the start of Transportation work. This will help to avoid coordination issues if there are delays in underground construction that carry it forward to the following year.

As a result of the lag between Drainage and Transportation renewal when both assets are in bad condition, and because capital priorities are approved on a three-year cycle, some drainage renewal neighbourhoods will appear funded in 2012 to 2014 but these neighbourhoods do not appear in the same period of Transportation Capital Priorities. Neighbourhoods beyond 2014 are unfunded and will be presented as

2015 to 2017 Capital Priorities. The list of reconstruction neighbourhoods for 2012 to 2017 is shown in Attachment 1.

The Drainage Neighbourhood Renewal Program for 2012 has seven neighbourhoods scheduled for construction. Although there have been some delays to the previously scheduled neighbourhoods in the Transportation Neighbourhood Renewal Program, there are two reasons that the Drainage program has not made changes to its schedule:

- 1. Coordination** – Although Transportation has delayed a few neighbourhoods by one or two years, Drainage still needs to complete the underground work prior to the Transportation work. The underground work is usually completed the year prior to the start of Transportation work; however in these cases the neighbourhoods will be completed two to three years prior to the start of the surface work. As there can be delays to construction due to weather, scheduling the underground work more than one year ahead can make coordination easier.
- 2. Drainage Priorities** – As described above, there are neighbourhoods where drainage renewal is required and roadway renewal is not. Each year, there are between two and four neighbourhoods scheduled for drainage neighbourhood renewal that are only drainage priorities. The Drainage Renewal Neighbourhoods are shown in Attachment 2. For cost efficiency, it is also Drainage Services' intention to schedule between six to eight neighbourhoods

per year in order to establish long term contracts for relining works.

### Funding Allocation

With respect to the proposed 2012 - 2014 Capital budget, location and coordination factors were taken into consideration in determining which neighbourhoods were candidates for deferrals. Attachment 3 outlines the project deferrals resulting from the reallocation of rehabilitation funds.

In the event that funding is increased by \$30 million through either a change from 1.5% to 2.0% tax increase each year for neighbourhoods, or an increase of \$30 million through Municipal Sustainability Initiative funding reallocations from other projects, the following changes would be made to the Transportation Renewal Program:

- Dovercourt restored from 2013 to 2012
- Terrace Heights restored from 2013 to 2012
- Grovenor and Hazeldean restored from 2014 to 2013
- Laurier Heights restored from 2015 to 2014

Should Transportation Services significantly adjust the number of reconstruction neighbourhoods, Drainage Services will adjust the Drainage Neighbourhood Renewal Program as necessary.

### **Attachments**

1. Drainage Neighbourhood Renewal Program in Coordination with Transportation Reconstruction Program
2. Drainage Renewal Neighbourhoods
3. Transportation Neighbourhood Overview Reconstruction Projects

### **Others Reviewing this Report**

- R. Boutilier, General Manager, Transportation Services
- L. Rosen, Chief Financial Officer and Treasurer

**Drainage Neighbourhood Renewal Program in coordination with Transportation Reconstruction Program**

	Current Drainage Services Capital Program		Proposed Drainage Services Capital Program					Future Capital Program		
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ALBERTA AVENUE	DNR									
ARGYLL	DNR			TNR						
AVONMORE			DNR							
BELLEVEU				DNR						
BONNIE DOON	DNR									
CANORA		DNR		TNR						
CROMDALE			DNR			TNR				
DELTON			DNR		TNR					
DOVERCOURT		DNR			TNR					
GLENORA		DNR				TNR				
GROVENOR		DNR				TNR				
HAZELDEAN			DNR							
KING EDWARD PARK		DNR		TNR						
LANSDOWNE					DNR					
LAUDERDALE						DNR				
LAURIER HEIGHTS			DNR							
NORTH GLENORA		DNR								
QUEEN ALEXANDRA										
QUEEN MARY PARK				DNR						
ROSSLYN					DNR					
TERRACE HEIGHTS		DNR								
WESTMOUNT			DNR							
WESTWOOD			DNR							
WINDSOR PARK	DNR			TNR						
WOODCROFT	DNR			TNR						

**Legend:**

DNR	Identifies when Drainage Services Neighbourhood Renewal work planned (CCTV, Design, Construction)
TNR	Identifies when Transportation Neighbourhood Renewal work planned

### Drainage Renewal Neighbourhoods

Year	Neighbourhood	Reason for Neighbourhood Renewal Drainage Component
2012	HAZELDEAN	Transportation & Drainage Priority
2012	DELTON	Transportation & Drainage Priority
2012	LAURIER HEIGHTS WEST	Transportation & Drainage Priority
2012	AVONMORE	Transportation & Drainage Priority
2012	MCCAULEY	Drainage Priority
2012	GARIEPY	Drainage Priority
2012	BOYLE STREET	The Quarters
2013	CROMDALE	Transportation & Drainage Priority
2013	QUEEN ALEXANDRA	Transportation & Drainage Priority
2013	CALDER	Drainage Priority
2013	GRIESBACH	Drainage Priority
2013	HOMESTEADER	Drainage Priority
2013	LORELEI	Drainage Priority
2014	CENTRAL MCDOUGALL	Transportation & Drainage Priority
2014	LANSDOWNE	Transportation & Drainage Priority
2014	ROSSLYN	Transportation & Drainage Priority
2014	WESTMOUNT	Transportation & Drainage Priority
2014	MCKERNAN	Drainage Priority
2014	SPRUCE AVENUE	Drainage Priority
2014	STRATHCONA	Drainage Priority

## Transportation Neighbourhood Overview Reconstruction Projects

	2012	2013	2014	2015	2016
CAPILANO	Original				
WEST JASPER PLACE	Original				
CANORA	Original	Original			
DOVERCOURT	Original	Deferred	Deferred		
KING EDWARD PARK	Original	Original	Original		
TERRACE HEIGHTS	Original	Deferred	Deferred		
WINDSOR PARK	Original	Original			
WOODCROFT	Original	Original			
ARGYLL		Original	Original		
AVONMORE		Original	Original	Deferred	Deferred
DELTON		Original	Original		
GROVENOR		Original	Deferred	Deferred	
HAZELDEAN		Original	Deferred	Deferred	
NORTH GLENORA		Original	Original		
CROMDALE			Original	Original	
GLENORA			Original	Original	
LAURIER HEIGHTS			Original	Deferred	Deferred

### Legend:

Original	Schedule - as planned
Original	Original Schedule
Deferred	Deferred Schedule