

MOE Design Expectations for Park Model Units (PMUs) at Trailer Sites

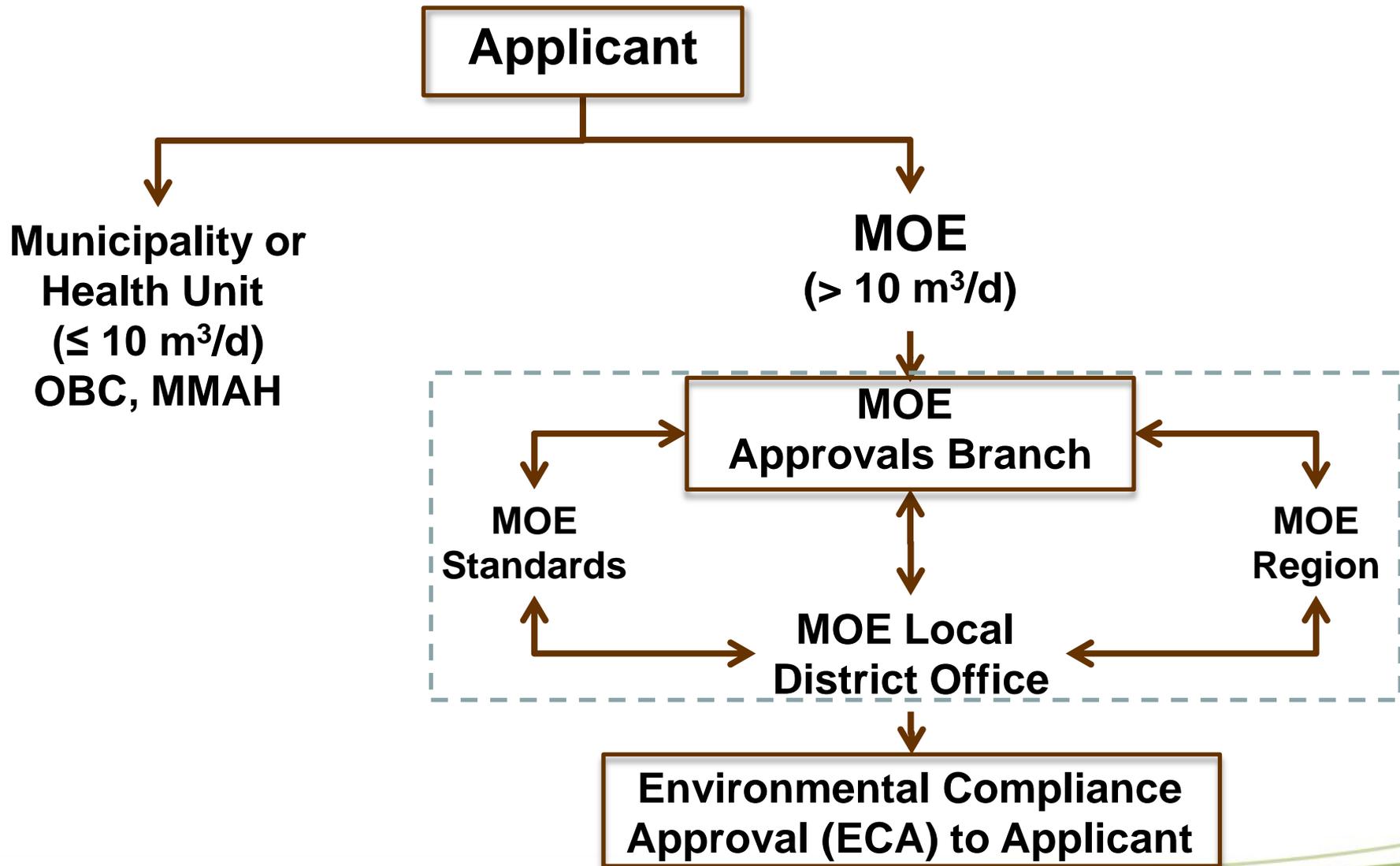
**Ontario Ministry of the Environment (MOE)
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Annual Convention and Trade Show
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Purpose

To clarify the Ministry of Environment's (MOE) expectations with regard to design flow rates for seasonal recreational trailer parks with Park Model Units (PMUs)

Answer ECA related questions raised by Camping in Ontario (CIO)

Application Approval Process Overview



5.5.2.2 Commercial and Institutional Sewage Flows

- “For individual commercial and institutional uses the sewage flow rates shown in Table 5-3 are commonly used for design.”
- Where adequate flow records are available, they may be submitted, with supporting information, for consideration to determine a calculated design average flow basis by MOE.

MOE Design Guidelines for Sewage Works, 2008

Table 5-3 - Common Sewage Flow Rates for Commercial and Institutional Uses

Use	Unit Sewage Flow ¹		Flow Unit per
	SI (L/d)	US (US gal/d)	
Shopping Centre	2.5-5.0	0.7-1.3	based on total floor area (m ² and ft ²)
Hospitals	900-1800	237-475	bed
Schools	70-140	18.5-37	student
Travel Trailer	340	90	space (min. without water hook-ups)
Parks	800	211	space (min. with indiv. water hook-ups)
Campgrounds	225-570	59-150	campsite
Mobile Home Parks	1000	264	parking space
Motels	150-200	40-53	bed space
Hotels	225	59	bed space

Note:

1. Unit sewage flow rates exclusive of extraneous flows.

MOE Basic Distinctions from Table 5-3

Unit Sewage Flow (L/d)

Seasonal Occupancy

- Travel Trailer Parks – no water hook-ups: 340
- Travel Trailer Parks – with water hook-ups: 800
- Campgrounds – 225 to 570

Residential (Primary Residence / 4 Seasons)

- Mobile Home Parks -1000

Site Specific

- MOE approvals are site specific

MOE's Design Expectations for PMUs

- Each space occupied by a PMU (with individual water hook-ups) has to be designed for a minimum sewage design flow rate of 800 L/day/PMU space as per Table 5-3.
- Guidelines are intended to accommodate a range of site conditions and single site criteria are not appropriate for a general guideline
- Given the potential environmental impacts associated with under estimating adequate sewage treatment capacities, and the findings by MOE from field assessments at various trailer parks with respect to operation, maintenance and other regulatory issues, there is insufficient information to change these guidelines at this time

Adequate Data To Support Guideline Change

MOE is willing to change the guideline if MOE assessment of adequate flow data supports a change.

‘Adequate’ – MOE looks for four conditions:

1. Type of Data

Daily volumes of sewage discharged to each independent subsurface sewage disposal field, either through direct or indirect (e.g., water use) measurements.

Adequate Data To Support Guideline Change

2. Sufficient Data

Three years of daily flow data with supporting information (number and type of trailers, period of occupancy) from a representative number of trailer parks consisting primarily of PMUs.

3. Representative Data

Data from as many trailer parks as possible. This will increase the probability of the sector providing sufficient and reliable data that represents the expected flows.

Adequate Data To Support Guideline Change

4. Reliable Data

Accurate flow measuring methods for the collection and recording of representative daily flow data include:

- Calibrated dosing pump with operating time
- Electronic flow meters
- Doppler flow meters
- Water use metering with site supporting information (e.g. swimming pool filling records) to account for differences in sewage generation rates
- Other flow measuring methods demonstrated to be effective under field conditions

Flow monitoring needs to be overseen and/or authorized by a ***Qualified Person***** throughout the collection period.

Qualified Person**

A Qualified Person means: a Professional Engineer, a Professional Geoscientist or a certified engineering technologist (CET), all licensed in the Province of Ontario

Site Specific Decision Considerations

- MOE considers design flow rate reductions on a site specific basis.
- Have recently done so for two site specific cases.

MOE Recently Approved System with PMUs (Example of a Site Specific Approval)

At a trailer park with over 170 PMUs, a design flow of 425 L/d/PMU** space was approved with these conditions:

- Leaching bed design to be based on 425 L/d/PMU;
- Monitoring and reporting requirements of daily sewage flows
- Balancing tanks to be incorporated as part of the sewage works to handle 375 L/d/PMU from each space;
- Reserve area to be set aside for an additional subsurface disposal bed based on 375 L/d/PMU space, if required;
- Septic tanks design volume to be based on 2 x 425 L/d/PMU to provide improved effluent quality to the leaching bed; and
- Financial assurance (FA) requirement

Monitoring results may be used for future amendment applications

** The 425 L/d/PMU is based on site specific trailer park flow data, plus province wide data and adding a 1.5 safety factor to account for the variability in the flow data.

**ANSWERS TO
ECA RELATED QUESTIONS RAISED
BY CIO**

Financial Assurance

- The requirement for a Financial Assurance (FA) is not a standard requirement for all applications for approval of sewage works with PMUs (see MOE Guideline F-15)
- FA will generally be imposed where a potentially serious environmental risk is identified (e.g., sewage works may be abandoned or may cause environmental damage)
- Every 3 years, the Owner is required to submit to the Director a re-evaluation of the FA amount
- At the time of the FA re-evaluation, it may be changed

Expanding A Site and ECA

- MOE prefers one ECA for all on-site sewage systems located at the properties that are registered under one Owner.
- The one ECA approach will make it easier to ensure consistency under the most updated ECA format for better abatement and compliance and cumulative effects.
- If in the proposed expansion, all facilities and sewage works, are to be located entirely on an adjacent property, then it is possible to apply for an ECA for only the expanded proposed works without putting all other existing sewage systems under a new common ECA.

QUESTIONS ?