

N. J. Peralta Engineering Ltd.

Consulting Engineers

January 12th, 2010

Corporation of the Municipality of Leamington
38 Erie Street North
Leamington, Ontario
N8H 2Z3

Attention: Lu-Ann Barreto, Drainage Superintendent

Dear Lu-Ann:

**SUBJECT: SUBSEQUENT CONNECTION INTO THE
NORTHWEST BRANCH OF THE LEBO CREEK DRAIN
(for Parcel 760-001, Leonard & Janet Flaming
and Parcel 760-003, Leonard & Janet Flaming)
Municipality of Leamington, County of Essex
Project No. D-09-046**

1.0 Authorization

In accordance with instructions received from Lu-Ann Barreto, Drainage Superintendent, dated December 21st, 2009, we have made all of the necessary investigations and determinations for the preparation of a report, in accordance with Section 66 of the "Drainage Act, R.S.O. 1990, Chapter D.17". This report deals with obtaining Council's approval to allow for additional area within Parcels 760-001 and 760-003 to utilize the Northwest Branch of the Lebo Creek Drain as their outlet.

Our appointment to deal with this request, where the nature or extent of the use of a drainage works by land assessed for the drainage works is subsequently altered, is in accordance with and pursuant to Section 66 (1) of the "Drainage Act, R.S.O. 1990, Chapter D.17". We have inserted herein a copy of Section 66 for reference purposes, labelled **Appendix "A"**. We have therefore performed all of the necessary research, investigations, and review of all pertinent documentation, etc. for the carrying out of our study and we report thereon as follows.

2.0 Background

From work carried out on behalf of Ashley Gardens and Leonard & Janet Flaming, we have established the areas that are to be re-directed from the 7th Concession Road Branch of the Lebo Creek Drain to the Northwest Branch of the Lebo Creek Drain. Work on both parcels included preparation of a stormwater management report which was submitted to the Municipality for review.

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We have also obtained reference information from the Municipal Drainage Department, including the current report for the Northwest Branch of the Lebo Creek Drain, which is the September 17th, 1981 report by William J. Settingington, P.Eng. In addition to this report, we have also reviewed the report for the Drain Re-Alignment dated August 25th, 2000 prepared by our office.

3.0 Existing Drainage Conditions

From our review of the storm water management (SWM) work carried out on behalf of Leonard & Janet Flaming, we were able to establish the overall parcel areas affected by this study.

From our review of the latest engineer's report on the Northwest Branch of the Lebo Creek Drain, which is the September 17th, 1981 report by William J. Settingington, P.Eng., we were able to determine what areas within the two (2) affected parcels are currently assessed to and utilize the Northwest Branch of the Lebo Creek Drain as an outlet.

Based on the above research and investigations, we have prepared a plan labelled herein as **Appendix "B"** which shows the boundaries of the two (2) affected Parcels 760-001 and 760-003. Parcel 760-001 currently comprises 5.504 hectares (13.6 acres) and Parcel 760-003 currently comprises 1.404 hectares (3.47 acres). Parcel 760-001 is currently assessed approximately 3.100 hectares (7.66 acres) to the Northwest Branch of the Lebo Creek Drain and 2.403 hectares (5.94 acres) to the 7th Concession Road Branch of the Lebo Creek Drain as confirmed by the December 14th, 1972 report on the 7th Concession Road Branch of the Lebo Creek Drain prepared by William J. Settingington, P.Eng. Parcel 760-003 is currently assessed 0.669 hectares (1.65 acres) to the Northwest Branch of the Lebo Creek Drain and 0.735 hectares (1.82 acres) to the 7th Concession Road Branch of the Lebo Creek Drain. The portion of the parcel lands proposed to be subsequently connected to the Northwest Branch of the Lebo Creek Drain consists of approximately 2.253 hectares (6.25 acres) for Parcel 760-001 and 0.467 hectares (1.54 acres) for Parcel 760-003, generally comprising lands that previously drained south to the 7th Concession Road Branch of the Lebo Creek Drain and will now be directed through the stormwater management system to the Northwest Branch of the Lebo Creek Drain. Parcel 760-001 will continue to have 0.150 hectares (0.37 acres) and Parcel 760-003 will continue to have 0.268 hectares (0.66 acres) assessed south to the 7th Concession Branch of the Lebo Creek Drain.

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4.0 Allowable Release Rates and Stormwater Management

The SWM report documentation provided by our office to the Municipality shows that stormwater management practices are intended to be utilized for the proposed greenhouse development on both parcels. Under no circumstance would the subsequent connection of the additional lands and their runoff be permitted to drain into the Northwest Branch of the Lebo Creek Drain unless stormwater management is provided. The stormwater management system must ensure that the allowable release rate into the Northwest Branch of the Lebo Creek Drain for both parcels does not exceed the 1:2 year storm pre-development runoff rate for the entire area to be connected. Under no circumstance should the Municipality consider allowing the subsequent connection of the additional area into the Northwest Branch of the Lebo Creek Drain unless this condition is met. Proper stormwater management facilities restricting the flows to the allowable release rate will ensure that the subsequent connections would have no adverse effect on the capacity of the entire Northwest Branch of the Lebo Creek Drain.

A stormwater management report has been prepared taking the allowable release rate into consideration, and has been submitted to the Municipality for review by their staff.

The flows from the greenhouse parcels will generally outlet near the northeast corner of Parcel 760-001. We also find that the downstream concrete and CSP bridges have a capacity approximately equal to the 1:100 year storm for the former Railway crossing and Mersea Road 7 crossing, and the standard 1:2 year storm for the farm access. Based on our findings, we believe that is reasonable to allow for the subsequent connection of the greenhouse lands, provided that the necessary stormwater management provisions are made.

5.0 Assessment for Subsequent Connection

With implementation of a stormwater management system limiting the outflows into the Northwest Branch of the Lebo Creek Drain to the pre-development rate, as outlined above, the subsequent connection of the additional 2.253 hectares (5.57 acres) for Parcel 760-001 and 0.467 hectares (1.15 acres) for Parcel 760-003 would have no adverse effect on the capacity of the Northwest Branch of the Lebo Creek Drain. Therefore, based on the above conditions, we find that the Northwest Branch of the Lebo Creek Drain has the ability to accept the additional area from within the affected parcels, and we are therefore prepared to recommend the approval of these subsequent connections to Leamington Council.

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If Leamington Council is prepared to approve the subsequent connection of the additional lands of the Leonard and Janet Flaming parcels into the Northwest Branch of the Lebo Creek Drain, a Subsequent Connection Charge is to be established by the engineer and be charged entirely to the owners of the subsequently connected lands. Section 66 (1) of the "Drainage Act, R.S.O. 1990, Chapter D.17" requires that "where the nature or extent of the use of a drainage works by land assessed for the drainage works is subsequently altered, an engineer appointed by the Municipality for the purpose shall make an inspection and assess the land for a just proportion of the drainage works".

From our investigations of the Municipality's drainage files, we have determined that the drainage works that still have a useful service life, for which the two (2) affected parcels must be assessed for a just proportion, are the farm bridge to Parcel 760-067 and the open portion of the Northwest Branch of Lebo Creek Drain downstream of the affected Parcels to the Mersea Road 7 bridge.

The subsequent connection charge to the owners of the two (2) affected parcels should be based on the actual cost per acre to the already assessed portions of said parcels of land, for the cost of the works carried out under the 2000 report by our office, that still have a remaining service life.

From review of the 2000 report, we find that there were costs expended towards a bridge replacement, as well as costs for re-alignment of the drain. As the re-alignment of the drain had limited benefit to the two subject properties, we have calculated a value based on a drain cleaning performed at the same time of the construction of the drain re-alignment.

SUBSEQUENT CONNECTIONS COSTS

Farm Access Bridge Sharing

We find that Parcel 760-001, owned by Leonard and Janet Flaming, should bear a cost of \$502.01 for the subsequently connected 2.253 hectares (5.57 acres), based on 2000 prices.

Based on Consumer Price Index information available from Statistics Canada, we find that the inflation increase for the period from 2000 to 2009 is approximately 121%. Taking this cost of inflation into account, we find that the current value of the subsequent connection lands share of the 2000 farm access bridge would be approximately $\$502.01 \times 121\% = \607.43 . This amount is to be factored by the percentage of service life still remaining

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on the capital works completed in the year 2000 in order to determine the final subsequent connection charge.

We find that the normal life expectancy of thirty (30) years for the CSP bridge has twenty-one (21) years of life left and therefore there should be subsequent connection costs for that portion of the works based on the service life remaining. As approximately 70% of the service life remains, this portion should be 70%. We therefore find that, when taking the above into account, the subsequent connection charge to Parcel 760-001, owned by Leonard and Janet Flaming, should be a cost of \$425.20 for the subsequently connected 2.253 hectares (5.57 acres).

We find that Parcel 760-003, owned by Leonard and Janet Flaming, should bear a cost of \$103.78 for the subsequently connected 0.467 hectares (1.15 acres), based on 2000 prices.

Based on Consumer Price Index information available from Statistics Canada, we find that the inflation increase for the period from 2000 to 2009 is approximately 121%. Taking this cost of inflation into account, we find that the current value of the subsequent connection lands share of the 2000 farm access bridge would be approximately $\$103.78 \times 121\% = \125.57 . This amount is to be factored by the percentage of service life still remaining on the capital works completed in the year 2000 in order to determine the final subsequent connection charge.

We find that the normal life expectancy of thirty (30) years for the CSP bridge has twenty-one (21) years of life left and therefore there should be subsequent connection costs for that portion of the works based on the service life remaining. As approximately 70% of the service life remains, this portion should be 70%. We therefore find that, when taking the above into account, the subsequent connection charge to Parcel 760-003, owned by Leonard and Janet Flaming, should be a cost of \$87.90 for the subsequently connected 0.467 hectares (1.54 acres).

Open Drain Cleanout Portion Sharing

We find that Parcel 760-001, owned by Leonard and Janet Flaming, should bear a cost of \$247.11 for the subsequently connected 2.253 hectares (5.57 acres), based on 2000 prices.

Based on Consumer Price Index information available from Statistics Canada, we find that the inflation increase for the period from 2000 to 2009 is approximately 121%. Taking this cost of inflation into account, we find that the current value of the subsequent connection lands share of the 2000 cost to clean out the drain would be approximately $\$247.11 \times 121\% = \299.00 . This amount is to be factored by the percentage of service life still

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remaining on the capital works completed in the year 2000 in order to determine the final subsequent connection charge.

We find that the normal life expectancy of twenty (20) years has eleven (11) years of life left and therefore there should be subsequent connection costs for the estimated cleanout cost of the drain based on the service life remaining. As approximately 55% of the service life remains, this portion should be 55%. We therefore find that, when taking the above into account, the subsequent connection charge to Parcel 760-001, owned by Leonard and Janet Flaming, should be a cost of \$164.45 for the subsequently connected 2.253 hectares (5.57 acres).

We find that Parcel 760-003, owned by Leonard and Janet Flaming, should bear a cost of \$51.09 for the subsequently connected 0.467 hectares (1.15 acres), based on 2000 prices.

Based on Consumer Price Index information available from Statistics Canada, we find that the inflation increase for the period from 2000 to 2009 is approximately 121%. Taking this cost of inflation into account, we find that the current value of the subsequent connection lands share of the 2000 cost to clean out the drain would be approximately $\$51.09 \times 121\% = \61.81 . This amount is to be factored by the percentage of service life still remaining on the capital works completed in the year 2000 in order to determine the final subsequent connection charge.

We find that the normal life expectancy of twenty (20) years has eleven (11) years of life left and therefore there should be subsequent connection costs for the estimated cleanout cost of the drain based on the service life remaining. As approximately 55% of the service life remains, this portion should be 55%. We therefore find that, when taking the above into account, the subsequent connection charge to Parcel 760-003, owned by Leonard and Janet Flaming, should be a cost of \$34.00 for the subsequently connected 0.467 hectares (1.15 acres).

Parcel 760-001 Summary

Sharing Element	Subsequent Hectares Affected	Estimated Assessment Charge	CPI from Report Date	Service Life Remaining	Subsequent Connection Charge
Bridge	2.253	\$502.01	121%	70%	\$425.20
Drain	2.253	\$247.11	121%	55%	\$164.45
TOTAL CHARGES					\$ 589.65

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Therefore, in accordance with Section 66 (1) of the "Drainage Act, R.S.O. 1990, Chapter D.17", we recommend that a **Subsequent Connection Charge** of **\$589.65** be made against Parcel 760-001, owned by Leonard and Janet Flaming as above described. We further recommend that the above noted amount be collected by the Municipality of Leamington and said amount be applied only towards the future maintenance and/or future repairs of the Northwest Branch of the Lebo Creek Drain, pursuant to Section 66 (3) of the "Drainage Act, R.S.O. 1990, Chapter D.17".

Parcel 760-003 Summary

Sharing Element	Subsequent Hectares Affected	Estimated Assessment Charge	CPI from Report Date	Service Life Remaining	Subsequent Connection Charge
Bridge	0.467	\$103.78	121%	70%	\$87.90
Drain	0.467	\$51.09	121%	55%	\$34.00
TOTAL CHARGES					\$ 121.90

Therefore, in accordance with Section 66 (1) of the "Drainage Act, R.S.O. 1990, Chapter D.17", we recommend that a **Subsequent Connection Charge** of **\$121.90** be made against Parcel 760-003, owned by Leonard and Janet Flaming as above described. We further recommend that the above noted amount be collected by the Municipality of Leamington and said amount be applied only towards the future maintenance and/or future repairs of the Northwest Branch of the Lebo Creek Drain, pursuant to Section 66 (3) of the "Drainage Act, R.S.O. 1990, Chapter D.17".

6.0 Future Maintenance Charges

Once the above subsequent connections have been approved by Municipal Council, the two (2) parcels 760-001 and 760-003 will be legally utilizing the Northwest Branch of the Lebo Creek Drain for most of their area, and these lands should therefore also be responsible for any future maintenance works conducted to the drain and bridges. We therefore recommend that the affected reports as outlined above be amended to reflect that Parcel 760-001 should be assessed for a total of 5.353 hectares (13.23 acres) to the Northwest Branch of the Lebo Creek Drain, and Parcel 760-003 should be assessed for a total of 1.136 hectares (2.81 acres) to the Northwest Branch of the Lebo Creek Drain. Their proportion of the maintenance costs should be pro-rated by the total new acreage of the parcels relative to the original acreages assessed within said affected reports, and all of the maintenance costs

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should then be pro-rated against all affected lands within each of the reports that might be impacted by the future maintenance works.

The attached plan labelled "APPENDIX 'B'" illustrates the total parcel areas affected by the Northwest Branch of the Lebo Creek Drain once Council approves the subsequent connection. We recommend that a copy of this report and plan be filed with each of the above referenced drainage reports.

The Municipality has requested that the maintenance schedule for the Northwest Branch of the Lebo Creek Drain and the maintenance schedule for the 7th Concession Road Branch of the Lebo Creek Drain be updated pursuant to Section 76 of the Drainage Act to be used as a reference when future maintenance work is carried out and being billed to the affected lands. These schedules will be updated by us after the subsequent connections have been approved.

7.0 Summary and Recommendations

As already established herein, we have conducted a drainage study of the Northwest Branch of the Lebo Creek Drain and have determined that the subsequent connection of approximately 2.253 hectares (5.57 acres) for Parcel 760-001 owned by Leonard & Janet Flaming, and 0.467 hectares (1.15 acres) for Parcel 760-003 owned by Leonard & Janet Flaming, as shown within Appendix "B", shall not adversely affect the performance of said Municipal Drain as long as the Stormwater Management Facilities limit the total release rate allowed into said drain to the 1:2 year pre-development runoff.

The pre-development runoff coefficient to be utilized shall be 0.15 for these lands as established in the Stormwater Management Report already submitted to the Municipality of Leamington.

We have also established herein Subsequent Connection Charges to be paid by Leonard & Janet Flaming, which is a representation of their share of the still useful portion of the service life of the capital works carried out pursuant to the 2000 drainage report.

Based on all of the above, we would therefore recommend that Leamington Council approve the subsequent connection of the additional areas of the Leonard & Janet Flaming Parcel 760-001, and the Leonard & Janet Flaming Parcel 760-003, into the Northwest Branch of the Lebo Creek Drain, as long as all of the above requirements and conditions are complied with. We further recommend that the costs for preparation of this report be assessed equally to each of the affected Parcels 760-001 and 760-003.

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If you, or Council, have any questions regarding this Subsequent Connection Report, please do not hesitate to contact us. It is our understanding that this report is to be considered by Council at the earliest to allow for construction works to be carried out on the proposed greenhouse development.

We respectfully remain,

Yours very truly,

N. J. PERALTA ENGINEERING LTD.


Gerard Rood, P.Eng.



GR/sa

Appendix 'A'

Excerpt from

DRAINAGE ACT

R.S.O. 1990, CHAPTER D.17

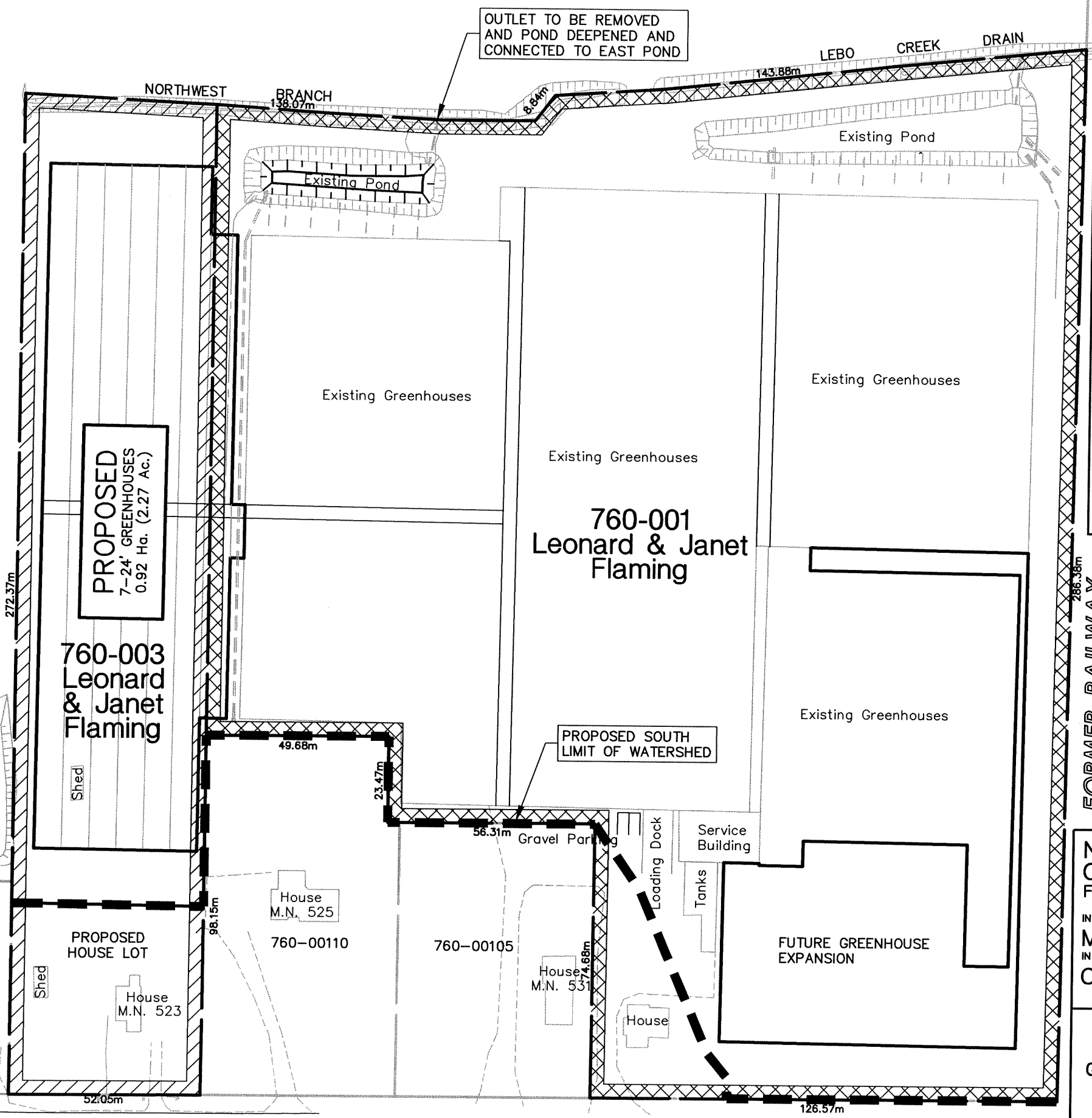
Amended by: 1992, c. 32, s. 8; 1998, c. 18, Sched. A, s. 1; 1999, c. 12, Sched. A, s. 9; 2001, c. 9, Sched. A; 2002, c. 17, Sched. F, Table.

66. (1) Where an owner of land that is not assessed for a drainage works subsequently connects the land with the drainage works for the purpose of drainage or where the nature or extent of the use of a drainage works by land assessed for the drainage works is subsequently altered, an engineer appointed by the initiating municipality for the purpose shall make an inspection and assess the land for a just proportion of the drainage works, regard being had to any compensation paid to the owner of such land in respect of the drainage works, but no person shall connect such land to the drainage works without the approval of the council of the municipality.
66. (2) The clerk of the initiating municipality shall forthwith send a copy of the assessment to the owners of land assessed under subsection (1), and any owner who is so assessed for a sum greater than \$500 and is dissatisfied with the assessment may appeal to the Tribunal within forty days after the date the notice is sent to the owner by the clerk.
66. (3) The amount collected under subsection (1) shall be credited to the account of the drainage works and shall be used only for the improvement, maintenance or repair of the whole or any part of the drainage works.

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760-004



OUTLET TO BE REMOVED AND POND DEEPENED AND CONNECTED TO EAST POND

LEBO CREEK DRAIN

NORTHWEST BRANCH

Existing Pond

Existing Pond

Existing Greenhouses

Existing Greenhouses

760-001 Leonard & Janet Flaming

Existing Greenhouses

Existing Greenhouses

PROPOSED SOUTH LIMIT OF WATERSHED

Gravel Parking Loading Dock Service Building

FUTURE GREENHOUSE EXPANSION

House M.N. 525

House M.N. 531

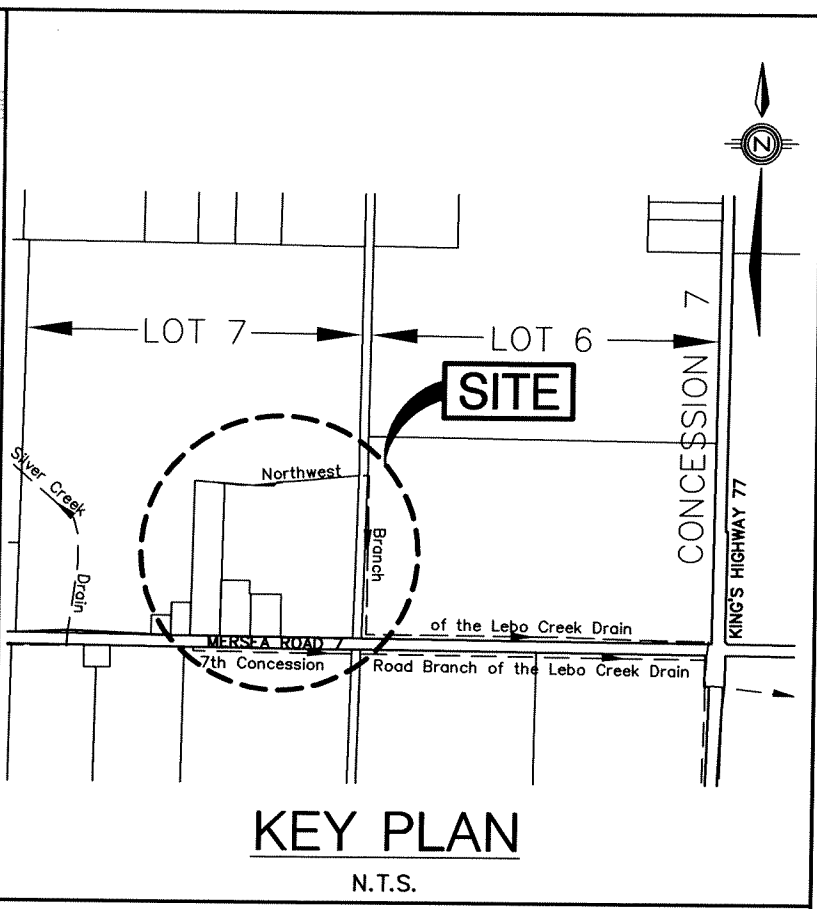
House M.N. 519

House M.N. 523

PROPOSED HOUSE LOT

Shed

Shed



KEY PLAN

N.T.S.



FORMER RAILWAY

NORTHWEST BRANCH OF THE LEBO CREEK DRAIN SUBSEQUENT CONNECTION For Parcels 760-001 and 760-003 - Leonard & Janet Flaming

IN THE MUNICIPALITY OF LEAMINGTON IN THE COUNTY OF ESSEX • ONTARIO

N. J. Peralta Engineering Ltd.

45 DIVISION STREET NORTH KINGSVILLE, ONTARIO N9Y 1E1

DATE: JANUARY 12th, 2009

GRAPHIC SCALE



1 : 1250

FILE No.: D09-046

DRAWN BY: H.C.M. PLOT CODE: 1:1 FILE: E09-035.DWG

APPENDIX 'B'

MERSEA ROAD 7

WATERSHED PLAN

1:1250