

N. J. Peralta Engineering Ltd.

Consulting Engineers

June 3rd, 2011

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

Attention: Lu-Ann Barreto, Drainage Superintendent

Dear Lu-Ann:

SUBJECT: LUNDY DRAIN
Section 65 Adjustments for Cervini Farms (1993) Inc.
Parcels 830-00910 and 830-01300
Municipality of Leamington, County of Essex
Project No. D-11-011

1.0 Authorization

In accordance with instructions received from you by letter dated March 28th, 2011, confirming Council's Resolution on March 21st, 2011, we have made all of the necessary investigations and determinations for the preparation of a report, in accordance with Section 65 of the "Drainage Act, R.S.O. 1990, Chapter D.17, as amended 2010". This report deals with buy in costs and adjustments to the Value of Outlet Liability within Parcels 830-00910 and 830-01300 owned by Cervini Farms to reflect their utilization of the "Lundy Drain" for an increase in affected area and total flow volumes from the parcels due to the proposed greenhouse developments on the sites that will be operated by Lakeside Produce Greenhouses.

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 65.(3) of the "Drainage Act, R.S.O. 1990, Chapter D.17, as amended 2010". We have inserted herein a copy of Section 65 for reference purposes, labelled **Appendix "A"**. We have therefore performed all of the necessary research, investigations, and review of all pertinent documentation, etcetera for the carrying out of our study and we report thereon as follows.

2.0 Background

From work carried out on behalf of the owner, we have established the areas that are to be developed and that will result in increased total flow volumes to the "Lundy Drain". Work on the parcels has already included preparation and approval of a site plan for the proposed greenhouse developments and storm water management (SWM) reports will be submitted to the Municipality for review and approval of new greenhouse developments on the sites.

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We have also obtained reference information from the Municipal Drainage Department for the affected portion of the drain, including the current governing by-law and report for the "Lundy Drain", which is the April 21st, 1981 report by Wm. Settingington, P.Eng. We have used the assessment schedule that was within said report for maintenance purposes, allowing for deletion of the Special Benefit assessments. We find that the lands affected by the proposed greenhouse development are the parcels formerly owned by William Manley (Pt. N1/2 of S1/2 Lot 7, Concession 9), Nellie Gillanders (Pt. S1/2 of S1/2 Lot 7, Concession 9) and approximately the south half of the parcel that was owned by Royce Gillanders (W1/2 Lot 8, Concession 9), all in the Geographic Township of Mersea, as shown in the Settingington report.

3.0 Existing Drainage Conditions

From our review of the storm water management (SWM) design completed to date and currently being carried out on behalf of Cervini Farms (1993) Inc., we were able to establish the overall parcel areas affected by this study.

From our review of the latest engineer's report on the "Lundy Drain", which is the April 21st, 1981 report by Wm. Settingington, P.Eng., we were able to determine which areas within the affected parcels are currently assessed to and utilize the "Lundy Drain" as an outlet.

Based on the above research and investigations, we have prepared plans labeled herein as **Appendix "B"** which show:

1. the boundaries of the affected Parcels 830-00910 and 830-01300
2. the proposed greenhouse construction and SWM pond

Parcels 830-00910 and 830-01300 currently comprise of 40.751 hectares (100.7 acres) and 19.164 hectares (47.35 acres) respectively and are approximately the south 1/2 of Lot 7 and the southeast 1/4 of Lot 8. The parcels are presently assessed the following affected areas to the "Lundy Drain" in the current report:

- a) Parcel 830-00910 - 38.45 hectares (95.0 acres)
- b) Parcel 830-01300 - 20.81 hectares (44.00 acres)

as confirmed by the April 21st, 1981 report and assessment schedule for the "Lundy Drain" prepared by Wm. Settingington, P.Eng.

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4.0 Allowable Release Rates and Stormwater Management

The SWM report documentation already prepared and to be provided by our office to the Municipality will show that storm water management (SWM) practices are intended to be utilized for the proposed greenhouse developments on the parcels. Under no circumstance would the additional runoff volumes be permitted to drain into the "Lundy Drain" unless storm water management is provided. The storm water management systems must ensure that the allowable release rate into the "Lundy Drain" for the 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 increased total flow volumes into the "Lundy Drain" unless this condition is met. Proper stormwater management facilities restricting the flows to the allowable release rate will ensure that the subsequent flows will have no adverse effect on the capacity of the "Lundy Drain".

Storm water management reports must be prepared for any proposed greenhouse development taking the allowable release rate into consideration, and these should be submitted to the Municipality for review by the staff and approved by them and the Essex Region Conservation Authority (E.R.C.A.) before any work proceeds.

The flows from the greenhouse parcels will generally outlet at the north side of the sites near the northwesterly corner of Parcel 830-00910 and the northeasterly corner of Parcel 830-01300 through an existing covered drain that extends north to Mersea Road 10 and outlets close to the upper end of the "Lundy Drain". We also find that the use of SWM controls will reduce the peak flows in the drain and therefore the greenhouse development will not adversely impact on the downstream bridge structures and drain sections. Based on our findings, we believe that it is reasonable to allow for the increased total flow volumes from the proposed greenhouse lands, provided that the necessary storm water management provisions are maintained for the proposed current phase of greenhouse development and are made and maintained for any proposed future greenhouse expansions.

5.0 Subsequent Connection Charges

We find that the areas being drained to the "Lundy Drain" from the affected parcels will be increased as a result of the greenhouse development. Normally an increase in parcel area results in buy-in charges to the affected parcel for the additional area being brought into the drain based on the remaining life of any recent work carried out on the Municipal drain. For this project we find, from our investigations with the Municipality, that the total affected area from the parcels now draining to the "Lundy Drain" will be 59.914 hectares (148.05 acres) rather than the 56.252

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hectares (139.00 acres) that was originally assessed for the parcels. Accordingly, there is additional area that requires a subsequent connection to the drain and consequently charges are required to the affected parcels for the extra area being brought into the drain. As noted above, the SWM controls restrict the outflow rate to the predevelopment rates from the original affected areas of the parcels and therefore no adverse impact on flow rates in the drain will occur.

Our investigations with the Municipality have established that the drain was maintained in 2008 at a cost of \$28,685.00. Based on the current maintenance schedule being used by the Municipality, the cost to each parcel would have been:

Parcel 830-00910	\$872.62
Parcel 830-01300	\$402.89

Based on the increase in affected areas, the parcels should bear an additional cost of \$83.03 without adjustments. We estimate that there are 9 years remaining of an average life span of 12 years for the maintenance work that was completed. We find that the Consumer Price Index has increased by 105.55% between 2008 and 2011. Making the adjustments for the remaining life and the current value, we estimate the buy-in cost for each parcel to be:

Parcel 830-00910	\$ 41.45
Parcel 830-01300	\$ 24.28
Total Buy-In Cost =	\$ 65.73

In accordance with Section 65 of the Drainage Act, this amount is to be collected by the Municipality from the two affected parcels and "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".

6.0 Assessment for Increased Flow Volumes

With implementation of a stormwater management system limiting the outflows into the "Lundy Drain" to the pre-development flow rate, as outlined above, the increased total flow volumes from the affected parcels would have no adverse effect on the capacity of the "Lundy Drain". Therefore, based on the above conditions, we find that the "Lundy Drain" has the ability to accept the additional total flow volumes from within the affected parcels, and we are therefore prepared to recommend the approval of this greenhouse development.

If Leamington is prepared to approve the increased total flow volumes from the lands of Cervini Farms (1993) Inc. into the "Lundy Drain", an update to the assessments is to be established

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by the engineer and be charged entirely to the owners of the affected lands. Section 65.(3) of the "Drainage Act, R.S.O. 1990, Chapter D.17, as amended 2010" 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 for which the affected parcel must be assessed for a just proportion is the "Lundy Drain".

The increased Outlet Liability charge to the owner of the affected parcels should be based on the increased total flow volumes from the already assessed portions to the "Lundy Drain".

7.0 Assessment Adjustments for Increased Total Flow Volume

We find that the parcels affected in the April 21st, 1981 report and assessment schedule, owned at the time by the parties noted above, should have their "Value of Outlet Liability" and "Total Value of Improvement" amounts adjusted to reflect the increased total flow volume that will result from the proposed greenhouse development on the parcel. The "Value of Benefit" for these parcels will remain unchanged from their portion of the value shown in the original 1981 report and assessment schedule.

8.0 Future Maintenance Charges

Based on our review of the existing and proposed areas of greenhouse construction and hard surface areas that are to be created by the development of the site, we find that the following adjustments should be made to the 1981 assessment schedule for the Outlet and Total Values:

<u>Description</u>	<u>Acres</u> <u>Aff'td</u>	<u>Original</u> <u>Value of</u> <u>Outlet</u>	<u>Original</u> <u>Total</u> <u>Value</u>	<u>Updated</u> <u>Value of</u> <u>Outlet</u>	<u>Updated</u> <u>Total</u> <u>Value</u>
<u>Cervini Farms (1993) Inc.</u>					
830-00910	100.70	\$1,835.00	\$2,376.00	\$2,539.00	\$3,080.00
830-01300	47.35	\$ 860.00	\$1,097.00	\$1,310.00	\$1,547.00
UPDATED TOTAL ON LANDS				\$18,765.00	\$27,261.00
UPDATED TOTAL ASSESSMENT				\$20,275.00	\$29,839.00

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In accordance with Section 65.(3) of the "Drainage Act, R.S.O. 1990, Chapter D.17, as amended 2010", we recommend that the values in the April 21st, 1981 Schedule of Assessment which is included within the current governing by-law be amended for the current affected parcels to show the updated values as noted above. This update includes provisions for the possible expansion of Phase 3 and 4 to 10.2 hectares (25.2 acres) of greenhouses each, as discussed with the owner.

Therefore, in accordance with Section 65.(3) of the "Drainage Act, R.S.O. 1990, Chapter D.17, as amended 2010", we recommend that the above noted updated values be collected from the affected parcels by the Municipality of Leamington on a pro-rata basis only when there is future maintenance or repairs of the "Lundy Drain", pursuant to the "Drainage Act, R.S.O. 1990, Chapter D.17, as amended 2010".

9.0 Summary and Recommendations

As already established herein, we have conducted a drainage study of the "Lundy Drain" and have determined that the increased total flow volumes from Parcels 830-00910 and 830-01300 due to development as greenhouse sites, 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 of the original affected areas.

The pre-development runoff coefficient to be utilized shall be 0.15 for these lands and shall be established in the future Storm Water Management Reports to be submitted to the Municipality of Leamington for their approval.

We have also established herein updated Value of Outlet charges to be paid by the affected Parcels 830-00910 and 830-01300, which is a representation of the increased total flow volumes from the developed site.

Based on all of the above, we would therefore recommend that the Municipality of Leamington approve the proposed greenhouse development of Parcels 830-00910 and 830-01300 into the "Lundy 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 50.0% each to the affected Parcels 830-00910 and 830-01300 on an equal basis, in addition to the buy-in costs previously noted.

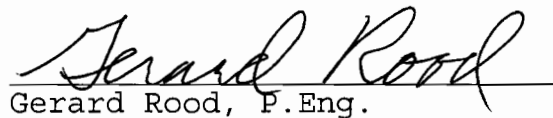
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If you, or Council, have any questions regarding this "Changes in Assessment Report" and the subsequent connection charges, please do not hesitate to contact us. It is our understanding that this report is to be approved at the earliest to allow for 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/

APPENDIX "A"

SPECIAL PROVISIONS

Changes in assessment

Subsequent subdivision of land

65. (1) If, after the final revision of an engineer's assessment of land for a drainage works, the land is divided by a change in ownership of any part, the clerk of the local municipality in which the land is situate shall instruct an engineer in writing to apportion the assessment among the parts into which the land was divided, taking into account the part of the land affected by the drainage works. 2010, c. 16, Sched. 1, s. 2 (26).

Agreement on share of assessment

(2) If the owners of the subdivided land mutually agree on the share of the drainage assessment that each should pay, they may enter into a written agreement and file it with the clerk of the local municipality and, if the agreement is approved by the council by resolution, no engineer need be instructed under subsection (1). 2010, c. 16, Sched. 1, s. 2 (26).

Subsequent connection to drainage works, etc.

(3) If 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 if the nature or extent of the use of a drainage works by land assessed for the drainage works is subsequently altered, the clerk of the local municipality in which the land is situate shall instruct an engineer in writing to inspect the land and assess it for a just proportion of the drainage works, taking into account any compensation paid to the owner of the land in respect of the drainage works. 2010, c. 16, Sched. 1, s. 2 (26).

Subsequent disconnection from drainage works

(4) If an owner of land that is assessed for a drainage works subsequently disconnects the land from the drainage works, the clerk of the local municipality in which the land is situate shall instruct an engineer in writing to inspect the land and determine the amount by which the assessment of the land should change. 2010, c. 16, Sched. 1, s. 2 (26).

Restriction on connection or disconnection

(5) No person shall connect to or disconnect from drainage works without the approval of the council of the municipality. 2010, c. 16, Sched. 1, s. 2 (26).

Notice of instructions

(6) The clerk of the local municipality shall send a copy of the instructions mentioned in subsection (1), (3) or (4) to the owners of the affected lands as soon as reasonably possible. 2010, c. 16, Sched. 1, s. 2 (26).

Engineer's assessment

(7) An engineer who prepares an assessment pursuant to instructions received under subsection (1), (3) or (4) shall file the assessment with the clerk of the local municipality. 2010, c. 16, Sched. 1, s. 2 (26).

Notice of assessment

(8) The clerk of the local municipality shall attach the engineer's assessment to the original assessment and send a copy of both to the owners of the affected lands. 2010, c. 16, Sched. 1, s. 2 (26).

Assessment binding

(9) Subject to subsection (11), the engineer's assessment is binding on the assessed land. 2010, c. 16, Sched. 1, s. 2 (26).

Costs

(10) The costs of the assessment, including the fees of the engineer, shall be paid by the owners of the lands in the proportion fixed by the engineer or, on appeal, by the Tribunal, and subsection 61 (4) applies to these costs. 2010, c. 16, Sched. 1, s. 2 (26).

Appeal of assessment

(11) If the engineer's assessment is for an amount greater than \$500, the owner of the land may appeal to the Tribunal within 40 days after the date the clerk sends a copy of the assessment to the owner. 2010, c. 16, Sched. 1, s. 2 (26).

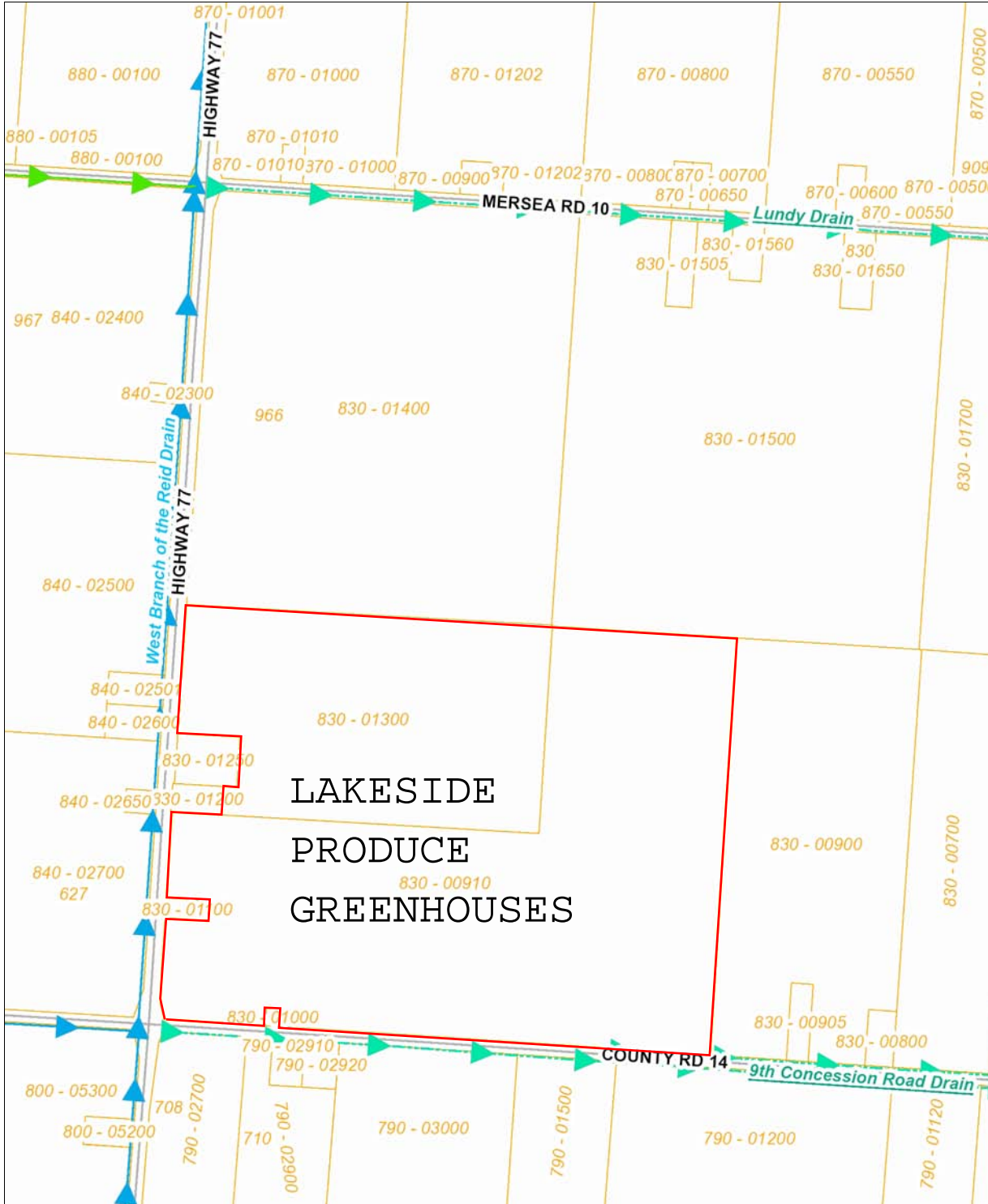
Use of amount collected

(12) Any amount collected under subsection (3) 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. 2010, c. 16, Sched. 1, s. 2 (26).

66. Repealed: 2010, c. 16, Sched. 1, s. 2 (26).

APPENDIX "B"

Lundy Drain Sec. 65



Legend

- Drains ERCA Waters
 - ▶ Channelized
 - ▶ Natural
 - ▶ Tiled
- Drains LTVCA Water
 - ▶ Channelized
 - ▶ Natural
 - ▶ Tiled
- Streets
- Parcels
- Short Roll Parcels
- Essex County Munic
 - Municipality of Leamir
 - Peche Island; Pelee I;
 - City of Windsor; The 1
 - Lakeshore; The Town
 - of Essex; Town
- Water

1: 10,000.00



0

698.50 Meters

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

Lakeside Produce Greenhouses

Lundy Drain Sec. 65



Legend

- Drains ERCA Waters
 - Channelized
 - Natural
 - Tiled
- Drains LTVCA Water
 - Channelized
 - Natural
 - Tiled
- Streets
- Parcels
- Essex County Munic
 - Municipality of Leamir
 - Peche Island; Pelee I;
 - City of Windsor; The 1
 - Lakeshore; The Town
 - Town of Essex; Town
- Water
- Leamington 2008 Air
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3

1: 10,000.00



0 698.50 Meters

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

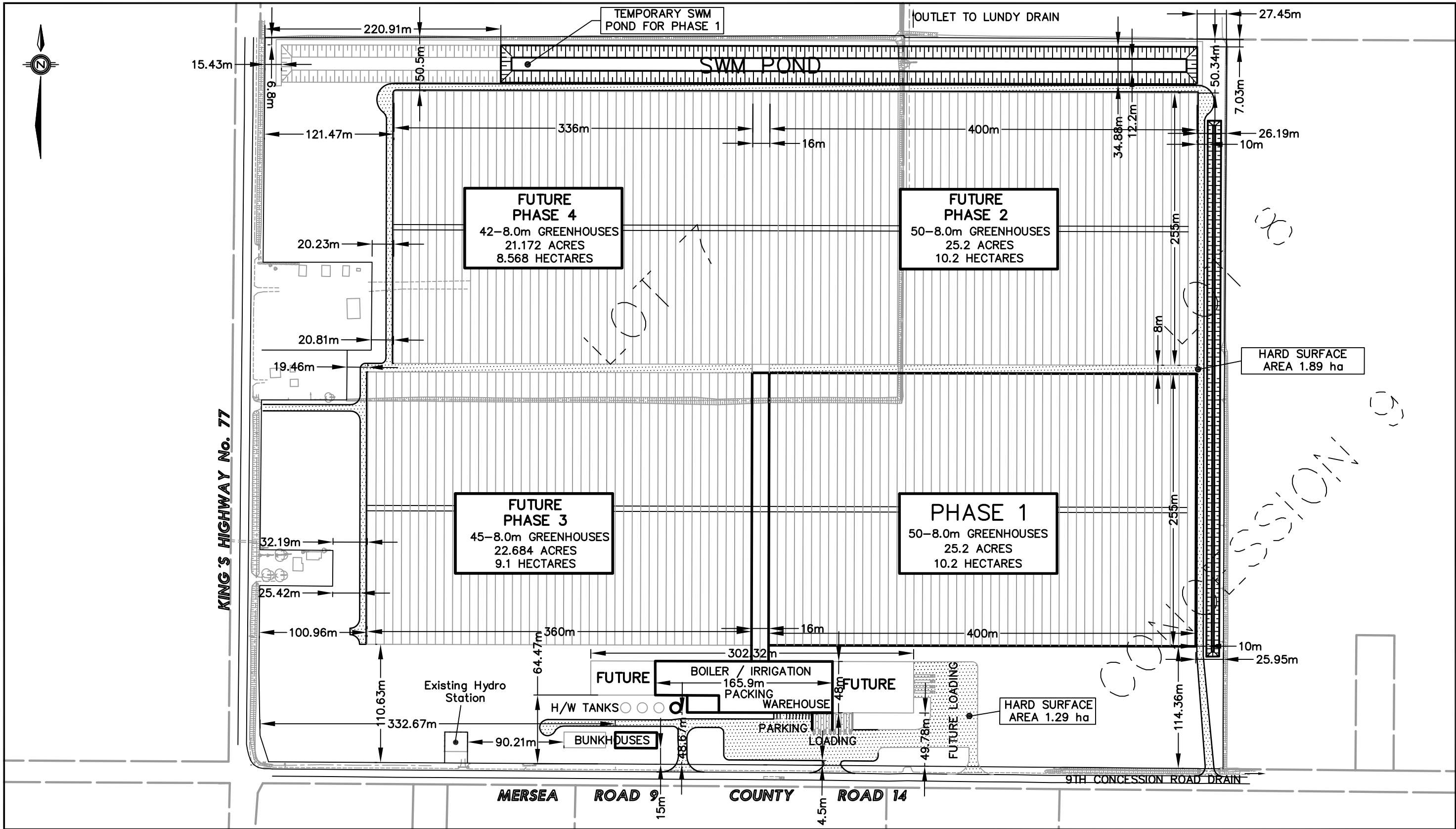
Notes

Lakeside Produce Greenhouses

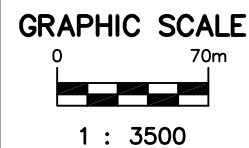
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TOTAL GREENHOUSE GROWING AREA PROPOSED IS 10.200 ha
 FUTURE TOTAL = 38.148 ha.
 PARKING SPACE REQUIREMENT = 1 SPACE PER 2 ha.
 THEREFORE A TOTAL OF 5 SPACES REQUIRED FOR PROPOSED AND A TOTAL OF 19 SPACES IS REQUIRED IN THE FUTURE



SITE DETAILS

TOTAL PROPERTY AREA =	59.915 ha.
EXISTING BUILDING AREA =	0.00 ha.
PHASE 1 BUILDING AREA =	11.16 ha.
PHASE 1 COVERAGE =	18.6%
FUTURE BUILDING AREA =	28.33 ha.
FUTURE COVERAGE =	65.9%

LUNDY DRAIN SECTION 65 FOR LAKESIDE PRODUCE GREENHOUSES
 COUNTY ROAD 14

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: JUNE 3RD, 2011

FILE No.:
D11-011

DRAWN BY: N.G.M.
 PLOT CODE: 1:1
 FILE: E11-002G.DWG

SITE PLAN