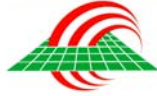


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ENGINEERING
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PUBLIC INFORMATION CENTRE #3 PREFERRED ALTERNATIVES

HISTORIC MAPLE STORM DRAINAGE IMPROVEMENTS STUDY

Design Services

Engineering Services

Department

Engineering and Public Works

**City of
Vaughan**
The City Above Toronto



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PRESENTATION OVERVIEW

- BACKGROUND
- RELATED WORK (e.g. TOPO)
- PREFERRED ALTERNATIVES
- FEEDBACK FROM PREVIOUS PUBLIC INFORMATION CENTRES
- “BENCHMARK” COSTING
- NEXT STEPS
- QUESTIONS



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STUDY OBJECTIVE

- ASSESS THE EFFECTIVENESS AND PERFORMANCE, WHERE POSSIBLE, OF THE EXISTING STORM DRAINAGE SYSTEM FOR THE DETERMINATION OF AN APPROPRIATE COURSE OF ACTION FOR ANY NECESSARY IMPROVEMENT(S).
- FOCUS ON HYDRAULIC ELEMENTS OF DRAINAGE SYSTEM



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BACKGROUND

- FIRST PIC – GATHER PUBLIC INPUT
- ENSURE DRAINAGE ISSUES HAVE BEEN CAPTURED
- SECOND PIC – SUMMARY OF ISSUES & OPPORTUNITY TO COMMENT ON PRELIMINARY ALTERNATIVE SOLUTIONS



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RELATED WORK - TOPOGRAPHIC SURVEY

- LANCER DRIVE R.O.W. –
REVIEW OPPORTUNITIES FOR
RE-GRADING
- MAIN CHANNEL –
SLOPE = ~ 0.4-1.0%
- SCHOOL BLOCK TO GRAM
STREET –
REVIEW IN CONTEXT OF
POSSIBLE RE-GRADING



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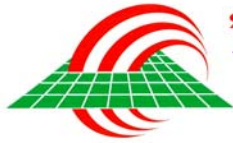
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RELATED WORK - GEOTECHNICAL WORK

- MAIN CHANNEL –
INVESTIGATE POSSIBLE
GROUNDWATER
- SCHOOL YARD CHANNEL –
DETERMINE POSSIBILITY FOR
INFILTRATION



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PREFERRED ALTERNATIVES – PRIORITIZATION

- 2 - HIGH PRIORITY ISSUES
(MUST BE DONE)
- 3 - MEDIUM PRIORITY ISSUES
(SHOULD BE DONE)
- 2 - LOW PRIORITY ISSUES
(SHOULD BE REVIEWED
FURTHER)



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PREFERRED ALTERNATIVES – PRIORITIZATION

- 2 - HIGH PRIORITY ISSUES
(MUST BE DONE)
- 3 - MEDIUM PRIORITY ISSUES
(SHOULD BE DONE)
- 2 - LOW PRIORITY ISSUES
(SHOULD BE REVIEWED
FURTHER)
- 4 - ISSUES OUTSIDE OF
SCOPE OF WORK



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HIGH PRIORITY ISSUES (1 OF 2)

- IMPROVEMENTS OF A MINOR NATURE
- *RECTIFY BLOCKED/DAMAGED DRIVEWAY CULVERTS*
- *ADDRESS EROSION ISSUES IN DITCHES AND AT CULVERTS*



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HIGH PRIORITY ISSUES (2 OF 2)

- PONDING IN CHANNEL
THROUGH THE SCHOOL
BLOCK
- *RE-GRADE CHANNEL FROM
NORTH END OF SCHOOL
YARD TO GRAM ST. CULVERT*



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MEDIUM PRIORITY ISSUES (1 OF 3)

- DETAILED REVIEW OF MAIN DRAINAGE FEATURE
- *VERIFY SECTIONS WITH HYDRAULIC DEFICIENCY*
- *ADDRESS EROSION ISSUES WITHIN THE CHANNEL*
- *COMPLETE THIS ANALYSIS PRIOR TO CONSIDERATION OF CHANNEL CLEAN-OUT*



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MEDIUM PRIORITY ISSUES (2 OF 3)

- DETAILED REVIEW OF
OUTLET FOR BEAVERBROOK
SUBDIVISION
- *POSSIBILITY OF REMOVING
FLOWS FROM SCHOOL
BLOCK THROUGH PIPED
SOLUTION*



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MEDIUM PRIORITY ISSUES (3 OF 3)

- RECTIFY FILLED-IN DITCHES
- *CONSENSUS OF COMMUNITY IS TO HAVE RURAL ROAD*
- *TO PROTECT INTEGRITY OF ROADWAY, GRANULARS NEED TO BE DRAINED*
- *ENSURE ADEQUATE HYDRAULIC CONVEYANCE*



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LOW PRIORITY ISSUES (1 OF 2)

- REPORTED FLOODING OF
WELLER CRESCENT
RESIDENCE
- *NEED MORE INFORMATION
TO DETERMINE LOCATION &
POTENTIAL CAUSES*



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LOW PRIORITY ISSUES (2 OF 2)

- RECTIFICATION OF DEEP DITCHES
- *FRENCH DRAINS, WHERE POSSIBLE*
- *CROSS-SECTION ADJUSTMENT ON PRIVATE SIDE OF DITCH*
- *DETAILED REVIEW OF LANCER DRIVE, NAYLON DITCHES*



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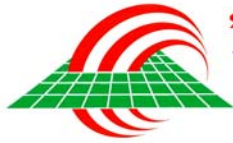
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4 ISSUES OUTSIDE SCOPE OF WORK

- REMOVAL OF DAMAGED CULVERT IN SCHOOL YARD
- REAR YARD DRAINAGE ISSUES (LANCER & ANGELVIEW) – POSSIBLE FRENCH DRAIN COVERED WITH GRASS
- EXTENSION OF CULVERTS ON NAYLON @ MAIN CHANNEL & ADD BARRIER (LIKELY INCLUDED IN CHANNEL WORKS)
- ADD BARRIER TO JACKSON/NAYLON DITCH



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“BENCHMARK” COSTING

- **HIGH PRIORITY WORK:**
 - MINOR ISSUES: ~\$65,000
 - SCHOOL BLK RE-GRADING:
~\$7,500-10,000
- **MEDIUM PRIORITY WORK:**
 - DET. CHNL ANALYSIS & WORKS:
~\$250,000-500,000
 - BEAVERBROOK OUTLET:
~\$300,000
 - DITCH RECTIFICATION: ~\$75,000
- **LOW PRIORITY WORK:**
 - DEEP DITCHES: ~\$50,000
 - WELLER FLOODING: TBD



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FEEDBACK FROM PIC'S

- WATER QUALITY TESTING
- SCHOOL YARD DRAINAGE
- MERINO (SIDEWALK DEGRADATION)
- REAR YARDS ALONG LANCER
- ENCLOSURE OF MAIN CHANNEL
- DEEP DITCHES ON LANCER
- EROSION ON GRAM. ST CULVERTS
- ANGELVIEW CRT REAR YARD DRAINAGE



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NEXT STEPS

- ENGINEERING REPORT TO CITY FOR PRESENTATION TO COUNCIL
- NOTICE OF STUDY COMPLETION

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City of
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