

**Mont-Joli Airport, Quebec
Contaminated Site (MDDEFP File: 7610-01-01-0253704)**

Remediation Plan

**Answers to the MDDEFP Emails of
April 30, 2013 and May 30, 2013, and to the
Request for Additional Information of September 3, 2013**

Revision 01



Mont-Joli Airport, Quebec

Contaminated Site (MDDEFP File: 7610-01-01-0253704)

Remediation Plan

Answers to the MDDEFP Emails of April 30, 2013, and May 30, 2013, and to the Request for Additional Information of September 3, 2013

1. BACKGROUND

In March 2011, on behalf of Transport Canada (TC), Groupe-conseil Entraco Inc. (Entraco) prepared a remediation plan (the Plan) for three contaminated sectors—namely the former building H-3, the former coal depot, and the former landfill.—The Plan was based on characterization studies carried out by LVM (November 2007) and Entraco (March 2009).

On behalf of the City of Mont-Joli, LVM subsequently (January 2012) conducted an exhaustive site characterization that revealed the presence of additional contaminated sectors. TC then commissioned Entraco to prepare an amendment to the Plan (finalized in March 2012) in order to include the new contaminated sectors identified in the LVM study.

The site of the former hangar H-3 was remediated in the winter of 2012 following the approval of the remediation plan for this sector by MDDEFP. MDDEFP had issued a request for additional information (July 20, 2011), and Entraco had prepared a response for TC (October 2011).

The following answers are provided in response to the MDDEFP emails from April 30 and May 30, 2013, as well as to the request for additional information from September 3, 2013 (see copies of the documents in Appendix 1). They are divided into three sections, one for each document produced by MDDEFP.

This document is an addendum to the remediation Plan. The appended tables and figures have been updated and supersede those appearing in previous documents. For ease of understanding, the original documents pertaining to the initial Plan (Entraco, March 2011) is provided in Appendix 2 (table), and the documents pertaining to the amended Plan (Entraco, March 2012) are provided in appendices 3 (tables) and 4 (figures).

2. RESPONSES TO EMAILS

2.1 Email of April 30, 2013

Stream / drainage ditch

In this email, MDDEFP confirms that the remediation objective for the drainage ditch sector is to attain the level C of the soil criteria, i.e. the limit values set out in Schedule II to the LPRR.⁽¹⁾ Therefore, no amendment is made to the remediation objective in the Plan.

In section 4.1.3 of the amendment to the Plan (Entraco, March 2012), to prevent the migration of contaminants (water or sediment) into Saucier Stream, replace “*Once the remediation objectives have been achieved, backfill the bottom of the ditch with MG-20 granular material to limit the suspension and downstream transport of sediment.*” with the following:

“Once the remediation objectives have been achieved, if the residual contamination in the bottom and sides of the ditch is in the A-C range, restore the ditch so as to prevent the migration of contaminants; a notice will be sent to MDDEFP to specify the proposed terms of restoration.”

Wetland characterization report⁽²⁾

MDDEFP presented three questions and comments regarding the wetland characterization report. The questions were related to: (1) the use of vehicles near the wetland; (2) the origin and method of collecting the plant species that will be used for revegetation; and (3) the type of soil that will be put in place prior to the planting the selected vegetation.

With regard to the use of vehicles, all vehicles used will be parked at least 60 m away from the wetland and from any other aquatic environment. This distance will also be applied during refuelling and maintenance of the machinery. These requirements will be written into the project specifications.

With regard to the revegetation of the excavated areas, the plant species that will be used primarily consist of species already present in the wetland. Furthermore, using species from nurseries, rather than from other wetlands will be prioritized. If it is not possible to use plant species from a nursery, a methodology for the collection of plants as well as the location will be submitted to you for approval before the work begins. These requirements will be written into the project specifications.

With regard to the type of soil used, the excavated areas will be backfilled with clean soil. Furthermore, the soil will be selected to favor the growth of the plant species. These requirements will also be written into the project specifications.

⁽¹⁾ Land Protection and Rehabilitation Regulation (c. Q-2, r. 37).

⁽²⁾ Answers provided by Jean-François Marsan of Transport Canada.

2.2 Email of May 30, 2013

Unexpected discovery of contamination or residual materials

In the event that contamination or residual materials, not previously identified in the site characterizations, are discovered during the remediation work, the affected sectors will be remediated and the additional work will be described in the remediation report.

Regarding item 7⁽³⁾

To take into account the manganese contamination present (C-D range) in sample PO-F1-11-CF4 (between 2.28 m and 3.05 m), an 88-m² contaminated zone with a total volume of 79.2 m³ has been added (see Table 3.1 and Figure 2.3 in Appendix 4). This zone, PO-F1-11, will be remediated according to the directives in section 4.1.2 of the amendment to the Plan (Entraco, March 2012) and tables 4.1, 4.2 and 5.1 (see Appendix 3).

Regarding item 9⁽³⁾

As noted in section 4.1.3 of the amended Plan (Entraco, March 2012), a complementary characterization of the ditch, upstream and downstream of excavation FOSSÉ-1-11, will be conducted prior to the remediation work. The purpose of this characterization is to precisely determine the extent and, if possible, the source of the contamination. Once the results of the characterization have been received, a notice will be sent to MDDEFP for approval presenting the remediation measures to be applied and, if applicable, to the source of the contamination.

The values presented in tables 2.1, 3.3 and 4.2 will be reviewed to take into account the results from the site characterization.

2.3 Request for additional information from September 3, 2013

1. The boundaries of the new lots 4 804 508 and 4 804 509 were added to the figures (see Appendix 4).
2. The surface areas and volumes presented in tables 2.1, 3.2, 4.2 and 5.1 (see Appendix 3) were amended to match those in the certified LVM characterization study. The values presented in the amendment to the Plan (Entraco, March 2012) were calculated considering the presence of concrete septic tanks. The new values are as follows:
 - PE-62-11: 100 m² and 20 m³ replaced with 120 m² and 24 m³
 - PE-63-11: 55 m² and 66 m³ replaced with 119 m² and 142.8 m³
3. As part of the quality control of the ditch area (area FOSSÉ-1-11), following the excavation of the contaminated soil, samples will be taken from the sides and bottom of the ditch and analyzed. The quantity of samples collected will comply with the requirements of the *Site Characterization Guide* and the *CEAEQ Sampling Guide for Environmental Analysis (Booklet 1 – General and Booklet 5 – Soil Sampling)*.

⁽³⁾ The numbering of these items refers to that used by MDDEFP in its request for additional information dated October 12, 2012, and in the certified characterization study of LVM (January 2012). The same numbering was used by LVM in its reply of December 6, 2012.

Note that the number of samples cannot be specified until the contaminated sector of the ditch is evaluated with a complementary characterization that will take place before the remediation activities.

4. Regarding zones 2.4, 3.1, 3.2 and 3.3 from the initial Plan (Entraco, March 2011), where the soil must be placed in piles and characterized, if the soil presents metals contamination in the C-D range and >D, it will be sent to a contaminated soil burial facility (see Table 5.1 in Appendix 2). This management method is acceptable as there are no treatment facilities authorized by MDDEFP for this type of contamination.
5. Soil contaminated by metals at concentrations equal to or greater than the values set out in Schedule I to the RRBCS⁽⁴⁾ will be sent to a contaminated soil burial facility, as there are no treatment facilities authorized by MDDEFP for this type of contamination.
6. In zone PE-25-11, where the municipal zoning is 204 EXI,⁽⁵⁾ the backfill materials from the site, if applicable, will not contain any contaminants above the B criteria, i.e. the limit values set out in Schedule I to the LPRR. Table 5.1 has been amended accordingly (see Appendix 3).

In its response to MDDEFP on December 6, 2012, LVM states in item 2 that the City of Mont-Joli intends to eventually change the zoning of this site, since the entire area is set to become an industrial park. If appropriate, the limit values of contamination for the fill material will be the C criteria, i.e. the values set out in Schedule II to the LPRR.

7. Since the Centre de traitement BSL in Saint-Anaclet is not authorized to treat PAHs with four or more rings at concentrations above the C criteria, excavated soil containing this type of contamination, such as that represented by sample FOSSÉ-01-11, may not be sent to this treatment centre.
8. Groundwater quality monitoring will begin after the remediation work has been completed. A notice will be sent to MDDEFP specifying the dates on which monitoring reports will be submitted to MDDEFP. Following a two-year monitoring period, depending on the concentrations measured, the consultant responsible for monitoring will determine whether monitoring should continue, and monitoring may then continue for another two-year period before being re-assessed. The monitoring period may therefore continue for more than two years.

⁽⁴⁾ *Regulation Respecting the Burial of Contaminated Soils* (c. Q-2, r. 6.01).

⁽⁵⁾ Under the municipal zoning by-law, it is an industrial expansion zone with recreational and agricultural uses.

9. Regarding the management of residual materials, regardless of whether they are hazardous or not, once the contractor responsible for the remediation work is selected, a notice specifying the authorized disposal sites proposed by the contractor will be sent to MDDEFP for approval.

The final paragraph in section 5.2 of the amendment to the Plan (Entraco, March 2012) is replaced by the following:

Off-site disposal sites for hazardous and non-hazardous residual materials must be sites authorized by MDDEFP. Once the contractor responsible for the remediation work is selected, TC will send the MDDEFP a notice for approval specifying the sites proposed by the contractor.

10. In relation to the concrete structures in the former septic tank sector, i.e. the septic tanks themselves and the intake pipe, the following activities will be conducted:

- Once the soil and residual materials in and around the tanks have been removed, the concrete tanks will be characterized to determine the appropriate management method in accordance with the MDDEFP guidelines for managing concrete, brick and asphalt from construction and demolition work and waste from the cut stone sector and, if applicable, with the RRHM⁽⁶⁾.
- Depending on the results of the characterization (hydrocarbons C₁₀-C₅₀), the concrete will be broken up on-site and transported to one of the following facilities:
 - if below level C (3,500 mg/kg), to a recycled aggregate producer.
 - if above or equal to level C (3,500 mg/kg), but below 30,000 mg/kg, to an engineered landfill site (ELS).
 - if above or equal to 30,000 mg/kg, to a final disposal site for hazardous materials, such as Newalta.

11. The selected options for the management of treated wood include, recycling for energy conversion (the preferred option) or disposal at an ELS. Once the contractor responsible for the remediation work is selected, a notice specifying the authorized site proposed by the contractor will be sent to the MDDEFP for approval.

12. As part of the contaminated soil excavation work described in the Plan, if residual materials represent less than 50% of the soil, they will be segregated where technically feasible. Depending on their characteristics, they will then be sent to one or more disposal sites authorized by MDDEFP.

Approved and signed by: [original signed by]
Normand Lalonde, Project Leader

⁽⁶⁾ Regulation Respecting Hazardous Materials (c. Q-2, r. 32).

APPENDIX 1

DOCUMENTS SENT BY MDDEFP

From: Annie.Levesque@mddefp.gouv.qc.ca [mailto:Annie.Levesque@mddefp.gouv.qc.ca]
Sent: 30 April 2013 17:24
To: Ritvisay, Kannika
Cc: Marsan-Paquin, Jean-François
Subject: Ref. No. 7610-01-01-0253704

Ref. No.: 7610-01-01-0253704

Subject: Remediation of a contaminated site – Mont-Joli Airport (Phase 2 of the project)

Hello, Ms. Ritvisay,

We continue our analysis of the above-referenced file. Here are our comments regarding the presence of watercourses/ditches on the site, as well as the wetland characterization report:

Streams / drainage ditches

Regarding item 4 of LVM's document dated 2012-12-06, after a comprehensive analysis of the information provided and further research, we confirm that LVM's findings are accurate and that the channel beds on the site near the former septic tanks and close to the wetland can be considered and managed as drainage ditches. For your information, please find attached a document detailing our analysis of and findings on the current situation with respect to the watercourses in the airport sector.

Accordingly, the objective of remediating the sediment in the ditch near the former septic tanks can be set at the applicable soil quality criterion (criterion C), as long as there is no risk of the contaminated sediment migrating to a fish habitat or a more sensitive site. To this end, we request that the remediation work (excavation and treatment of the contaminated sediment and soil > criterion C) be carried out by closing the contaminated portion of the drainage ditch, by embankment or a similar method, to stop the release of contaminated water and sediment to the Saucier watercourse and neighbouring land. Please specify what work will be done to meet these requirements.

Wetland characterization report

Regarding the mitigation measures outlined in the letter signed by Jean-François Marsan and dated March 8, 2013:

- Please confirm that all unused vehicles will be parked at least 60 m of all wetlands, including any watercourses, lakes and shores. Also confirm that this distance will also be applied for machinery refuelling and maintenance;
- Please specify the origin of the plant species (wetland, nursery, etc.) to be used for revegetation, as well as the method for collecting them, as applicable; and
- Please specify the type of soil to be laid prior to revegetation.

We will submit to you our final comments on the soil characterization in a few days, i.e., by the weekend, provided there are no setbacks.

Thank you, and have a great day!

Annie Lévesque, Chemist

Analyst – Industrial Sector

Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs

Direction régionale de l'analyse et de l'expertise du Bas-Saint-Laurent et de la

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From: Annie.Levesque@mddefp.gouv.qc.ca [mailto:Annie.Levesque@mddefp.gouv.qc.ca]
Sent: 30 May 2013 08:44
To: Ritvisay, Kannika
Subject: MDDEFP Ref. No. 7610-01-01-0253704

Ref. No.: 7610-01-01-0253704

Subject: Remediation of a contaminated site – Mont-Joli Airport (Phase 2 of the project)

Hello, Ms. Ritvisay,

Further to my email message of April 30, and as indicated in the telephone message I left you this morning, we hereby submit to you our final position on the characterization study submitted and the additional information provided by LVM in December 2012. The following items refer to the numbering used in LVM's letter of December 6, 2012. **We do not require additional information on the characterization study, but focus here on the items that must be taken into account in the remediation plan.**

First, bear in mind that the consultant who attested the characterization study is responsible for verifying compliance with all of the technical requirements set out in the *Site Characterization Guide*. The regional branch reviewed the documents attested by the consultant and submitted its comments to the latter in a letter dated October 12, 2012. In a letter dated December 6, 2012, the consultant provided additional details and rationale, and reiterated that it considers the study to be complete and in compliance with the *Site Characterization Guide*. We consider that the characterization carried out provides a relatively accurate picture of the site. However, given the site's history and complexity and the sampling and testing methods chosen by LVM, there remains the possibility of an accidental discovery of contamination or residual matter not revealed by the characterization study. We therefore must inform you that approval of the remediation plan will be based on the data provided in the characterization study. In the event of a discovery of contamination or residual matter not identified in the characterization study, additional remediation work will be required.

REGARDING ITEM 7

First, it should be pointed out that the *Cadre de gestion des teneurs naturelles en manganèse dans le sol* [framework for managing natural levels of manganese in soil], dated March 28, 2012, to which LVM refers applies to natural levels set in the current version of MDDEFP's guidelines for the assessment of natural background levels in soils. Currently, these guidelines are based on the pedagogical concept of soil, that is to say that soils displaced by non-natural processes (backfill) are not accounted for in the site's background levels. The guidelines will be adjusted so as to include backfill containing imported soils or natural rock; however, we must for now adhere to the current version of the guidelines.

Regarding the characterization study, note that duplicate DCS-23 of sample PE-50-11-2 did in fact show C-D Mn contamination (3,500 mg/kg), and sounding PE-50-11 is therefore deemed to be C-D Mn-contaminated. Since this sounding is also Cu-, Pb- and Zn-contaminated and excavation of the contaminated soil is already provided for in the remediation plan, no further discussion on the matter is required.

However, in the characterization study, out of 29 samples analyzed for manganese, only 6 revealed B-C contamination, and only 2 revealed C-D contamination (samples PO-F1-11-CF4, at 2,700 mg/kg, and DCS-23). More specifically, in the former septic tank sector, from which sample PO-F1-11-CF4 was taken, the samples collected in similar horizons (layers) of soil in a radius of approximately 20 m do not show as high a level of contamination (often below criterion A). It is therefore questionable to conclude that the contamination of sounding PO-F1-11 is associated with natural levels, bearing in mind that according to the current guidelines, backfill soil is excluded from background levels. Therefore, in absence of a clear indication of the natural origin of the contamination in accordance with the current guidelines, **MDDEFP maintains its position on the Mn contamination of sounding PO-F1-11. Management of these contaminated soils must be included in the remediation plan, including an update of the plans submitted and the estimated volumes and surface areas of the contaminated soils.**

REGARDING ITEM 9

LVM is of the view that the source of PAH contamination in the sediment in the ditch in the former septic tank sector is very likely related to the presence of the tanks, which contain contaminated soil. However, while the sediment in the ditch is PAH-contaminated above criterion D, the septic tank sector is PAH-contaminated below criterion C. We are of the view that another source of contamination, not identified in the study, could potentially be the reason for the ditch sediment contamination. We therefore warn Transport Canada that the extent of the contamination in the ditch could be greater than what was estimated in the characterization study. **The remediation plan must provide for work to identify the source of contamination of the ditch sediment and the measures required to eliminate that source.**

As indicated in the telephone message I left you this morning, we need your responses to the comments raised in order to ensure that the remediation plan is complete and does not contain any errors with regard to the issues brought up by the final characterization study. I will resume my analysis of the file on Tuesday.

Please feel free to contact me if you have any questions.

Thank you, and have a great day!

Annie Lévesque, Chemist
Analyst – Industrial Sector
Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs
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REQUEST FOR ADDITIONAL INFORMATION

RECIPIENT: Kannika Ritvisay
Transport Canada

EMAIL: kannika.ritvisay@tc.gc.ca

SENDER: Annie Levesque, Chemist
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Email: annie.levesque@mddefp.gouv.qc.ca

DATE: 3 September 2013

SUBJECT: Remediation of a contaminated site,
Mont-Joli Airport

Ref. No.: 7610-01-01-0253704

Ms. Ritvisay:

As agreed, please find attached our comments regarding the amendment to the remediation plan approved on January 20, 2012. These comments are additional to those e-mailed to you on April 30 and May 30, 2013.

1. Remediation Plan: Provide updated plans to take into account the new divisions of the lots on the site in question (lots 4 804 508 and 4 804 509).
2. In tables 2.1, 3.2, 4.2 and 5.1 of the remediation plan, the areas and volumes of zones PE-62-11 and PE-63-11 do not match the areas and volumes established in the characterization study. To be corrected. Also, in Table 2.1, the location in the cadastral description needs to be updated.
3. The quality control program for excavations related to contaminated soil must include the characterization of the excavation walls of the ditch. To be corrected.
4. It is indicated that the contaminated soil in zones 2.4, 3.2 and 3.3, as well as the surface soil of zone 3.1, if contaminated, could be removed to an engineered landfill site. This management method is not acceptable. Please confirm that all excavated contaminated soil will be disposed of in an MDDEP-authorized treatment centre.
5. The contaminated soil in soundings PE-50-11 and PE-14, in the former landfill sector, is contaminated with metals in concentrations exceeding the limits set out in Schedule I to the

RRBCS.¹ Under section 4 of the RRBCS, its burial is therefore not permitted unless it is demonstrated by means of a detailed report that the metals present in the soil cannot be removed in a proportion of 90% following an authorized optimal treatment and there is no available technique for that purpose. To be verified and corrected.

6. In the area zoned municipal 204 (EXI), any backfill materials from the site must not contain contaminants in concentrations exceeding the limits set out in Schedule I of the LPRR.² Section 5.3 and table 5.1 are not clear to this effect. To be verified and corrected.
7. Note that the Centre de traitement BSL in Saint-Anaclet is not authorized to treat PAHs with four or more rings at concentrations that exceed criterion C of the Policy. The contaminated sediment from the ditch therefore cannot be treated there.
8. Regarding groundwater quality monitoring following remediation work, please specify the dates on which the monitoring reports will be submitted to MDDEFP. As well, please confirm that after two years, depending on the concentrations measured, the consultant responsible for monitoring will determine whether monitoring should continue and that, if needed, monitoring will continue. Such monitoring could be conducted over more than two years.
9. It is indicated that the off-site destinations of hazardous materials must be sites authorized by MDDEFP and that MDDEFP must be informed of the specific sites selected as soon as the selection is made. Please specify that this also applies to the off-site destinations of all residual materials, not only hazardous residual materials.
10. For the former septic tank sector, it is indicated that the clean cement concrete will not be characterized. How will it be determined that this concrete is not contaminated? Please provide all information demonstrating that the characterization, crushing and reuse of this concrete residue on the site will comply with the MDDEP guidelines for managing concrete, brick and asphalt from construction and demolition work and waste from the free stone sector (<http://www.mddep.gouv.qc.ca/matieres/valorisation/lignesdirectrices/beton-brique-asphalte.htm>).
11. In Table 5.1, it is indicated that wood-tar creosote residue could be recovered instead of being disposed of in an engineered landfill site. Please specify which authorized site is proposed for waste-to-energy conversion.
12. Residual matter that accounts for less than 50% of the soil must be excavated to areas that have contaminated soil and must be remediated. Please specify how these residual materials will be managed.

The information submitted (documents, plans, etc.) must be signed and dated.

Please feel free to contact me if you have any questions.

¹ RRBCS: Regulation respecting the burial of contaminated soils

² LPRR: Land Protection and Rehabilitation Regulation

[*original signed by*]

Annie Lévesque, Chemist

APPENDIX 2

AMENDED TABLE TAKEN FROM THE INITIAL REMEDIATION PLAN (Entraco, March 2011)

Table 5.1 Soil, residual material and fill material management procedures

Site	Zone ⁽¹⁾	Description of Materials	Soil Management			Residual Material Management			Source of Fill Material	
			Estimated Volume (m ³)	To Be Characterized	Recommended Destination	Estimated Volume (m ³)	To Be Characterized	Recommended Destination	Estimated Volume (m ³)	Source
Former building H-3	Zone 1.1	Soil contaminated by BTEX and PAHs (C-D range)	42	No	Authorized treatment site	n/a	n/a	n/a	42	Recognized borrow pit
		Surface soil (uncontaminated)	800	Yes	If contaminated: authorized treatment site	n/a	n/a	n/a	800	Surface soil (if uncontaminated) or recognized borrow pit
		Concrete debris from the foundation	n/a	n/a	n/a	10	No	Recycled aggregate producer	10	Recognized borrow pit
	Zone 1.2	Soil potentially contaminated by PAHs	18	Yes	If contaminated: authorized treatment site	n/a	n/a	n/a	18	Excavated soil (if uncontaminated) or recognized borrow pit
Former coal depot	Zone 2.1	Presence of residual materials (above 50%) in the soil; potential contamination of the soil by metals	n/a	n/a	n/a	170	No	Engineered landfill site	170	Recognized borrow pit
	Zone 2.2	Presence of residual materials (above 50%) in the soil; potential contamination of the soil by metals	n/a	n/a	n/a	70	No	Engineered landfill site	70	Recognized borrow pit
	Zone 2.3	Presence of residual materials (above 50%) in the soil; potential contamination of the soil by metals	n/a	n/a	n/a	20	No	Engineered landfill site	20	Recognized borrow pit
	Zone 2.4	Soil potentially contaminated by metals	65	Yes	If contaminated: contaminated soil burial site	n/a	n/a	n/a	65	Excavated soil (if uncontaminated) or recognized borrow pit
Former landfill	Zone 3.1	Presence of residual materials (above 50%) in the soil; potential contamination of the soil by metals	n/a	n/a	n/a	7	No	Engineered landfill site	7	Recognized borrow pit
		Surface soil (uncontaminated)	14	Yes	If contaminated: contaminated soil burial site	n/a	n/a	n/a	14	Surface soil (if uncontaminated) or recognized borrow pit
	Zone 3.2	Soil potentially contaminated by metals	44	Yes	If contaminated: contaminated soil burial site	n/a	n/a	n/a	44	Excavated soil (if uncontaminated) or recognized borrow pit
	Zone 3.3	Soil potentially contaminated by metals	49	Yes	If contaminated: contaminated soil burial site	n/a	n/a	n/a	49	Excavated soil (if uncontaminated) or recognized borrow pit

n/a: Not applicable

APPENDIX 3

UPDATED TABLES TAKEN FROM THE AMENDMENT TO THE REMEDIATION PLAN

(Entraco, March 2012)

Table 2.1 Characteristics of the sectors and zones to be remediated

Sector	Zone	Environmental Issues	Area (m ²)	MTM Coordinates NAD83, Zone 6	NAD83 Geographic Coordinates	Lot Number (Land Register of Quebec)	Municipal Zoning
Former landfill	PE-33-11, PE-47-11, PE-48-11, PE-50-11 and PE-51-11	Soil contaminated by metals or PH C ₁₀ - C ₅₀ (C-D range)	1800	N 5385846 E 253470	N 48,6090410513 W 68,1961399234	4 804 509	208 (ILD): Heavy Industry - Commerce and Industry
	PE-34-11	Residual materials: metal, cement concrete, tile, ash	215				
Septic Tanks	PE-62-11	Soil contaminated by metals (C-D range)	120	N 5385387 E 252938	N 48,6048694941 W 68,203297048	4 804 509	208 (ILD): Heavy Industry - Commerce and Industry
	PE-63-11	Soil contaminated by PH C ₁₀ -C ₅₀ (C-D range)	119				
	PO-F1-11	Soil contaminated by metals (C-D range)	88				
	PE-37-11, PE-38-11, PE-61-11, PE-62-11, PE-63-11, PE-64-11, PE-88-11 and PE-89-11	Residual materials: clean cement concrete (<C)	n/a				
		Residual materials: oil-stained cement concrete	n/a				
	PE-62-11, PE-64-11 and PE-89-11	Residual materials: slag	600				
	PE-37-11 and PE-88-11	Residual materials: creosoted wood	n/a				
Ditch	FOSSÉ-1-11	Contaminated sediment	200	N 5385400 E 252926	N 48,6049854074 W 68,20346139	4 804 509	208 (ILD): Heavy Industry - Commerce and Industry
Former railway track	PE-CF-04-11 to PE-CF-09-11	Residual materials: slag	1180	N 5385117 E 253379	N 48,6024777835 W 68,1972837153	4 804 509	205 (ILD): Heavy Industry - Commerce and Industry
Former garages	PE-21-11	Residual materials: slag and coal	332	N 5385251 E 253260	N 48,6036730468 W 68,1989138917	4 804 509	205 (ILD): Heavy Industry - Commerce and Industry
	PE-39-11	Residual materials: asphalt in place	475				
Former boiler room	PE-84-11 and PE-85-11	Residual materials: slag	715	N 5385281 E 253247	N 48,6039417629 W 68,1990938894	4 804 509	208 (ILD): Heavy Industry - Commerce and Industry
Former asphalt plant	PE-25-11	Residual materials: asphalt in place	350	N 5386029 E 253521	N 48,6106909244 W 68,1954709123	4 804 509	204 (EXI): Industrial Expansion - Recreation and Agriculture

Table 3.1 Characteristics of the zones to be remediated in the former landfill sector

Zone	Issues	Area (m ²)	Variation in Thickness (m)	Thickness (m)	Volume (m ³)	Selected Action
Contaminated soil						
PE-33-11	Soil contaminated by metals (C-D range): zinc	325,0	0.3 to 1.1	0,80	260,0	Excavation and disposal
PE-47-11	Soil contaminated by metals (C-D range): cadmium, zinc	375,0	0.6 to 1.2	0,60	225,0	Excavation and disposal
PE-48-11	Soil contaminated by metals (C-D range): cadmium, copper, manganese, lead, zinc	310,0	0.2 to 1.8	1,60	496,0	Excavation and disposal
PE-50-11 ⁽¹⁾	Soil contaminated by metals (C-D range; duplicates >D): cadmium, copper, lead, zinc	450,0	0.25 to 2.0	1,75	787,5	Excavation and disposal
PE-51-11	Soil contaminated by metals (C-D range): cadmium, copper, lead, zinc	340,0	0.4 to 1.5	1,10	374,0	Excavation and disposal
PE-51-11	Soil contaminated by PH C ₁₀ -C ₅₀ (C-D range)	340,0	1.5 to 2.5	1,00	340,0	Excavation and disposal (treatment)
Subtotal		1800⁽²⁾			2482,5	
Residual materials						
PE-34-11	Metal, cement concrete, tile, ash	215,0	0.3 to 1.2	0,90	193,5	Excavation and disposal
Subtotal		215,0			193,5	

(1) This zone is considered to be contaminated >D.

(2) Total area of five zones (the area of zone PE-51-11 is counted only once in the sum of the areas).



Table 3.2 Characteristics of the zones to be remediated in the tank sector

Zone	Issues	Area (m ²)	Variation in Thickness (m)	Thickness (m)	Volume (m ³)	Selected Action
Contaminated soil						
PE-62-11	Soil contaminated by metals (C-D range): arsenic	120	3.2 to 3.4	0,20	24,0	Excavation and disposal
PE-63-11	Soil contaminated by PH C ₁₀ -C ₅₀ (C-D range)	119	2.0 to 3.2	1,20	142,8	Excavation and disposal (treatment)
PO-F1-11	Soil contaminated by metals (C-D range): manganese	88	2.2 to 3.1	0,90	79,2	Excavation and disposal
Subtotal		327,0			246,0	
Residual materials						
PE-37-11 to PE-89-11 ⁽¹⁾	Clean cement concrete	n/a	n/a	n/a	158,0	Excavation and disposal
PE-37-11 to PE-89-11 ⁽¹⁾	Oil-stained cement concrete	n/a	n/a	n/a	158,0	Excavation and disposal
PE-62-11, PE-64-11 and PE-89-11	Slag	600,0	n/a	n/a	925,0	Excavation and disposal
PE-37-11 and PE-88-11	Creosoted wood	n/a	n/a	n/a	45,0	Excavation and disposal
Subtotal		n/a			1286,0	

(1) PE-37-11 to PE-89-11: PE-37-11, PE-38-11, PE-61-11, PE-62-11, PE-63-11, PE-64-11, PE-88-11 and PE-89-11.

Table 3.3 Characteristics of the zones to be remediated in the ditch sector

Zone	Issues	Area (m ²)	Variation in Thickness (m)	Thickness (m)	Volume (m ³)	Selected Action
Contaminated soil						
FOSSÉ-1-11	Materials contaminated by PAHs (>D)	200 ⁽¹⁾	0.0 to 0.3	0,30	60,0	Complementary characterization, excavation and disposal (treatment)
Subtotal		200,0			60,0	
Residual materials						
	No residual materials					
Subtotal		0,0			0,0	

(1) Approximate area and volume; the exact dimensions will be assessed in the complementary characterization.



Table 3.4 Characteristics of the zones to be remediated in the former railway track sector

Zone	Issues	Area (m ²)	Variation in Thickness (m)	Thickness (m)	Volume (m ³)	Selected Action
Contaminated soil						
	No contaminated soil (concentrations < C)					
Subtotal		0,0			0,0	
Residual materials						
PE-CF-04-11	Slag	200,0	0.0 to 0.3	0,30	60,0	Excavation and disposal
PE-CF-05-11	Slag	200,0	0.0 to 0.3	0,30	60,0	Excavation and disposal
PE-CF-06-11	Slag	190,0	0.0 to 0.3	0,30	57,0	Excavation and disposal
PE-CF-07-11	Slag	195,0	0.0 to 0.3	0,30	58,5	Excavation and disposal
PE-CF-08-11	Slag	200,0	0.0 to 0.3	0,30	60,0	Excavation and disposal
PE-CF-09-11	Slag	195,0	0.0 to 0.45	0,45	87,8	Excavation and disposal
Subtotal		1180,0			383,3	



Table 3.5 Characteristics of the zones to be remediated in the former garage sector

Zone	Issues	Area (m ²)	Variation in Thickness (m)	Thickness (m)	Volume (m ³)	Selected Action
Contaminated soil						
	No contaminated soil (concentrations < C)					
Subtotal		0,0			0,0	
Residual materials						
PE-21-11	Slag and coal	332,0	0.0 to 0.4	0,40	132,8	Excavation and disposal
PE-39-11	Asphalt in place	475,0	0.15 to 0.25	0,10	47,5	Excavation and disposal
Subtotal		807,0			180,3	



Table 3.6 Characteristics of the zones to be remediated in the former boiler room sector

Zone	Issues	Area (m ²)	Variation in Thickness (m)	Thickness (m)	Volume (m ³)	Selected Action
Contaminated soil						
	No contaminated soil (concentrations < C)					
Subtotal		0,0			0,0	
Residual materials						
PE-84-11	Slag	305,0	0.1 to 0.2	0,10	30,5	Excavation and disposal
PE-85-11	Slag	410,0	0.09 to 0.3	0,21	86,1	Excavation and disposal
Subtotal		715,0			116,6	



Table 3.7 Characteristics of the zones to be remediated in the former asphalt plant sector

Issues	Issue	Area (m ²)	Variation in Thickness (m)	Thickness (m)	Volume (m ³)	Selected Action
Contaminated soil						
	No contaminated soil (concentrations < B)					
Subtotal		0,0			0,0	
Residual materials						
PE-25-11	Asphalt in place	350,0	0.15 to 0.30	0,15	52,5	Excavation and disposal
Subtotal		350,0			52,5	



Table 4.1 Soil pile characterization program

Sector	Zone ⁽¹⁾	Issues	Estimated Volume (m ³)	Number of samples	Parameters			
					Metals ⁽²⁾	C ₁₀ -C ₅₀ ⁽³⁾	MAHs ⁽⁴⁾	PAHs ⁽⁵⁾
Former landfill	PE-33-11, PE-34-11, PE-47-11, PE-48-11, PE-50-11 and PE-51-11	Prior excavation of surface soil - underlying contaminated soil and residual materials - in the sector, maximum concentrations for metals, C ₁₀ -C ₅₀ and PAH in the C-D range	697,5	9	9	9		9
Septic Tanks	PE-37-11, PE-38-11, PE-61-11, PE-62-11, PE-63-11, PE-64-11, PE-88-11, PE-89-11 and PO-F1-11	Prior excavation of surface soil - underlying contaminated soil and residual materials - in the sector, maximum concentrations for metals and C ₁₀ -C ₅₀ in the C-D range and PAH concentrations in the B-C range	947,2	12	12	12		12
Ditch	FOSSÉ-1-11	No prior excavation of surface soil - contaminated materials at the surface (bottom of ditch)	-	-				
Former railway track	PE-CF-04-11 to PE-CF-09-11	No prior excavation of surface soil - residual materials at the surface	-	-				
Former garages	PE-21-11 and PE-39-11	Prior excavation of surface soil - underlying residual materials - in the sector, maximum metal and PAH concentrations in the B-C range	71,3	3	3			3
Former boiler room	PE-84-11 and PE-85-11	Prior excavation of surface soil - underlying residual materials - in the sector, maximum metal and C ₁₀ -C ₅₀ concentrations in the B-C range	67,4	3	3	3		
Former asphalt plant	PE-25-11	Prior excavation of surface soil - underlying residual materials - in the sector, maximum PAH concentrations in the A-B range	52,5	2				2
TOTAL			1835,9	29	27	24	0	26

NOTES

(1) The locations of the zones are shown in figures 2.2 to 2.6.

(2) Metals: Arsenic, cadmium, chromium, copper, tin, manganese, nickel, lead, zinc.

(3) C₁₀-C₅₀: Petroleum hydrocarbons C₁₀-C₅₀

(4) MAHs: Monocyclic aromatic hydrocarbons

(5) PAHs: Polycyclic aromatic hydrocarbons

Table 4.2 Quality control program for excavations related to contaminated soil

Sector	Zone ⁽¹⁾	Area of Zone (m ²)	Affected Horizon (m)	Issues	Quantity of Samples to be Collected		Quantity of Samples to be Analyzed and Parameters			
					Walls	Bottom (0-30 cm)	Metals ⁽²⁾	C ₁₀ -C ₅₀ ⁽³⁾	MAHs ⁽⁴⁾	PAHs ⁽⁵⁾
Former landfill	PE-33-11	325	0.3 to 1.1	Zinc	3	1	4			
	PE-47-11	375	0.6 to 1.2	Cadmium, zinc	4	1	5			
	PE-48-11	310	0.2 to 1.8	Cadmium, copper, manganese, lead, zinc	5	1	6			
	PE-50-11	450	0.25 to 2.0	Cadmium, copper, lead, zinc	9	1	10			
	PE-51-11	340	0.4 to 1.5	Cadmium, copper, lead, zinc	7	0	7	7		
	PE-51-11	340	1.5 to 2.5	PH C ₁₀ -C ₅₀	5	0 ⁽⁶⁾	5	5		
Septic Tanks	PE-62-11	120	3.2 to 3.4	Arsenic	4	1	5	5		
	PE-63-11	119	2.0 to 3.2	PH C ₁₀ -C ₅₀	8	1	9	9		
	PO-F1-11	88	2.2 to 3.1	Manganese	4	1	5	5		
Ditch	FOSSÉ-1-11	200 ⁽⁷⁾	0.0 to 0.3	PAHs	10	4				14
TOTAL ⁽⁸⁾					59	11	56	31	0	14

NOTES

(1) The locations of the zones are shown in figures 2.2 to 2.6.

(2) Metals: Arsenic, cadmium, chromium, copper, tin, manganese, nickel, lead, zinc.

(3) C₁₀-C₅₀: Petroleum hydrocarbons C₁₀-C₅₀.

(4) MAHs: Monocyclic aromatic hydrocarbons.

(5) PAHs: Polycyclic aromatic hydrocarbons.

(6) Excavation ended at bedrock.

(7) Approximate area; the exact area will be assessed in the complementary characterization; the quality control program will then be reviewed.

(8) Does not include field duplicates (minimum of 10%).

Table 4.3 Quality control program for excavations related to residual materials

Sector	Zone ⁽¹⁾	Area of Zone (m ²)	Affected Horizon (m)	Issues	Quantity of Samples to be Collected		Quantity of Samples to be Analyzed and Parameters			
					Walls	Bottom	Metals ⁽²⁾	C ₁₀ -C ₅₀ ⁽³⁾	MAHs ⁽⁴⁾	PAHs ⁽⁵⁾
Former landfill	PE-34-11	215,0	0.3 to 1.2	Metal, cement concrete, tile, ash	2	1	3	3		3
Septic Tanks	PE-37-11, PE-38-11, PE-61-11, PE-63-11, and PE-88-11		0.8 to 3.5	Cement concrete (with or without oil stains)	20	6	26	26		26
	PE-37-11 and PE-88-11		0.8 to 3.2	Creosoted wood						
	PE-62-11	125,0	2.0 to 3.2	Slag						
	PE-64-11	275,0	1.2 to 3.0	Slag						
	PE-89-11	200,0	1.5 to 2.8	Slag						
Former railway track	PE-CF-04-11	200,0	0.0 to 0.3	Slag	3	1	4			
	PE-CF-05-11	200,0	0.0 to 0.3	Slag	2	1	3			
	PE-CF-06-11	190,0	0.0 to 0.3	Slag	2	1	3			
	PE-CF-07-11	195,0	0.0 to 0.3	Slag expected	2	1	3			
	PE-CF-08-11	200,0	0.0 to 0.3	Slag	2	1	3			
	PE-CF-09-11	195,0	0.0 to 0.45	Slag	3	1	4			
Former garages	PE-21-11	332,0	0.0 to 0.4	Slag and coal	4	1	5			5
	PE-39-11	475,0	0.15 to 0.25	Asphalt in place	4	1	5			5
Former boiler room	PE-84-11	305,0	0.1 to 0.2	Slag	4	1	5	5		
	PE-85-11	410,0	0.09 to 0.3	Slag	4	1	5	5		
Former asphalt plant	PE-25-11	350,0	0.15 to 0.30	Asphalt in place	4	1				5
TOTAL ⁽⁶⁾					34	11	40	10	0	15

NOTES

(1) The locations of the zones are shown in figures 2.2 to 2.6.

(2) Metals: Arsenic, cadmium, chromium, copper, tin, manganese, nickel, lead, zinc.

(3) C₁₀-C₅₀: Petroleum hydrocarbons C₁₀-C₅₀.

(4) MAHs: Monocyclic aromatic hydrocarbons.

(5) PAHs: Polycyclic aromatic hydrocarbons.

(6) Does not include field duplicates (minimum rate of 10%).

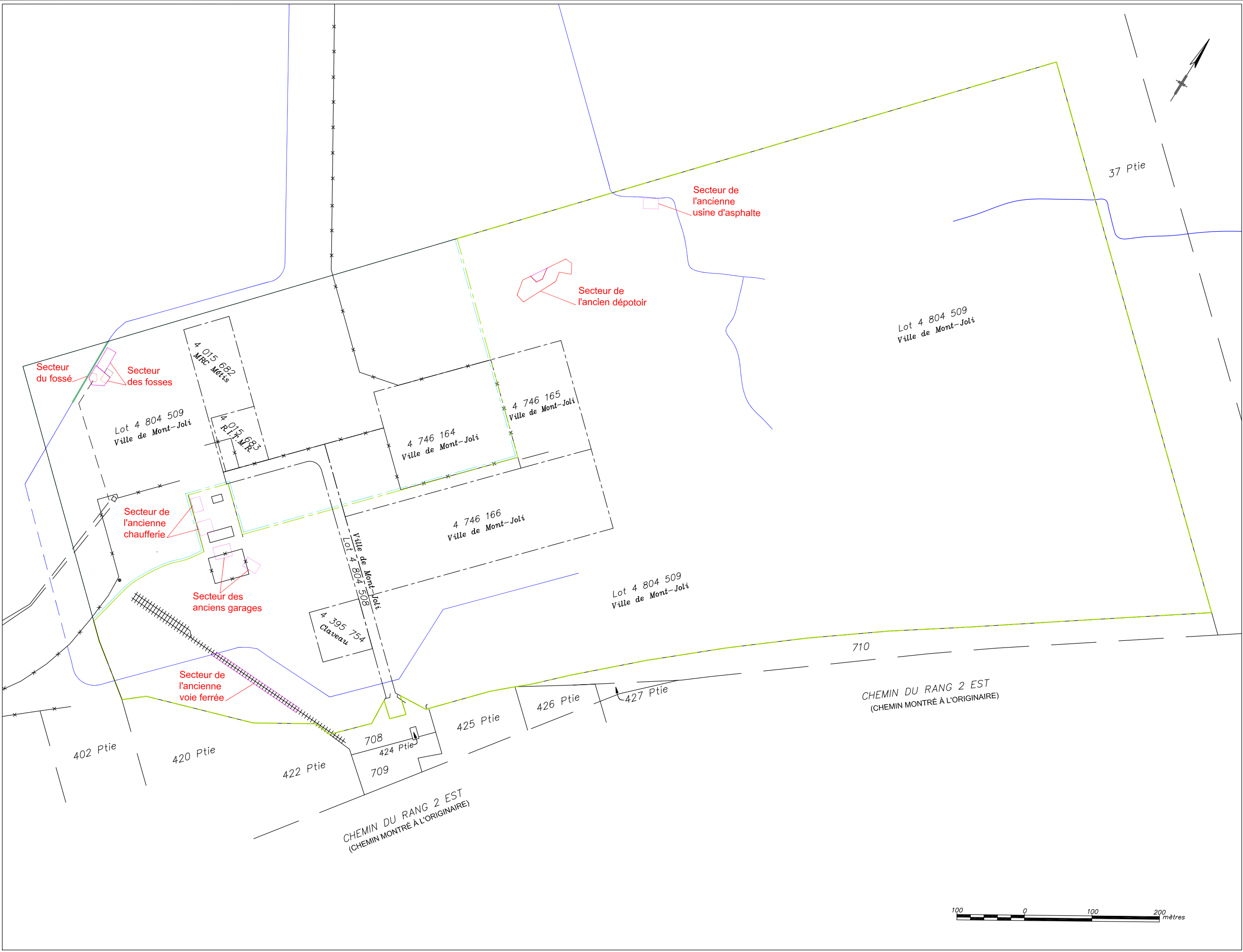
Table 5.1 Management of excavated materials

Secteur	Zone ⁽¹⁾	Description of Materials	Soil Management			Residual Material Management			Source of Fill Material	
			Estimated Volume (m ³)	To Be Characterized	Recommended Destination	Estimated Volume (m ³)	To Be Characterized	Recommended Destination	Estimated Volume (m ³)	Source
Former landfill	PE-33-11, PE-47-11, PE-48-11 and PE-51-11	Soil contaminated by metals (C-D range)	1355	No	Contaminated soil burial site (e.g. Horizon Environnement or Enfouir-Bec)	n/a	n/a	n/a	1355	Excavated surface soil (if <C) or recognized borrow pit
	PE-50-11	Soil contaminated by metals (C-D range; duplicates >D)	787,5	No	Contaminated soil burial site (e.g. Horizon Environnement or Enfouir-Bec)	n/a	n/a	n/a	787,5	Excavated surface soil (if <C) or recognized borrow pit
	PE-51-11	Soil contaminated by PH C ₁₀ -C ₅₀ (C-D range)	340	No	Authorized contaminated soil treatment site (e.g. Newalta, Recy-Chem or BSL)	n/a	n/a	n/a	340	Excavated surface soil (if <C) or recognized borrow pit
	PE-34-11	Metal, cement concrete, tile, ash	n/a	n/a	n/a	193,5	No	Engineered landfill site	193,5	Excavated surface soil (if <C) or recognized borrow pit
Septic Tanks	PE-62-11	Soil contaminated by metals (C-D range)	24	No	Contaminated soil burial site (e.g. Horizon Environnement or Enfouir-Bec)	n/a	n/a	n/a	24	Excavated surface soil (if <C) or recognized borrow pit
	PE-63-11	Soil contaminated by PH C ₁₀ -C ₅₀ (C-D range)	142,8	No	Authorized contaminated soil treatment site (e.g. Newalta, Recy-Chem or BSL)	n/a	n/a	n/a	142,8	Excavated surface soil (if <C) or recognized borrow pit
	PO-F1-11	Soil contaminated by metals (C-D range)	79,2	No	Contaminated soil burial site (e.g. Horizon Environnement or Enfouir-Bec)	n/a	n/a	n/a	79,2	Excavated surface soil (if <C) or recognized borrow pit
	PE-37-11, PE-38-11, PE-61-11, PE-62-11, PE-63-11, PE-64-11, PE-88-11 and PE-89-11	Cement concrete	n/a	n/a	n/a	158	Yes	If < C: recycled aggregated producer If > or = C and < 30 000 ppm: engineered landfill site If residual hazardous material (> or = 30,000 ppm): final disposal site (e.g. Newalta)	158	Excavated surface soil (if <C) or recognized borrow pit
		Oil-stained cement concrete	n/a	n/a	n/a	158	Yes		158	Excavated surface soil (if <C) or recognized borrow pit
			n/a	n/a	n/a		Yes			Excavated surface soil (if <C) or recognized borrow pit
	PE-62-11, PE-64-11 and PE-89-11	Slag	n/a	n/a	n/a	925	No	Engineered landfill site	925	Excavated surface soil (if <C) or recognized borrow pit
	PE-37-11 and PE-88-11	Creosoted wood	n/a	n/a	n/a	45	No	Energy conversion or engineered landfill site	45	Excavated surface soil (if <C) or recognized borrow pit
Ditch	FOSSÉ-1-11	Contaminated sediment (>D)	60	Yes	Authorized contaminated soil treatment site (e.g. Newalta or Recy-Chem)	n/a	n/a	n/a	60	Recognized borrow pit
Former railway track	PE-CF-04-11 to PE-CF-09-11	Slag	n/a	n/a	n/a	383,3	No	Engineered landfill site	0	No backfill
Former garages	PE-21-11	Slag and coal	n/a	n/a	n/a	132,8	No	Engineered landfill site	132,8	Recognized borrow pit
	PE-39-11	Asphalt in place	n/a	n/a	n/a	47,5	No	Recycled aggregate producer	47,5	Excavated surface soil (if <C) or recognized borrow pit
Former boiler room	PE-84-11 and PE-85-11	Slag	n/a	n/a	n/a	116,6	No	Engineered landfill site	116,6	Excavated surface soil (if <C) or recognized borrow pit
Former asphalt plant	PE-25-11	Asphalt in place	n/a	n/a	n/a	52,5	No	Recycled aggregate producer	52,5	Excavated surface soil (if <B) or recognized borrow pit
Total (m ³)			2788,5			2212,2			4617,4	

NOTES
 (1) The locations of the zones are shown in figures 2.2 to 2.6.
 n/a Not applicable

APPENDIX 4

UPDATED FIGURES



Légende

- Limite du site à l'étude
(partie de l'ancien lot 706-1)
- Limite du site à l'étude de l'EES phase 1
réalisé en 2009 par LVM
(partie de l'ancien lot 706-1)
- Fossé de drainage
- Zone estimée des sols contaminés (>C)
- Zone estimée des matières résiduelles
- Zone estimée des sédiments (fossé)

NOTE :

1. Les limites des zones estimées de sols contaminés ou de matières résiduelles ont été tirées de l'étude de LVM (janvier 2012) et ont été modifiées pour faciliter les travaux d'excavation.

SOURCE (fond de plan) :
LVM, janvier 2012
(073-P038375-0150-EN-0001-00.dwg)

Rév.	Description	Par/By	Date
-	-	-	-
-	-	-	-



Dossier / File: Aéroport de Mont-Joli
Lot 4 804 509
Réponses aux commentaires
et demandes du MDDEFP
(dossier MDDEFP : 7610-01-01-0253704)

Dessin / Drawing: Figure 2.1
Localisation des secteurs d'intervention
et des limites de lots

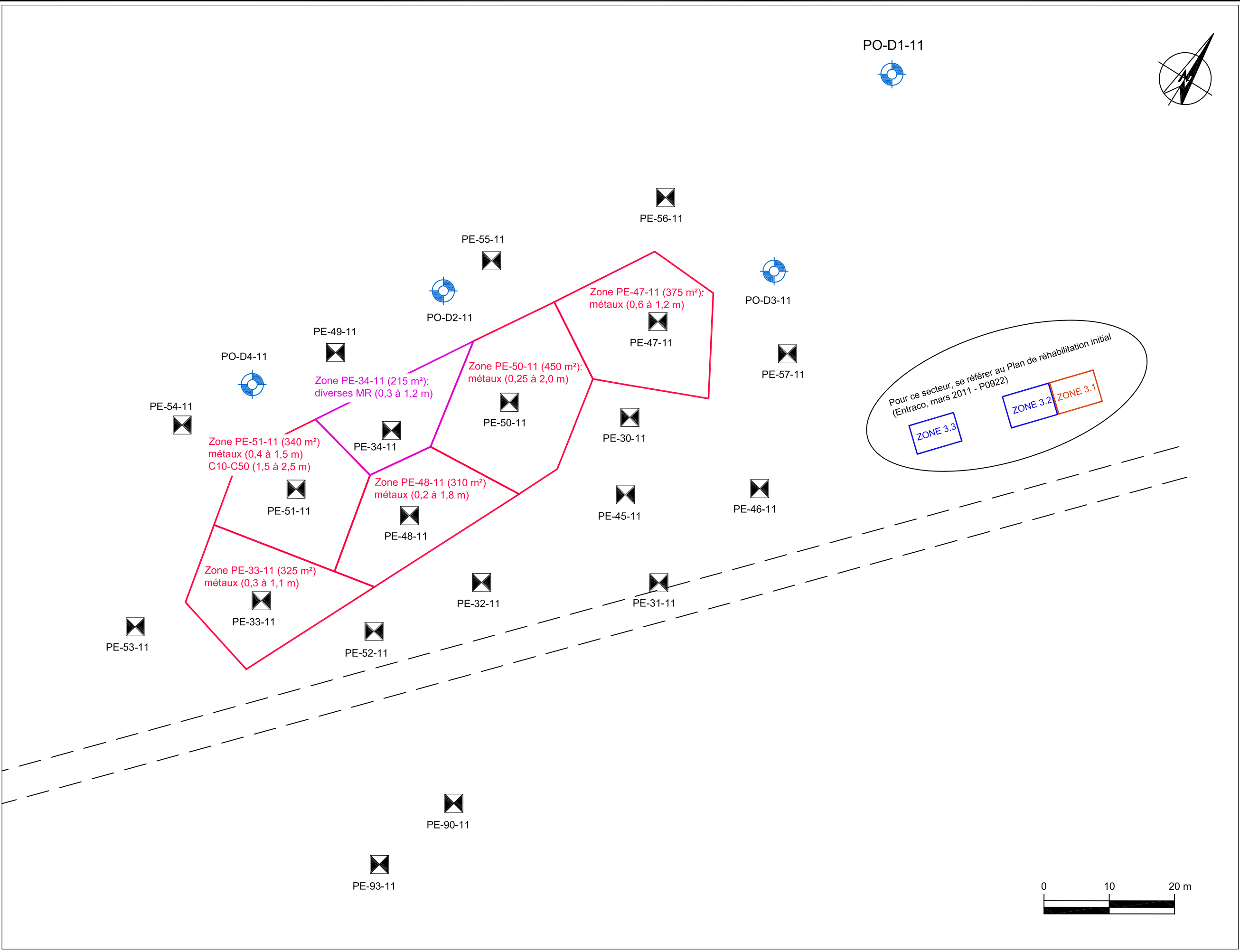
Conçu par / Designed by: N.L. Date: 2012-02-20

Dessiné par / Drawn by: L.T./N.L. Date: 2013-09-17





Vérifié par / Verified by: N.L. Date: 2013-09-17

Approuvé par / Approved by:  Date: 2013-09-17

No. dossier / File no.: P0960	Échelle / Scale: Graphique
No. dessin / Drawing no.:	Feuille / Sheet:



Légende

- Tranchée d'exploration (LVM 2011)
- Puits d'observation (LVM 2011)
- Zone estimée des sols contaminés (>C)
- Zone estimée des matières résiduelles

NOTE :

- Les limites des zones estimées de sols contaminés ou de matières résiduelles ont été tirées de l'étude de LVM (janvier 2012) et ont été modifiées pour faciliter les travaux d'excavation.
- Les zones 3.1 à 3.3 (Ancien dépotoir) sont traitées dans le plan de réhabilitation initial (Entraco, mars 2011 - P0922)

SOURCE (fond de plan) :
LVM, janvier 2012
(073-P038375-0150-EN-0001-00.dwg)

Rév.	Description	Par/By	Date
-	-	-	-
-	-	-	-



Dossier / File: Aéroport de Mont-Joli
Lot 4 804 509
Réponses aux commentaires
et demandes du MDDEFP
(dossier MDDEFP : 7610-01-01-0253704)

Dessin / Drawing: Figure 2.2
Localisation des zones d'intervention -
Secteur de l'ancien dépotoir

Conçu par / Designed by: N.L. Date: 2012-02-20

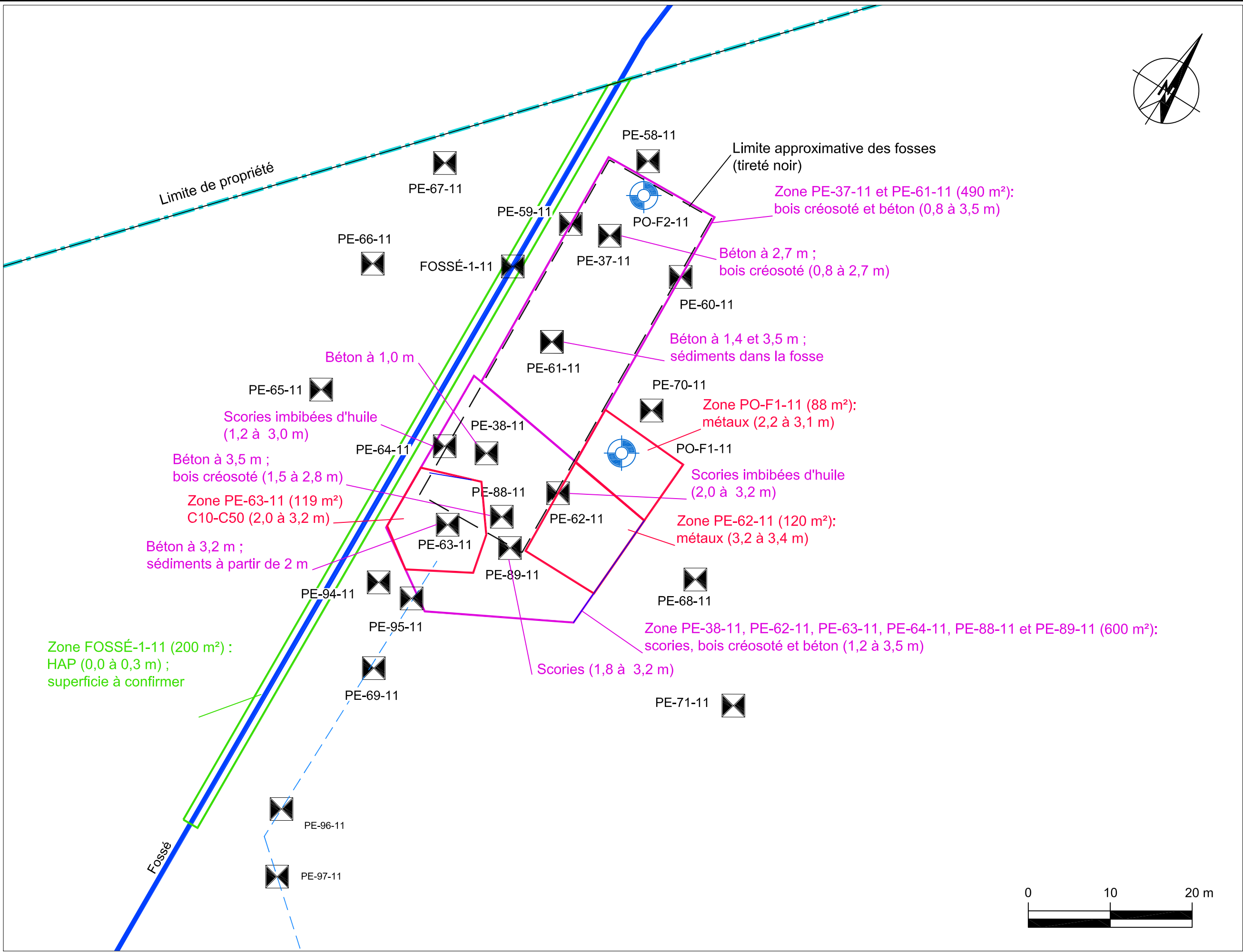
Dessiné par / Drawn by: L.T./N.L. Date: 2013-09-17

Vérifié par / Verified by: N.L. Date: 2013-09-17







Approuvé par / Approved by:  Date:

No. dossier / File no.: P0960 Échelle / Scale: Graphique

No. dessin / Drawing no.: Feuille / Sheet:



Légende

-  Fossé de drainage
-  Tranchée d'exploration (LVM 2011)
-  Puits d'observation (LVM 2011)
-  Zone estimée des sols contaminés (>C)
-  Zone estimée des matières résiduelles
-  Zone estimée des sédiments (fossé)

NOTE :

1. Les limites des zones estimées de sols contaminés, de matières résiduelles ou de sédiments (fossé) ont été tirées de l'étude de LVM (janvier 2012) et peuvent avoir été modifiées pour faciliter les travaux d'excavation.

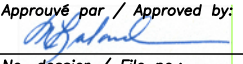
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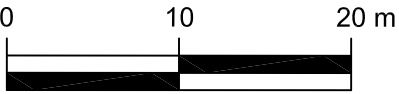
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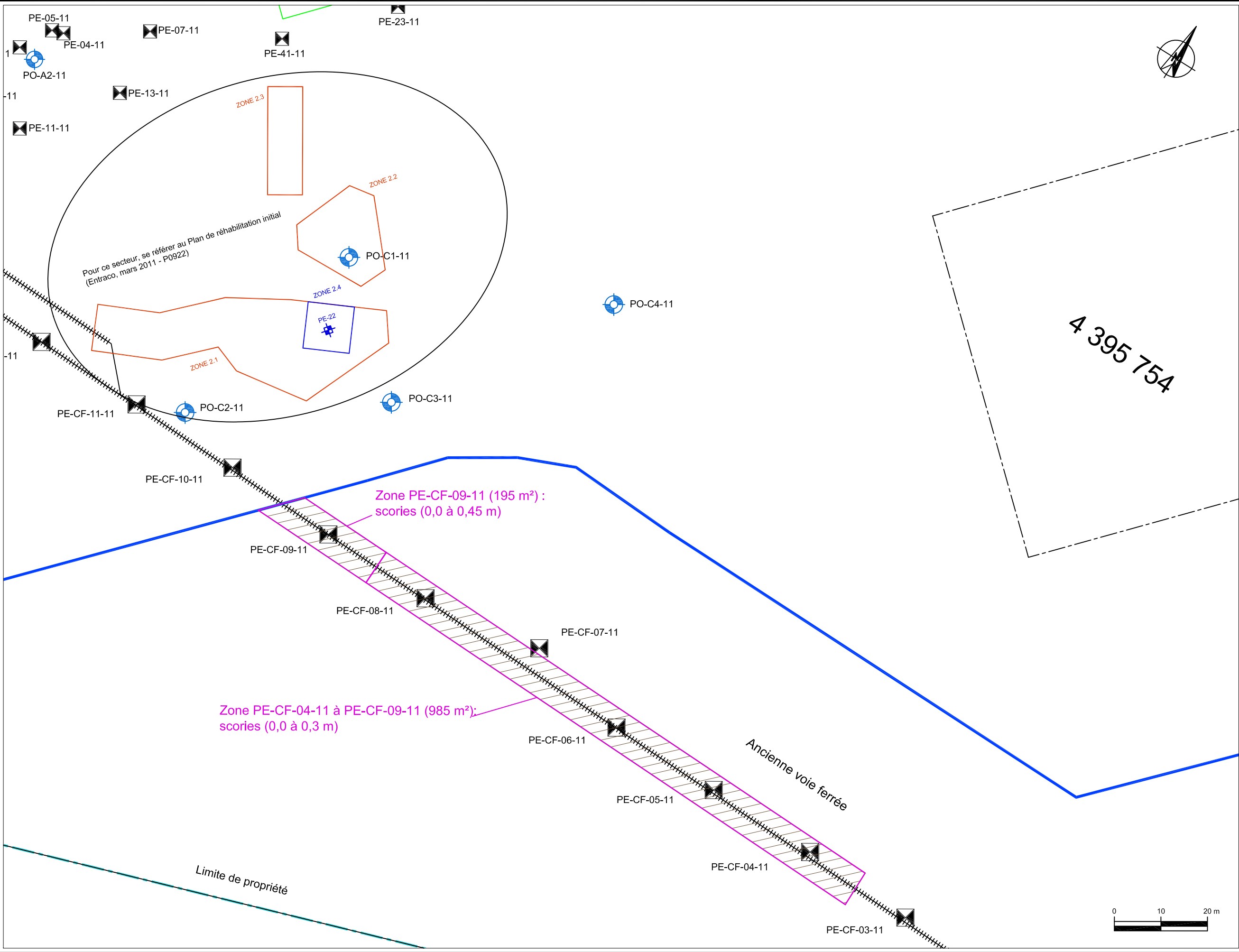


Dossier / File: Aéroport de Mont-Joli
Lot 4 804 509
Réponses aux commentaires
et demandes du MDDEFP
(dossier MDDEFP : 7610-01-01-0253704)






Dessin / Drawing: Figure 2.3
Localisation des zones d'intervention -
Secteur des fosses

Conçu par / Designed by: N.L.		Date 2012-02-20
Dessiné par / Drawn by: L.T./N.L.		Date 2013-09-17
Vérifié par / Verified by: N.L.		Date 2013-09-17
Approuvé par / Approved by: 		Date
No. dossier / File no.: P0960		Échelle / Scale: Graphique
No. dessin / Drawing no.:		Feuille / Sheet:





Légende

-  Fossé de drainage
-  Tranchée d'exploration (LVM 2011)
-  Puits d'observation (LVM 2011)
-  Zone estimée des sols contaminés (>C)
-  Zone estimée des matières résiduelles

NOTE :

- Les limites des zones estimées de sols contaminés, de matières résiduelles ou de sédiments (fossé) ont été tirées de l'étude de LVM (janvier 2012) et peuvent avoir été modifiées pour faciliter les travaux d'excavation.
- Les zones 2.1 à 2.4 (Ancien dépôt de charbon) sont traitées dans le plan de réhabilitation initial (Entraco, mars 2011 - P0922).

SOURCE (fond de plan) :
LVM, janvier 2012
(073-P038375-0150-EN-0001-00.dwg)

Rév.	Description	Par/By	Date
-	-	-	-
-	-	-	-



Dossier / File: Aéroport de Mont-Joli
Lot 4 804 509
Réponses aux commentaires
et demandes du MDDEFP
(dossier MDDEFP : 7610-01-01-0253704)

Dessin / Drawing: Figure 2.4
Localisation des zones d'intervention -
Ancienne voie ferrée

Conçu par / Designed by: N.L. Date: 2012-02-20

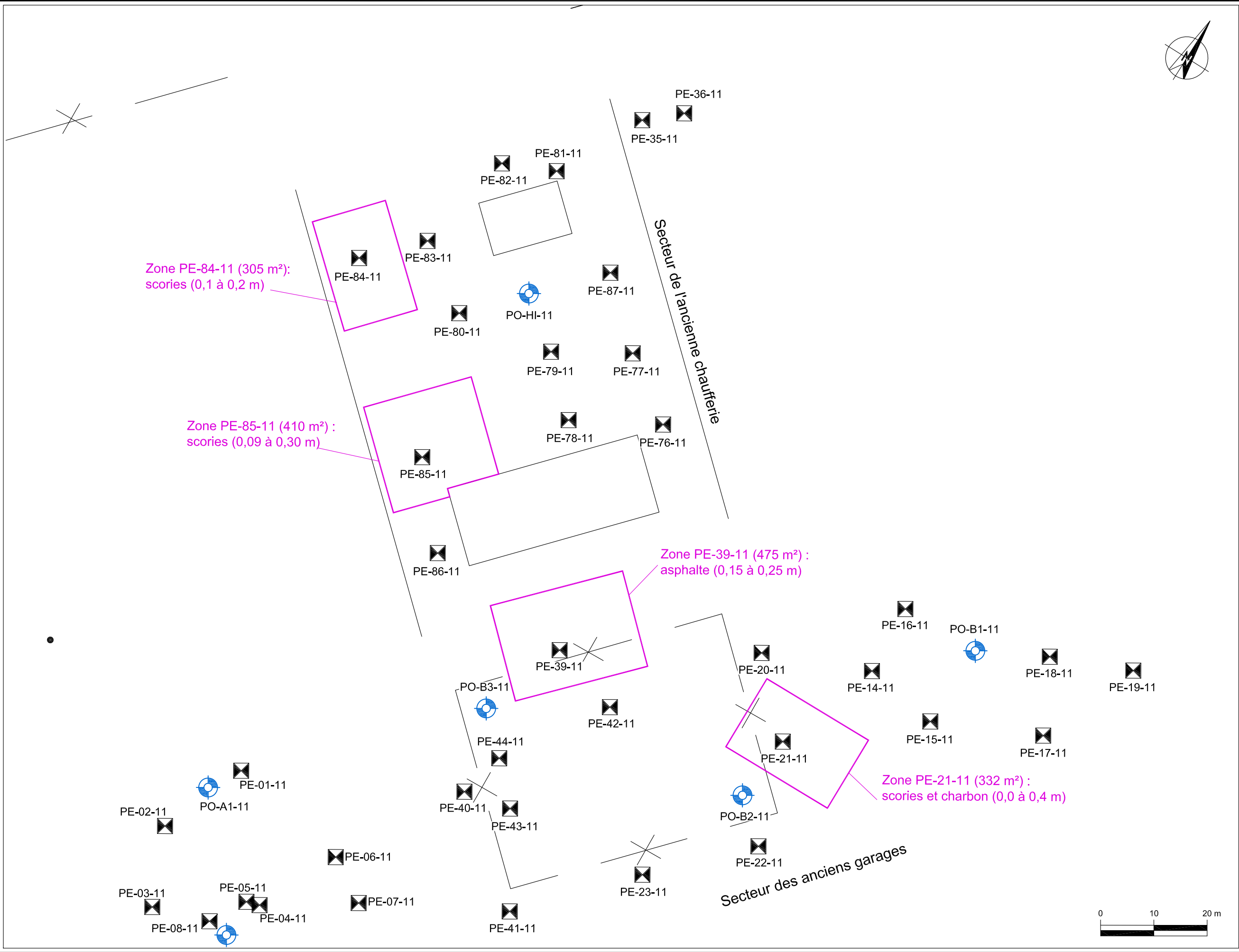
Dessiné par / Drawn by: L.T./N.L. Date: 2013-09-17

Vérifié par / Verified by: N.L. Date: 2013-09-17





Approuvé par / Approved by:  Date:

No. dossier / File no.: P0960 Échelle / Scale: Graphique

No. dessin / Drawing no.: Feuille / Sheet:



Légende

- Tranchée d'exploration (LVM 2011)
- Puits d'observation (LVM 2011)
- Zone estimée des sols contaminés (>C)
- Zone estimée des matières résiduelles

NOTE :

1. Les limites des zones estimées de sols contaminés, de matières résiduelles ou de sédiments (fossé) ont été tirées de l'étude de LVM (janvier 2012) et peuvent avoir été modifiées pour faciliter les travaux d'excavation.

SOURCE (fond de plan) :
LVM, janvier 2012
(073-P038375-0150-EN-0001-00.dwg)

Rév.	Description	Par/By	Date
-	-	-	-
-	-	-	-



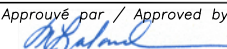
Dossier / File: Aéroport de Mont-Joli
Lot 4 804 509
Réponses aux commentaires
et demandes du MDDEFP
(dossier MDDEFP : 7610-01-01-0253704)

Dessin / Drawing: Figure 2.5
Localisation des zones d'intervention -
Ancienne chaufferie et anciens garages

Conçu par / Designed by: N.L. Date: 2012-02-20

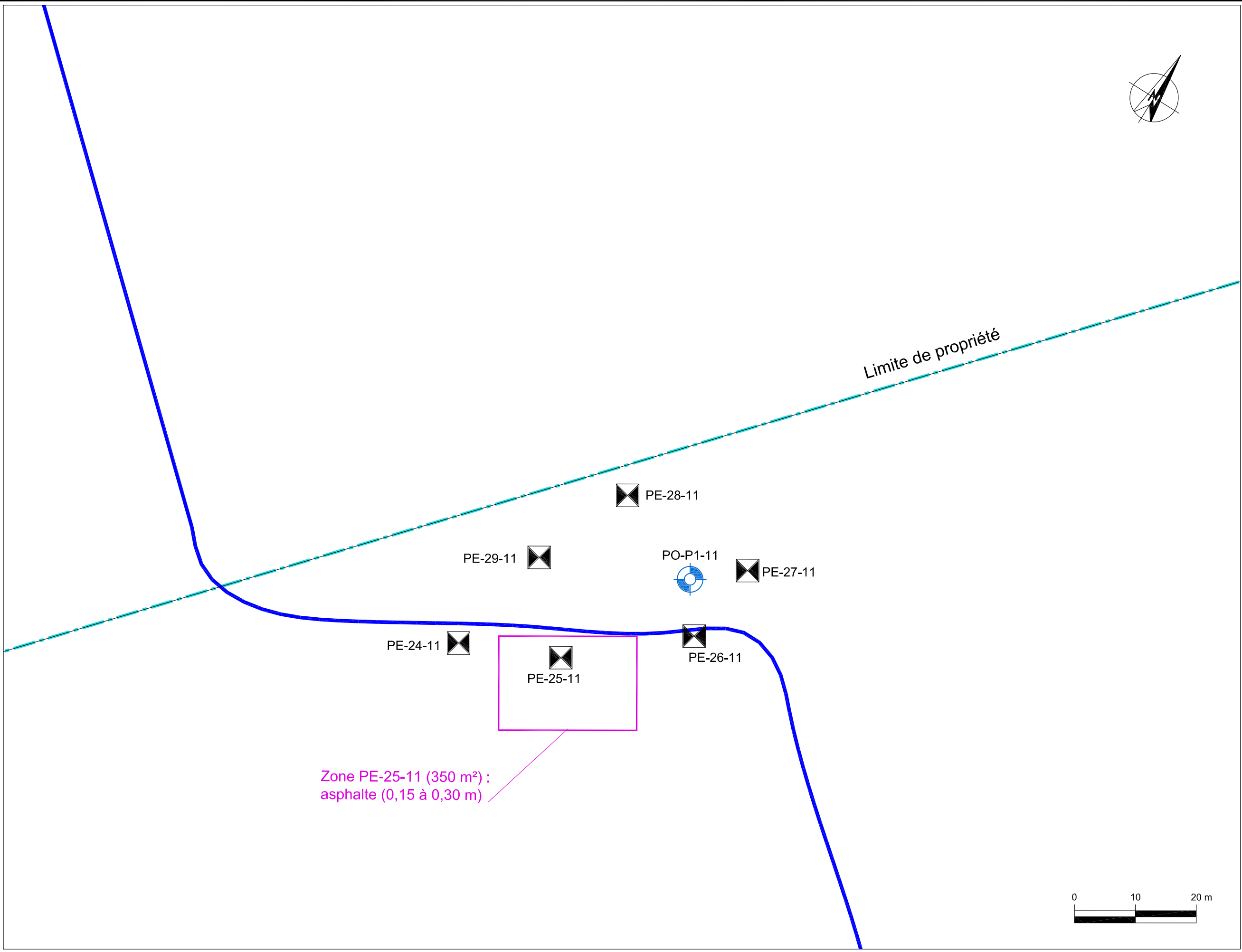
Dessiné par / Drawn by: L.T./N.L. Date: 2013-09-17

Vérifié par / Verified by: N.L. Date: 2013-09-17

Approuvé par / Approved by:  Date:

No. dossier / File no.: P0960 Échelle / Scale: Graphique

No. dessin / Drawing no.: Feuille / Sheet:



Légende

- Fossé de drainage
- Tranchée d'exploration (LVM 2011)
- Puits d'observation (LVM 2011)
- Zone estimée des sols contaminés (>C)
- Zone estimée des matières résiduelles

NOTE :

1. Les limites des zones estimées de sols contaminés, de matières résiduelles ou de sédiments (fossé) ont été tirées de l'étude de LVM (janvier 2012) et peuvent avoir été modifiées pour faciliter les travaux d'excavation.

SOURCE (fond de plan) :
LVM, janvier 2012
(073-P038375-0150-EN-0001-00.dwg)

Rév.	Description	Par/By	Date
-	-	-	-
-	-	-	-



Dossier / File:
Aéroport de Mont-Joli
Lot 4 804 509
Réponses aux commentaires
et demandes du MDDEFP
(dossier MDDEFP : 7610-01-01-0253704)

Dessin / Drawing:
Figure 2.6
Localisation de la zone d'intervention -
Ancienne usine d'asphalte

Conçu par / Designed by: N.L. Date: 2012-02-20

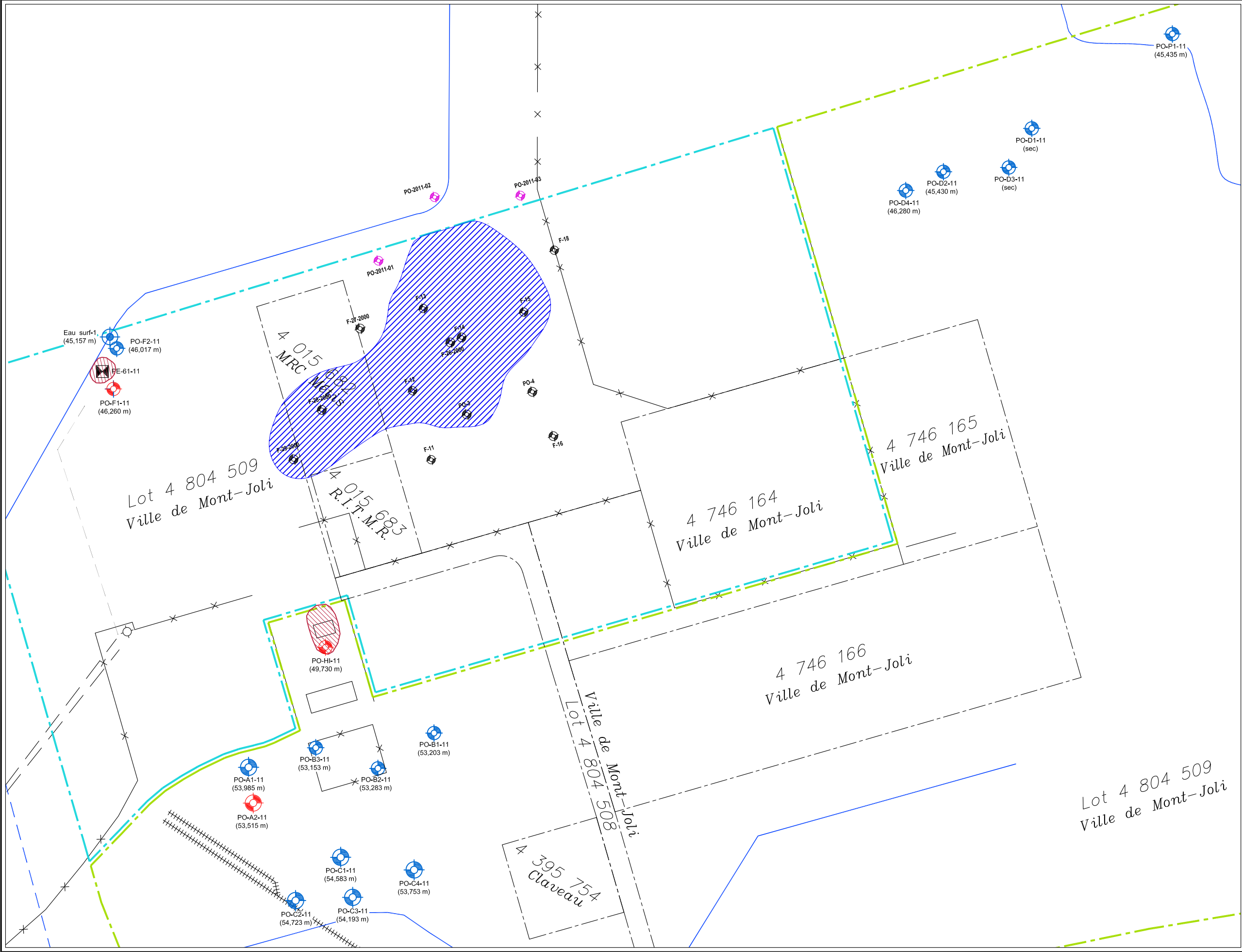
Dessiné par / Drawn by: L.T./N.L. Date: 2013-09-17


Vérifié par / Verified by: N.L. Date: 2013-09-17

Approuvé par / Approved by: [Signature] Date:

No. dossier / File no.: P0960 Échelle / Scale: Graphique

No. dessin / Drawing no.: Feuille / Sheet:





Transports
Canada

Région du Québec

Canada

Légende

Limite du site à l'étude
(partie de l'ancien lot 706-1)

Limite du site à l'étude de l'EES phase 1
réalisé en 2009 par LVM
(partie de l'ancien lot 706-1)

Fossé de drainage

Puits d'observation (LVM 2011)

Puits d'observation (LVM 2011)
proposé pour le suivi de la qualité

Puits d'observation antérieur
(divers consultants en environnement)

Puits d'observation à construire
proposé par Entraco en 2011
pour le suivi de la qualité

Étendue présumée de l'eau contaminée
(LVM, janvier 2012)

Étendue présumée de l'eau contaminée
(LVM, 18 février 2010 - addenda)

NOTE :

1.


Les limites des zones estimées d'eau
souterraine contaminée ont été tirées des
études de LVM (février 2010 et janvier 2012).

SOURCE (fond de plan) :

LVM, janvier 2012 (073-P038375-0150-EN-0001-00.dwg)

LVM, février 2011 (073-P038375-0140-F002-01_révisé.dwg)

Rév.	Description	Par/By	Date
-	-	-	-
-	-	-	-



ENTRACO

Conseillers en environnement

Dossier / File:

Aéroport de Mont-Joli

Lot 4 804 509

Réponses aux commentaires
et demandes du MDDEFP

(dossier MDDEFP : 7610-01-01-0253704)

Dessin / Drawing:

Figure 6.1

Localisation des puits d'observation et des
limites des zones contaminées d'eau souterraine

Conçu par / Designed by:	Date
N.L.	2012-02-20
Dessiné par / Drawn by:	Date
L.T./N.L.	2013-09-17
Vérifié par / Verified by:	Date
N.L.	2013-09-17
Approuvé par / Approved by:	Date

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P0960	Graphique
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