



News

Info Session
on
Community Effects

Port Granby Project
October 27, 2004: 6:00-9:00 p.m.
Newtonville Community Hall

Workshop
on
Closed Facility Use

Port Hope Project
Nov. 16, 2004: 1:00-6:00 p.m. *(drop by to view displays)*
Port Hope Town Hall
Nov. 17, 2004: 7:00-9:00 p.m. *(workshop)*
Port Hope Town Hall

Info Sessions
on
Clean-up Criteria

Port Hope and Port Granby Projects
November 24 and 25, 2004: 1:00-7:30 p.m.
Port Hope Public Library
31 Queen Street, Port Hope

Open Houses
on **Environmental**
Effects Assessments

Port Granby Project
December 14, 2004: 3:00-8:00 p.m.
Newtonville Community Hall
Port Hope Project
December 15, 2004: 3:00-8:00 p.m.
Port Hope Lions Centre

COMING IN THE NEW YEAR: Open Houses for the Port Granby and Port Hope Projects: Come review and comment on the environmental assessment study reports. Watch the next issue of PHAI News for times and locations.



Gary Vandergaast, Port Hope Area Initiative Project Manager, explains the projects to a couple who dropped by the Initiative's booth at the Port Hope Fall Fair held September 17th to 19th.

Environmental assessments continued from page 1

LLRWMO to continue assessing the proposal to relocate the Port Granby site waste to a new secure aboveground mound away from Lake Ontario.

Before the environmental assessment studies are complete, scientists and engineers will have investigated and analyzed our human and natural environment to predict and address potential project effects.

Community members and groups will have had many opportunities to offer input and have their questions answered. Comments from the municipalities and their peer review teams and provincial and federal agencies will have been addressed.

Public consultation will carry on. As the environmental assessments proceed, your input will continue to be important, leading up to clean-up and construction in 2007.



Project Information Exchange
110 Walton Street, Port Hope
Hours:
Open 1:00 p.m. to 5:00 p.m.
Monday through Friday

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After three years of in-depth study... Environmental studies are wrapping up

Completion of the environmental assessment study reports for the Port Hope and Port Granby Long-Term Low-Level Radioactive Waste Management Projects is in sight. By April 2005, the Low-Level Radioactive Waste Management Office (LLRWMO) expects to submit these reports to the federal authorities to be reviewed and used as the basis for their decision-making.

Earlier this fall, the Municipality of Port Hope gave its go-ahead to the LLRWMO

to continue to assess consolidating all of Port Hope's historic waste at a single new facility south of Highway 401 and west of Baulch Road. Clarington gave its approval to the

continued on page 8

Taking your pulse...

Port Hope and Ward 4 Clarington residents like living in their communities. The presence of historic low-level radioactive waste is not foremost on their minds, yet they are increasingly knowledgeable about the long-term projects to manage the waste safely.

These are just a few findings of a telephone survey of local residents conducted for the LLRWMO this past spring.

Turn to page 2 and 3 for highlights.

In This Issue

- Focused survey gathers feedback
- How aboveground mounds work
- Answers to your questions
- Upcoming events

Here's what you said

600 residents offer views about the projects

How do residents feel about their community? How knowledgeable are they about the Initiative to manage the historic low-level radioactive waste? Does it affect their lives? Are they confident it can be done safely?

A total of 600 people living in Port Hope Wards 1 and 2 and Ward 4 of Clarington¹ were asked their views on these and related subjects between May 25 and 31, 2004. The random telephone survey was conducted for the LLRWMO for the third consecutive year by IntelliPulse, a public affairs and marketing research firm.

How satisfied are you with living in your community?

Satisfaction with living in Port Hope remains high. 94% report being satisfied with living here. In Ward 4 of Clarington, results are similar at 98% satisfaction. The results are comparable to those in the previous two surveys.

¹ The Clarington Ward 4 survey includes residents of Newcastle, Kendal and Orono as well as Port Granby.

Do you know about the historic waste?

In Port Hope, 82% are “very” to “somewhat” knowledgeable about the waste issue. In Ward 4 of Clarington, 52% know something about it. Yet in each community, the majority of residents – 61% in Port Hope and 74% in Clarington Ward 4 – “never” or “not very often” think about it.

Have you heard of the Port Hope Area Initiative?

In both communities, awareness increased over the past year. In Clarington’s Ward 4, awareness of the Port Granby Project rose to 59% from 44% in 2003. In Port Hope, 69% know about the Port Hope Project compared to 62% last year.

Do you believe the waste can be managed safely for the long term?

A majority of residents are confident the waste can be safely managed for the long term. In Port Hope, 67% and in Clarington Ward 4, 58% say they are confident in the safety of the proposed facilities.

What are your most important concerns about the proposed facilities?

Prior to the telephone survey, through Initiative newsletters and area media, residents learned about the proposals for the waste’s long-term management. As a result, more people were able to identify issues than in past surveys. Residents in both communities cited transportation, protecting the groundwater and safely containing the waste as key issues. In Ward 4 of Clarington, 10% said they had no concerns compared to 22% in 2003; while in Port Hope, 9% had no concerns compared to 16% in 2003.

Will the projects to clean up and manage the waste affect your life?

People were asked how three different aspects of the projects might affect them: waste excavation, transportation and facility development. In both communities, the majority of residents felt there would be no change in their feeling of health and sense of well-being. The vast majority of residents did not expect their use and enjoyment of their own property or of public facilities, such as parks and beaches, to change.

Once finished, how will the Initiative affect the community’s image?

Both Port Hope and Clarington residents believe the effect on their community’s image will be positive. In Port Hope, 79% volunteered benefits such as enhanced image, greater peace of mind/feelings of safety and economic growth. In Clarington, 57% predicted positive results. An improved community image and greater feelings of safety were cited most often.

Separate survey targets most affected residents

Residents living closest to the proposed waste management facilities and transportation routes were sent a special survey this spring to find out how they believe their daily lives may be affected by the projects and how those effects might be reduced.

Information gathered from the 86 surveys mailed to southeast Clarington residents and the 420 surveys sent to Port Hope residents is being used along with data from the telephone survey for each project. This survey’s more focused look is assisting the socio-economic effects assessment, now underway, to identify potential project effects and ways to manage them. Here are some preliminary findings:

- In Port Granby, residents living closest to the proposed facility expressed concerns about the need to move the waste from its existing location on Lake Ontario. In Port Hope, traffic issues concerned residents most.
- Residents surveyed for both projects anticipated their feelings of



Port Hope resident fills out the survey

personal security would change and their use and enjoyment of their property and outdoor activities could be disrupted by dust, noise and traffic.

Ways people suggested to lessen the effects and increase their confidence in the projects included:

- Conducting major earthworks within an enclosed structure;
- Monitoring well and surface water quality and air in homes;
- Crop testing;
- Limiting haulage to off-peak hours;
- Compensation and/or tax relief;
- Ongoing communication.

How aboveground mounds work

The sketch* on this page illustrates the basic design concept for the Port Hope and Port Granby Projects. Specifics of the designs are still being developed to address the conditions of each of the proposed sites.

The aboveground mounds are designed to isolate the low-level radioactive waste by securely encasing the waste on top, bottom and sides between thick, multiple layers of natural and specially manufactured materials. These layers form components (cover and base liner) that, independently, are robust enough to prevent contaminants from escaping into the environment. Together, they function as multiple, back-up systems.

*Not to scale

The cover – approximately 2.5 metres (8 ft.) thick:

Below the grassed surface of the mound, layers of topsoil, fill, high-density polyethylene (geomembrane), low-permeability clay, coarse stone and sand isolate the waste from the environment. The layers keep out animals and roots, block precipitation and shield radiation. Radiation levels on the mound are the same as natural background levels. In Port Hope, methane collection and venting are incorporated in the cap design because of the presence of some landfill waste.

The waste:

Waste is placed in individual cells (sections) to permit separation of waste types if necessary. A carefully engineered plan is followed to increase

the structural stability of the mound and restrict settling. During construction, workers use measures such as covering the waste to control dust.

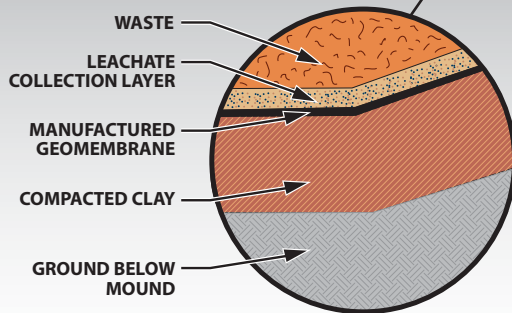
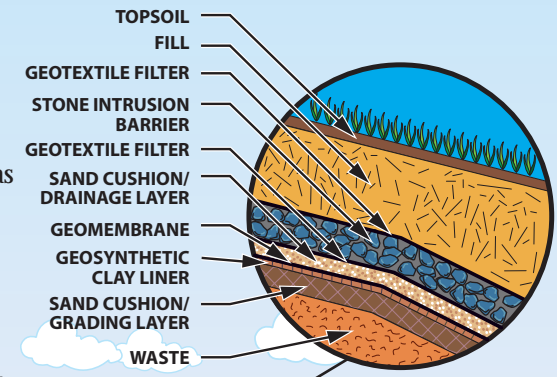
Leachate collection:

During construction, before the cover system is in place, precipitation percolates through the waste. A sand drainage layer in the base collects this leachate to be pumped out for treatment. Once the mound is capped, the cover system keeps rain and melted snow away from the waste. Over time, as the waste dries out, leachate (contaminated drainage water) is virtually eliminated.

Monitoring systems:

Systems within and around the mound monitor its safety for hundreds of years.

Visual inspections of the surface will note changes in the cover if they occur. Monitoring the leachate collection system will confirm the continued effectiveness of the cover. Sensors in the base will monitor performance. Wells around the outside of the base will monitor groundwater quality.



The base liner – approximately 1 metre (3 ft.) thick:

Construction begins by excavating 2 to 5 m (6.5-16 ft.) into the ground to establish a good foundation. At this depth at the Port Hope and Port Granby proposed sites, soil conditions and types provide a natural barrier against contaminants entering the groundwater. On this soil layer, the liner system is constructed of dense compacted clay and a flexible geomembrane (high-density polyethylene). A thick sand drainage layer allows leachate to be collected and pumped out of the mound for treatment. Sensors monitor the performance of the base.

Mound becomes public education centre

In Weldon Spring, Missouri, an interpretive centre opened in August 2002, marking the completion of a one million cubic metre low-level radioactive waste mound. The public can climb steps to the top of the 22-metre (75-ft.) high mound.

The Weldon Spring Site Remedial Action Project spanned more than 15 years of studies, consultation, cleanup and construction. The centre's goal is to tell that story while returning most of the 205-acre site to its pre-1940s condition, before uranium refining took place. Today native Missouri prairie grass and hiking and biking trails surround the mound. "There's nothing fun about environmental waste, but when you can accomplish what we've managed to accomplish, that's something to celebrate," says the centre's community relations manager. For more information, visit www.wssrap.com.

You asked?

Are you considering public suggestions for use of the completed waste management facilities?

Yes. The municipalities, LLRWMO and public will discuss recommended end uses for the facility properties. Suggestions received so far include permanent parkland, interpretive centre (see centre spread story), wildlife/nature area and active playing fields. The Canadian Nuclear Safety Commission must approve the recommended end uses.

How can you predict the aboveground mound liners will last for hundreds of years?

The liner has many components, both natural and synthetic. During the 30 years synthetic liners have been used, advances in materials, construction



Base liner construction

techniques and testing have increased technical understanding and confidence in their long-term performance. Accelerated ageing tests on the geomembrane (high-density polyethylene liner) show the materials will remain durable for hundreds of years. Other studies indicate that composite liners – layering the geomembrane with compacted clay – as the Port Hope and Port Granby basic designs propose, provide a more effective barrier than using any of the materials alone. Chemical compatibility testing on the clay and geomembrane has shown neither is

compromised by the type of chemistry present in the historic waste, such as calcium, uranium, arsenic, radium and high pH. Conditions that could cause the geomembrane to fail prematurely, such as high temperature and UV light, will not be present in the mound designs.

What is the point of clean-up criteria?

The principles that will guide the cleanup have been developed to protect the environment and ensure the long-term health and safety of the people of Port Hope and Clarington. Clean-up criteria provide standards for the cleanup of existing waste sites and affected properties for current and foreseeable land uses. For example, Ward 1 Port Hope residential properties which are cleaned up to meet the criteria will be safe for all human activities including children playing, eating vegetables grown in the soil, building houses or excavating for home improvements.

Are other communities living with low-level radioactive waste mounds?

Yes. Cities, towns and agricultural communities across the U.S. that were once home to former uranium and radium refineries are today hosts to low-level radioactive waste mounds. Much of the contaminated soil and material is similar to the historic waste being managed by the Port Hope Area Initiative. One of North America's first low-level radioactive waste aboveground mounds was capped and closed in Canonsburg, Pennsylvania, in 1985. Since then, over 50 completed facilities have been turned over to the U.S. Department of Energy (DOE) for long-term monitoring and surveillance. Another 50 facilities are scheduled for closure. Most of the facilities are designed to safely isolate the waste for 200 to 1,000 years.

Keeper of database enjoys her work

Nothing gets by Amanda Stewart. Anyone who drops in to the Initiative's office in Port Hope meets Amanda first. Every letter that's received and comment that's made about the Port Hope and Port Granby Projects passes through her hands. Amanda joined the LLRWMO three years ago. She provides administrative support to project staff and oversees a database of thousands of comments, questions and responses gathered over three years of community



consultation (see story on facing page).

"The database is such a useful tool," says Amanda who checks it regularly to make sure all questions and comments are

considered. "It's rewarding. When someone comes to you and needs information, it's there."

Born and raised in Welcome, Amanda graduated from Durham College in Business-Information Systems. She loves spending time outdoors with her husband and their dog.

Databases help to make sure input counts

If you've ever made a comment, raised an issue or asked a question about the Port Granby or Port Hope Projects in person, by phone, email or writing, your viewpoint has been recorded.

Since the start of the Port Hope Area Initiative, thousands of comments from hundreds of individuals and groups have been gathered. Before the environmental assessment study reports are completed in Spring 2005, every issue raised and comment made by the public will be considered.

At the heart of managing this input are two computerized databases for each

project. The first, a stakeholder database, records people's comments. The second, an issues database, highlights key issues from the comments, organizes them and tracks how they are addressed.

The databases provide a way to be sure everyone's input counts. "It's really about quality assurance – making sure each person's input is heard and considered," says Initiative Communications Officer Sue Stickley. "People will be able to look for a summary of these public comments in the environmental assessment study reports and track the responses."