

Date May 15, 1974

APPROVED SCHEDULE FOR 1974 - 75

Page 5 of 15

PROGRAM OF CONSTRUCTION

DISTRICT No. 2, LONDON

W.P. No.	HWY. No.	Type of work	LOCATION	Date of		Tend. open.	CONT. No.
				Advert.	Award.		
163-63-01 163-63-03	24	G.D. GB. & Pav.	Hwy. 6 N'y to C.N.R. Crossing in Simcoe, 3.0 Mi. Incl. New Access to Simcoe Patrol Yard. <i>Cayuga materials</i> <u>\$18,543</u>	Jan. 29/75 <i>Jan. 29/74</i>	Mar. 5/75 <i>Mar. 5/74</i>	49 <i>36</i>	<i>74-138</i>



Memorandum

Cont 74-138

To: Mr. K. G. Selby, Supvr. Eng.
Soil Mechanics Section
Geotechnical Office
West Bldg., Downsview

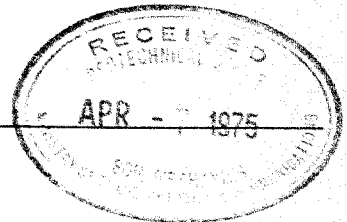
From: Structural Planning Office
Southwestern Region

Attention:

Date: April 3, 1975

Our File Ref.

In Reply to



Subject: W.P. 163-63-01, Contract No. 74-138
Grading, Drainage, G.B. and Hot Mix Pav.
From Hwy. 6 northerly to C.N.R. Crossing in Simcoe
Highway 24
District 2, London

Within the above contract is an existing 3' x 3' concrete culvert at Sta. 349 + 84. This culvert is to be replaced with a 7'-4" x 5'-4" Structural Plate Pipe Arch. The approximate location of the new culvert will be Sta. 349+91.

At a recent meeting, the District has proposed the construction of a retaining wall 50' west of Hwy. centre-line, from approximately Sta. 349+47 to Sta. 350+09.

Would you kindly arrange to have a foundation investigation carried out for the above noted retaining wall.

Enclosed are one photocopy each of sheets 1, 5, 12 and 41 of the contract drawings. The approximate location of the retaining wall is marked in red on sheet 12. Attached also are two prints showing cross sections of highway (present and proposed) on sheet 1 and a longitudinal section at 50' west of highway centreline on sheet 2.

For location of the services at site and permission to enter private property outside our right-of-way, please contact Mr. Ron MacDonald, Simcoe Patrol Yard, telephone 426-0561. Mr. MacDonald should also be contacted for the location of the retaining wall.

D. Tyagi

D. Tyagi
Structural Planning Engineer

DT:sm
Enc.

cc A. Crowley
J. Anderson
J. Forster



W. P. 163-63-040 DIST. 2 HWY. 24 TYPE OF WORK Struct.
DESCRIPTION Retaining Wall, 1.6 miles North of Hwy. 6
PRESENT PROGRAM YEAR N/A DATE INITIATED Apr. 17/75

As requested by the District the project noted above has been added to the 1974 Program and grouped with W. P. 163-63-01 " G.D.G.B. & Pav. " of Hwy. 24, from Hwy. 6 N'ly to C.N.R. (Contract No. 74-138)

W. P. No. 163-63-040 Group No. 163-63-01
JG/JEC/gm



REMARKS:

Pre-Eng. for this contract is complete.

PRE-CONTRACT ENGINEERING SCHEDULE

1. STATUS REPORT	21. STRUCT. QUANT'S COMPLETE
2. ROUTE PLANNING STUDIES	22. STR. PLANS & D4 TO S.D.O.
3. TRAFFIC ISSUED	23. N.W.P.A. APPL'N SUBM'D.
4. PRE-DESIGN PHOTOGRAMMETRY	24. N.W.P.A. APPROVAL REC'D.
5. DRAINAGE STUDY ISSUED	25. SOILS DESIGN REPORT
6. DESIGN CRITERIA	26. 40' TO 1" PLANS ISSUED
7. TITLE SEARCH REQUEST	27. CO-ORDINATED ALIGNMENT
8. PRE-DESIGN REPORT	28. STRUCTURE SITE GEOMETRICS
9. FINAL ALIGNMENT REQUEST	29. INTERSECTION DESIGN COMP.
10. DESIGN X-SECTIONS REQ'T.	30. FINAL PROPERTY REQUEST
11. DESIGN X-SECTIONS ISSUED	31. R.T.C. APPL'N. SUBM'D.
12. PLANS & PROF. TO S.D.O.	32. R.T.C. APPROVAL REC'D.
13. PLANS & PROF. ISSUED	33. DETAIL DESIGN REPORT
14. E & G PLANS ISSUED	34. ILLUMINATION DESIGN COMP.
15. ENG. & TITLE RECORDS	35. SYSTEMS DESIGN CONSULTS.
16. FOUNDATION REPORT REQ'D.	36. PERCENT COMPLETE S.D.O.
17. FOUNDATION REPORT ISSUED	37. STRUCT. DESIGN CONSULTS.
18. STRUCT. PLANNING REPORT	38. PERCENT COMP. STR. DESIGN
19. PRELIM. STRUCTURE PLANS	39. DOCUMENTS IN SCRUTINY
20. STRUCTURE DESIGN COMPLETE	40. PROPERTY CLEARANCE

PROGRAM MANAGEMENT ENGINEER

PROGRAM CONTROL ENGINEER

DATE

DATE

Mr. A. Matt
Reg. Structural Planning Engineer
Southwestern Region
London, Ontario

Soil Mechanics Section
Geotechnical Office
West Building, Downsview

April 21st, 1975

PROPOSED RETAINING WALL
STA: 349+47 - STA: 350+09, OFFSET 50' LT.
COUNTY OF NORFOLK, TWP. OF WOODHOUSE
HWY. #24, DISTRICT #2 (LONDON, ONT.)
JNT. 74-138; WP: 163-63-01

The reconstruction of existing Hwy. #24 is presently underway at this location. The new profile grade will be at Elev. 717' some 8 ft. over the existing grade (Sta: 350+00).

A small concrete dam is located approximately 53 feet left of the of the roadway. Considering a 2:1 side slope, the toe of the new fill will be located beyond the above-mentioned dam.

Originally, relocation (some 15 feet toward west) of the dam was proposed with an estimated cost of about \$17,000. Recently, construction of a retaining wall has been proposed as an alternative to relocating the dam between Sta: 349+47 and Sta: 350+09, approximately 47 feet left of Hwy.#24.

There is an existing 3' x 3' concrete culvert at Sta: 349+84. This culvert will be replaced with a 7'4" x 5'4" structural plate pipe arch.

A Foundation Investigation has been carried out for the retaining wall and from ground level downward, the encountered subsoil conditions are as follows:

Ground Level to 10 ft.	:	Very loose ($\bar{N} = 2-3$ blows/RT). Fine sand with traces of organics. An approximate 3 ft. thick very soft peat was intersected at 5 ft. B.G.L.
10' - 28'	:	Compact ($\bar{N} = 16$) sandy silt to silt.
28' - 57'	:	Stiff, clayey silt, traces of sand.
57' - 60'	:	Dense, sand and gravel with clayey silt matrix.
60' - 75'	:	Probably clayey silt with some sand and gravel.

.....continued.....

Refusal to Dynamic Cone Penetration Test was reached at approximately Elev. 624 (some 75 feet B.G.L.).

For design purposes, the following parameters are suggested:-

FINE SAND; $\phi = 25^\circ$:	= 110 PCF
SANDY SILT; $\phi = 27^\circ$:	= 120 PCF
CLAYEY SILT; C = 1500 PSF	:	= 140 PCF

In view of the subsoil conditions existing at this site, three alternatives are being considered for a retaining structure.

1. SHEET PILE Retaining wall consisting of approximately 25 ft. long sections (driven about 15 ft. into the original ground), and concrete or steel 'H' Pile Anchor.
2. CONCRETE retaining wall on spread footings placed on compacted fill. The compacted fill should consist of a minimum 5 ft. thick Granular 'A' material. The width of (underside) the compacted fill should be about twice the width of the footing which is placed below the Frost Penetration Level (4ft.). To achieve proper compaction, a dewatering scheme will be necessary.

Safe design pressures up to 1.5 TSF are recommended.

3. CONCRETE retaining wall on piles:
 - (a) No. 14 Timber Piles (embedded length of 55 ft.) 20 tons per pile are recommended;
 - (b) 12 3/4 I.D. Steel Tube Piles; design loads of 60 tons are recommended for 70 ft. long piles.

In both cases, the removal of the peat layer under the pile caps is recommended and back-filled with Granular 'C'.

A dewatering scheme will be required.

All of the foregoing was discussed with Mr. J. L. Keen, Regional Structural Design Engineer, on April 21st, 1975, and the following cost estimates were then calculated:

SHEET PILE:	\$25,000.
CONCRETE WALL:	\$28,000.

In addition to the relative high cost for a retaining wall as compared to the dam relocation, further problems such as design and construction are foreseen.

.....continued.....

The new culverts must cross through the wall.

Any construction excavation connected with the wall construction activity may endanger the stability of the dam.

It is our opinion that the relocation of the dam is more feasible from an economical and technical viewpoint.

The completed record of borehole sheets will be sent to you in the near future. Should additional information be required, please contact our office.

PP/sah

P. PAYER
Senior Engineer

cc: J. Anderson
A. Crowley
J. Forster
J.L. Keen
W.G. Sawyer

Files
Record Services

The Minutes of the Meeting held on Monday, April 21, 1975, in the London District Boardroom, 390 Saskatoon Street, Ministry of Transportation and Communications, Ontario in London at 1:30 p.m.

Present: Mr. L. E. Walker, District Engineer, London District
Mr. W. G. Sawyer, District Construction Engineer,
London District
Mr. J. R. Roy, Manager of Engineering Services, Region
Mr. R. M. Kilpatrick, Regional Manager of Right-of-Way,
Region
Mr. W. H. O'Dell, Construction Supervisor, London Dist.
Mr. D. Tyagi, Structural Planning Engineer, Region
Mr. A. P. Watt, Regional Structural Planning Engineer,
Region

The meeting was called by Mr. W. O'Dell to discuss the current status of the proposed retaining wall adjacent to the new 7'-4" x 5'-4" structural plate pipe arch at approximate Sta. 349+91, Contract 74-138, W.P. 163-63-01, G.D.G.B. and Hot Mix Paving, From Hwy. 6 northerly to C.N.R. Crossing in Simcoe, Highway 24.

Verbal report on foundation material was 0-2' - organic material mixed with sand, 2' to 4' of fine sand, 4' to 7.5' black muck, 7.5' to 11.5' sand and silt and sandy silt to silt, 11.5' to 28' below surface sandy silt to silt, 28' to 33' silt to clay silt, 33' to 57' clay silt, 57' to 61' sand and gravel and 61' to 64' clay silt stopped hole.

A. P. Watt reported that approximate estimates prepared by Mr. J. L. Keen, Regional Structural Design Engineer, Structural Office, were:

(a) Reinforced Concrete Retaining

wall cost	\$18,000
dewatering cost	<u>10,000</u>
	\$28,000

This estimate was based on sub-excavation and placing granular for spread footings. Structure could be on piles, thereby increasing the estimated cost of the wall.

(b) Steel Sheet Piling

Estimate the length of the wall as 60' and length of sheet piling as 25' long - estimated cost	\$15,000
tie backs, wales, cables and turnbuckles	5,000
pile driving equipment	<u>5,000</u>
	\$25,000

Minutes of Meeting
April 21, 1975
W.P. 163-63-01

Mr. J. L. Keen felt that from the foundation information the reinforced concrete retaining wall was not practical. Mr. K. Selby, Supervising Foundation Engineer, Soil Mechanics Section, made the comment that the estimated costs could be more.

Mr. Selby suggested that if the 2 to 1 slope were placed on the existing dam more pressure would be exerted on the wall, therefore, caution should be exercised. Mr. Selby would be willing to analyse the stability providing he received the proposed cross sections of the fill in the dam area. If the fill was placed adjacent to the dam without excavating the soft material and replacing with suitable material settlements could be expected.

It appears that the retaining wall whether reinforced concrete or steel sheet piling is expensive and the risk of problems in construction very high. The construction of the dam should be reviewed further.

Results and Conclusions

1. Mr. W. G. Sawyer and Mr. R. M. Kilpatrick to discuss with the owners - the dam proposal; e.g., what is expected by the owners, etc.
- the terms of the agreement.
2. Mr. W. G. Sawyer feels that the foundation of the dam should be evaluated.
3. Structural Planning Office to request Mr. K. Selby, Supervising Foundation Engineer, to arrange to have a foundation investigation conducted at the site of the dam. (chargeable to the contract)
4. Mr. W. G. Sawyer to talk to the Ministry of Natural Resources regarding the dam.

A. P. Watt
Regional Structural Planning Engineer

APW:sm

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, ONTARIO

FILE

Copy for the information of Mr. K. G. Selby

Cont. 74-138

~~Mr. J. R. Roy~~
Manager of Engineering Services
Engineering Services Office
Southwestern Region

Structural Planning Office
Southwestern Region

April 23, 1975

Contract No. 74-138
W.F. 163-63-01, G.D.GB. and Hot Mix Paving
From Hwy. 6 northerly to C.N.R. Crossing in Simcoe
Highway 24
District 2, London

Attached please find a copy of the Minutes of the Meeting held on Monday, April 21, 1975, in the District Boardroom, 390 Saskatoon Street, Ministry of Transportation and Communications at 1:30 p.m.

By a copy of this memorandum the minutes are distributed to all present at the meeting.

Please feel free to advise me of any omissions or corrections that should be made.

D. Tyagi

D. Tyagi
for:
A. P. Watt
Regional Structural Planning Engineer

DT:APW:sm
Enc.

cc J. L. Keen
K. G. Selby
L. E. Walker
W. G. Sawyer
W. H. O'Dell
R. M. Kilpatrick



Memorandum

To: Mr. K. G. Selby, Supvr. Eng.
Soil Mechanics Section
Geotechnical Office
West Bldg., Downsview

From: Structural Planning Office
Southwestern Region - London

Attention:

Date: April 23, 1975

Our File Ref.

In Reply to

Subject: W.P. 163-63-01, Contract No. 74-138
Grading, Drainage, G.B. and Hot Mix Paving
From Hwy. 6 northerly to C.N.R. Crossing in Simcoe
Highway 24
District 2, London

This is further to the telephone conversation of April 21, 1975, between yourself and Mr. A. P. Watt regarding the foundation investigation for the proposed dam site in the vicinity of the new 7'-4" x 5'-4" CSPPA at approximate sta. 349+91.

Attached is a print of the proposed dam showing in red the changes required by the Ministry of Natural Resources. I understand that the District is in the process of discussing these changes with the Ministry of Natural Resources and the need for some of these changes is questionable.

Would you kindly arrange to have a foundation investigation carried out for the above noted dam at your earliest convenience.

For location of the dam and permission to enter private property outside our right-of-way, please contact Mr. Ron MacDonald, Simcoe Patrol Yard, telephone 426-0561.

The work done for this job is chargeable to the Contract No. 74-138.

D. Tyagi

D. Tyagi
Structural Planning Engineer

DT:sm
Enc.

cc A. Crowley
J. Anderson
J. Forster
W. Sawyer





Memorandum

To: Mr. A. P. Watt
Reg. Structural Planning Engr.
Southwestern Region
London, Ontario

From: Soil Mechanics Section
Geotechnical Office
West Bldg. Downsview

Attention:

Date: April 29, 1975

Our File Ref.

In Reply to

Subject:

PROPOSED NEW DAM
HWY. #24, DISTRICT #2 (LONDON)
CONT. 74-138 . WP: 163-63-01

Construction of a new dam is proposed at this location. The design details are shown on a drawing prepared by the Regional Planning and Design Office.

Subsurface investigation carried out by the Soil Mechanics Section and the Regional Materials and Testing Office indicate the following soil conditions:

0	-	2.5'	:	Water
2.5	-	5.5'	:	Loose, Sand and Organics
5.5	-	7.5'	:	Soft, Organic Silt
7.5	-	20.0'+	:	Compact Sand

In view of the encountered subsoil conditions, we recommend the following construction procedures:

1. Excavate the organic silt zone to its full horizontal and vertical extent within the plan limits of the dam footing.

The base of the dam foundation should be at Elev. 690 which is slightly below the organic silt deposit. This is about 4 ft. lower than indicated by the afore-mentioned drawing.

2. Unwater excavation and pour concrete in dry condition. This could be achieved either by an oversize excavation constructed with perimeter ditches and pumping from them or interlocking sheet piles driven to elev. 686±. The unwatering problem can be lessened somewhat by pouring a 4 ft. thick tremie concrete base and constructing the dam on the top as presently designed.

.....continued.....

The clay core should be constructed in the dry to ensure satisfactory compaction. Base of core may be placed at 693⁺.

3. Construct a 12" thick pad of granular 'A' under the concrete aprons and extend this pad under the adjoining rip-rap.

We believe that the recommendations contained herein will prove adequate for your requirements. Should additional information be required, please contact our office.



P. PAYER
Senior Engineer

for

K. G. Selby
Supervising Engineer

cc: W.G. Sawyer
J. Anderson
A. Crowley
J. Forster
J.L. Keen
C.E. Prichard

Files
Record Services

Soil Mechanics Section
Geotechnical Office
West Building
1201 Wilson Avenue
Downsview, Ontario
M3H 1J8

Tel: (416) 248-3282

May 1, 1975

P.V.K. & Sons Drilling Ltd.,
R.R. #4,
Brantford, Ontario.
N3T 6L7

Dear Sirs:

This letter confirms our request by telephone of April 14, 1975 for the supply of a Diamond Drill - skid mounted (Item No. 1.1(A)), together with all necessary equipment, as per your Tender for Supply Contract S-74-2110, at Simcoe on April 16, 1975.

Mobilization will be from Surford.

Our Project Number is H.P. 163-03-01.
Contract 74-138.

Yours truly,

K. G. SELBY
Supervising Engineer

c.c. M. W. Fry
(Attn: V. Di Marco)

Files
Record Services

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, ONTARIO

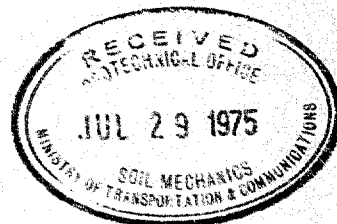
Copy for the information of Mr. K. G. Selby

Structural Planning Office
Southwestern Region

July 26, 1975

~~Mr. K. Bassi~~
Reg'l Structural Design Engineer
Structural Office
West Bldg., Downsview
Mr. H. Jagasia

D. W. Howe Dam
Lot 9, Concession Gore, Town of Simcoe
Highway 24
District 2, London
Contract No. 74-138



This will confirm our telephone conversation of this morning that you will send a copy of preliminary plan of the above noted dam to Mr. K. G. Selby, Supervising Engineer, Soil Mechanics Section in order to receive his comments on the stability of the proposed "Detail of Core and Dyke" as shown in the preliminary plan.

D. Iyagi
D. Iyagi
Structural Planning Engineer

BT:sl

cc K. G. Selby



MINISTRY OF TRANSPORTATION AND COMMUNICATIONS

SHEET
1

Station 264+00 to Station 424+46

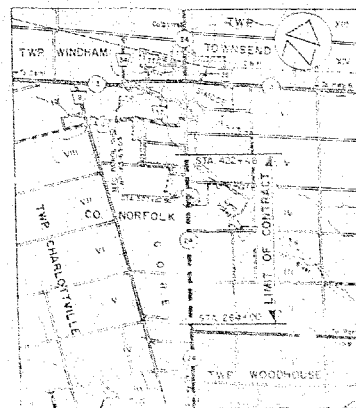
Length (miles) 3.0 MILES

Engineering Plates _____

Reference Plans B-215-5 C-215-6

Soil Profile Nos 241.2-49

Structure Drawing Nos _____



W.P. No. 163-63-01, 163-63-02 Contract No. 74-133

Work of GRADING, DRAINAGE, GRANULAR BASE

AND HOT MIX PAVEMENT

Hwy. No. 24 District No. 2 - LONDON

Location FROM HWY. 6 NORTHERLY TO C.N.R. CROSSING

IN SIMCOE INCLUDING NEW ACCESS TO SIMCOE

PATROL YARD

Township of WOODHOUSE

County of NORFOLK

Date _____
Regional Director

Date _____
Regional Manager, Systems Design

KEY PLAN

SCALE
1" = 1 MILE
1" = 1 KILOMETER

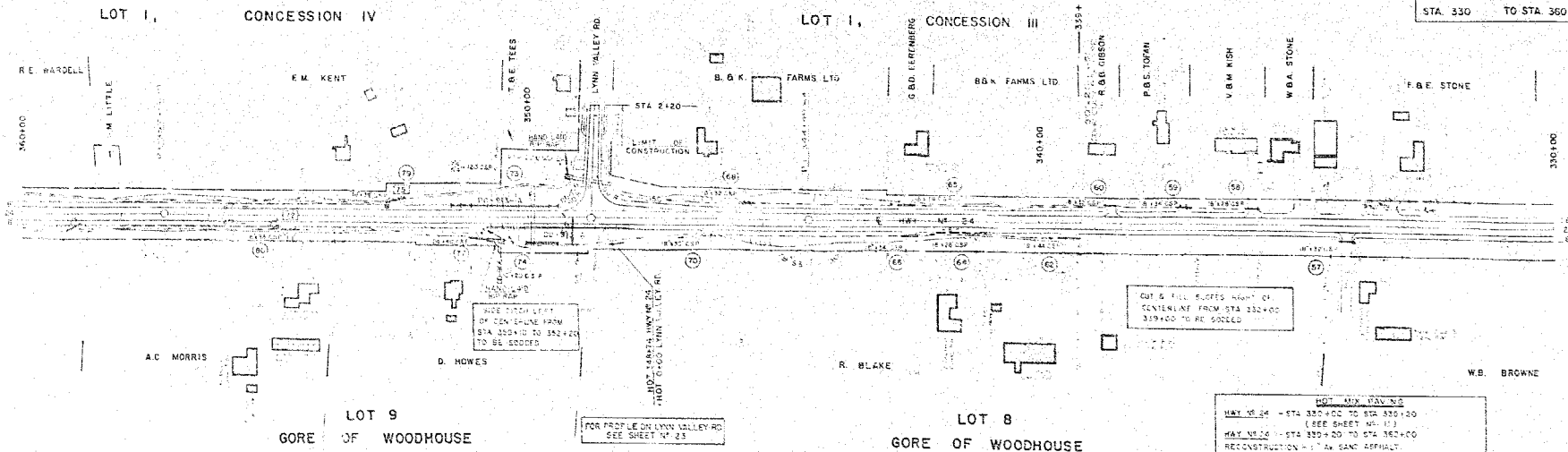
COUNTY OF NORFOLK
TOWNSHIP OF WOODHOUSE

CONT. No. 74-138
W. P. No. 163-63-01



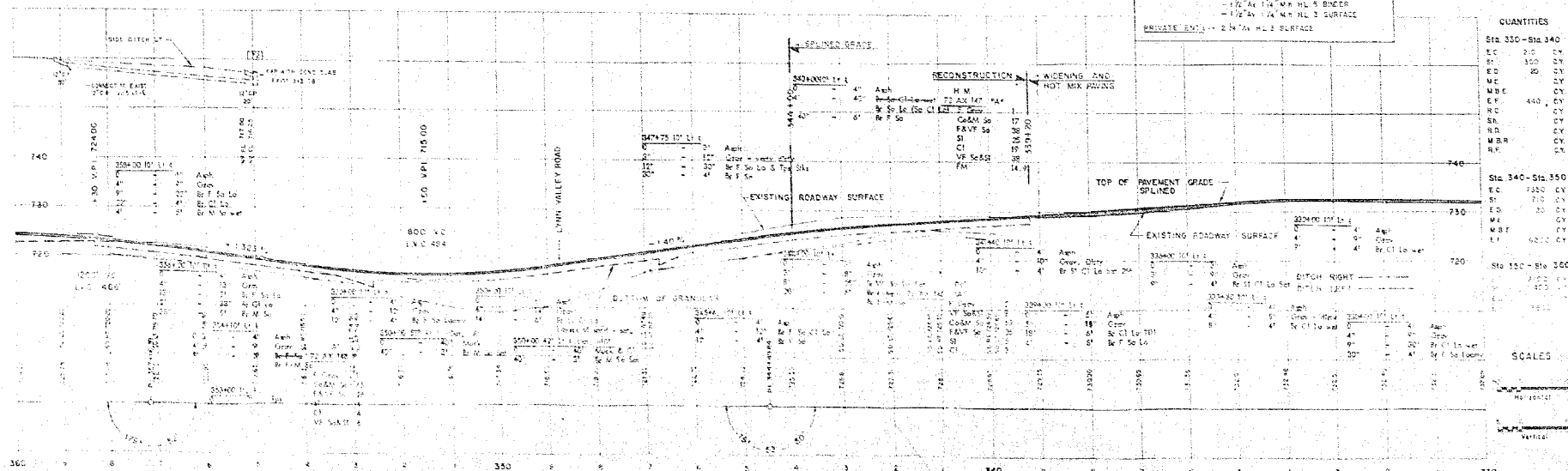
NEW CONSTRUCTION
STA. 330 TO STA. 360

SHEET
12



HOT MIX PAVING
MAY 1954 - STA 330+00 TO STA 339+00
(SEE SHEET NO. 11)
MAY 1950 - STA 339+00 TO STA 360+00
RECONSTRUCTION - 1 1/2" SAND ASPHALT
& TAPER - 3/4" H.L. 3 SAND ASPHALT AT 10"
- 1 1/2" H.L. 3 SURFACE
LYNN VALLEY RD - 1 1/2" H.L. SAND ASPHALT
- 1 1/2" H.L. 3 SAND ASPHALT
- 1 1/2" H.L. 3 SURFACE
PRIVATE DRIVE - 2 1/4" H.L. 3 SURFACE

FOR PROFILE ON LYNN VALLEY RD
SEE SHEET NO. 23



QUANTITIES

Sta. 330 - Sta. 340	Sta. 340 - Sta. 350	Sta. 350 - Sta. 360
E.C. 210 CY	E.C. 1350 CY	E.C. 1350 CY
S.P. 320 CY	S.P. 720 CY	S.P. 720 CY
E.D. 20 CY	E.D. 20 CY	E.D. 20 CY
M.E. 20 CY	M.E. 20 CY	M.E. 20 CY
M.B.E. 440 CY	M.B.E. 440 CY	M.B.E. 440 CY
E.V. 20 CY	E.V. 20 CY	E.V. 20 CY
H.C. 440 CY	H.C. 440 CY	H.C. 440 CY
S.L. 20 CY	S.L. 20 CY	S.L. 20 CY
R.D. 20 CY	R.D. 20 CY	R.D. 20 CY
M.B.R. 20 CY	M.B.R. 20 CY	M.B.R. 20 CY
R.F. 20 CY	R.F. 20 CY	R.F. 20 CY
Sta. 330 - Sta. 360	Sta. 330 - Sta. 360	Sta. 330 - Sta. 360
E.C. 1350 CY	E.C. 1350 CY	E.C. 1350 CY
S.P. 720 CY	S.P. 720 CY	S.P. 720 CY
E.D. 20 CY	E.D. 20 CY	E.D. 20 CY
M.E. 20 CY	M.E. 20 CY	M.E. 20 CY
M.B.E. 440 CY	M.B.E. 440 CY	M.B.E. 440 CY
E.V. 20 CY	E.V. 20 CY	E.V. 20 CY
H.C. 440 CY	H.C. 440 CY	H.C. 440 CY
S.L. 20 CY	S.L. 20 CY	S.L. 20 CY
R.D. 20 CY	R.D. 20 CY	R.D. 20 CY
M.B.R. 20 CY	M.B.R. 20 CY	M.B.R. 20 CY
R.F. 20 CY	R.F. 20 CY	R.F. 20 CY



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MINISTRY OF TRANSPORTATION AND COMMUNICATIONS-ONTARIO
ENGINEERING SERVICES BRANCH-GEOTECHNICAL OFFICE-SOIL MECHANICS SECTION

RECORD OF BOREHOLE NO 1

Cons. 74-138
W.P. 74-138
DIST. 2 HWY. 24
DATUM GEOMETRIC

LOCATION STA. 350+12; 49' LT
BORING DATE APRIL 15 & 16, 1975
BOREHOLE TYPE WASHBORE - NX CASING

ORIGINATED BY PP
COMPILED BY PP
CHECKED BY

SOIL PROFILE		STRAT. PLOT	SAMPLES			GROUND WATER ELEV.	DYNAMIC CONE PENETRATION RESISTANCE PLOT					LIQUID LIMIT w_L PLASTIC LIMIT w_p WATER CONTENT w			UNIT WEIGHT γ	REMARKS
ELEV. DEPTH	DESCRIPTION		NUMBER	TYPE	N VALUES		20	40	60	80	100	w_p	w	w_L		
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			2	SS	6											
			3	SS	17											
			4	SS	14											
			5	SS	18											
			6	SS	15											
			7	SS	28											
			8	SS	18											
			9	SS	22											
			10	SS	39											
638.4 61.5	END OF BOREHOLE		11	SS	33											

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS - ONTARIO

ENGINEERING SERVICES BRANCH - GEOTECHNICAL OFFICE - SOIL MECHANICS SECTION

RECORD OF BOREHOLE NO 2

Cont. 74-138

DIST. 2 HWY. 24

DATUM GROUND

LOCATION STA: 349+48.51' LT

BORING DATE APRIL 17 & 18, 1975

BOREHOLE TYPE

ORIGINATED BY PP

COMPILED BY PP

CHECKED BY

SOIL PROFILE		STRAT. PLT	SAMPLES		GROUND WATER ELEV.	DYNAMIC CONE PENETRATION RESISTANCE PLOT					LIQUID LIMIT — w_L PLASTIC LIMIT — w_p		UNIT WEIGHT γ	REMARKS
ELEV. DEPTH	DESCRIPTION		NUMBER	TYPE		N VALUES	20	40	60	80	100	WATER CONTENT — w		
698.8	GROUND LEVEL													
0.0			1	SS	16									
			2	SS	1									
			3	SS	10									
			4	SS	26									
			5	SS	11									
			6	SS	14									
			7	SS	14									
			8	SS	16									
			9	SS	20									
			10	TW	PM									
			11	TW	PM									
			12	SS	37									
			13	SS	12									
			14	SS	40									
623.7														
75.1	End of Borehole													

DOCUMENT MICROFILMING IDENTIFICATION

GEOCRES No. 40 I 16-18

DIST. 2 REGION Southwestern

W.P. No. 163-63-01

CONT. No. 74-138

W. O. No. _____

STR. SITE No. _____

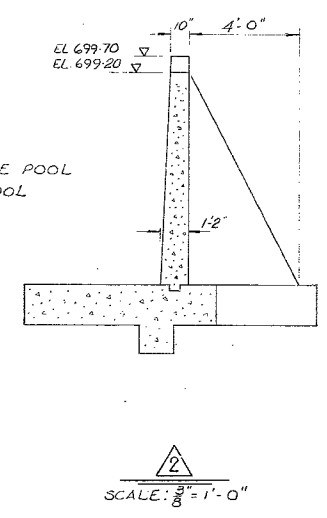
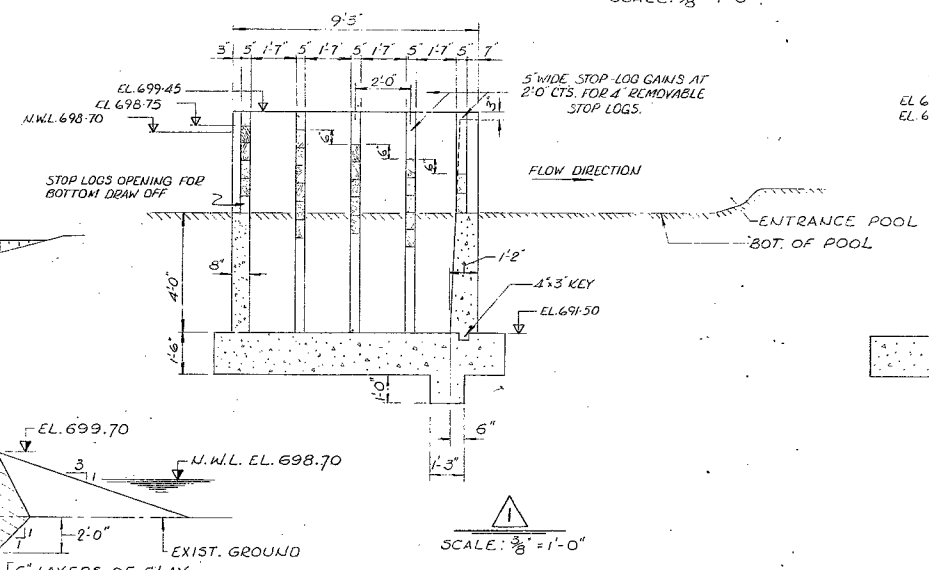
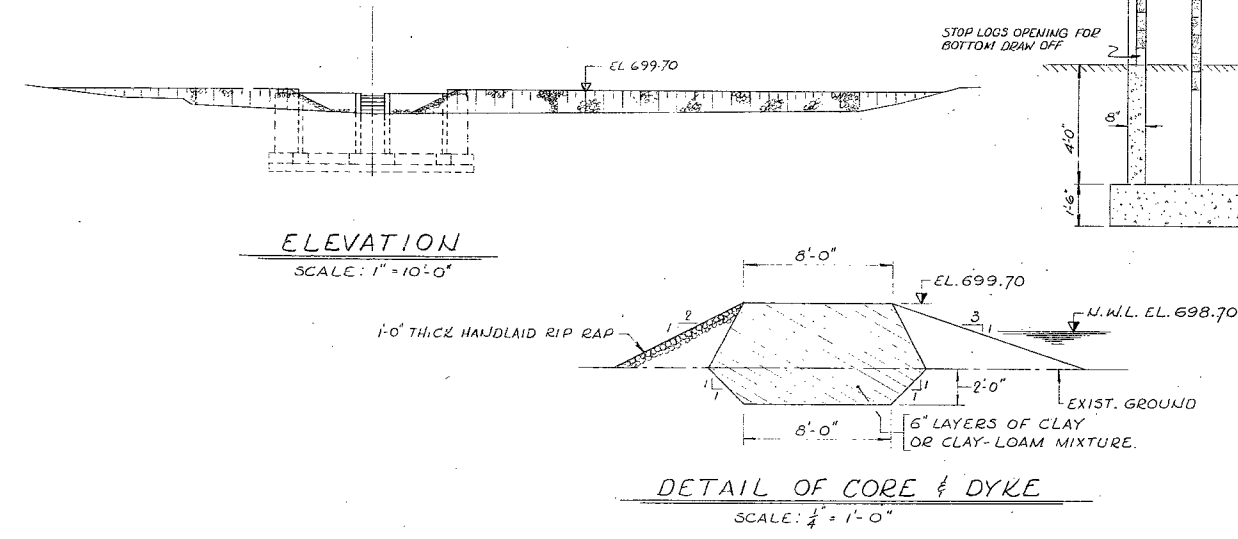
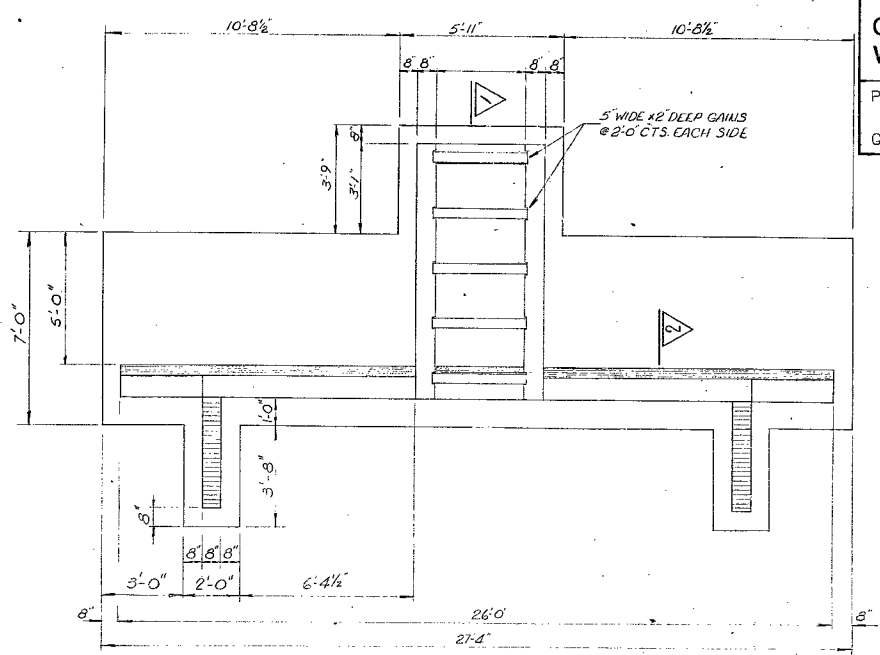
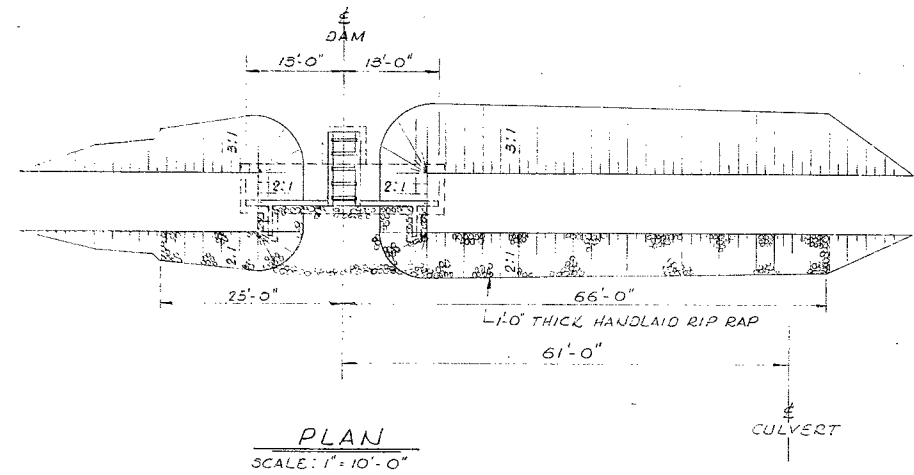
HWY. No. 24

LOCATION HWY. 24 BETWEEN
C.N.R. & HWY 6

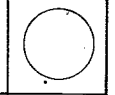
OVERSIZE DRAWINGS TO BE INCLUDED WITH THIS REPORT. 1

REMARKS: DOCUMENTS TO BE UNREELDED

BEFORE MICROFILMED



CONT No 74-138
W.O. No 75-16-66
PROPOSED DAM AT SIMCOE
GENERAL PLAN



SHEET

NOTES
CLASS OF CONCRETE - 3000 P.S.I.
CLEAR COVER TO REINFORCING
STEEL 3" EXCEPT AS OTHERWISE
NOTED.

- LIST OF DRAWINGS
30-1 - GENERAL PLAN
30-2 - REINFORCING DETAILS

FOR REDUCED PLAN			
USE SCALE BELOW			
10	1	2	3
3 INCHES ON ORIGINAL PLAN			
REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
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14			
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40116-18