

APPENDIX A

TERMS OF REFERENCE

A P P E N D I X "A"

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HALIBURTON SEWAGE TREATMENT PLANT EXPANSION
TOWNSHIP OF DYSART ET AL

GENERAL REQUIREMENTS

The Consulting Engineer is to undertake tasks related to the requirements defined and outlined in the MEA Class Environmental Assessment for the Municipal Sewage and Water Projects which generally includes, identifying the problem(s); the collection, review and analyses of data; notifying government agencies and affected municipalities/public and interested parties about the problem(s) and the alternative solutions; identifying and evaluating alternative solutions to the problem and alternative design concepts for the preferred solution; convening and participating at public information meetings for all interested parties. For Schedule C projects, the consultant shall also prepare the Environmental Study Report (ESR) referred to in the Class Environmental Assessment Document (incorporate previous reports when necessary).

It is to be noted that these Terms of Reference have been developed on the assumption that the preferred solution will be a Schedule C activity and that an Environmental Study Report (ESR) will be required. The requirement for an ESR however will only be known at the end of phase 2.

The ESR is to detail the planning and design process for a sewage works project for the Township of Dysart Et Al. It should also be sufficiently detailed to permit the

municipality to obtain a Conditional Certificate of Approval from the Ministry of the Environment for the required works after the 30-day public review period as well as to facilitate the arrangement of financing for the program.

It is important that the problem(s) to be addressed in the study are defined in consultation with the Township of Dysart Et Al and the Ministry of the Environment. Accordingly it is necessary to review all previous reports and other pertinent data relating to problems and deficiencies with the present sewage treatment facilities, as well as recommending any investigations required to obtain additional information.

In this regard the formation of a Liaison Committee is proposed consisting of representatives from the Township, Ministry of the Environment and Consulting Engineer. The Liaison Committee would provide direction to the Consulting Engineer on the nature and scope of assigned tasks.

In carrying out the study the consultant should refer to the applicable section(s) of the Ministry's "Guidelines for the Design of Sanitary Sewage Works, Storm Sewers (Interim), Water Distribution Systems, Water Storage Facilities, Servicing of Areas Subject to Adverse Conditions, Water Supply for Small Residential Developments, Seasonally Operated Water Supplies and the associated Appendices" as well as the Ministry's "Guidelines for the Design of Water and Sewage Treatment Works".

WORK PROGRAM FOR PHASE 1 AND PHASE 2

Note: "Phase" Numbering corresponds with the planning and design process of the MEA Sewage/Water Class EA.

1.1.0 Meet with MOE Project Supervisor to review Terms of Reference and work program.

1.2.0 Review all previous reports, and other pertinent data.

1.3.0 Confirm the problems to be addressed, e.g.:

- the capacity of the existing S.T.P. facility to accommodate additional sewage flows from future developments within the Village and from existing and future developments in the resort areas north of Kashagawigmog Lake.

- the operation of the existing effluent filters.

1.3.1 Determine whether further information is required to finalize the problem definition and obtain concurrence through the Project Supervisor.

2.1.0 Identify alternative solutions including but not limited to the following:

- expansion of the existing sewage treatment facility
- flow equalization/flow equalization in conjunction with expansion/upgrading of sewage facility components

- rehabilitation of the existing effluent filters/provision of additional effluent filters
- separate sewage treatment facility for the Kashagawigamog sewer extension
- expansion of the existing individual sewage treatment facilities in the resort areas

- Limit Community Growth

- Do Nothing

- 2.1.1 Provide "preliminary" construction costs for the alternative solutions. Comment on feasibility, operation and maintenance.

- 2.1.2 Review 2.1.1 with MOE staff through Project Supervision and Liaison Committee and obtain concurrence on the alternatives to be evaluated further.

- 2.1.3 Establish the criteria for Sewage Treatment facility effluent quality and have this criteria accepted by the Ministry of the Environment, Technical Support Central Region and Central and Southeast Regions Approvals Supervisor. This shall be done by a combination of literature research, flow and water quality measurements upstream and downstream of proposed treatment facility locations.

The foregoing receiving water assessment procedures must be technically sound and acceptable to the Ministry. Technical Advice and guidance on procedures will be provided by the Ministry's Water Resources Branch, or Regional

Offices' Technical Support Section, based on published procedures such as, "Stream Water Quality Assessment Procedures Manual", March 1980, Ministry of the Environment, Water Resources Branch.

The effluent quality criteria should be consistent with the requirements outlined in the Ministry of the Environment publication "Water Management Goals, Policies, Objectives and Implementation Procedures", the "Canada - Ontario Agreement on Great Lakes Water Quality" and applicable Ontario policies.

- 2.2.0 Determine the mandatory contacts in accordance with the MEA Class EA.
- 2.2.1 Involve the mandatory contacts, other government agencies and the public in the discussion of the project in a manner acceptable to the Liaison Committee (e.g. questionnaires, newspaper advertisements, public meetings, etc.) The following information is to be provided upon initial contact:
 - outline of the problem
 - planning done to date
 - alternative solutions being considered
 - proceeding under MEA Class EA
 - "bump-up" rights
 - contact person of proponent
 - how to stay further involved in planning process, etc.

- 2.3.0 Define problem area(s) to be serviced:
- within the Village
 - resort areas north of Kashagawigamog Lake
- 2.3.1 Define population projections, flow and waste loading projections associated with the existing/new works and identify constraints. Validate existing flow and waste loading data.
- 2.3.2 Define the main sewage pumping station and forcemain expansion alternatives to be evaluated, extent of evaluation, and impact of the alternatives on the natural, social and economic environment.
- 2.3.3 Undertake an evaluation of the existing sewage facility components in order to optimize performance based on existing flows and waste loadings. Comment on rated capacities.
- 2.3.4 Define sewage pumping station(s) and forcemain(s) alternatives to be evaluated, extent of evaluation, and impact of the alternatives on the natural, social and economic environment.
- 2.3.5 Define alternative sewage treatment methods, based on effluent criteria developed in 2.1.1, to be evaluated including sludge management program, buffer zone requirements, etc. Include for phasing in of additional treatment facility components, if practicable. Define extent of the evaluation, and impact of the alternative on the natural, social and economic environment.

- 2.4.0 Detail the additional information and data required to identify the impact of the alternatives on the environment in order to adequately evaluate the alternatives identified in 2.3.2 to 2.3.5, complete with work schedule and costs for each component.
- 2.4.1 In consultation with the Liaison Committee, finalize the additional information and data requirements on the alternatives to be evaluated.
- 2.5.0 After acquiring all necessary information and data and input from the mandatory contacts, government agencies and the public, evaluate any additional identified alternative solutions including the impact of the alternatives on the environment.
- 2.6.0 Review 2.5.0 with MOE staff through Project Supervisor and with Liaison Committee.
- 2.7.0 With information from 2.5.0 consider the necessity of optioning land.
- 2.8.0 Present information concerning the following to the Municipal Council:
 - service area information
 - main sewage pumping station and forcemain alternatives
 - sewage treatment plant expansion based on effluent criteria
 - need for property options, easements, etc.
 - environmental impacts of alternative solutions

2.8.1 Hold public information meeting or open house to present:

- service area information
- main sewage pumping station and forcemain alternatives
- sewage treatment plant expansion alternatives based on effluent criteria
- need for property option, easements, etc.
- environmental impact of alternative solutions

2.9.0 Prepare Draft Phase 1 & 2 Preliminary Report covering Phase 1 and 2 of the MEA Class EA Planning and Design Process. Items to be included are:

- documentation of the problem
- alternative solutions to the problem
- environmental impacts of alternative solutions
- evaluation of alternative solutions
- recommendations for preferred solution(s).

2.10.0 Submit Draft Phase 1 & 2 Preliminary Report for comments to:

- Project Supervisor
- Liaison Committee
- Government agencies and special interest groups which have requested further involvement
- advise members of the public, who have requested further involvement, where preliminary report can be viewed.

2.11.0 Review comments from 2.10.0 with MOE staff and Liaison Committee through Project Supervisor.

- 2.12.0 Select preferred solution(s) and finalize Phase 1 & 2 Preliminary Report.
- 2.13.0 Identify EA category (end of Phase 2 of MEA Class EA Planning and Design Process).
- 2.14.0 Submit information regarding EA category and selected preferred solution(s) to concerned Government Agencies and affected public.

END OF PHASE 2

WORK PROGRAM FOR PHASE 3 AND PHASE 4

Note: This part of the Terms of Reference applies only when the preferred solution is a Schedule C activity.

Obtain approval from Project Supervisor before proceeding.

- 3.1.0 In consultation with the Liaison Committee identify the alternative design concepts to be evaluated. (Start of Phase 3 of MEA Class EA Planning and Design Process).
- 3.1.1 Conduct detailed comparison for main sewage pumping station design alternatives.
- 3.1.2 Conduct detailed comparison for sewage treatment facility design alternatives of preferred solution(s) based on effluent discharge criteria/sludge management program/buffer zone requirements, etc.
- 3.1.3 Identify impact on environment for each alternative design.
- 3.1.4 Consult with review agencies where appropriate.
- 3.2.0 Make preliminary selection of preferred alternative design concept.
- 3.2.1 Prepare a general/master plan(s) showing the areas to be serviced, the service area limits, and land requirements.

- 3.2.2 Prepare a summary of the design parameters utilized in sizing of the main sewage pumping station and forcemain. These parameters should include but not be limited to the existing and design population, the design sewage flow from domestic, commercial, industrial, institutional and other users, and allowance for inflow/infiltration.
- 3.2.3 Prepare a proposed by-law governing the usage of the municipal sewage treatment facility and collection system within the service area (e.g. sewer use by-law).
- 3.2.4 Should existing data be inadequate, investigate in detail the selected sewage treatment facility expansion including:
- hydrogeology/soils
 - mapping
 - site plan preparation
 - site ecology
 - site archaeology
- 3.2.5 Prepare a summary of the design parameters utilized in sizing the expansion of the sewage treatment facility. These parameters should include but not be limited to the existing and design population(s), design sewage flows, sludge management program, buffer zone requirements, effluent discharge criteria and methods of discharge. Comment on phased construction of the facility components.

- 3.2.6 Prepare a preliminary layout of the proposed sewage treatment facility alternative design concept.
- 3.2.7 Provide detailed capital and operating cost estimates on the preferred alternative design concept.
- 3.2.8 Consider financial implication of project with respect to the servicing areas as follows:

Within the Village Limits:

- available subsidies
- cost per connection based on gross and net capital costs
- proposed rates and average homeowner charges
- revenue and expenditure statement.

Resort Areas:

- available subsidies
- proposed discharge rates
- proposed operating expenses
- revenue and expenditure statement.

- 3.3.0 Identify any new mandatory contacts based on the preferred alternative design concept that have to be made, especially with the public.
- 3.3.1 Present the following information to the MOE staff through the Project Supervisor for review:

- servicing details
- details of the expansion of the main sewage pumping station and forcemain including impacts on environment
- details of the expansion of the sewage treatment facility including impacts on environment
- financing of project

3.3.2 Present the preceeding information to Municipal Council.

3.3.3 Notify review agencies, new mandatory contacts and public previously involved of public information meeting or open house to discuss:

- servicing details
- details of expansion of the main sewage pumping station and forcemain including impacts on environment
- details of expansion of the sewage treatment facility including impacts on environment
- financing of projects

3.3.4 Evaluate feedback from 3.3.0 to 3.3.3 and discuss with MOE staff and Liaison Committee through Project Supervisor.

3.4.0 Finalize preliminary design for preferred alternative design concept.

3.5.0 Finalize Environmental Study Report (E.S.R.)

3.6.0 Submit ESR to Project Supervisor (15 copies) for comment and approval to release ESR for 30-day public review.

End of Phase 3

Phase 4 of MEA Class EA Planning and Design Process.

- 4.1.0 Place ESR in the "Public Record File".
- 4.2.0 Notify review agencies and public still involved in the project of the start of the 30-day public review period.
- 4.3.0 Discuss feedback from the 30-day public review with MOE staff through Project Supervisor and with the Liaison Committee.
- 4.4.0 In case of no "bump-up" forward ESR and Application for Works to MOE to obtain Conditional Certificate of Approval for preferred design solution(s).

End of Phase 4