

By-law 19-81

ENGINEER'S REPORT
FOR THE CONSTRUCTION OF THE
CREEK ROAD MUNICIPAL DRAINAGE WORKS
TOWNSHIP OF THE FRONT OF LEEDS AND LANSDOWNE

A.J. Graham Engineering Consultants Ltd.
Box 917, R. R. 5
Ottawa, Ontario
K1G 3N3

Project No. 31112

March 12, 1982
Revised July 12, 1982
per Court of Revision

The Reeve and Members of Council
Township of Front of Leeds and Lansdowne
P.O. Box 129
Lansdowne, Ontario
KOE 1L0

REPORT FOR THE CONSTRUCTION OF THE
CREEK ROAD MUNICIPAL DRAINAGE WORKS,
INCLUDING BRANCHES A, B, C, D, E, AND F
AND A MAIN TILE HEADER LINE

I am pleased to present for Council's consideration the following Drainage Report for the Construction of the Creek Road Municipal Drainage Works including the Branches A, B, C, D, E, and F and the Main Tile Header Line. The Report is written under the authority of Section 4 of The Drainage Act, 1975.

SYNOPSIS OF REPORT

The body of the Report deals with the various aspects of Municipal Drainage including such items as Location, Inspection, Area Requiring Drainage, Allowances, Grant Structure, Future Maintenance, etc.

Once the By-Law has been passed the Municipality has no authority to alter the assessments or make any revisions which alter the intent of the Report under The Drainage Act, 1975.

It is therefore important that any desired changes relating to construction be requested at the Meeting to Consider the Report.

The property owners are requested to examine the entire Report as it relates to their own properties, with particular attention to the following:

SYNOPSIS OF REPORT (CONT'D)

1. Location of Properties

The description and ownership of the properties have been obtained from the last revised Municipal Assessment Rolls and may not be changed until the Assessment Rolls are next revised.

All assessed owners are asked to check the description and location of their property in this Report and point out any errors or omissions at the Meeting to Consider the Report.

2. Location of the Drain

All assessed owners are also requested to refer to the plans to confirm that the drains are located as desired on the particular properties.

3. Agricultural Land Designations (Annex "C")

Please note that non-agricultural lands listed in Annex "C" are denoted with an asterisk. These lands are not eligible for subsidy under The Drainage Act, 1975. Please note that the areas in Annex "C" are expressed in hectares (1 ha = 2.47 acres).

4. Disposal of materials

Refer to the material disposal schedules in the Special Provisions and ensure that the disposal locations, material spreading provisions, etc. are as desired on your particular property or properties.

5. Private Culverts

Refer to the Private Culverts section of the Special Provisions and ensure that you have been provided with the required number of culverts and that they are located as desired on your property or properties. Note that the lane width provided by new culverts is approximately 5 m (16 feet) unless specifically otherwise noted.

The "Annex" portion of the Report deals with the following:

Annex "A" - Estimated Construction, Allowance and Administration Costs

SYNOPSIS OF REPORT (CONT'D)

- Annex "B" - Schedule of Allowances (Land or Crop Damage, Land Allowance, etc.) to Affected properties
- Annex "C" - Schedule of Assessment (Estimated Individual Assessment)
- Annex "D" - Summary of Assessment
- Annex "E" - Plan and Profile

HISTORY

The Creek Road Municipal Drainage Works has no status under The Drainage Act, 1975, or its predecessors.

The area requiring drainage is however located within the watershed of the Smith-Bolger Municipal Drainage Works and outlets directly into that system near its outlet in the Wiltse Creek.

LOCATION

Branch "A"

Branch "A" commences in the west part of Lot 10, Concession 5 on the south side of the Township Road known as the Creek Road. The branch follows an easterly course on the south side of and parallel to the southern right of way limit of the road for approximately 90 m to the lot line between the west part of Lot 10 and the east part of Lot 10, Concession 5. From this point the branch turns south following a course on the west side of and parallel to the lot line between the west part of Lot 10 and the east part of Lot 10 for approximately 554 m to the north side of the concession line between Concessions 4 and 5. The drain then turns west following a course on the north side of and parallel to the northern limit of the concession line and continues westerly across the west part of Lot 10, the east

LOCATION (CONT'D)

Branch "A" (Cont'd)

part of Lot 9, and the west part of Lot 9 for a distance of approximately 540 m, to its outlet in the Smith-Bolger Municipal Drain.

Branch "A" has an overall length of approximately 1,184 metres.

Branch "B" (Lot 10, W. Pt., Concession 5)

Branch "B" commences in the west part of Lot 10, Concession 5 on the south side of the Township Road known as the Creek Road. The branch follows a westerly course on the south side of and parallel to the southern right-of-way limit of the road for approximately 88 m to the lot line between the west part of Lot 10 and the east part of Lot 9. From this point the drain turns southerly following a course on the east of and parallel to the lot line between the east part of Lot 9 and the west part of Lot 10, Concession 4 for about 583 m to its outlet in Branch "A" in the north side of the concession line between Concessions 4 and 5.

Branch "B" has an overall length of approximately 671 metres.

Branch "C" (Lot 9, E. Pt., Concession 5)

Branch "C" commences on the west side of the lot line between the west part of Lot 10 and the east part of Lot 9, Concession 5, and on the south side of the Township Road known as the Creek Road and follows a westerly course on the south side of and parallel to the southern right of way limit of the road for approximately 206 m. From this point the branch turns southerly following the lot line between the east part of Lot 9 and the west part of Lot 9, Concession 5 for a distance of approximately 623 m to its outlet in Branch "A" on the north side of the concession line between Concessions 4 and 5.

Branch "C" has an overall length of approximately 829 metres.

LOCATION (CONT'D)

Branch "C-1" (Lot 9, W. Pt., Concession 5)

Branch "C-1" commences on the south side of the Township Road known as Creek Road in the west part of Lot 9, Concession 5 and follows an easterly course outside of and parallel to the southern right of way limit of the roadway for a distance of 74 m to its outlet in Branch "C" in the west part of Lot 9, Concession 5.

Branch "C-1" has an overall length of approximately 74 metres.

Branch "D" (Lot, E.Pt, Lot 8, W,Pt. Lot 9, Concession 5)

Branch "D" commences about the midway point of the west part of Lot 9, Concession 5 on the south side of the Township Road known as Creek Road and follows a westerly course on the south side of and parallel to the southern right of way limit for approximately 114 m. From this point the branch turns south following a course on the east side of and parallel to the lot line between the west part of Lot 9 and the east part of Lot 8 for a distance of approximately 640 m. The drain then turns west into the east part of Lot 8, Concession 5 for a distance of approximately 27 m to its outlet in the Smith-Bolger Municipal Drain.

Branch "D" has an overall length of approximately 781 metres.

Branch "E" (Lot, W. Pt, Lot 8, E, Pt. Lot 8, Concession 5)

Branch "E" commences at the lot line between the west part of Lot 9, Concession 5 and the east part of Lot 8, Concession 5 on the south side of the Township Road known as the Creek Road and follows a westerly course on the south side of and parallel to the southern right of way limit of the road in the east part of Lot 8, Concession 5 for approximately 231 m. The branch then turns southerly following the lot line between the west part and the east part of Lot 8, Concession 5 for approximately 740 m then westerly into the west part of Lot 8, Concession 5 for a distance of 53 m to its outlet in the Smith-Bolger Municipal Drain.

Branch "E" has an overall length of approximately 1024 metres.

LOCATION (CONT'D)

Branch "F" (Lot, W.Pt. 8, Concession 8)

Branch "F" commences on the south side of the Township Road known as the Creek Road in the west part of Lot 8, Concession 5 and follows a southerly course on the east side of and parallel to the lot line between Lots 7 and 8, Concession 5 to its outlet at the southerly side of the concession line between Concessions 4 and 5 in the Smith-Bolger Municipal Drain.

Branch "F" has an overall length of approximately 828 metres.

Main Tile Header Line

The Main Tile Header Line commences approximately 100 m north of the concession line between Concessions 4 and 5 in the west part of Lot 10, Concession 5 at the lot line between the east part and the west part of Lot 10. The header follows a westerly course roughly parallel to the concession line between Concessions 4 and 5 across the west part of Lot 10, the east part of Lot 9, the west part of Lot 9, the east part of Lot 8 and the west part of Lot 8 to its outlet in Branch "F" by means of a pumping unit installed at the southwest extremity of Lot 8, Concession 5.

The Main Tile Header Line has an overall length of approximately 1068 metres, and passes under Branches "B", "C", "D" and "E" but provides no access for surface flows other than seepage.

Further to the locations as detailed above for the Branches "A", "B", "C", "C-1", "D", "E", "F" and the Main Tile Header Line, additional reference may be made to the plan view of the project on Drawing 31112-1.

INSPECTION

From an inspection of the area and discussions with the resident property owners the following observations were noted.

INSPECTION (CONT'D)

Watershed Description

The watershed basin of the Creek Road Municipal Drainage Works is generally elongated with a flow pattern from northeast to southwest. It commences in Lot 14, Concession 5, and lies sloping generally southwesterly across Lot 14 to Lot 8 in Concession 5.

The overall length of the proposed drainage system including all the Branches is approximately 6459 metres and provides outlet for approximately 405.95 hectares.

The catchment area of the drainage system features a massive rock outcropping of what is indicated to be sandstone on the north side of the Creek Road and a flat predominantly clay plain to the south of the Creek Road. The clay plain features at least two sandy beach ridges which have most likely evolved from post glacial waters.

Soils

The catchment area is dominated by two major soils groups; Rockland occupying the area north of the Creek Road and Napanee clay occupying the flat basin area south of the Creek Road. Within the Rockland area on the north side of the Creek Road Napanee clay with varying depths to bedrock has been mapped.

Rockland

Rockland is as the name may suggest of limited use for agriculture although it may well be employed as a source of pasture land.

Napanee Clay

The Napanee clay soils are described as poorly drained clay-textured soils fairly low in organic content.

The topography is commonly flat to depressional as is the case with the area mapped as Napanee clay within the Creek Road drainage basin. It is probable that the soil was deposited by post glacial waters at the western extremity of the Champlain Sea.

Napanee clay by virtue of its flat topography tends to feature poor natural drainage.

With proper management and drainage this soil has excellent potential for agriculture.

INSPECTION (CONT'D)

Soils (Cont'd)

Soil Capability for Agriculture

The Canada Land Inventory indicates the soil capability range as follows:

Approximately 35% of the soils in the catchment area have a Class 7 designation with a (P) stoniness and an (R) shallow depth to bedrock limitation.

Approximately 35% of the soils in the catchment area have a Class 4 designation with an (S) soil limitation restriction. The limitation may include undesirable structure, low permeability, restricted rooting zone, low natural fertility, low moisture holding capacity or salinity.

The remaining 30% of the catchment area and the entire area requiring drainage is designated as Class 3 with a (W) wet lands limitation. The subclass W designation describes lands adversely affected by excess water other than from flooding. The excess water is generally due to poor drainage, a high water table, seepage or run-off from surrounding areas.

Channel Inspection

The existing channels of the Creek Road Municipal Drainage Works are quite shallow and of limited cross-section. The present profile depth of the channels throughout the area requiring drainage precludes the installation of systematic under drainage. The deficiency of surface drainage capability in the channels was evidenced by the flooded conditions of the lands adjacent to the channels.

Overtopping of ditch banks as a result of deficient outlet capabilities in the channels and the absence of lateral secondary drainage systems have severely reduced the croppability and the trafficability of the adjacent lands. This was evidenced by the post-harvest conditions of the fields from the west part of Lot 8 to the east part of Lot 10, Concession 5.

Seepage from the rock outcrop to the north of the area requiring drainage appears to be further aggravating the wet condition of the fields on the south side of the Creek Road.

INSPECTION (CONT'D)

Channel Inspection (Cont'd)

Ponding in the fields adjacent to the channels was evident throughout the area requiring drainage.

Land Use

Land use throughout the catchment area is predominantly agricultural. Drainage deficiencies, however, have severely reduced the intensity of the farm operation within the area requiring drainage.

The land use potential for major farming operations throughout the area requiring drainage based on the Canada Land Inventory Soil Capability for Agriculture, the Soil Survey of Carleton County, and an examination of the proposed farm practises is excellent.

It is estimated that with proper management and drainage practices approximately 85 ha (210 acres) can be brought to full agricultural production.

RECOMMENDATIONS

It is my recommendation that the Creek Road Municipal Drainage Works be constructed in accordance with the accompanying Plan, Profile and Specifications. I feel the recommendations contained in this Report will provide the owners with the degree of drainage necessary for a viable farming operation.

Alignment

The Municipal Drain is to be comprised of Branch "A" open channel/tile header, Branch "B" open channel/tile header, Branch "C" open channel/tile header, Branch "D" open channel/tile header, Branch "E" open channel/tile header, Branch "F" open channel, and the Main Tile Header including breather pipes, inspection wells, pump system, and pump power supply all as shown on the plans, profiles and specifications for the Report.

The drains shall be constructed generally to the alignment as noted on Plan No. 31112-1 and shall follow generally the existing course unless otherwise specified. Any changes in alignment must be requested at the Meeting to Consider the Report.

RECOMMENDATIONS (CONT'D)

Construction Provisions - General

All owners having the drain passing through their lands are requested to review all construction provisions for their lands, including the Schedules attached to the Special Provisions section at the rear of this Report. Any requests for changes to any of these provisions must be made at the Meeting to Consider the Report.

Design

The calculated flows for the Creek Road Municipal Drainage Works were determined so as to provide improved drainage corresponding to the basic curve for grain crops, Curve C of the SCS Agricultural Drainage Curves. Application of this curve results in a design flow rate corresponding to a storm re-occurrence of approximately one in less than two years.

The Creek Road Municipal Drainage Works shall be constructed as per the design dimensions as specified on Drawing No. 31112-2 and 31112-3.

By constructing the channels sufficiently deep, and with side slopes flat enough to resist erosion and the installation of the Main Tile Header Line in accordance with the drawings, these drains will:

- a) provide subsurface drainage outlet to all the lands in the area requiring drainage (mechanical outlet W.Pt. 10 to W.Pt. 8, gravity outlet E.Pt. Lot 10);
- b) provide for improved surface drainage of lands in the area;
- c) allow for improved trafficability and land use;
- d) minimize channel and bank erosion.

To minimize field erosion, a 3 m buffer strip is recommended adjacent to the channels. It is recommended that this strip not be cultivated so that it may intercept field erosion.

Disposal of Material

The excavated materials shall be placed as per the Earth Disposal Schedule detailed in the Special Provisions section of the Report.

RECOMMENDATIONS (CONT'D)

Seeding of Ditch Banks

Ditch bank seeding is required under the terms of this Report and all work under this item shall be as per Form GEC 300, Section 316.

Private Culverts

Private culverts as detailed in the Special Provisions shall be supplied and installed by the Contractor and paid for by the Drain.

Private culverts have been provided where required and they are sized in accordance with agricultural drainage criteria.

Erosion Control

In order to restrict erosion in the drainage system, rip rap has been recommended at bends in the course, at the junction of the branches and at the end of fill sections and culverts.

Private Culverts

The private culverts as detailed in the Special Provisions will be supplied and installed by the Contractor in accordance with the schedule as detailed in the Special Provisions.

LOCATION OF TILE OUTLETS

Although no existing tile outlets are anticipated on this project, owners may be aware of old field tile outlets in some portions of the system and they are requested to mark any such locations. They will be reinstated as a part of the work to be done under this Report.

AREA REQUIRING DRAINAGE

The area requiring drainage under the terms of this Report for the Creek Road Municipal Drainage Works may be described as follows:

The area bounded on the north by the Creek Road which is located in the 5th Concession of the Township of the Front of Leeds and Lansdowne and in the south by the concession line between Concession 4 and 5 and encompassing the east part of Lot 10, the west part of Lot 10, the east part of Lot 9, the west part of Lot 9, the east part of Lot 8 and the west part of Lot 8 within the aforementioned north/south boundaries.

AGRICULTURAL LAND DESIGNATION

Assessments for agricultural and non-agricultural lands are detailed in Annex "C" in accordance with Section 37 of The Drainage Act, 1975. Non-agricultural lands are denoted by an asterisk in Annex "C".

ALLOWANCES

Land Allowance: Section 29(a), The Drainage Act, 1975

Allowances for Land, as detailed in Annex "B", hereto attached will, in my opinion, adequately compensate the property owners indicated for the lands required for the construction of this drainage works.

Land or Crop Damage: Section 29(b), The Drainage Act, 1975

Allowances for Land or Crop Damage as detailed in Annex "B", hereto, will in my opinion, adequately compensate the property owners indicated for Land or Crop Damage caused by the construction of this drainage project.

In order to facilitate the disposal of material the property owners are advised to remove all crops adjacent to the drains prior to the start of construction.

LATERALS

It should be noted that the proposed drainage system will not immediately improve all wet areas unless lateral drains are constructed by the property owners.

Lateral drains, Section 1(16), The Drainage Act, 1975 are defined as "a drain that is designed for the drainage of one property and that begins and ends on the same property.

The construction and maintenance of all lateral drains is the responsibility of the individual property owner and is not eligible for subsidy under the present Municipal grant structure.

ASSESSMENTS

Under the terms of this Report assessments are reflected under two categories, Benefit and Outlet, and are defined as follows:

Benefit: Section 1(1), The Drainage Act, 1975

Benefit by definition under The Drainage Act, 1975, Section 1(1) is "the advantages to any lands, roads, buildings or other structures from the construction, improvement, repair or maintenance of a drainage works such as will result in a higher market value or increased crop production or improved appearance or better control of surface or subsurface water, or any other advantages relating to the betterment of lands, roads, buildings or other structures."

The methodology and amount of assessment per individual property is determined on the basis of the above definition, with consideration of soils and soils capability for agriculture, and the potential for land improvement and/or land reclamation.

ASSESSMENTS (CONT'D)

Outlet: Section 23, The Drainage Act, 1975

Lands and roads which may be assessable for outlet liability are those lands that use a drainage works as an outlet or for which after construction or improvement of the drainage works an improved outlet is provided. The outlet or improved outlet may be provided either directly or indirectly through any other drainage works, a swale, ravine, creek or watercourse.

Outlet liability means the part of the cost of construction, improvement or maintenance of a drainage works that is required to provide such outlet or improved outlet.

GRANTS

Under Sections 87, 88, 89 and 90 of The Drainage Act, 1975, a provincial grant of one-third of the cost of the project assessable to agricultural lands may be obtained.

Under the Eastern Ontario Subsidiary Agreement, there may be federal assistance available for this project. Based upon the general criteria guidelines in the Agreement, the amount of federal grant is estimated at approximately 30% of the total costs estimated in this Report.

agr. assess

The Schedule of Assessment, Annex "C", has been computed based upon an estimated provincial grant of 33 1/3% and an estimated federal grant of 30%, for a total grant amount of 63% in respect of assessments against agricultural lands.

✓

DISTRIBUTION OF COSTS

The estimated costs for this construction are apportioned to the properties responsible for Benefit and Outlet.

The detailed estimated Schedule of Assessment is attached in Annex "C" hereto, together with the estimated abatements of grants and allowances and my estimate of the net cost to each land owner in the project.

The estimated project cost (Annex "A") and Assessment and Grant amounts (Annex "C") are estimates only. The final assessments will be determined upon completion of the project based upon the actual project costs and actual grants secured with individual final assessment amounts determined pro-rata with the assessments in this Report and as may be revised by the Court of Revision.

WATER GATES

Fence lines crossing the drain tend to collect debris and often cause a restriction in flow. Further, they are often damaged during spring flooding.

I therefore suggest that the resident property owners install water gates as detailed in Standard Drawing No. 7920, after the completion of construction.

Water gates must be removed each fall by the respective property owners.

FUTURE MAINTENANCE

Future maintenance of this project shall be the responsibility of the Township of the Front of Leeds and Lansdowne.

FUTURE MAINTENANCE (CONT'D)

Future maintenance costs shall be levied upstream from the point of maintenance pro-rata with the assessments in the current By-Law.

Special Benefit Assessments shall not be considered when pro-rating for future maintenance.

The Contractor shall be responsible for making good any construction defects found in the work for a period of one year from the date of final acceptance of the work. This obligation shall include such items as repair of culverts and rip rap but shall not include for normal erosion or sedimentation of the drain.

The repair and maintenance of all culverts installed under this Report shall be the responsibility of the Township of the Front of Leeds and Lansdowne. The cost of all repairs subsequent to the expiry of the Guaranteed Maintenance will be charged to the drain as a maintenance item.

Future maintenance of the hydro line and pump unit shall be the responsibility of the W.Pt. Lot 8, the E. Pt. Lot 8, the W. Pt. Lot 9, the E. Pt. Lot 9, and the W. Pt. of Lot 10, all in Concession 5, all within the area requiring drainage and south of the Creek Road.

WORKING SPACE

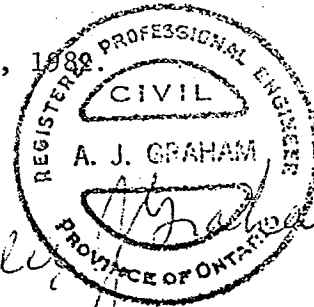
For the purpose of this construction and for future maintenance purposes the working space shall be 61 m (200 feet) on each side of the drain.

The designated working area shall be deemed to include access routes for fuel, service and material haul routes that may be located outside of the designated width.

PLANS, PROFILES AND SPECIFICATIONS

The Plans, Profiles and Specifications form a part of this Report and are attached in Annex "E". The construction of this drainage project shall be in accordance with M.T.C. General Conditions Form M-100, Form GEC 200, Form GEC 300, and Special Provisions Form GEC 500.

Respectfully submitted this 12th day of March, 1982.
Revised July 12, 1982 per Court of Revision.



Alex J. Graham, P. Eng.

ANNEX "A"

ESTIMATED COSTS

CREEK ROAD MUNICIPAL DRAINAGE WORKS

TOWNSHIP OF THE FRONT OF LEEDS AND LANSDOWNE

Construction

1 Clearing	Lump Sum	\$ 3,275.00 ✓
2 Earth Excavation & Spreading	11,966 m ³	17,949.00 ✓
3 Fencing	188 m	752.00 ✓
4 Private Culverts	2 Units	2,315.00 ✓ ←
6 Rip Rap	182 m ³	5,460.00 ✓
7 Seeding	27,809 m ²	4,171.35 ✓
8 4 Sediment Control Sites	4 Sites	1,000.00 ✓

Supply & Install:

9 - 400 mm dia. x 213.6 m concrete tile		7,008.21 ✓
10 - 350 mm dia. x 221.75 m concrete tile		5,820.94 ✓
11 - 300 mm dia. x 174.0 m concrete tile		3,499.14 ✓
12 - 250 mm dia. x 161.0 m concrete tile		2,379.58 ✓
13 - 200 mm dia. x 126.25 m concrete tile		1,348.36 ✓
14 - 150 mm dia. x 123.1 m concrete tile		806.30 ✓
21 - 2 Inspection Wells (Lump Sum)	Lump Sum	900.00 ✓
16 - 400 mm dia. x 16 m CSP (1.3 mm)	2 Units	609.90 ✓
17 - 300 mm dia. x 16 m CSP (1.3 mm)	1 Unit	458.14 ✓
18 - 250 mm dia. x 8 m CSP (1.3 mm)	Lump Sum	250.00 ✓
19 - 150 mm dia. x 8 m CSP (1.3 mm)	Lump Sum	200.00 ✓
15 - 150 mm dia. x 798.2 m Plastic Tile wrapped in Filter Guard	Lump Sum	4,789.20 ✓
20 - 200 mm dia. x 30 m CSP with Rodent Gate	6 x 5 m Units	1,110.00 ?
22 - Breather Pipes (7 Units)	Lump Sum	700.00 ✓
Pump Assembly (Supply & Install)	Lump Sum	15,881.00 ✓ ^{8533⁰⁰} ^{1344⁰⁰} _{7344.00}
Contract Administration		5,000.00 ✓ <i>was supervisor</i>
Construction Contingencies		3,082.51 ✓
		<hr/>
		88,765.63 \$ 88,765.63

Sub-Total (Construction) Carried Forward \$ 88,765.63

Allowances

Land Allowance	\$ 3,015.86	
Land or Crop Damage	12,056.07	
Allowance for Right of Way	<u>1,853.00</u>	
	16,924.93 ✓	16,924.93

Administration

Engineer's Fees (Survey, Plan and Report)	\$15,500.00 ✓	
Court of Revision	800.00	
Printing	<u>700.00</u>	
	17,000.00 ✓	<u>17,000.00</u>

TOTAL ESTIMATED COST

\$122,690.56

INITIATING MUNTY FT LEEDS+LANDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

ANNEX B-SCHEDULE OF ALLOWANCES
 MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82

NO	OWNER	LT CON DESCR	BRANCH	SPECIAL SEVERANCE,	LAND	CROP	TOTAL
1	JOSEPH CORKEY	7 5 PT.	BRANCH F		7.41	7.41	14.82
2	HERBERT R HORTON	8 5 E.PT.	BRANCH D BRANCH E BRANCH E MAIN TILE HEADER		14.82 333.45 185.25	74.10 666.90 518.70 629.85	2423.07
3	LINDA+GEORGE HORTON	8 5 W.PT.	BRANCH E BRANCH F MAIN TILE HEADER		7.41 333.45	7.41 1037.40 815.10	4053.77
4	H,L+G HORTON	9 5 E.PT.	BRANCH B BRANCH A BRANCH C BRANCH C MAIN TILE HEADER			778.05 296.40 778.05 666.90	3075.15
5	GERALDINE E HORTON	9 5 W.PT.	BRANCH A BRANCH C		74.10	185.25 1185.60	

INITIATING MUNTY FT LEEDS+LANDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82

ANNEX B-SCHEDULE OF ALLOWANCES

NO OWNER	LT CON DESCR	BRANCH	SPECIAL SEVERANCE,	LAND	CROP	TOTAL
		BRANCH D		125.97	259.35	
		BRANCH D		155.61	555.75	
		BRANCH D		259.35	481.65	
		MAIN TILE HEADER			778.05	4060.68
6 JUDITH M HORTON	10 5 W.PT.	BRANCH A		111.15	370.50	
		BRANCH A		444.60	592.80	
		BRANCH A		74.10	333.45	
		BRANCH B		259.35		
		BRANCH B		74.10	333.45	
		MAIN TILE HEADER			703.95	3297.45

MUNICIPALITY TOTAL

FRONT OF LEEDS AND LANSDOWNE

1853.00 0.00 3015.87 12056.07 16924.94

INITIATING MUNTY FT LEEDS+LANDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82

ANNEX C-SCHEDULE OF ASSESSMENT

OWNER/CN LT LT DESCR	HA *BRANCH	BENEFIT	OUTLET	BASIC	GRANT	ALLOW	I
1 JOSEPH CORKEY 5 7 PT.	BRANCH F .30	0.00 0.00	0.00 36.63 ✓	36.63 ✓	23.08	14.82 14.82 ✓	-
2 HERBERT R HORTON 5 8 E.PT.	BRANCH D BRANCH D BRANCH E BRANCH E MAIN TILE HEADER BRANCH D BRANCH E BRANCH E 35.25	0.00 0.00 4715.70 175.97 12368.31 0.00 0.00 0.00 17259.98 ✓	0.00 420.22 34.13 211.93 0.00 262.64 1055.07 2479.64 4463.63 ✓	682.96 ✓ 113685.87 ✓	88.92 0.00 1000.35 703.95 629.85 0.00 0.00 0.00 21723.61 ✓	2423.07 ✓	5614

- Note: 1. Main Tile Header is designated "Special Assessment".
2. Assessments revised as per decision of Court of Revision, July 12, 1982.

INITIATING MUNTY FT LEEDS+LANDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

ANNEX C-SCHEDULE OF ASSESSMENT MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82

OWNER/CN LT LT DESCR	HA *BRANCH	BENEFIT	OUTLET	BASIC	GRANT	ALLOW
3LINDA+GEORGE HORTON 5 8 W.PT.	BRANCH E	0.00	0.00			14.82
	BRANCH E	0.00	508.64			0.00
	BRANCH F	3245.41	809.06			1370.85
	MAIN TILE HEADER	15313.15	0.00			2668.10
	BRANCH E	0.00	1589.51			0.00
37.55		18558.56	2907.21	21465.77	13523.44	4053.77
4H, L+G HORTON 5 9 E.PT.	BRANCH B	0.00	344.86			778.05
	BRANCH A	509.23	4.26	513.49		407.55
	BRANCH C	4103.15	43.92			296.40
	BRANCH C	916.21	62.10			926.25
	MAIN TILE HEADER	10012.44	0.00			666.90
	BRANCH C	0.00	265.70			0.00
	BRANCH C	0.00	1718.32			0.00
43.55		15541.03	2439.16	17980.19	11327.52	3075.15

Note: 1. Main Tile Header is designated "Special Assessment".

2. Assessments revised as per decision of Court of Revision, July 12, 1982.

INITIATING MUNTY FT LEEDS+LANDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

PG

MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82

ANNEX C-SCHEDULE OF ASSESSMENT

OWNER/CN LT LT DESCR	HA *BRANCH	BENEFIT	OUTLET	BASIC	GRANT	ALLOW
5GERALDINE E HORTON	BRANCH A	375.22	0.00			259.35
5 9 W.PT.	BRANCH C	774.57	191.50			1185.60
	BRANCH D	2271.03	121.20			385.32
	BRANCH D	2111.66	1327.29			711.36
	BRANCH D	159.37	210.11			741.00
	MAIN TILE HEADER	11190.38	0.00			778.05
	BRANCH C	0.00	527.92			0.00
	BRANCH D	0.00	3834.54			0.00
40.30		16882.23	6212.56	23094.79	14549.72	4060.68
6JUDITH M HORTON	BRANCH A	375.22	9.11			481.65
5 10 W.PT.	BRANCH A	643.24	25.94			1037.40
	BRANCH A	160.81	13.45			407.55
	BRANCH B	3846.35	119.85			259.35
	BRANCH B	167.23	119.96			407.55
	MAIN TILE HEADER	10012.44	0.00			703.95
23.60		15205.29	288.31	15493.60	9760.97	3297.45

Note: 1. Main Tile Header is designated "Special Assessment".

2. Assessments revised as per decision of Court of Revision, July 12, 1982.

INITIATING MUNTY FT LEEDS+LANDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82
 ANNEX C-SCHEDULE OF ASSESSMENT

OWNER/CN LT LT DESCR	HA *BRANCH	BENEFIT	OUTLET	BASIC	GRANT	ALLOW	I
7CHARLES B LANDON 5 10 NW PT	BRANCH C 8.00	0.00 0.00	828.10 828.10	828.10 ✓	521.70	0.00 0.00	30
8DAVID+SYLVIA WARNER 5 10 E. PT.	BRANCH A BRANCH A BRANCH B BRANCH C 33.55	4824.29 0.00 0.00 0.00 4824.29 ✓	528.87 ✓ 134.46 ✓ 1698.72 1428.48 3790.53 ✓	8614.82 ✓	5427.34	0.00 0.00 0.00 0.00 0.00	318
9DOREEN VERA HAMPTON 5 10 SW PT.	BRANCH B BRANCH C BRANCH C 13.10	0.00 0.00 0.00 0.00	1372.71 258.89 745.30 2376.90 ✓	2376.90 ✓	1497.45	0.00 0.00 0.00 0.00	87

Note: 1. Main Title Header is designated "Special Assessment".

2. Assessments revised as per decision of Court of Revision, July 12, 1982.

INITIATING MUNTY FT LEEDS+LANDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

ANNEX C--SCHEDULE OF ASSESSMENT MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82

OWNER/CN LT LT DESCR	HA *BRANCH	BENEFIT	OUTLET	BASIC	GRANT	ALLOW	N
10MARTIN VANDENKERKHOF 5 11 PT	BRANCH A 2.50	0.00 ✓ 0.00 ✓	112.05 ✓ 112.05 ✓	112.05 ✓	70.60	0.00 0.00	4
12ROBERT+MARJORY FELL 5 11 S.PT 11	BRANCH A BRANCH C 40.65	0.00 ✓ 0.00 ✓ 0.00 ✓	1246.00 736.67 1982.67	1982.67	1249.08	0.00 0.00 0.00	73
13BRUCE A.MCCREADY 5 12 N.PT.	BRANCH A 25.00	0.00 ✓ 0.00 ✓	1120.49 ✓ 1120.49 ✓	1120.49 ✓	705.91	0.00 0.00	41

Note: 1. Main Title Header is designated "Special Assessment".

2. Assessments revised as per decision of Court of Revision, July 12, 1982.

INITIATING MUNTY FT LEEDS+LANDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

PG

ANNEX C-SCHEDULE OF ASSESSMENT MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82

OWNER/CN	LT	LT	DESCR	HA	*BRANCH	BENEFIT	OUTLET	BASIC	GRANT	ALLOW
23UNOPENED RD	4	9	LOT10/CON5		BRANCH A	0.00	2.16			0.00
					BRANCH A	0.00	8.39			0.00
					BRANCH A	0.00	26.08			0.00
				1.45*		0.00	36.63	36.63	0.00	0.00
24UNOPENED RD	5	12	/LOT 13		BRANCH A	0.00	143.42	143.42	0.00	0.00
				2.40*		0.00	143.42	143.42	0.00	0.00
25CTY RD #	3				BRANCH A	0.00	206.19	206.19	0.00	0.00
	5	13	/LOT 14		2.30*	0.00	206.19	206.19	0.00	0.00

MUNICIPALITY TOTAL- FT LEEDS+LANDSDOWNE

88271.39 34419.17 122690.56 74379.96 16924.94 31385

AGR HA 396.45
 NON-AG HA (*) 9.55

Note: 1. Main Title Header is designated "Special Assessment".

2. Assessments revised as per decision of Court of Revision, July 12, 1982.

INITIATING MUNTY FT LEEDS+ NDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82

ANNEX C-SCHEDULE OF ASSESSMENT

OWNER/CN LT LT DESCR	HA *BRANCH	BENEFIT	OUTLET	BASIC	GRANT	ALLOW
14SHIRLEY REID 5 12 SE PT.	BRANCH A 5.10	0.00 0.00	228.59 228.59	228.59 ✓	144.01	0.00 0.00
15BRUCE A.MCCREADY 5 12 SW PT.	BRANCH A 6.50	0.00 0.00	291.32 291.32	291.32 ✓	183.53	0.00 0.00
16MORTIMER CROSS 5 13 PT.	BRANCH A .25*	0.00 0.00	11.20 11.20	11.20 ✓	0.00	0.00 0.00
17ALVOHN CROSS 5 13 N.PT.	BRANCH A 39.70	0.00 0.00	1779.36 1779.36	1779.36 ✓	1121.00	0.00 0.00
18SHIRLEY REID 5 13 S.PT.	BRANCH A 3.15	0.00 0.00	141.18 141.18	141.18 ✓	88.94	0.00 0.00

Note: 1. Main Title Header is designated "Special Assessment".

2. Assessments revised as per decision of Court of Revision, July 12, 1982.

INITIATING MUNTY FT LEEDS+LANDSDOWNE
 PROJECT- CREEK ROAD FILE 31112
 A J GRAHAM ENGINEERING CONSULTANTS LTD

MUNICIPALITY- FT LEEDS+LANDSDOWNE DATE- MAR 12/82

ANNEX C-SCHEDULE OF ASSESSMENT

OWNER/CN LT LT DESCR	HA *BRANCH	BENEFIT	OUTLET	BASIC	GRANT	ALLOW	PG
19ALICE MONKS 5 14 N.E.PT.	BRANCH A 4.70	0.00 0.00	210.66 210.66	210.66	132.72	0.00 0.00	7
20M.C.KELLY 5 14 PT.	BRANCH A .40*	0.00 0.00	17.93 17.93	17.93		0.00 0.00	1
21WILMA ADAMS 5 14 N.W.PT.	BRANCH A 13.00	0.00 0.00	582.66 582.66	582.66	367.08	0.00 0.00	21
22TWP RD.(CREEK RD) 5 8 LOT 11	BRANCH A BRANCH A BRANCH B BRANCH C BRANCH D BRANCH E BRANCH F 2.75*	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	19.44 49.30 274.54 149.88 209.09 635.83 2873.72 4211.80	4211.80	0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	4211

- Note: 1. Main Title Header is designated "Special Assessment".
2. Assessments revised as per decision of Court of Revision, July 12, 1982.

ANNEX "D"

SUMMARY OF ASSESSMENT

CREEK ROAD MUNICIPAL DRAINAGE WORKS

TOWNSHIP OF THE FRONT OF LEEDS AND LANSDOWNE

Physical Description

Total Area Assessed 405.95 ha (1,003 acres)
Total Length of Drain 6459 metres (21,056 feet)

Estimated Cost of the Work

Construction	\$ 86,450.62) 88,765.62 ✓
Private Culvert	2,315.00	
Allowances	16,924.94 ✓	
Engineer's Report Costs	15,500.00 ✓	
Other	<u>1,500.00</u> ✓	
Total Estimated Cost	\$122,690.56	

Analysis of Assessment

Agricultural Lands	\$118,063.39
Non-Agricultural Lands	29.13
Municipal	4,598.04

Estimated Grant	\$ 74,379.96
Allowances	\$ 16,924.94
Estimated Net Assessment	<u>\$ 31,385.66</u>
	<u>\$122,690.56</u>