

City of Edmonton
Millbourne Living Wall Demonstration Briefing
July 29, 2014 – Leefield Community Hall
Summary Notes

Presenters:

- Diane Wirtz, Project Manager, Design and Construction, Drainage Services, City of Edmonton. diane.wirtz@edmonton.ca 780-944-5975
- Neal Cody, Water Resources Engineer, Stantec

Overview

Ms. Wirtz provided an overview on studies and community consultations conducted since the flooding of 2012 that resulted in a flood mitigation improvement plan for the area. This plan is part of a \$200M funding package going before City Council later this year for funding approval.

One of the flood mitigation projects is to create a larger overland dry pond/flow capture pond along 91 Street. This requires removing the berm. A noise attenuation barrier (or sound barrier) and visual barrier to replace the berm favoured by the City of Edmonton and a majority of residents was a Living Wall. This wall exists in cold weather climates in Europe, Ontario and Quebec but it would be the first of its type in western Canada.

The City will remove part of the berm and build a demonstration section of the wall this fall. It will be studied and experienced through all four seasons. Feedback from residents will be included in the assessment. A decision on whether or not to proceed with a full length living wall will be made in 2015.

Living Wall

Mr. Cody walked through the specifics of the Living Wall:

- The Living Wall is composed of willow plants and soil that serves as a sound barrier and visual screen. Willow saplings are woven into a wooden frame with a soil core.
- The plants will grow fast but will not migrate in search of water. The wall would require a drip line for irrigation in the first year.
- The willows are sourced from a plantation in Quebec. They grow to a height of three meters and are capable of withstanding winter conditions.
- The wall provides a natural aesthetic, is graffiti resistant, is low cost relative to concrete, is low maintenance, salt resistant, and environmentally friendly and sustainable.
- The leaves drop in the fall but the soil core which acts as a sound barrier remains.

The demonstration wall will be located in Tweddle Place along 91st Street adjacent to the back lane of homes in the 40th Avenue cul-de-sac. To replicate the conditions a permanent Living Wall would face, the berm will be removed at that location. The multi-use path will be maintained and realigned around the wall. Work will begin this September and be completed in October 2014.

The demonstration wall will be 100 meters long and 3 meters tall. To build the wall, a trench is dug and a wooden box frame installed. The centre of the frame is filled with soil. Willows are woven into the frame and soil. The trench is then backfilled.

Questions from Residents

Q. Will the core of the living wall be as high as the existing berm?

A. Yes, the wall will be designed to be the same height as the berm.

Q. Will the ground around the wall be sloped toward the ditch?

A. The ditch will be widened and deepened to make a larger dry pond. To do this we need to remove the berm. The ground around the wall will be sloped towards the dry pond.

Q. What will you do with the drainage on 91st Street? Water from 91st Street drains into my yard at 8808 44 Avenue.

A. As part of the overall plan the berm will be removed to allow for better area drainage.

Q. Will the wall lead to ponding and mosquitoes?

A. There are ways to make sure water drains away from the wall to avoid ponding and minimize mosquito issues. We are researching the best way to do that. Water directed to the dry pond will eventually drain into the stormwater sewer system.

Q. I am not happy about this solution. To cheap out on an unproven living wall solution is just another way the City is giving us an inadequate band-aid for our drainage problems.

A. The living wall is only one aspect of a larger solution for the area. This test is to ensure this is the right solution for replacing the berm before we commit to it. The living wall isn't for flood prevention. It is to provide a sound and visual barrier once the berm is removed as part of expanding the dry pond. There are sewer solutions on the way but they will take years to implement. The work may not be being done in the order you wish it was but it is being done in the order that it has to be done.

Q. Has the berm been tested for blocking noise?

A. Yes, sound testing has been done at the berm and in the neighbourhood. Plus we have projected for future increases in traffic. The intent is for the wall to provide at least as much sound protection as the berm.

Q. Will the new dry pond be lower than the lowest basement in the area?

A. Yes, it will be lower than area basements.

Q. If the living wall demonstration doesn't work will it be removed?

A. Yes, if the living wall is not acceptable it will be removed and replaced, likely with a concrete sound barrier wall.

Q. How much will this cost?

A. It is part of the \$30 million drainage plan for the area. The wall will be about \$400,000. About half of that cost will be earth work. Removing the berm and deepening the pond is only part of the solution. We are going to enlarge the systems bringing water to the pond.

Q. Who will maintain the wall?

A. The City's parks department will keep the wall trimmed and maintained.

Q. How far will the wall be from the property lines?

A. The wall will be four to five meters from the property lines and the ground will be sloped away from properties to assist with drainage.

Q. Will the pathway remain?

A. Yes, the pathway will be realigned and there will be safety barriers in the areas around the pond that require them.

Q. Will deepening the pond make the area around the pathway quite a bit steeper?

A. It will be a balance between ensuring aggressive drainage and area safety.

Q. When will the double barrel storm sewer be completed?

A. It will be completed in the next two years.

Q. If you don't have breaks in the wall it will greatly reduce recreation access in the area.

A. Access breaks are one of the options being investigated for the wall.

Q. How much drop will result in the grading associated with the wall?

A. About one foot, however the wall will be the same height as the existing berm.

Q. Testing the wall before the drainage problems have been assessed is putting the cart before the horse.

A. The drainage problems have been assessed. As mentioned the wall is only part of the larger drainage plan for the area. The Living Wall is a replacement for the berm and will block noise and views from 91st Street. It is not a drainage structure.

Q. What is the point of this test period if the wall won't be fully mature in one year? How will we know how much maintenance it will need?

A. We want you to be able to see it in all four seasons including in full leaf during the summer. Over the course of the life of the wall the wood frame will deteriorate but at that point the willows will be mature enough to support the structure.

Q. Why are you planning to spend money on this when the drainage issues haven't been addressed?

A. As mentioned, the plan is to invest \$30 million in this area. Excavation of the earth berm is part of that cost. However, it will take a few years to address all of the drainage issues if we want to keep access to the neighbourhood open.

Q. Don't walls have vandalism and crime issues?

A. The Living Wall will be a much smaller vandalism target than a concrete barrier but there are pros and cons to any solution. The police are giving their feedback to the planning group for community access needs and crime prevention strategies.