

INFORMATION MEETING

Danford Lake's Technical Landfill Site Project (Alleyn-et-Cawood)



February 28, 2007

Presentation Outline

- **Presentation of the Promoter**
- **Context and justification**
- **Project history**
- **Characteristics of the chosen site**
- **Site layout**
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Presentation of the Promoter

LDC-Gestion et Services Environnementaux is a Dominion charter company operating in Québec and owned by four shareholders from Gatineau and Ottawa.

Its Experience:

Three of these shareholders own Cohen & Cohen, a company renown in the fields of demolition, recovery and resale of waste materials as well as reusable goods for more than 35 years.

Its Mission:

LDC's main mission is the integrated management of residual wastes according to the 4R-D approach:

***"Reduction – Reuse – Recycling – Reclamation
and Disposal"***



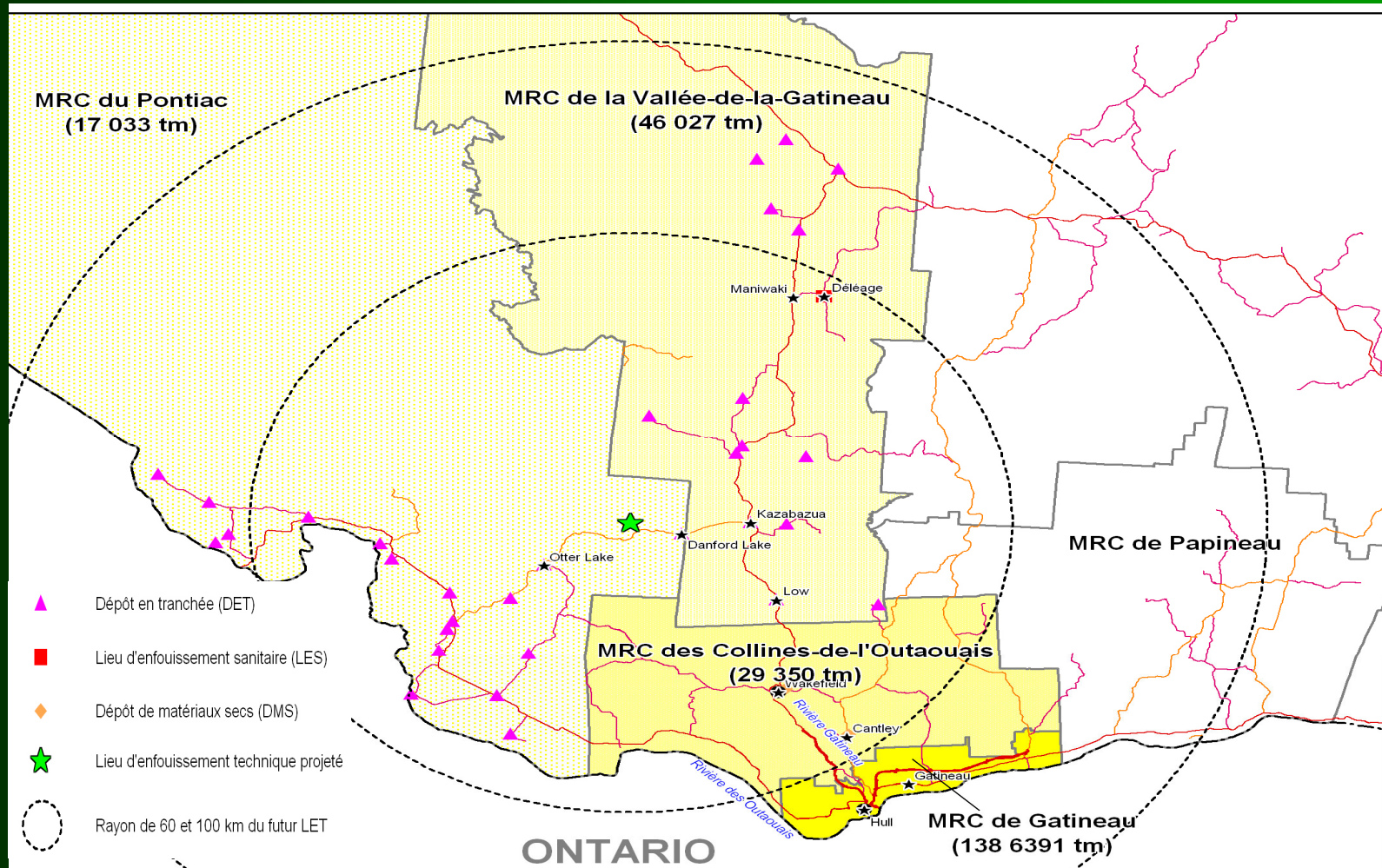
Context and Justification

Current Situation in Outaouais

- No existing or planned technical landfill site (TLS) in Outaouais
- A single regional sanitary landfill site, Déléage's (SLS), has to close by 2009
- Nearly all of the fifty trench deposit sites (TDS) in Outaouais have to close by 2009
- The closest (TLS) is located more than 135 km from Gatineau
- The *Québec Residual Materials Management Policy (1998-2008)* recommends a regional taking in charge by each RCM



Context and Justification



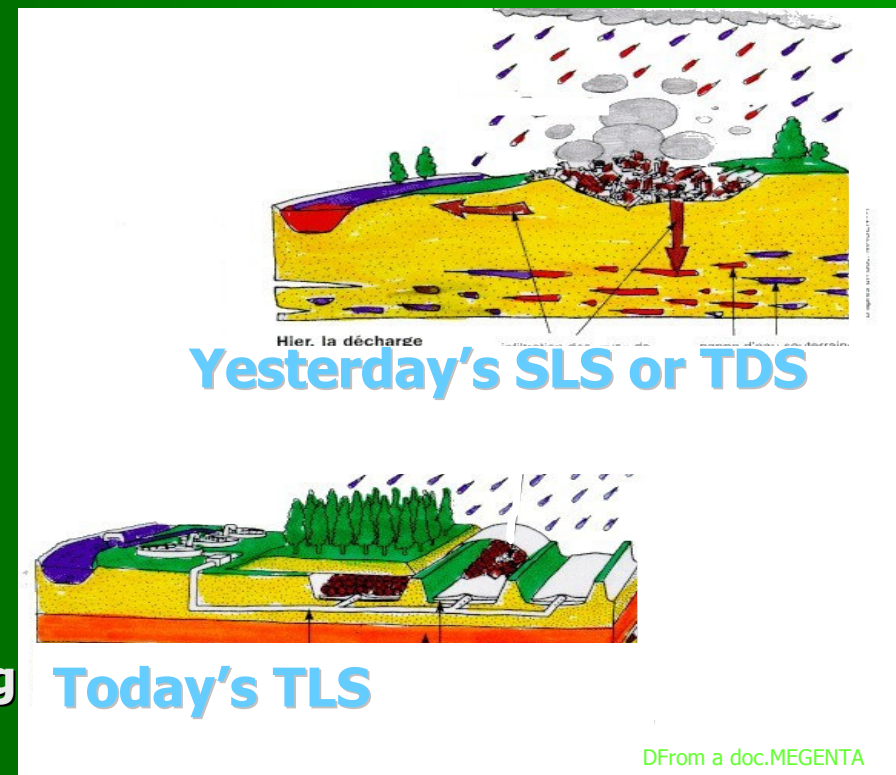
Context and Justification

Acknowledgement

The *Regulation respecting the landfill and incineration of residual materials* imposes the closing of all non conform SLS and TDS by 2009

Project Objective

Satisfy the ultimate wastes disposal needs of the region by the development of a TLS meeting all environmental requirements



SLS and TLS schematization

Project History

Process Started in August 2004

- Preliminary discussions with councillors (Alleyn-et-Cawood and RCM of Pontiac)
- 18 information meetings with local representatives
- 3 public information and consultation meetings
- Environmental Committee implemented by the Municipality of Alleyn-et-Cawood: base of the future Vigilance Committee, as planned in the regulation



Site Characteristics

Main Criteria for Site Selection

- Open-mindedness of the host environment
- Outside CPTAQ's protected agricultural zones and densely inhabited areas
- Meeting regulated location criteria
- Located near an important axial highway and less than 100 km from Gatineau

"Alleyn-et-Cawood, Southeast of the RCM of Pontiac, has been identified as meeting all selection criteria"



Site Characteristics

Its Location

The chosen site is located in the Municipality of Allevyn-et-Cawood on a land owned by the Government of Québec who has agreed, after a favourable decree, to sell it to LDC.

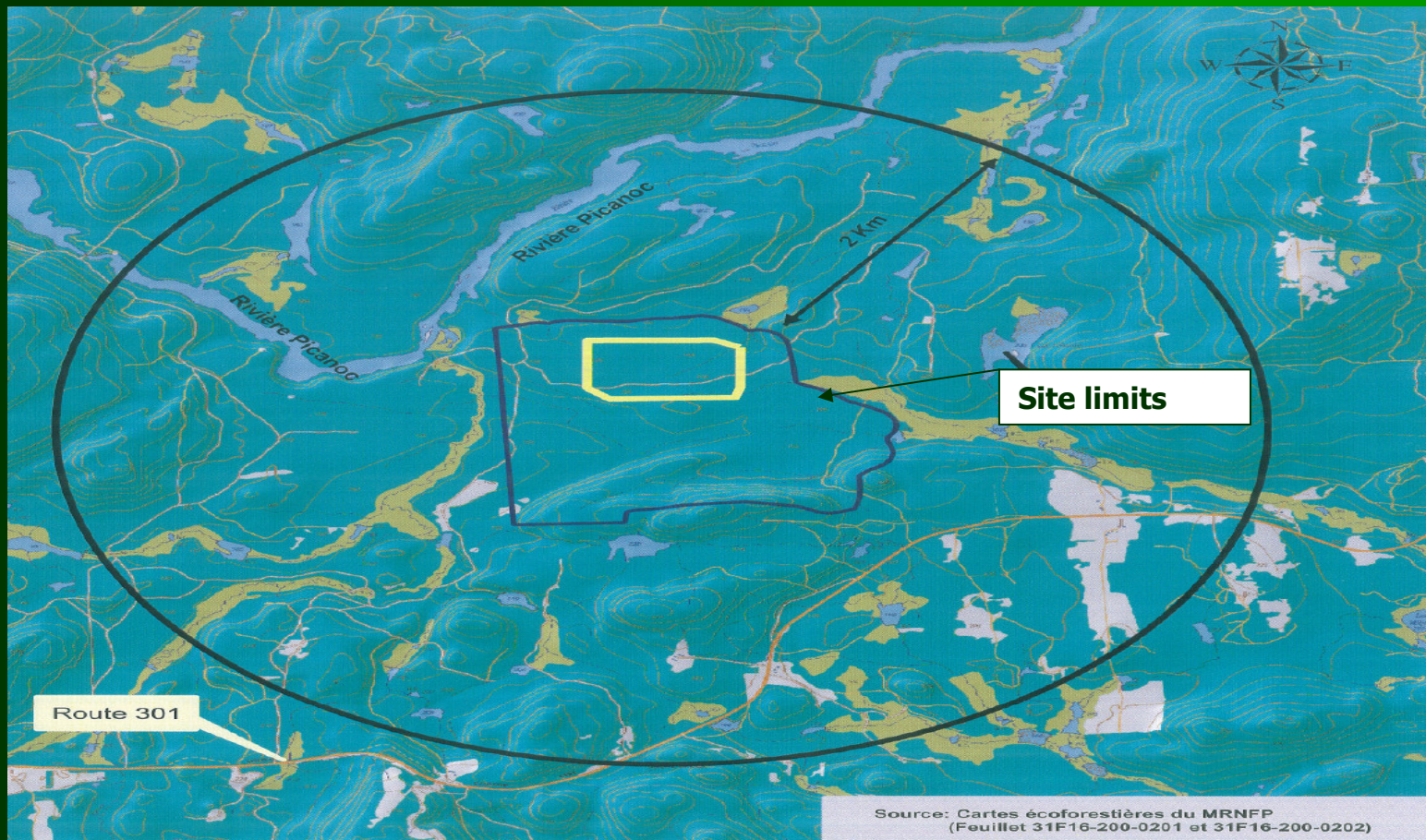
Some Advantages of the Site

- No residence within a radius of 2 km from the TLS.
- Direct access to Provincial Road 301.
- Favourable land for a TLS due to its isolation on a plateau surrounded by hills.



Site Characteristics

Location of the Chosen Site and Study Zone



Site Characteristics

Respect of the RLIRM:

- **Minimal distance of 1 km from any surface or ground water collection installations**
- **Outside 100-year recurrence flood-risk zones**
- **Outside land movement-risk zones**
- **Outside high aquifer potential zones**
- **Integration of surrounding environment**



Site Layout

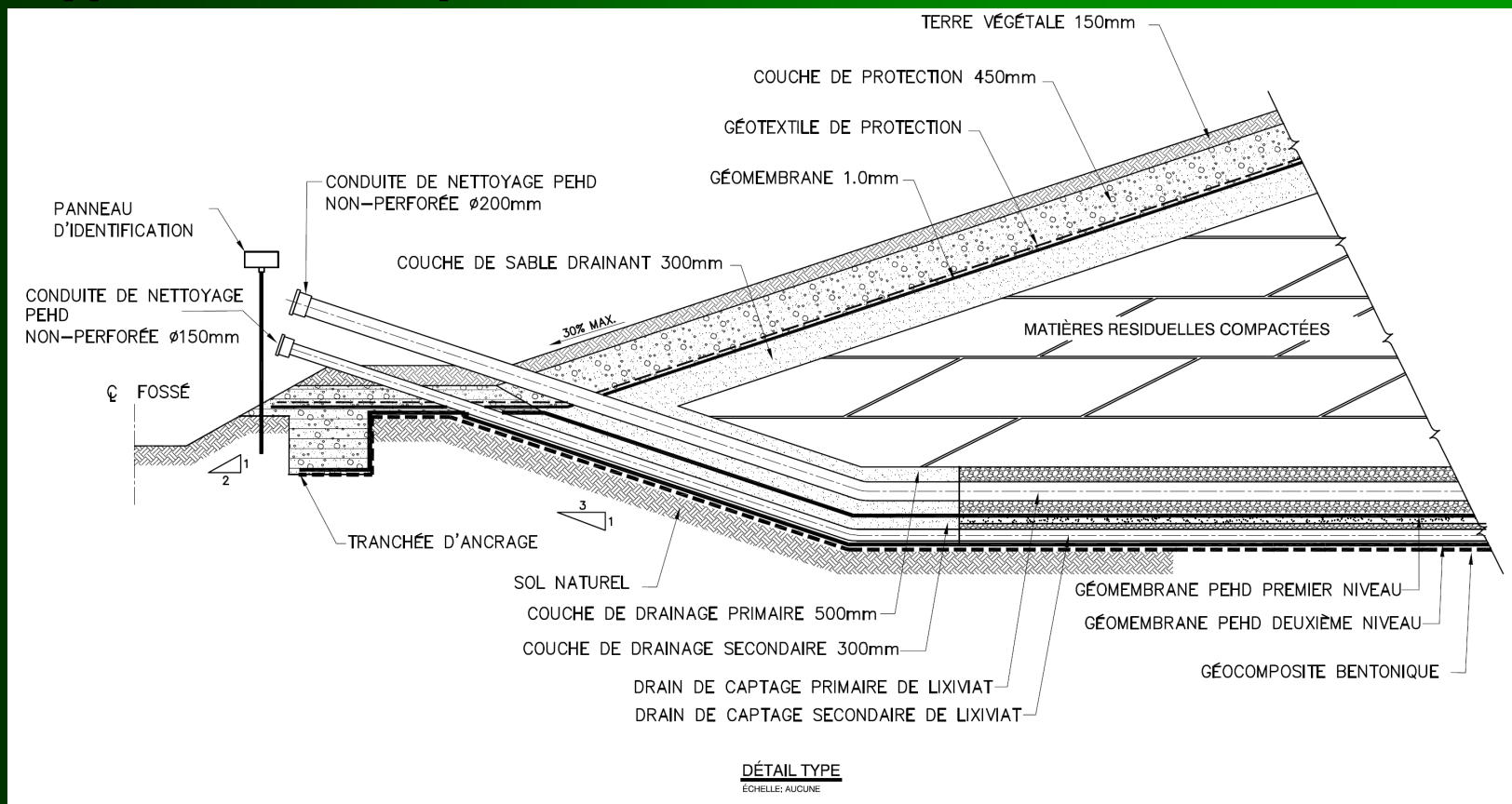
Description of the Technical Landfill Site (TLS)

- Landfill area of 38.5 hectares with a double level protection lining system.
- Weighing station, scale and electronic controls.
- Garage and administration building.
- Sampling system for biogas, liquid effluents and ground water.
- Leachate treatment station.
- Biogas collection, pumping and elimination networks.



Site Layout

Typical Cell Composition



Site Layout

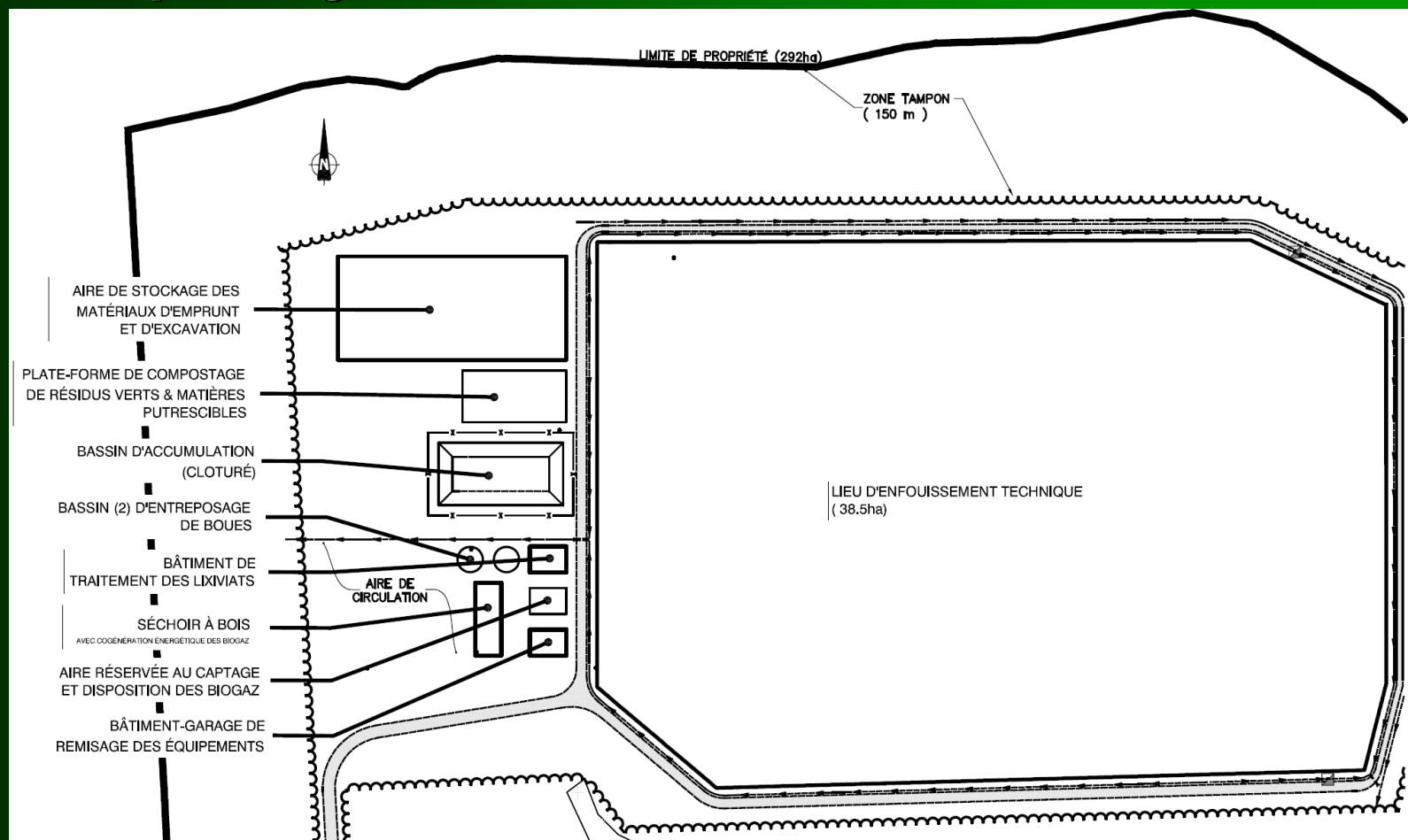
Description of Related Equipment

- Container park and waste treatment center;
- Receiving and temporary storage of hazardous household wastes (HHW);
- Wood dryer for the energetic recovery of part of the collected biogas;
- Composting platform by the swathing of green residues and putrescible materials;
- Recyclable materials transfer center;
- 4R-D information and awareness center.



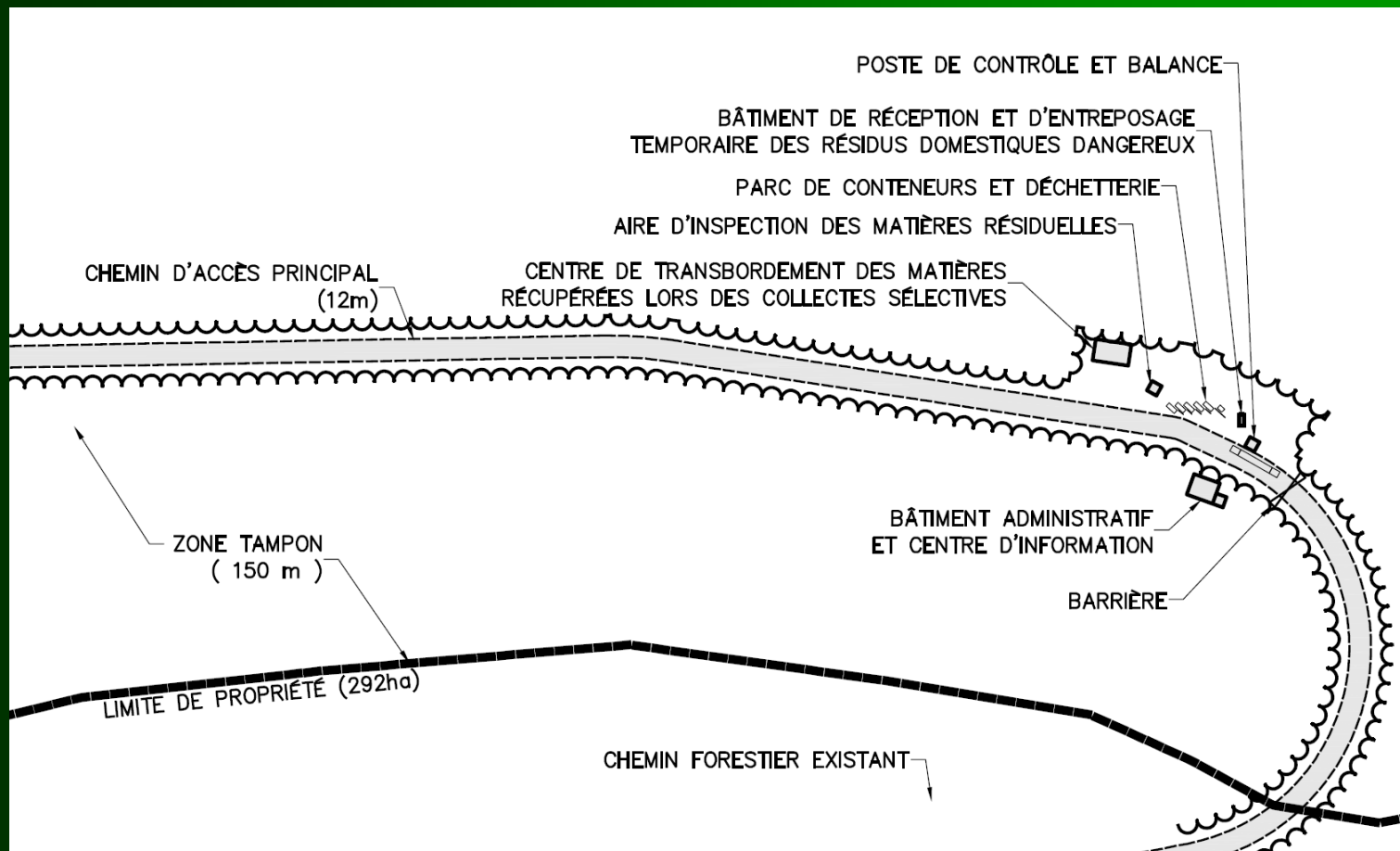
Site Layout

TLS Operating Area



Site Layout

Site Entrance



TLS Capacity

Capacity Estimate

- Total receiving capacity of 8 million metric tons of residual wastes
- Sufficient capacity to meet the disposal needs of the 49 municipalities part of the RCM of:
 - RCM of Pontiac;
 - RCM of Collines-de-l'Outaouais;
 - RCM of La Vallée-de-la-Gatineau;
 - City of Gatineau



Maximum estimated total: 250 000 t/year in the medium and long terms

Environmental Integration

Quality of Surface Waters

- Discharge of the treated effluent into the Picanoc River

Main Mitigation Measures

- Advanced leachate treatment sub-sector respecting MSDEP regulation
- Treatment process located in a building, thus not influenced by climate conditions
- Management and monitoring of runoff waters on the site
- Monitoring of the quality of treated waters (according to the regulation)
- Let's note that the Picanoc River's minimum annual flow is 500 times higher than the effluent's design flow of 300 m³/d

Result

- Low residual impact.



Environmental Integration

Quality of Ground Waters

- Risk of leachate infiltration into the ground water table

Main Mitigation Measures

- Double level protection lining system at the bottom and sides of the TLS;
- Application of a quality control and assurance program for materials and their putting in place;
- Regular monitoring of the quality of ground waters in wells dug around the TLS.
- Note: No drinking water wells are located within a radius of 2 km

Result

- Low residual impact



Environmental Integration

Noise Level (at maximum tonnage)

- 122 passages between Kazabazua and the TLS entrance (estimated average)
- Noise increase of less than 3 dBA near roads due to additional trucking activities

Main Mitigation Measures

- Respect of speed limits by truck drivers and awareness activities by the Sureté du Québec (retarder by combustion engine)
- Signalling on Road 301 (site entrance, etc.)
- MTQ's awareness to maintain the road in good conditions
- Let's note that trucking activities toward the site follow regional MTQ roads (105 and 301)

Result

- Low residual impact



Environmental Integration

Air Quality

- Fleeting emission of biogas, scattering of papers and dusts

Main Mitigation Measures

- Active biogas collection system, incineration and recovery
- Respect of standards from the new *Regulation respecting the quality of the atmosphere relating to reduced sulphide totals (odour) and methane*
- Biogas monitoring program (according to the regulation)
- TLS located 2 km from the closest summer cottages and residences
- Mandatory daily covering, litter fence and dust control device

Result

- Residual impact: low to negligible.



Environmental Integration

Development and Operation

- Loss of productive surfaces for the forest industry

Main Mitigation Measures

- Maintaining of access to recreational hunting sites
- Major parts of timber cuts performed on the TLS
- Access to the site's access and bypass roads
- Agreement with the TSFMA managers for the implementation of operation or mitigation measures

Result

- Residual impact: low to negligible



Environmental Monitoring

Environmental Monitoring Goal

- Ensure the integrity of works as well as the respect of regulating standards and requirements with the use of samplings, qualified personnel, Vigilance Committee and post-closing funds.

Sampling of Ground Waters

- Nine sampling wells dug around the site

Sampling of Surface Waters (ditches)



Environmental Monitoring

Sampling of the Treated Effluent

- Weekly control of the discharge quality
- Monitoring of the effluent flow

Biogas Monitoring

- Sampling wells
- Detection of gas inside buildings

Vigilance Committee

Post-Closing Funds (minimum of 30 years)

Emergency Measures Plan



Time Schedule

- Public Meeting Spring 2007
- Government Decision Fall 2007
- CA Request Fall 2007
- Preparatory Works Winter 2008
- Construction Spring-Summer 2008
- Site Opening Summer-Fall 2008



Conclusions

A TLS Conform to the New Regulation

- which will meet the essential needs of the region
- which will have few impacts on the surrounding environment due to its isolation, planned mitigation measures and its Vigilance Committee
- which will create jobs
- which will have regional economic benefits through the buying of goods and services
- which will ensure an adequate management of residual wastes in the region for the coming decades according to the 4R-D approach:

"Reduction – Reuse – Recycling – Reclamation and Disposal"

