Table 1: Site characterization, assessment and categorization activities for septic systems.

Preliminary activities	Information from research
Preliminary review	✔ PEI Site Assessor App- PEI Soil Survey: o soil map unit(s) o contours o swales, ditches, low areas o steep slopes (>30 degrees) o drainage class(es) o dominant surface texture(s) o bedrock or high water table o aerial photos (PEI Site Assessor App) o wetlands ✔ Google Maps (aerial photo showing buildings, roads, fields, treelines, etc.) ✔ Site survey map (if available) ✔ Property/Lot size ✔ Location of existing wells ✔ Regulations / horizontal setbacks ✔ Planned size of house/building ✔ Planned location of new well
Scheduling / Time Frame	✔ Planned construction schedule ✔ Date and time to meet excavator operator and client
Field activities	**Information from field study**
Identification of unsuitable areas	✔ Water supply well(s) separation distances ✔ Buffer zones / environmental setbacks: o watercourses o wetlands o eroding cliffs o peat bogs ✔ Other limiting physiographic features
Subsurface investigations	✔ Soil profile from test pit ✔ Water inflow, seepage or saturation indicating ground water table ✔ Estimated maximum seasonal high ground water table from redoximorphic features (mottles) noted in soil profile. ✔ Bedrock ✔ In situ permeability of soil (Kfs)
Laboratory testing (OPTIONAL)	✔ Grain size analysis of samples to confirm texture-by-feel classifications and/or to determine textural subclasses
Soil / Lot Categorization Report	✔ Integration of all collected data ✔ Identification of preferred area(s) for drain fields. ✔ Identification of unsuitable areas ✔ Soil categorization (could be more than one) ✔ Design depth of permeable soil

Source: Adapted from *USEPA Onsite Wastewater Treatment Systems Manual*

Table 2. Practices to characterize subsurface conditions through test pit inspection.

Description of activity	Process Steps	Information to be collected
Select test pit site	Pick site near but not in proposed drain field if possible. Orient pit so sunlight illuminates vertical pit face	Location of drain field.
Excavate pit	Excavate to preliminary depth required to log soil profile. (1.2m/4ft)	Soil profile depths, required separation to ground water or seasonally high water table
Enter test pit	Take safety precautions; beware of cave-ins; select area of pit wall to examine	Use safe depths for unbraced pit walls
Expose natural soil structure	Use wide tooth trowel to scarify area 0.5m wide along full height of pit wall	Soil structural TYPE (e.g., prismatic, columnar, blocky, platy, granular, massive, single grain) and grade (weak, moderate, strong)
Describe soil horizons	Note master soil horizon layers; describe features of each horizon	✔ Depth of horizon, thickness ✔ Moisture content ✔ Color (hue, value, chroma) ✔ Texture of < 2 mm soil fraction ✔ Volumetric percentage of rock ✔ Presence/absence of redox (mottles) ✔ Soil structure GRADE ✔ Consistence, cementation ✔ Soil density (penetration resistance) ✔ Abundance, size, distribution of roots ✔ Presence/absence of carbonates
Determine soil changes	Look for lateral changes in soil profile; compare to profile of additional pit(s)	✔ Determine changes; if any, in soil profile across proposed site ✔ Photograph test pit walls with measuring tape for scale.
Interpret results	Identify limiting depths (to bedrock, groundwater table) if any	✔ Check vertical separation distances ✔ Identify mottled layers, concretions ✔ Determine depth to saturation ✔ Measure depth to limiting layer ✔ Identify highly permeable layers
Collect soil sample(s) for lab testing (OPTIONAL)	Label samples including site location, test pit #, depth. Deliver samples to lab for detailed textural classification	Confirm texture-by-feel classifications and/or to determine textural sand subclasses (i.e. very coarse, coarse, medium, fine, and very fine sand)
Conduct in situ permeability testing	Conduct test(s) as required using Pask constant head permeameter	Confirm Kfs of deepest permeable soil horizon.
Issue site categorization report	Present all required data in a suitable format using acceptable forms	Report presenting findings and recommendations for soil/lot categorization, design depth of permeable soil and identification of preferred and unsuitable area(s) for drain fields.

Source: Adapted from *USEPA Onsite Wastewater Treatment Systems Manual*

Table 3. Site assessment plan and checklist

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Owner/Client Information

Name_____ Job No._____

Address_____

PID# _____ Projected design flow_____Lpd

Existing use_____ Intended use_____

Surface Features

_____Property boundaries

_____Existing/proposed structures

_____Existing/proposed wastewater systems

_____Soil investigation points

_____Contours / elevations

_____Proposed system component locations

_____North arrow on site plan

_____Surface water features

_____Existing/proposed water supply wells

_____Vegetation (especially alders, bullrushes, etc.)

_____Location of area of suitable soils

_____Slope aspect & percent

_____Other significant features

_____ Scale on site plan

Comments_____

_____

Subsurface Features

_____Detailed soil description (horizons, depth, texture, color, structure, density, redoximorphic features, consistence, moisture, roots, and boundaries)

_____Depth and thickness of strong textural contrasts

_____Depth to seasonal saturation

_____Permeability

_____Deep completed (1.8m / 6 ft)

_____Depth to bedrock

_____Depth to permanent water table

_____Soil formation factors

_____Depth to perched water table

_____Soil samples collected (sieve testing)

_____Samples for lab testing

_____Type of bedrock

_____Inferred groundwater flow direction

Comments_____

_____

Site Assessor Name_____ **Date** _____