Records of Site Condition

A Guide on Site Assessment, the Cleanup of Brownfield Sites and the Filing of Records of Site Condition

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PREFACE

The Guide on Site Assessment, the Cleanup of Brownfield Sites and the Filing of Records of Site Condition describes the legislative and regulatory requirements for assessing the environmental condition of a site, the cleanup of brownfield sites and the submission and filing of Records of Site Condition in Ontario's Environmental Site Registry. This Guide provides an overview of the requirements under Parts XV.1 and XV.2 of the *Environmental Protection Act* (EPA) and the regulations under those Parts. The associated provisions in the *Ontario Water Resources Act, the Pesticides Act*, the *Municipal Act*, 2001, the *Planning Act* and the *Education Act* are also briefly described.

This Guide is intended to provide property owners, consultants (i.e. "qualified persons (QPs)"), municipalities, building officials, the public and other interested parties with an overview of the requirements under the EPA and other Acts. The Guide focuses on the requirements for environmental site assessment (ESA) and cleanup, and the filing of a Record of Site Condition (RSC) under Part XV.1 of the EPA and Ontario Regulation 153/04 (O. Reg. 153/04). The Guide reflects amendments to O. Reg. 153/04 up until December 2019. The Guide also touches upon relevant provisions of the On-Site and Excess Soil Management Regulation (O. Reg 406/19, hereafter referred to as the Excess Soil Regulation).

The Guide describes the provisions concerning protection from liability from orders under Part XV.1 of the EPA which apply to property owners who have filed an RSC and under Part XV.2 of the EPA which apply to municipalities, secured creditors and others who may need to undertake certain investigative or other actions related to RSC properties.

It should be noted that the description of the legislative and regulatory requirements given in this Guide is for convenience only. A copy of the relevant legislation and regulations should be obtained to determine the exact requirements.

This Guide may be amended from time to time. The Ministry will make guidance available for QPs on a variety of topics through the Ministry's Brownfields Redevelopment webpage.

1.0 INTRODUCTION

The revitalization of vacant land where past industrial or commercial activities may have left contamination behind is generally known as brownfield redevelopment. The revitalization of brownfields sites is important to help ensure a clean, healthy environment and to help promote strong communities and economic development. Revitalization of brownfield sites encourages better patterns of urban growth, because contaminated lands are cleaned up, a more efficient use is made of existing infrastructure and an alternative is provided to developing farmland and other greenfield sites. Cleaning up the contamination and reusing the land to make way for places like houses, offices, schools and recreation centers slows urban sprawl and supports intensification, neighbourhood rejuvenation, and the use of existing infrastructure. At the same time, any threats to human health or the environment related to site contamination are addressed.

Legislative and regulatory requirements have been put in place to help encourage the revitalization of brownfield sites while helping to ensure human health the environment are protected. These requirements establish clear rules for environmental site assessment (ESA) and cleanup, various property-based standards and ensure only Qualified Persons (QPs) undertake this work and provide for the submission and filing of an RSC in a public registry. Provisions have been included to reduce the potential liability from orders for property owners who have an RSC filed in the Environmental Site Registry after assessing and conducting remedial actions. Provisions have also been included to reduce the potential liability from orders for municipalities, secured creditors and others who may need to undertake certain investigative or other actions related to RSC properties. Provisions in the *Municipal Act*, *2001*, the *Planning Act* and the *Education Act* are designed to facilitate the planning and financing of brownfields redevelopment projects.

The focus of this Guide is on the requirements set out under Parts XV.1 and XV.2 of the EPA and Ontario Regulation 153/04 (O. Reg. 153/04). The Guide also includes the amendments to O. Reg. 153/04 filed on December 4, 2019 (O. Reg. 407/19). The associated provisions in the *Ontario Water Resources Act (*OWRA), the *Pesticides Act,* the *Municipal Act*, *2001,* the *Planning Act* and the *Education Act* are also briefly described. The Guide also touches upon relevant provisions of the Excess Soil Regulation.

This Guide has been prepared to provide property owners, QPs, municipalities, building officials, the public and other interested parties with an overview of the legislative and regulatory requirements in the following areas:

- assessing the environmental condition of a property (Section 4.0);
- the qualifications required for persons undertaking ESA, Risk Assessments (RA) and submitting an RSC for filing (Section 5.0);
- the standards to be met for soil, ground water and sediment (Section 6.0);
- the use of RA if needed to develop property-specific standards
- (Section 7.0);
- management of excess soil (Section 9.0);
- completing an RSC (Section 10.0);
- submitting for filing and viewing RSCs on the Environmental Site Registry (Section 11.0);
- when it is mandatory to file an RSC (Section 12.0); and
- limited liability protection from certain orders for property owners if an RSC is filed, and for municipalities, secured creditors and others (Section 14.0)

The Guide also provides an overview of site remediation (Section 8.0) and the integration of land use planning and environmental requirements (Section 13.0).

Unless otherwise noted, “Ministry” refers to the Ministry of the Environment, Conservation and Parks.

2.0 OVERVIEW OF THE LEGISLATION

This section provides a summary of Parts XV.1 and XV.2 of the EPA and O. Reg. 153/04 made under that Act, as well as relevant aspects of several other Acts.

2.1 Environmental Protection Act

Part XV.1 of the EPA sets out the requirements for the assessment and cleanup of a property and the submission and filing of an RSC in the Environmental Site Registry. Part XV.1 also includes provisions reducing the potential liability from orders for property owners after an RSC has been filed. Part XV.2 contains provisions reducing the potential liability from orders for municipalities, secured creditors and others who may need to undertake certain investigative or other actions related to RSC properties.

Under Part XV.1 of the EPA, a property owner may submit an RSC for filing on the Environmental Site Registry if the applicable standards are met for soil, ground water and sediment. An initial assessment (referred to as a “phase one environmental site assessment” (Phase one ESA)) is required to determine the likelihood that contaminants have affected the property. A more detailed assessment (referred to as a “phase two

environmental assessment" (Phase two ESA)) may be required to determine the concentration of contaminants on the property. For some types of proposed changes of property use, such as from industrial to residential, the filing of an RSC is mandatory.

Certification statements set out in an RSC about the environmental condition of a property can only be made by a QP. If a phase two ESA has been conducted for the property, the QP must certify that the property meets the applicable site condition standards prescribed by O. Reg. 153/04 or that the property meets the property-specific standards specified in an RA that has been accepted by the Director. If the Director accepts an RA, the Ministry may also issue a Certificate of Property Use (CPU) that requires the owner to take certain risk management actions or refrain from doing certain things at the property.

Part XV.2 of the EPA contains provisions specific to municipalities, secured creditors, receivers, trustees in bankruptcy, fiduciaries (e.g. an executor of an estate) and property investigators who may need to undertake certain investigative or other actions related to RSC properties. These provisions protect these parties from being considered a "person responsible" for contamination at a property they do not own simply because they took certain action in respect to the property. These provisions also provide limited five-year protection to municipalities that take ownership of a property through a failed tax sale and to secured creditors that take ownership by foreclosure.

O. Reg. 153/04 made under the EPA provides additional details on matters related to submission and filing of an RSC such as ESA requirements and the applicable standards. O. Reg. 298/02 made under the EPA provides additional details on the provisions specific to municipalities, secured creditors, receivers, trustees in bankruptcy, fiduciaries and property investigators.

The Excess Soil Regulation under the EPA supports improved management of excess construction soil. That regulation, as well as complementary amendments to O. Reg. 153/04, reduces soil management costs, while protecting human health and the environment. The regulation is phased in over time. More information about Excess Soil Regulation can be found in Section 9.0 of this Guide.

2.2 Ontario Water Resources Act and Pesticides Act

The OWRA contains protections from orders provided to property owners when an RSC has been filed in the Environmental Site Registry, as well as provisions specific to municipalities, secured creditors, receivers, trustees in bankruptcy, fiduciaries and property investigators who may need to undertake certain investigative or other actions related to RSC properties.

O. Reg. 299/02 made under the OWRA provides additional details on the provisions specific to municipalities, secured creditors, receivers, trustees in bankruptcy, fiduciaries and property investigators.

The *Pesticides Act* contains provisions similar to those in the OWRA with respect to municipalities, secured creditors, receivers, trustees in bankruptcy, fiduciaries and property investigators who may need to undertake certain investigative or other actions related to RSC properties.

2.3 Municipal Act, 2001

The *Municipal Act*, *2001* contains provisions that allow municipalities to provide tax assistance to encourage site cleanups and to remove barriers to the use of the tax sale process in relation to RSC properties.

Brownfields Financial Tax Incentive Program

The *Municipal Act*, *2001* (Section 365.1) allows municipalities to provide for municipal tax assistance to encourage the cleanup of contaminated properties. The Brownfields Financial Tax Incentive Program (BFTIP) is a financing tool from the Government of Ontario that helps municipalities give tax assistance to clean up brownfield properties.

Under the program municipalities can get provincial education property tax assistance to match municipal property tax assistance so that a property owner can clean up eligible brownfield properties. If a property is eligible for the program, the province can cancel all or a portion of the property owner's education property taxes for up to 3 years. Matching is proportional, so if a municipality cancels 50% of municipal property taxes to help the property owner, then the Province would consider cancelling 50% of the education portion of the property tax.

Eligibility for tax assistance includes the following two criteria:

- The property must be covered by a Community Improvement Plan to rehabilitate existing built-up areas. The Community Improvement Plan may also include municipal financial incentive programs for land such as grants and loans to encourage private sector investment; and
- The site must have results from a phase two ESA that show the property needs environmental remediation. That means work has to be done to make sure the property meets the appropriate standards under the EPA.

The development and availability of a community improvement tax assistance program is determined by each municipality, based on their local circumstances and priorities.

Municipalities wishing to undertake a community improvement tax assistance program should consult both the *Municipal Act, 2001* and the *Planning Act* for specific rules relating to tax assistance.

Municipalities apply on behalf of brownfield property owners. If you own brownfield property contact your local municipality.

The municipality must:

1. fill out an application for matching education property tax assistance for each property
2. provide a municipal tax assistance by-law with details about the municipal property tax assistance to be offered to brownfield property owner(s) to offset remediation costs over a set amount of time. The draft by-law must state that a tax assistance agreement is in place between the owner and the municipality before the owner can receive tax assistance
3. include a copy of the Community Improvement Plan and the by-law adopting it
4. include these 3 details:
    a. current assessment information
    b. estimates of the tax assistance to be provided
    c. confirmation of participation by upper-tier municipalities (if applicable)
5. contact the Senior Municipal Financial Advisor from your regional Municipal Services Office to submit the application package

Tax Arrears

Part XI of the *Municipal Act*, *2001* allows municipalities to hold a public sale of property that is in property tax arrears, including all reasonable costs, in order to acquire a cancellation price for the outstanding taxes.

The *Municipal Act, 2001* provides that municipalities may hold a public tax sale of a property that is in tax arrears, and if that process fails to yield a purchaser, the municipality has 24 months from the date of the failed tax sale to decide whether it will acquire ownership of that property. During this 24 month period, a municipality may enter the property to carry out an ESA of the land without being considered a ‘person responsible’.

Municipalities should consult the *Municipal Act*, *2001* for specific rules relating to the tax arrears provisions.

2.4 Planning Act

Section 28 of the *Planning Act* allows for the provision of municipal tax assistance under Section 365.1 of the *Municipal Act*, *2001*, within a community improvement plan framework.

If a municipality chooses, it may develop a community improvement plan that contains tax assistance policies and criteria that are intended to stimulate the cleanup of contaminated properties by offsetting the costs of remediation through the freezing or cancellation of the municipal portion of property taxes and, with the approval of the Ministry of Finance, the provincial portion of property taxes may be included. The offsetting of cleanup costs is limited to the "costs of rehabilitation" for an eligible property.

It also contains provisions that facilitate the approval of community improvement planning. Municipal councils may adopt a community improvement plan. After the expiry of the appeal period to the Local Planning Appeal Tribunal, and provided that no appeals have been made, the plan is in effect.

2.5 Education Act

The *Education Act* contains provisions that are complementary to the municipal tax relief provisions included in the *Municipal Act*, 2001.

3.0 OVERVIEW OF THE RECORD OF SITE CONDITION PROCESS

RSCs are submitted by QPs through an online portal. This submission includes details of the work undertaken, and supporting documentation including a summary of the ESA(s). RSC submissions are handled primarily by the Brownfields Unit with some support from district engineers as needed.

There are three types of RSCs:

1. RSC supported by a phase one ESA;
2. RSC supported by a phase one and two ESA (site meets generic standards); and
3. RSC supported by a phase one and two ESA, and an RA (site meets property specific standards).

The first step in the Brownfields process is always the completion of a phase one ESA. As part of the phase one ESA, QPs are required to identify any past or present activities that may have resulted in contamination on the property and identify any areas where contamination may potentially exist on the property. Based on this information, the QP will then determine if a phase two ESA is needed.

Phase two ESAs involves physical site investigations (i.e., undertaking sampling and analysis of soil, sediment and/or ground water) to determine the presence, location, and concentration of any contaminants. This information is presented in an important document within the ESA called the conceptual site model (CSM). Based on these investigations, the QP must then determine if remediation is necessary, and if so, confirm through sampling and analysis that the site meets the applicable site condition standards once work is complete.

If exceedances of standards are found, property owners can then decide to either:[1]

a) remediate the affected soil, ground water and/or sediment to meet the applicable site condition standards established by the Ministry (the “generic standards”); or
b) conduct an RA to establish property-specific standards The RA must first be reviewed and accepted by the Ministry; remediation and/or the implementation of Risk Management Measures may then be required in order to meet the property specific standards.

The generic standards include soil, ground water, and sediment standards for a number of different contaminants based on the type of property use and site characteristics (i.e. whether ground water is a drinking water source, whether a site is sensitive because of proximity to a water body, etc.). These standards are set at levels that ensure human health and the environment are protected.

Like the generic standards, the RA process involves protecting human health and ecological receptors from exposure to soil, ground water, and sediment with or without engineered Risk Management Measures based on site-specific characteristics. RAs rely heavily on the information contained in the phase two ESA. In order to use property-specific standards instead of the generic standards, property owners must submit their RA, which provides details of the property’s condition and the proposed property-specific standards, to the Ministry for review and acceptance before they submit the RSC for filing.

The technical requirements for an RSC are set out in Schedule A of O. Reg. 153/04.

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[1] On occasion, a proponent may do both; for example, they may remediate a portion of the property to the generic standard and use a risk assessment to develop property-specific standards for another portion of the same property.

Figure 1 provides an overview of the process after an RSC is submitted for filing.

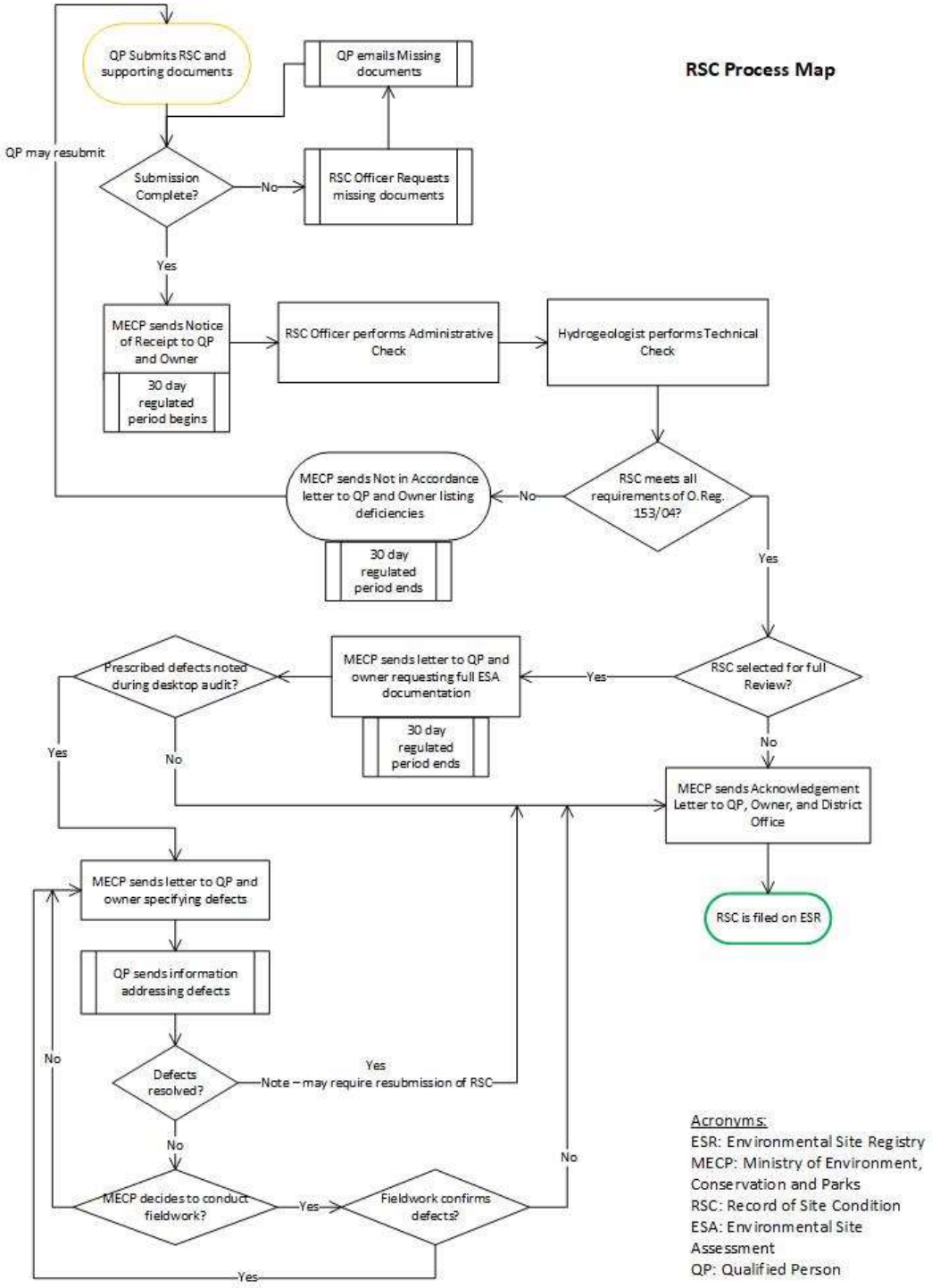

Figure 1 – RSC Process Map

Once the necessary ESAs and RA (if desired) have been completed, including any necessary remedial actions, the QP will submit an RSC for filing to the Ministry. The following expands on the steps reflected in Figure 1 that lead to the filing of an RSC on the Environmental Site Registry. Additional detail on documents that support an RSC submission can be found in section 10 of this Guide.

Completeness Check: A completeness check ensures all required information is entered and the correct supporting documents have been provided as part of the RSC submission package. If documents are incorrect or missing, corrections are requested via email.

Notice to QP and Service Standard Clock Starts: Once the RSC submission is deemed to be complete, a notice is sent to the QP and owner. The Ministry then has 30 business days to check the submission for compliance with legislated and regulatory requirements and respond to the owner.

Administrative Check: An administrative check is performed to determine if the submission meets all non-technical requirements (e.g., provides accurate site location and ownership information).

Technical Check: A hydrogeologist completes a technical check of the submission, to ensure it meets all regulatory requirements. This includes checking the CSM against regulatory requirements. The CSM is a key technical document that sets out details about the environmental condition of the property before and after any remedial activities.

Ministry Response: After checks are complete, the Director provides owners with one of the following three responses:

- a notice that the RSC has been filed to the Environmental Site Registry.
- A notice that the RSC cannot be filed as a result of deficiencies found in the RSC. Applicants are invited to revise their submission accordingly and resubmit. Multiple submissions may be required before the RSC meets all regulatory requirements and can be filed. There is no timeline or deadline for the proponent to resubmit their RSC to the Ministry.
- A notice that the Director intends to undertake a review (i.e., the RSC submission has been selected for a technical review). The proponent is required to submit documents to MECP. The review process allows the Ministry to take a closer look at the information that supports the RSC. This additional information is not part of routine RSC submissions.

4.0 ENVIRONMENTAL SITE ASSESSMENT

In general terms, an ESA in the context of RSC properties means the assessment of the environmental condition of the land including the soil, ground water and sediment, if any. ESAs form the basis of the RSC; however, ESAs are carried out for many other reasons including due diligence, a condition of sale of a property, for financing or a mortgage, or to obtain approval from a municipality for a building permit.

Under Part XV.1 of the EPA, an ESA is required in order to submit an RSC for filing in the Environmental Site Registry. Part XV.1 of the EPA defines two types of ESAs: a phase one ESA and phase two ESA. In order to submit an RSC for filing, a minimum of a phase one ESA must be completed. A phase two ESA may also be required.

In carrying out the sampling and analysis of soil, ground water or sediment as part of a phase two ESA, the proper analytical procedures must be followed, and the analysis must be done by an accredited laboratory. These requirements are set out in O. Reg. 153/04 and the "Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act (July 2011)".

Part XV.1 of the EPA defines two phases of ESA work; the phase one ESA and the phase two ESA. It is important to note that Phase two ESAs include remediation and confirmatory sampling steps for the purposes of Part XV.1 of the EPA and O. Reg. 153/04, and the conclusions of the phase two ESA are that all media (i.e., soil, ground water and sediment, if any) meet the applicable site condition standard or a standard specified in a risk assessment (that has been accepted by the Director).

4.1 Phase One Environmental Site Assessment

A phase one ESA is conducted "to determine the likelihood that one or more contaminants have affected all or part of the property" (refer to Definitions in Part XV.1 of the EPA). The specific requirements for carrying out a phase one ESA are set out in Part VII and Schedule D of O. Reg. 153/04.

Under O.Reg.153/04, a phase one ESA must include a records review, site reconnaissance, interviews, an evaluation of the information from these activities, the preparation of a written report and submission of the report to the property owner. A phase one ESA does not include sampling and analysis of soil, ground water or sediment. Sampling and analysis are part of a phase two ESA.

Additional guidance on completing phase one ESAs can be found in the Ministry's "Guide for Completing Phase One Environmental Site Assessments Under O. Reg. 153/04 (July 2011)". For the exact requirements of a phase one ESA, please refer to O. Reg.153/04 and Schedule D to that regulation.

4.2 Phase Two Environmental Site Assessment

A phase two ESA is conducted "to determine the location and concentration of one or more contaminants in the natural environment" (refer to "Definitions" in Part XV.1 of the EPA). The specific requirements for carrying out a phase two ESA are set out in Part VIII and Schedule E of O. Reg. 153/04. It is worth noting that the phase two ESA completed under O.Reg.153/04 includes remediation and confirmatory sampling (i.e. by the end of the phase two ESA, the QP is concluding that the concentration of the contaminants on in or under the RSC property meets the applicable site condition standards or a standard specified in an accepted RA). When a RA approach is being used, the phase two report will require revisions (i.e., updates) after the risk assessment is accepted, to reflect that the property meets the standards in an "accepted" RA.

For the purposes of submitting an RSC filing in the Environmental Site Registry, a phase two ESA is mandatory under section 32(1) of O. Reg. 153/04 if a phase one ESA identifies a potentially contaminating activity (PCA) in, on or under the property, or if an area of potential environmental concern is identified, or if the property is used, or has ever been used, for an industrial use or as a garage, a bulk liquid dispensing facility (including a gasoline outlet) or for the operation of dry-cleaning equipment. These types of properties are defined as enhanced investigation properties. A phase two ESA may also be required for other reasons, such as where the QP is of the opinion that a phase two ESA is necessary because the phase one ESA indicates a potential for contaminants to be present in soil, sediment or ground water on, in or under the property.

Under O. Reg. 153/04, a phase two ESA must include planning and conducting a site investigation, reviewing and evaluating the information from the investigation, the preparation of a written report and submission of the report to the property owner. Sampling of all media is not required; however, a Phase two ESA must include the sampling and analysis of soil (default) or the analysis of ground water in certain circumstances. The site investigation must include the investigation of groundwater in any of the following circumstances:

1. it is required or advisable to do so to achieve any of the objectives of a phase two ESA or its components, or any of the other provisions of the regulation, Schedule E or other schedules of the regulation;
2. the phase two property is an enhanced investigation property; or

3. there is no soil left at the property and either:
    a. the investigation, sampling and analysis of soil already undertaken is not or cannot be used as part of the phase two ESA or doesn't meet the requirements and objectives of the phase two ESA, or
    b. no investigation, sampling and analysis of soil has been undertaken.

In the circumstances described in #3 above (i.e., all of the soil has been removed from the property), the QP is required to investigate, sample and analyze ground water in bedrock on the property and demonstrate that it meets the applicable site condition standards. Examples of situations where the QP would be required to undertake an investigation of ground water in bedrock include:

- the soil present at the site is not sufficient to investigate, sample and analyze to meet the requirements and objectives of a phase two ESA,
- an investigation, sampling and analysis of soil was already undertaken by a previous QP but the work was not done in accordance with O.Reg.153/04 and,
- the soil was investigated, sampled and analyzed in accordance with O.Reg. 153/04; however, the final soil samples collected at base of the excavation (before soil was all removed) exceeded the applicable site condition standard.

QPs and property owners should be aware that phase two ESA work will most often require more than one iteration of field work. The initial field work often is a broader investigation to check on areas of potential environmental concern located across the site; soil and ground water samples (where applicable) are collected and analyzed at an accredited lab. The results of analyses, which are received a few weeks after the field work is completed, are then evaluated by the QP and often the next sampling and analysis plan is developed to further assess any exceedances of standards found in the subsurface, as well as any gaps identified during the initial field effort. Subsequent field work is also often required to delineate the extent of contaminants laterally and vertically in soil and ground water.

Additional guidance for completing phase two ESAs can be found in the Ministry's "Guide for Completing Phase Two Environmental Site Assessments Under Ontario Regulation 153/04 (July 2011)". Note that requirements of the Excess Soil Regulation may need to be met at RSC sites, before, during or after the RSC process.

4.2.1 The Phase Two Conceptual Site Model

CSMs are meant to integrate technical information from various sources, support the selection of sample locations for establishing concentrations of contaminants, and identify gaps and guide investigation activities. The CSM should cover how the site became contaminated, including what activities occurred at the site or nearby; how contaminants were introduced to soil, sediment or ground water; and, the nature, fate

and extent of contaminants at the site.

Development of the CSM is not the final step in the completion of the phase two ESA report. The QP should have a basic CSM at the phase one ESA stage and this is then used as a basis for identifying next steps in the phase two ESA. As the QP gathers more information about a site through field investigations (or iterations), the CSM evolves. The CSM is meant to help the QP identify data gaps.

Information in the CSM for RSC and a Pre-Submission Form (PSF)/RA submission is illustrated through a combination of narrative, diagrams and figures. The CSM should reflect not only the current condition of the property, but also the pre-remedial condition. The development of a CSM is expected to be iterative and be started as early as possible in the investigation. The presentation should be clear and concise to help in the Ministry's processing of the RSC or PSF/RA. Organized information allows for a more efficient and timely review of all the requisite components. Detailed documents such as borehole logs or data tables are not part of the CSM; they are required in the Phase Two ESA report.

4.2.2 Delineation of Contaminants

The identification and delineation of COCs are essential components of site characterization and provide the necessary foundation of information to either remediate the site or undertake an RA. Lateral and vertical delineation is required for each COC in each media where the concentration is greater than the applicable site condition standard. Delineation is part of the phase two ESA; preliminary investigations target the most obvious potentially contaminated areas (e.g., suspected hot spots) and subsequent investigations aim to step out from the hot spots (i.e. expanding the sampling area laterally and vertically following the discovery of an exceedance of a standard in soil, sediment and/or ground water) to better define the extent of contaminants.

When locating sampling points following the discovery of exceedances, the QP needs to consider how far to step out laterally and vertically to determine the extent of the contaminant that is exceeding the applicable standard. There are no step-out distances stipulated in O. Reg. 153/04; however, the regulation contemplates that for every exceedance, the bounds of that exceedance will be investigated. Stepping out radially from an exceedance is part of the iterative nature of the phase two ESA work and should be planned for in advance, instead of falling back on data from sample locations that are too far away to be relevant.

The step-out distance will be informed by the size of the source of contaminants. The appropriate step-out distance will vary but when the Ministry observes the sample

spacing extending distances well away from the exceedance, the adequacy of the delineation will be flagged. For example, the ministry generally expects the step-out distances to be less than 40-50 metres and much less for smaller contaminant sources.

Cross-sections and plan view figures must clearly demonstrate the lateral and vertical extent of contaminants by identifying where contaminant concentrations exceed and meet the applicable site condition standards. The Ministry suggests the use of colour coding sample locations with two colours (meeting the standard, exceeding the standard).

4.2.3 Important Dates in the Record of Site Condition

The sequencing of the various dates required in the RSC can be confusing. There are certification dates, date of last work on the phase one ESA and date of last work on the phase two ESA. Additional detail is provided in the next sections.

4.2.3.1 Certification Date

The filing of a RSC in the Environmental Site Registry can reduce potential liability under certain environmental orders for persons including current and future property owners. This limited protection from orders is only in respect of a contaminant that was discharged into the natural environment before the certification date and was on, in or under the property as of that date. The longer the time period between the certification date and the filing date, the more uncertainty there is about the environmental condition of the property.

If a phase two ESA has not been conducted, the certification date is the day on which the QP forms the conclusion that the certifications made in the RSC are true. If a phase two ESA has been conducted, the certification date is the last day on which sampling was done that confirms that the property meets any applicable site condition standards, or any standard specified in a risk assessment, in relation to a contaminant.

4.2.3.2 Date of Last Work

The concept of the date of last work exists in O. Reg 153/04 so that stale dates for ESA reports can be established.

ESA Reports must be current (i.e., not more than 18 months old) in order to be used as the basis for phase two ESAs, RAs and RSC submissions. The start of the 18-month timeline for an ESA report is the date the last work was conducted:

- A phase one ESA report can be used as the basis of a phase two ESA if all of the records review, interviews and site reconnaissance required for the phase one ESA are completed within 18 months of the commencement of the phase two ESA;
- A phase one ESA report can be used as part of an RSC submission if all of the records review, interviews and site reconnaissance required for the phase one ESA are completed within 18 months of the submission date of the RSC;
- A phase two ESA report can be used as part of an RSC submission or as the basis for an RA if all of the planning the site investigation, conducting the site investigation and reviewing and evaluation the information gathered through the site investigation required for the phase two ESA is completed within 18 months of the submission date of the RSC, or the commencement of the RA, as the case may be.

If the ESA report in question is stale, it needs to be updated before it can be used. The update should include information about what happened to the property over the past 18 months in the context of any new PCAs/APECs that were not assessed and that may have introduced new contaminants to the property. The ESA work and analytical results previously completed that supports the RSC submission would still be valid.

For an RSC submitted on the basis of a phase one ESA, the date of last work will be on or before the certification date. For an RSC submitted on the basis of a phase two ESA, the certification date will be on or before the date of last work.

The commencement date of the RA is the date on which the PSF is submitted to the Ministry for review. It is not uncommon for the date of last work (on components of the phase one ESA or phase two ESA) to be greater than 18 months by the time an RA is accepted by the Director. In these cases, before the RSC can be submitted for filing, both the phase one and phase two ESA reports must be updated. Updates to the phase one ESA and phase two ESA reports are expected to be prepared as standalone addenda report that address the requirements identified in O. Reg. 153/04 and identified as an “update” in the list of reports used in submission and filing of an RSC in the Environmental Site Registry.

4.3 Analytical Protocols and Lab Accreditation

Section 47 of O. Reg. 153/04 requires that the sampling and analysis of soil, ground water and sediment be carried out using proper analytical procedures and by an accredited laboratory.

4.3.1 Analytical Protocols

Under Section 47 of O. Reg. 153/04, the procedures for the collection, handling and analysis of samples must be in accordance with the document entitled “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” (Analytical Protocol) dated July 1, 2011, as it may be amended from time to time. The analytical methods and quality control protocols set out in the Analytical Protocol address matters such as sample handling and preservation requirements before samples arrive at the laboratory as well as, laboratory quality control and quality assurance, the protocol for accepting analytical results, and reporting of data.

4.3.2 Lab Accreditation

Section 47 of O. Reg. 153/04 requires the use of an accredited laboratory for the analysis of soil, ground water and sediment. The analyses of the samples mentioned must be carried out by a laboratory that has been accredited in accordance with the:

1. International Standard ISO/IEC 17025 – General Requirement for the Competence of Testing and Calibration Laboratories, dated May 5, 2005, as amended from time to time; and,
2. standards, if standards for proficiency testing have been developed by the Standards Council of Canada, the Canadian Association for Laboratory Accreditation or another accreditation body accepted by the Director for a parameter set out in the Soil, Ground Water and Sediment Standards

5.0 QUALIFIED PERSONS

Part XV.1 of the EPA requires a QP to undertake certain activities related to the submission and filing of an RSC in the Environmental Site Registry. A QP must meet the qualification requirements specified by O. Reg. 153/04.

5.1 Types of Qualified Persons

O. Reg. 153/04 defines two different types of QPs, including a QP for:

1. conducting or supervising a phase one ESA and a phase two ESA, and completing the certifications in an RSC; and,
2. preparing or supervising an RA for submission to the Ministry for acceptance under

Part XV.1 of the EPA.

Section 5 of the Regulation sets out the qualifications for conducting or supervising ESAs and completing the certifications while section 6 specifies the qualifications required for RA.

5.2 Qualified Persons for Environmental Site Assessments and Records of Site Condition

QPs conducting or supervising a phase one ESA, conducting or supervising a phase two ESA, and completing the certifications that must be completed by a QP (also referred to as QP_{ESA}) in an RSC must meet the following qualifications:

- the person holds a licence, limited licence or temporary licence under the *Professional Engineers Act*; or
- the person holds a certificate of registration under the *Professional Geoscientists Act* and is a practising member, temporary member or limited member of the Association of Professional Geoscientists of Ontario.

The QP has the responsibility to conduct various aspects of the ESAs as well as overall responsibility for ensuring the ESAs meet the requirements of O. Reg. 153/04.

5.3 Qualified Persons for Preparing Risk Assessments

QPs preparing or supervising RAs (also referred to as QP_{RA}) are those people with the educational and experience requirements specified in Section 6 of O. Reg. 153/04. Demonstration that a person has these qualifications must be submitted to the Ministry along with the PSF (refer to Section 7.0 of this Guide). The PSF includes additional instructions and a list of the documents that will need to be provided with the submission.

The minimum educational requirement for a QP preparing or supervising an RA is a bachelor's degree in science, engineering or applied technology from a post-secondary institution.

Experience for a QP preparing or supervising an RA is also required in the general field of ESA and the more specific field of contaminated site risk assessment. Experience requirements for ESA vary from 5 to 8 years depending upon the level of post-graduate education achieved, as follows:

- if the person holds a doctoral degree in science or engineering, 5 years of

experience is required;
- if the person holds a master's degree in science or engineering, 7 years of experience is required; otherwise,
- 8 years of experience is required.

Within the 5, 7 or 8 year periods of required experience, at least 2 years of experience are required in the field of contaminated site risk assessment.

5.4 Conflict of Interest

Under section 6.1 of O. Reg. 153/04, if a QP or their employer holds a direct or indirect interest in an RSC or RA property, the QP is not permitted to (in respect of that RSC or RA property):

- conduct or supervise a phase one or phase two ESA;
- complete the certifications required in an RSC; or,
- prepare or supervise an RA.

The direct or indirect interests mentioned above could include interests of a pecuniary (e.g. financial) or personal (e.g. benefit to self or spouse) nature. Some examples of situations where a QP or their employer may be considered to hold a direct or indirect interest in a property include a property development company's in-house QP conducting an ESA in respect of an RSC property owned by that company, or a municipal employee preparing an RA for the municipality that employs them. Section 6.1 provides that these conflict of interest rules do not detract from any obligations imposed on QPs under the *Professional Engineers Act* or *Professional Geoscientists Act*.

5.5 Certificate of Status

A Certificate of Status provides the current status of a corporation (e.g. active, dissolved or in default). A Certificate of Status or equivalent document is required with an RSC submission when the property owner for an RSC property is not an individual (e.g. a municipality, corporation, trustee). A previous requirement for certain QPs to provide the Director with a current copy of his or her company's Certificate of Status or equivalent document was revoked in December 2019.

5.6 Professional Liability Insurance Requirements

O. Reg. 153/04 requires that all QPs maintain professional liability insurance coverage unless they are undertaking work on behalf of their employer in relation to a property owned by their employer. The insurance coverage must address claims against the QP made in relation to any action undertaken as a QP during the period that the person is a QP and for two years thereafter. The minimum insurance coverage required is one million dollars. Professional liability insurance provided for an individual by the company they are employed with would normally satisfy the regulatory requirement.

5.7 Selecting a Qualified Person

Property owners should consider conducting their own due diligence before retaining a QP.

This could include such things as:

- getting a minimum of three detailed quotations;
- asking for evidence that the person has the relevant professional designation required by O. Reg. 153/04 and, in the case of a QP_{RA}, the required education level and experience;
- doing their own research on the person's experience level, record of success and expertise;
- asking for references from previous clients who have had similar work done; and
- asking for proof that the person is covered by the professional liability insurance required by O. Reg. 153/04.

6.0 SITE CONDITION STANDARDS

Two approaches for cleaning up contaminated properties are provided for in Part XV.1 of the EPA and O. Reg. 153/04. Either of these approaches may be used when a decision has been made to submit an RSC for filing. The two approaches consist of:

1. Meeting generic site condition standards (i.e. generic soil, ground water and sediment standards developed by the Ministry); or,
2. Meeting property specific standards developed as part of an RA.

The generic site condition standards for soil, ground water and sediment are discussed here in Section 6.0 of the Guide. RA, including development of property specific standards, is discussed in Section 7.0.

The generic site condition standards are set out in a series of tables included in the Ministry document entitled "Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act", dated April 15, 2011, herein referred to as the Standards Document[1]. Note that the Standards Document is available on the Ontario.ca brownfields webpage and may be updated from time to time.

Generic site condition standards for soil, ground water and sediment are included in Tables 1 to 9 and have been developed to provide protection against the potential for adverse effects to human health, ecological health and the natural environment in a variety of exposure scenarios associated with typical property and ground water uses. Background soil concentrations and analytical detection limits were also considered when developing the generic site condition standards. The Ministry's process for developing generic site condition standards, including a more detailed description of environmental fate and transport modelling, human and ecological receptors and specific exposure scenarios, is documented in the Ministry's "Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario", dated April 15, 2011.

Selecting the applicable site condition standards for a given property will depend on a series of factors, including the intended property use, soil texture, ground water use (potable or non-potable), and several other soil and/or property characteristics. These are discussed in greater detail below.

6.1 Intended Property Use

Land use types are usually designated in an official plan and enforced by a municipality's zoning bylaws, which can specify the permitted land use (e.g. agricultural, residential, parkland, industrial, commercial, etc.). Note that the property use as defined under O. Reg. 153/04 may not necessarily correspond to the municipally zoned land use.

When selecting the appropriate standards to be applied to a property, one must first determine the intended use of the property, based on the rules and definitions included in O. Reg. 153/04. The QP is required to identify the intended use in the RSC, even in situations where the property has been cleaned up to a more stringent standard. For

[1] This should not be confused with the Excess Soil Standards, which are found in Part II of the document entitled "Rules for Soil Management and Excess Soil Quality Standards".

example, if a property will be used for a community use in the future but the property was remediated to residential standards, the intended use identified in the RSC is community use. The appropriate property use to apply is the most sensitive actual or intended use made of any part of the property.

The generic site condition standards have been organized in the Standards Document to reflect the following property use groupings:

- Agricultural or Other Use;
- Residential / Parkland / Institutional Use; and
- Industrial / Commercial / Community Use.

The above terms used in these groupings are defined in O. Reg. 153/04. If a property involves mixed uses, the most sensitive use category drives the applicable site condition standard (see 12.2 – Mandatory Filing Requirements of this Guide for further information).

6.2 Soil Texture

O. Reg. 153/04 defines soil, except for the purposes of shallow soil property (as defined in section 43.1 of O. Reg. 153/04), as "unconsolidated naturally occurring mineral particles and other naturally occurring material resulting from the natural breakdown of rock or organic matter by physical, chemical or biological processes that are smaller than 2 millimeters in size or that pass the US #10 sieve".

Soil texture is divided into two categories: 1) coarse textured soil which contains more than 50% by mass of particles that are 75 microns or larger in mean diameter and 2) medium/fine textured soil which contains 50% or more by mass of particles that are smaller than 75 microns in mean diameter.

The soil and ground water standards for some organic and inorganic chemical parameters listed in Tables 2 to 9 of the Standards Document have different values for coarse and medium/fine textured soil. Soil texture can influence contaminant fate and transport (e.g. vapour intrusion, contaminant movement in soil and ground water) and the availability of contaminants (for uptake/intake by plants and animals) which have adhered to soil particles. Generally, the standards for coarse textured soil are numerically lower than those for medium/fine textured soil.

The applicable site condition standards for coarse textured soil must be used if a grain size analysis has not been completed. A grain size analysis must be undertaken by a laboratory to determine the particle size fractions and to allow selection of the appropriate soil standards based on soil texture. At some sites there may be significant

lateral and vertical variations in soil texture. Soil samples for grain size analysis should be collected at depths and locations where the contaminant movement is likely to occur.

If the soil at a property consists of both coarse textured and medium/fine textured soil, the coarse textured site condition standards must be applied if at least 1/3 of the soil at the property, measured by volume, consists of coarse textured soil. Also, consideration should be given to choosing the standards for the more permeable material at a given site in situations where: 1) contaminant migration from impacted areas located on-site to receptors of potential concern (e.g. houses, buildings) located either on or off the site could be affected; or, 2) a site is very large in size and contains large portions of coarse textured soil which may not be protected by a medium/fine soil value.

6.3 Environmentally Sensitive Areas

Under O. Reg. 153/04, properties in an environmentally sensitive area must meet Table 1 Site Condition Standards or an RA can be used to derive property specific standards. A property is in an environmentally sensitive area if specific soil pH value(s) are out of range or if it is within, adjacent to, or within 30 m of an area of natural significance. A property can also be treated as an environmentally sensitive area for other reasons if the QP is of the opinion that given the characteristics of the property and the certifications that they would be required to make when submitting an RSC for filing in the Environmental Site Registry, it is appropriate to apply Table 1 standards. Additional discussion is provided below.

6.3.1 Soil pH

A property is in an environmentally sensitive area if the soil at the property has a pH value as follows:

1. for surface soil, pH less than 5 or greater than 9; or,
2. for sub-surface soil, pH less than 5 or greater than 11.

Note that pH measurements can be averaged under specific circumstances, so long as the samples being averaged (using an appropriate method) are from the same location and depth. Refer to the Ministry's guidance "Environmentally Sensitive Areas: pH levels", available on the Ministry's Brownfields Redevelopment webpage.

6.3.2 Areas of Natural Significance

A property is in an environmentally sensitive area if the property is either within, is adjacent to, or is within 30 m of an "area of natural significance" as defined in O. Reg. 153/04. An area of natural significance includes the following:

- An area reserved or set apart as a provincial park or conservation reserve under the *Provincial Parks and Conservation Reserves Act,* 2006.
- An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources and Forestry as having provincial significance.
- A wetland identified by the Ministry of Natural Resources and Forestry as having provincial significance.
- An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant.
- An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the *Niagara Escarpment Planning and Development Act*.
- An area identified by the Ministry of Natural Resources and Forestry as significant habitat of a threatened or endangered species.
- An area which is habitat of a species that is classified under section 7 of the *Endangered Species Act,* 2007 as a threatened or endangered species.
- Property within an area designated as a natural core area or natural linkage area within the area to which the *Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act,* 2001 applies.
- An area set apart as a wilderness area under the *Wilderness Areas Act.*

6.4 Potable and Non-Potable Ground Water Conditions

Applicable site condition standards are provided for either potable (Tables 2, 4, 6 and 8) or non-potable (Tables 3, 5, 7 and 9) ground water conditions. The applicable site condition standards for potable ground water were developed for those sites where ground water is being used, or could be used as a source of drinking water. Amendments to section 35 of O. Reg 153/04 clarified and updated the requirements for the use of non-potable site condition standards which come into effect July 1, 2020.

The QP is required to undertake the necessary work as part of the phase one ESA to confirm the following conditions and document this information in the phase one ESA and the phase one CSM when considering the use of non-potable standards at the

property:

1. The intended property use for the RSC property is not “Agricultural or Other use”. Prohibiting the application of non-potable site condition standards to this category of properties is intended to promote the protection of ground water at these more sensitive sites.
2. The RSC property and all other properties within 250 m of the boundaries of the property are supplied by a municipal drinking water system, as defined in the *Safe Drinking Water Act, 2002.* This is intended to protect existing private water supplies.
3. The RSC property is not located in an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of ground water. This condition is intended to ensure well-head protection areas are protected as sources of drinking water.
4. There are no wells used as sources of water for human consumption or agricultural use at the RSC property or within the phase one study area (i.e. wells other than the municipal drinking water well, such as a well on a property used as a backup water supply even when on municipal drinking water system). This condition requires that wells used for human consumption or agricultural use be identified and considered when contemplating using non-potable ground water site condition standards.

When the QP confirms conditions 1 through 4 (above) apply, the QP or owner must notify the municipality of the intention to apply non-potable ground water standards to the property. This ensures that the municipality is aware of the proposal to use a non-potable ground water condition and has an opportunity to raise any concerns with respect to the use of these standards for the property. When these conditions apply, QPs that submit the RSC for filing within 30 days of the date they notify the municipality, require a letter from the municipality stating no objection to the use of non-potable ground water standards.

Where there is a multi-tiered municipality, the QP or owner will need to obtain a no objection letter from the municipality that has authority over the municipal drinking water system (e.g. the power to pass by-laws respecting water production, treatment and storage and enforcement). The Ministry expects that, where there is an upper and lower tier municipality, the municipality preparing the no objection letter will provide a copy to the other municipal tier. If the RSC is being submitted for filing more than 30 days after the notification date (i.e. the date the municipality was notified of the intent to use non-potable standards), no objection is assumed and there is no requirement to acquire a written no objection letter from the municipality. Effective July 1, 2020, this notification is valid for 12 months.

The language in a municipality’s no objection response letter can be simple as “Please be advised that we have no objection to non-potable ground water site condition

standards being applied in the preparation of an RSC for the subject property."

6.4.1 Requirement to Obtain Municipal Consent to Use Non-potable Site Condition Standards

If the RSC property is located in a well-head protection area or other designation identified by the municipality for the protection of ground water or there are wells used as sources of water for human consumption or agricultural use at the RSC property or within the phase one study area, the QP or owner will need to seek written consent from the municipality in order to proceed with the use of non-potable ground water standards. As stated above, where there is a multi-tiered municipality, the QP or owner will need to seek written consent from the municipality that has authority over the municipal drinking water system. There is no time limit on the municipal consent under these circumstances. In the absence of written municipal consent, potable standards must be applied at the property.

The language in a municipality's consent letter would need to indicate that the municipality acknowledges the presence of wells within the study area and/or that the RSC property is located within a well-head protection area, and the municipality's acceptance of the application of non-potable ground water standards.

Municipalities are expected to complete their own due diligence when receiving a request to use a non-potable ground water condition to ensure the protection of drinking water and/or ground water used for agricultural purposes.

The Ministry has resources such as the Source Protection Information Atlas to assist the QP in identifying well-head protection areas or other areas designated by the municipality for the protection of ground water. The QP can also contact the municipality directly. QPs must also make reasonable inquiries as part of the phase one ESA to determine if a well used for agriculture or human consumption exists within the phase one study area, including the property. For example, QPs may need to communicate with property owners in the study area directly to confirm if these wells exist.

It is important to note that when the RSC property is in an area not serviced by municipal drinking water system, as defined in the *Safe Drinking Water Act, 2002*, QPs must apply potable site condition standards at the property. In addition, if the intended property use is agricultural use or other, the QP must apply a potable ground water condition at the property. In both situations, the municipality does not have the authority to allow the use of a non-potable ground water condition.

6.5 Stratified Site Conditions

Under certain conditions, site condition standards can be different for soils deeper than 1.5 m below the surface. When a stratified site condition is applied, for each contaminant, one standard is used for soil at or above 1.5 m depth, and another is used for soil below 1.5 m. Stratified site condition standards are listed in Tables 4 and 5 of the Standards Document.

For a stratified site condition, the quality of the soil at or above 1.5 m does not exceed the “surface soil” standards in Tables 4 or 5 of the Standards Document and the quality of the soil below 1.5 m does not exceed the “subsurface soil” standards in Tables 4 or 5 of the Standards Document. When using stratified site condition standards, note that both the surface soil and subsurface soil must be investigated, and that each contaminant that is present at a concentration greater than the applicable site condition standard must be delineated laterally and vertically in both the surface soil and subsurface soil.

The 1.5 m depth, which establishes the depth above and below which different soil standards apply, is generally measured from the final grade elevation excluding the thickness of any non-soil surface material such as asphalt, concrete or aggregate. Refer to O. Reg. 153/04 for specific definitions and rules for determining what constitutes surface soil and subsurface soil under a stratified site condition.

Under section 21 of O. Reg. 153/04, once an RSC has been filed in the Environmental Site Registry based on meeting the stratified site condition standards, any person who owns or occupies the property or who has charge, management or control of the property must ensure that, the subsurface soil remains at a depth greater than 1.5 m. This means that, if soil is excavated at the property for any reason, the stratified condition must be restored following the excavation (i.e. the surface soil layer of 1.5 meters must continue to meet the full-depth generic site condition standards). This obligation applies despite the protection from liability from orders that flows from the filing of an RSC and that an order may be given to require the owner or occupant to comply with this obligation.

Finally, note that stratified site condition standards cannot be applied where the RSC for the property specifies “Agricultural or Other use” as the type of intended property use.

6.6 Shallow Soil Properties

A shallow soil property is a property of which 1/3 or more of the area has soil at a depth

of 2 m or less beneath the soil surface. That is to say, bedrock is encountered within 2 m of the soil surface for 1/3 or more of the property. This depth does not include any non-soil surface treatment such as asphalt, concrete or aggregate. Section 43.1 of O. Reg. 153/04 addresses shallow soil properties; note that Table 6 or 7 standards (from the Standards Document) must be applied for these properties.

In addition, note that Table 6 or 7 can also be used in situations where the QP is not satisfied that Tables 2 or 3 are suitable due to vapour intrusion concerns associated with a shallow depth to ground water at the site. Generally, Table 6 or 7 can be used to address vapour intrusion concerns in these cases.

6.7 Properties Within 30 m of a Water Body

If a property includes or is adjacent to a water body or includes land that is within 30 m of a water body, then Table 8 or 9 standards (from the Standards Document) must be applied. Section 43.1 of O. Reg. 153/04 addresses these properties.

6.8 Shallow Soil Properties Located Within 30 m of a Water Body

If a property is both a shallow soil property and within 30 m of a water body, as defined in section 43.1 of O. Reg. 153/04, then the numerically lower of the relevant two sets of standards become the applicable site condition standards. For potable conditions, this becomes the lower of Tables 6 and 8; for non-potable ground water conditions, this becomes the lower of Tables 7 and 9.

6.9 Additional Considerations for QPs When Selecting Standards

Conditions can exist at a site for which the assumptions used to develop the generic site condition standards may not be valid. The QP must ascertain that the site conditions are appropriate for use of the generic standards such that he/she can be comfortable with making the relevant certifications in the RSC. To assist the QP in recognizing the types of conditions that may be important in this respect, these conditions are documented in the introduction section of the Standards Document. Note that the existence of any of these conditions does not necessarily indicate that the generic criteria are not valid for a given site.

Following are some of the more common examples of conditions that QPs should be aware of and considering when selecting the applicable table of generic standards:

a) if the contaminated zone has a volume larger than 340 cubic meters or a source length or width greater than 13 meters then this could affect generic leachate and vapour intrusion modelling assumptions;
b) if a high permeability zone is present in the vadose zone which provides a direct preferential pathway to the building then the soil properties assumed in the vapour intrusion modelling may not be appropriate;
c) if the separation distance between the ground water and the bottom of the building's foundation is less than what was assumed in the development of the generic standards then this could affect vapour intrusion modelling assumptions. For example, this can occur in cases where the depth to the water table is shallow and/or the bottom of the building's foundation extends well below the depth assumed in the generic modelling; and
d) if there is a continuous source of the contaminant present on-site then the generic modelling for the pathways which assume a depleting source (e.g. vapour intrusion, leaching) may not be appropriate.

6.10 Substances Related to Safety Under Conditions of Snow and Ice

An applicable site condition standard is deemed not to be exceeded if a QP determines, through a phase one or phase two ESA, that a contaminant exceeds the applicable site condition standard solely because a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice (or both). This could include such surfaces as driveways, sidewalks, stairs, parking lots and walkways.

This provision allows QPs to identify possible salt-related exceedances through a phase one ESA. QPs can make assumptions that areas of the property near roads or parking lots are likely to have exceedances of standards for contaminants such as electrical conductivity (EC) and sodium adsorption ratio (SAR) in soil and sodium and chloride in ground water, without the need to collect samples. Note that identification of APECs is a core objective and requirement of a phase one ESA and so APECs associated with the application of salt still need to be documented in the phase one ESA report regardless of whether the exemption for substances related to safety under conditions of snow and ice is being relied on. Refer to paragraph 1 of section 49.1 of O. Reg. 153/04.

Where a QP identifies an APEC in a phase one ESA associated with the application of salt, and then does a phase two ESA to investigate other APECs identified, the QP is only required to investigate contaminants of potential concern associated with those

APECs (i.e., not the salt-related contaminants). The QP may still need or want to collect samples for analysis of the salt-related contaminants if excess soil will be removed from the site for reuse at another site. Furthermore, the QP may want to collect samples for analysis of the salt-related contaminants so that the magnitude of the exceedance is known and the QP can characterize potential impacts of these elevated salt-related parameters.

If this exemption is being relied on, note that there are requirements to document this, as applicable, in the phase one CSM, and the phase two CSM (please see Schedules D and E of O. Reg. 153/04). If the QP determines at the phase one stage that salt was applied and the exemption will be applied (and no analysis of these salt-related parameters is undertaken), and the QP is also doing a phase two ESA for other reasons, then the QP would not enter in concentrations of SAR, EC (in soil) or sodium and chloride in ground water into the RSC. However, if during the course of the phase two ESA, the QP has results of analysis for EC, SAR or chloride and sodium, and are relying on the exemption, then the QP would enter in the measured concentration for those contaminants in the RSC – at the standard.

It is important to note that potential impacts to soil or ground water as a result of the bulk storage of salt would not be covered under this exemption; this is considered a PCA that results in an APEC. Similarly, a snow dump would not be covered by this exemption and need to be treated as a potential source of contamination.

6.11 Treated Drinking Water

An applicable site condition standard is deemed not to be exceeded if a QP determines, through a phase one or phase two ESA, there has been a discharge of treated drinking water. The contaminants at issue are typically trihalomethanes, a group of chemicals that includes chloroform, and are known by-products that result from the treatment (i.e., chlorination) of drinking water. Refer to paragraph 2 of section 49.1 of O. Reg. 153/04.

QPs have the option of making assumptions through phase one ESA work that areas of a property with known leaky municipal water mains or known large scale spills or purges of municipally treated drinking water are likely to have trihalomethane exceedances without the need to sample.

If this exemption is being relied on, there are requirements to document this, as applicable, phase one CSM, and phase two CSM (please see Schedules D and E of O. Reg. 153/04). In particular, if trihalomethane exceedances are found during phase two ESA work, the QP would be expected to provide a rationale to substantiate that a trihalomethane such as chloroform was associated municipally treated drinking water

and its presence is not as a result of historical or current operations at the property or at adjacent properties. This rationale would need to be consistent with the findings of the phase one ESA (i.e., chloroform was not identified as a contaminant of potential environmental concern (COPC) associated with current or past activities). At the time the RSC is being completed, entry of the numerical standard into the measured concentrations fields for the relevant contaminants depends on whether results of analysis are available for the drinking-water related parameters. Similar to the way the salt-related parameters are handled at the RSC stage, chloroform and other related trihalomethane concentrations are entered at the standard if sampling and analysis was undertaken.

6.12 Elevated Concentrations of Naturally Occurring Substances at RSC Properties

Chemical substances that are derived from or originate from natural processes in the environment are considered naturally-occurring substances. The source of naturally-occurring chemical substances is typically from processes such as erosion and dissolution of mineral deposits. The type of chemical substance and the concentration will be influenced by many things including location, geology, and the physical, biological and chemical properties of soil, ground water and bedrock.

Soil and in some cases ground water, contain naturally elevated concentrations of substances in certain areas of the province. The presence of a substance that did not result directly or indirectly from human activity is not considered a “contaminant” under the *Environmental Protection Act*, even if it exceeds an applicable site condition standard. The key to a substance being naturally occurring in soil is its presence in undisturbed soil.

Excavating and placing soil in another location as fill is an example of a direct human activity that would result in a naturally occurring substance (in the undisturbed soil) becoming a contaminant (in the placed fill) – see Section 6.1.3. Ambient background substances such as metal fall-out from motor vehicle exhaust, metal contamination by acid mine drainage from natural seepage from sulfide bearing rocks or metal mining practices, may be a significant contributor to background conditions; however, these anthropogenic substances result from indirect human activities and therefore would be considered “contaminants” under the *Environmental Protection Act*.

QPs are required to provide multiple lines of evidence to demonstrate that the substance is linked to naturally occurring processes and that the substance is not a “contaminant” as defined in the EPA. QPs are advised to engage the local Ministry district office to determine if information related to the occurrence of naturally occurring

substances in soil or ground water are available for the local area or vicinity of the RSC property. QPs should consider the following activities to support these conversations with the local Ministry district office, the phase two CSM and the phase two ESA report:

- Evidence from the phase one ESA that documents there are, and have been, no other activities at the property or in the vicinity of the property that would have resulted in the presence of the contaminant (i.e., there is no record of a release and/or historical usage or site activity related to the substance)
- The results of sampling and analysis at the subject property – the QP should prepare a narrative description along with figures including plan view and cross-sections to describe the findings, the depths encountered, the range of concentrations measured, geology where these exceedances were encountered, and any other relevant observations.
- Confirmation that the site characterization data do not show any well-defined patterns indicative of a release. Typically, a contaminant concentration gradient will lead back to the location of a release.
- Any trends that were found, such as increasing concentrations or occurrences in a certain geology type or depth range.
- Review of available data from nearby properties to see if there were similar occurrences of the substance with similar range of concentrations (e.g., other reports, filed RSCs, Provincial Ground Water Monitoring Network, etc.).
- Review of any studies or published papers that might be available for the area that speak to the substance commonly found in this type of geology (e.g. off-site samples).

If there is insufficient evidence to demonstrate that the chemical substance (that exceeds the applicable site condition standard) is naturally-occurring, the QP will be required to treat the chemical substance as a contaminant. The QP will be required to delineate the lateral and vertical extent in accordance with O. Reg. 153/04, and the areas of the property where the exceedances occurred will need to either be remediated or property specific standards developed through an RA.

The presence of a naturally-occurring chemical substance may pose a risk to future users of the property. This risk, if any, should be highlighted to the property owner by the QP. For example, if a chemical substance is present in ground water in exceedance of an Ontario Drinking Water Standard, *and* the chemical substance is not considered a *contaminant* for the purposes of the RSC, the owner will still have legal obligations to protect drinking water users under the Clean Water Act.

6.13 Elevated Concentrations of Naturally Occurring Substances at RSC Properties from Historically-Placed Fill

An applicable site condition standard is deemed not to be exceeded if a QP determines, based on a phase two ESA, that the exceedance is solely caused by fill having been used at the property, so long as the concentration of the contaminant does not exceed the naturally occurring range of concentrations typically found in that area. Refer to paragraph 3 of section 49.1 of O. Reg. 153/04.

The exemption is intended to assist property owners in situations where soil containing an elevated concentration of a naturally occurring substance, such as vanadium, was removed from a source site at some point in the past and used as fill at one or more properties. The act of moving the fill to another property made that naturally occurring substance a contaminant under the EPA. This substance is expected to be prevalent throughout the fill material that was placed at the property that is now the subject of the RSC.

In order for this exemption to apply, the QP will need to have undertaken both phase one and phase two ESA work.

- Phase one ESA findings need to confirm that the naturally occurring substance that is exceeding the standard is not related to activities that occurred on the RSC property or within the study area (i.e., the presence is not the result of potentially contaminating activities or past or present uses).
- The phase two ESA needs to document the range of concentrations present in the material through sampling and demonstration through narrative and figures. This ESA work should include the identification of the substance, the range of concentrations found at the property, the depth ranges encountered, and the type of material/soil that these exceedances were found in.
- The distribution of naturally occurring substances in fill is expected to be different than what would be found in the undisturbed soil. Concentrations throughout the fill may be relatively uniform, instead of a decreasing trend of concentrations with depth, for example. Results of analysis that demonstrate the difference between the fill material and native material are expected.
- The ranges of concentrations found at the property need to be similar to the local area. The level of effort required to establish the local naturally occurring range of concentrations of that contaminant/substance will differ from one geographic area to another. In some parts of the province, there is available data regarding naturally

occurring substances and the range of concentrations is known. In other parts of the province, there may not be as much information available and the QP may need to look for other sources of information (e.g., publicly available data such as Provincial Ground Water Quality Monitoring Network, other RSC properties in the vicinity, scientific papers, etc.) or conduct additional sampling off-site to establish background conditions.

- It is likely that fill material historically-placed at the RSC property was also deposited at other sites in the area, and that the fill material was sourced from the same or similar pit. The fill material at other local sites would be expected to have the same substance exceeding standards in the same range of concentrations and if this linkage could be made, it would constitute further evidence. When using this line of evidence, QPs would need to show that the fill material at the other sites has the same or similar composition (physically) as the fill at the RSC property.

If this exemption is being relied on, note that there are requirements to document this, as applicable, phase one CSM, and phase two CSM (please see Schedules D and E of O. Reg. 153/04). At the time the RSC is being completed, the QP is required to enter the numerical standard into the measured concentration fields for the relevant chemical substances.

6.14 Horizontal Severances

Section 22.1 clarifies the approach to the submission and filing of an RSC in the Environmental Site Registry where the RSC property has been horizontally severed. Section 22.1 provides that a phase one or phase two ESA shall take into account every property at or below the ground surface that is above or below the phase one or phase two property. For example, samples obtained from “under” a horizontally-severed RSC property are required for the purposes of relevant sampling requirements. An example of a scenario where horizontal severances might occur is where there is a parking garage with a different owner than the property at ground level, such as a condominium unit or parkland belonging to the municipality.

To the extent possible, property owners should delay the horizontal severing of properties until after the RSC is filed to the Environmental Site Registry. Where that is not possible, the Ministry strongly advises that property owners follow the following guidance, which will support owners in meeting Ministry expectations for RSC submissions in these circumstances:

- The RSCs for the upper and lower properties should be prepared in a coordinated way, by the same QP, and the QP should be made aware from the beginning that the properties have been or will be horizontally severed.

- The same ESA reports (i.e., phase one ESA and phase two ESA, where applicable, and CSM(s) should be used for each RSC.
- The respective lawyers' letters required under Schedule A of O. Reg. 153/04 should comment on the relationship between the RSC properties, provide a detailed explanation of the horizontal severance and describe the reason(s) for the horizontal severance.
- The plans of survey should show the "full picture" of how the properties are configured, clearly indicating the spatial relationship between the properties;
- Where applicable, the RA should be completed with the CPU issued prior to any horizontal severing of the properties.
- Property owners should consult with the Ministry prior to initiating the RSC process.
- Property owners should consult with the Ministry prior to initiating the RA process if the column has been horizontally severed and an RA is being conducted for any part of the property.
- As with all RSCs, RSCs for horizontally-severed properties cannot rely on data obtained from properties that are beside RSC properties (ie. from properties outside vertical property boundaries).

Every site is different so pre-consultation with the Ministry is recommended.

7.0 RISK ASSESSMENT

When generic standards are exceeded, the owner of the property has the option of remediating the site or conducting an RA to develop property specific standards. In some cases, it may be difficult, economically unfeasible, or impracticable for a property to be remediated to the applicable generic site condition standards set out in Tables 1 to 9 of the Standards Document. In these situations, the property owner can develop property specific standards through the preparation and Ministry acceptance of an RA. The property specific standards can then be used to support the submission and filing of an RSC in the Environmental Site Registry.

The RA approach allows for the incorporation of property specific conditions in the development of soil, ground water and sediment standards. The use of the RA under Part XV.1 of the EPA and O. Reg. 153/04 includes: an assessment of potential risks to human health and the environment; the setting of property specific standards; and, identification of any risk management measures that may be required.

RA is a technical and scientific process used to characterize the nature and magnitude of risk. At contaminated sites, exposure to contaminants in soil, ground water, and/or sediment can result in adverse impacts to people or the environment if exposure

exceeds risk-based environmental standards.

In O. Reg. 153/04, the Ministry used a generic risk assessment approach to develop most of the generic site condition standards (e.g. Tables 2 to 9 of the Standards Document). For RAs conducted under O. Reg. 153/04, instead of using a generic site condition standard for a given contaminant, a QP can develop a property specific standard for that contaminant, using property specific characteristics (e.g. depth and location of contamination, conditions in the subsurface, receptors that may frequent the site, etc.). Doing so can better account for the fate and transport of a contaminant at a specific site, and any exposures that may be associated with that contaminant.

These RAs can also include various risk management measures to reduce risk by blocking or reducing exposure. Hence property specific standards are often numerically higher than the Ministry's generic site condition standards. Regardless of whether risk management measures are required or not for a particular site, property specific standards developed in an RA under O. Reg. 153/04 must offer the same level of protection for human and ecological receptors as provided by the Ministry's generic site condition standards.

The requirements as to the format and content of RAs are set out in Schedule C of O. Reg. 153/04, while additional guidance and best practices are provided in the Ministry document entitled "Procedures for the Use of Risk Assessment under Part XV.1 of the Environmental Protection Act".

7.1 Qualified Person - Risk Assessment

Under Part XV.1 of the EPA, all RAs must be prepared or supervised by a QP_{RA}. The responsibilities of the QP_{RA} include the formation and overall supervision of a risk assessment team of technical and scientific professionals, as needed, to undertake the RA as well as making the required certifications in RA reports. The required qualifications for a QP_{RA} are set out in Section 6 of O. Reg. 153/04 (refer to Section 5.0 of this Guide).

The QP_{RA} is typically hired by the property owner and is expected to be representing the owner's interests over the course of the RA process. For example, part of their role is to also help the property owner understand the RA process and the complex nature of risk assessments. This includes helping plan realistic project timelines and goals. The QP_{RA} can also serve as the owner's point of contact when communicating with the Ministry on RA related matters.

It is important that the QP_{RA} confer with the QP_{ESA} (refer to Section 5.0 of this Guide) to ensure site characterization meets the requirements of the O. Reg. 153/04, is

appropriate to support the RA (including any property specific standards developed by the RA) and will also support submission and filing of an RSC in the Environmental Site Registry.

7.2 Overview of the Risk Assessment Process

The Ministry's approach to the standards setting process under O. Reg. 153/04 is a tiered approach and can be described as follows:

- Tier 1: generic site condition standards (i.e. Tables 1 to 9). Note that the Ministry uses a risk assessment approach (with generic, reasonably conservative assumptions that are expected to be applicable to the majority of sites across Ontario) as part of its generic standards development process. (e.g. Tables 2 to 9 of the Standards Document).
- Tier 2: property specific standards developed as part of an RA, by only using the Ministry's Approved Model. The Approved Model uses the same risk assessment approach (including modelling and exposure assumptions) as Tier 1; however, for Tier 2, the QP_{RA} can modify some parameters to better reflect property specific conditions. For this reason, Tier 2 is formally known as Modified Generic Risk Assessment (MGRA) in O. Reg. 153/04. Tier 2 also allows for the incorporation of a limited set of predefined risk management measures. The Approved Model may be updated by the Ministry from time to time to reflect advances in science.
- Tier 3: property specific standards developed as part of an RA, by using a wide range of RA models and tools. Tier 3 RAs are typically conducted for more complex sites and often require additional oversight and management to ensure contaminants that remain at the property do not result in any unacceptable risks to human health or the environment and do not interfere with any of the proposed future uses of the property.

In general, a simplified version of the RA process under O. Reg. 153/04 includes the following:

1) phase one and phase two ESA work is completed by the QP_{ESA};
2) a PSF is completed by the QP_{RA} and submitted to the Ministry;
3) Ministry provides feedback on ESA work and PSF to the QP_{RA};
4) an RA is completed and submitted to the Ministry by the QP_{RA};
5) Ministry reviews and makes decision whether to accept (if all requirements have been met) or to request for additional information/resubmission of the RA (if requirements have not been met). Note that several iterations may be needed for RA resubmission and Ministry review before an RA can be accepted.

Once an RA has been accepted by the Ministry, a CPU may be issued by the Ministry, if required (e.g. if risk management measures are required to support the property specific standards). Property specific standards can then be used submit a RSC for filing by the QP_{ESA}.

The steps in the RA submission and review process, along with more detailed descriptions of the PSF and the different types of RA (e.g. Tier 2 and Tier 3) are discussed in greater detail below.

7.3 Pre-Submission Form

Completion of a PSF is done early in the process of conducting an RA. The QPRA must submit a PSF to the Ministry; the PSF must either be submitted with the RA, in the case of Tier 2 RAs, or submitted prior to submission of the RA, in the case of Tier 3 RAs.

The purpose of the PSF is to provide the Ministry with information on site characterization and receptor characterization based on results of the completed phase one ESA and phase two ESA, and any other investigations that may have been conducted. At this planning stage, the CSMs should provide all of the available information about the site in a clear and transparent manner.

The Ministry's expectation is that the ESA work be completed to the extent possible prior to the submission of the PSF. This means that the phase on and two ESA reports must be completed and must meet the requirements of the regulation. For Tier 3 RAs, the PSF allows the Ministry the opportunity to comment on the scope and approach of the RA as well as the makeup of the risk assessment team early in the RA process. The PSF will also assist the property owner in deciding the best approach to take for conducting the RA.

The mandatory requirements of a PSF are specified in Section 3 of Schedule C of O. Reg. 153/04.

For Tier 2 RAs, the Ministry provides comments on the PSF and the RA at the same time. For Tier 3 RAs, the Ministry provides comments on the PSF and provides additional information on the review timeline required for the proposed RA approach, as well as comments concerning the scope of the RA.

7.4 Risk Assessment Report

Following the completion of the PSF, the QP_{RA} can complete and submit an RA report to the Ministry, for review and acceptance. The mandatory requirements of an RA report

are specified in Section 4 and Table 1 of Schedule C of O. Reg. 153/04. The different types of RA are specified in sections 7 to 10 of Schedule C of O. Reg. 153/04. They are best described using the following groupings: Tier 2 RA and Tier 3 RA.

7.4.1 Tier 2 Risk Assessment (Modified Generic Risk Assessment)

The Tier 2 RA, (also referred to as a "MGRA" under Section 7(3) of Schedule C of O. Reg. 153/04), provides a streamlined approach for developing property specific standards. Tier 2 uses the Approved Model, which is based on the same model and algorithms that were used to develop the generic site condition standards (included in the Standards Document). The Approved Model is a downloadable Excel spreadsheet that models contaminant fate and transport in the environment, accounts for common routes of exposure (for site users and other ecological organisms present at the site) and generates a risk-based property specific standard based on this information.

The MGRA approach enables a QP_{RA} to develop property specific standards quickly and easily by adjusting specific attributes of the Approved Model. In addition, property specific standards can be derived using specific risk management measures (e.g. surface capping) developed by the Ministry. A reporting template is directly built into the Approved Model, which means that many sections of the RA report (e.g. required reporting tables) are auto-populated for the QP_{RA}, to help streamline reporting. Non-Standard Delineation (NSD) cannot be used for MGRA as this streamlined process has to meet all delineation requirements.

Tier 2 RAs are designed to address common deviations from the generic model based on property specific considerations. For these reasons, the Ministry provides a streamlined process for the review and acceptance of Tier 2 RAs which rely solely on the Approved Model. The regulated timeline for reviewing a Tier 2 RA is eight weeks. This is substantially shorter than the regulated review timeline of 16 or 22 weeks for the more complex Tier 3 RAs.

In addition, unlike a CPU for a Tier 3 RA approach, a CPU for a Tier 2 RA approach does not need to be posted for comment on the Environmental Registry of Ontario. The CPU is discussed in greater detail below.

In order for an RA to qualify as a Tier 2 RA, the QP_{RA} must only use the Approved Model for generating the property specific standards and, if risk management measures are needed, must only propose the risk management measures that are included in the model. A Tier 2 RA cannot be submitted for a property to which Section 41 of O. Reg. 153/04 applies (i.e. environmentally sensitive areas).

In addition, there are also situations where the use of the Approved Model may not be

appropriate, such as at sites where free product or gas under pressure (such as methane) is present in the subsurface. Finally, note that the Approved Model does not address off-site issues (e.g. off-site contaminant migration).

For more information on the use of the Approved Model, its limitations and how to submit a Tier 2 RA, please refer to the document titled “MGRA User Guide: A Guide to Using the “Approved Model” (November 2016) When Submitting a Modified Generic Risk Assessment (MGRA)”, PIBS#8450e.

7.4.2 Tier 3 Risk Assessment

Tier 3 RAs are typically conducted for more complex sites, including sites where a Tier 2 RA is not possible (or is not appropriate). Some examples of Tier 3 RA sites are included below:

- sites with more complex contamination patterns/co-mingled ground water plumes;
- sites where vapour intrusion is of concern and a weight of evidence approach is relied upon (e.g. collection and use of soil gas, sub-slab and indoor air data);
- sites that rely on a weight of evidence approach in the ecological component of the RA (e.g. use of biological surveys, site specific toxicity testing, etc.);
- sites where more complex and/or robust risk management measures are proposed;
- sites where long-term monitoring is proposed (e.g. monitoring of ground water, indoor air, etc.);
- RAs where new science, not previously reviewed by the Ministry, is being relied upon (e.g. use of new toxicity reference values, exposure pathways, exposure assumptions and receptors not included in the Ministry’s generic conceptual model, etc.); and,
- sites where there is a known or potential off-site risk caused by migration of COCs from the site.

Review timelines for Tier 3 RAs can be 16 or 22 weeks, depending on the type of RA; however, a 16 week review timeline is the most common for Tier 3 RAs. It is also important to note that the RA review process can be iterative, and it is typical that the initial RA will need to be revised to address Ministry comments and re-submitted until the RA meets the requirements of O. Reg. 153/04.

7.4.2.1 New Science Risk Assessment

Tier 3 RA also includes “new science risk assessment” (i.e. Section 9 of Schedule C of O. Reg. 153/04), which may require additional time for review by the Ministry. A “new science risk assessment” is an RA where:

- a contaminant of concern is identified during the phase two ESA for which there is no applicable generic site condition standard;
- the RA uses a computer model (e.g. computer program, software) that is not publicly available or unfamiliar to the Ministry; or
- the RA uses a probabilistic model.

The period of time prescribed for the review of a “new science risk assessment” is 22 weeks after the date of submission.

7.4.2.2 Wider Area of Abatement

In some cases, a property may be identified as being located within a “wider area of abatement” (i.e. Section 10 and Table 1 of Schedule C of O. Reg. 153/04) based on off-site regional information, concerns from local community or stakeholders or other RAs undertaken in the area.

In such situations, there is potential for off-site sources of contamination and transport of off-site contamination which potentially involve off-site receptors and a wider scope of stakeholders.

In these situations where the property has been identified as being within a wider area of abatement, the RA must include:

- consultation with the applicable Ministry District or Regional Office regarding the communication plans and, any implications of the RA recommendations that may affect other stakeholders or the local community.
- development and implementation of a public communication plan, which must be documented in the RA report; and
- a record of public input and how the comments were considered, which must be documented in the RA report.

The period of time prescribed for the review of a “wider area of abatement risk assessment” is 22 weeks after the date of submission.

7.4.3 Other Types of Risk Assessment

There are situations where the Ministry may require a Community Assessment Report be conducted to address contamination over multiple properties. In these cases, O. Reg. 153/04 provides a mechanism for a Limited Scope RA to be conducted that relies on the assessment conducted in the Community Assessment Report. Refer to Section 7(2) of Schedule C for more information on this type of RA.

An estimation of natural local background concentrations risk assessment may also be considered for a property. Refer to Section 8 of Schedule C for more information on this type of RA.

7.4.4 Property Specific Standards

If an owner chooses to use the RA approach, it is not sufficient to simply determine if the risk to human health and the environment is “acceptable” or not; the RA must provide appropriate property specific standards for each contaminant of concern identified at the property (refer to Schedule C of O. Reg. 153/04).

The property specific standards must be included in a Ministry accepted RA before they can be used by the QP_{ESA} in support of submission and filing of an RSC in the Environmental Site Registry. If risk management measures are required, then risks must first be determined for conditions without risk management and then with risk management in place. This provides valuable information on the potential consequences if risk management measures fail or are not maintained.

7.5 Risk Management Measures

Risk management refers to the development and implementation of a decision, strategy or technique to limit or manage the level of risk estimated by the scientific risk assessment process. Risk management may involve the use of strategies, controls or techniques to limit the movement of contaminants or limit the potential for receptors to be exposed to contaminants. Municipal or provincial approval or permits may be required for installation of certain risk management measures (e.g. ground water pump and treat systems, soil vapour mitigation systems etc.).

Risk management plans must include risk management performance objectives which identify the exposure pathways, receptor and environment media (e.g. soil, ground water

or sediment) that the risk management measures are intended to address, as well as the required reduction in exposure concentration to be achieved.

The risk management plan must propose the risk management measures that are designed to prevent, eliminate or ameliorate adverse effects to human health or the environment, both on-site and off-site. The plan may also propose any restrictions on the use of the risk assessed property, including construction of buildings.

Risk Management Measures, when proposed as part of an RA, are typically documented in a CPU.

7.6 Certificate of Property Use

A CPU is a legal instrument that the Director can issue to the owner of any property for which an RA has been conducted that includes risk management measures. A CPU can require that certain actions be taken to prevent, eliminate or ameliorate any adverse effect that was identified in the RA, and can require that the owner refrain from using the property in specified ways or from constructing specified buildings. The types of actions to be taken can include the installation and operation of equipment, site monitoring, preparing and implementing certain plans and reporting requirements . The CPU can also require that the property owner provide financial assurance. The Director may alter or impose new conditions in a CPU or revoke the CPU. Registration of a Certificate of Requirement on title to the property under subsection 197 (2) of the EPA may be required, in order to ensure that those acquiring an interest in the property are provided with a copy of the CPU and are thereby made aware of property restrictions or requirements.

Where the signing Director of the CPU is considering issuing a CPU to the owner of a property that has undergone a Tier 3 RA, a draft CPU is posted on the Environmental Registry of Ontario for public comment. As a Class II proposal under O. Reg. 681/94 made under the Environmental Bill of Rights, 1993, a proposal for a CPU (other than a CPU in respect of a MGRA) requires enhanced public participation. This means that, in addition to the minimum 30-day posting period, the Ministry must also consider providing for other means public participation in decision-making. This could include such things as written notifications to local political representatives, the local municipality and adjacent landowners; a longer (45-day) posting period; public meetings; etc. QPs are encouraged to provide the local District Office with contact information of persons to be notified by the Ministry.

Any public comments received through the posting become part of the public record. The signing Director is required to consider the comments in his/her decision making

about the CPU, and this can include making changes to the draft CPU to address comments. The signing Director's decision in respect of the draft CPU is posted on the Environmental Registry of Ontario along with any issued CPU and the signing Director's response to any public comments. CPUs issued to owners of properties that have undergone MGRAs are not required to be posted on the Environmental Registry of Ontario for public comment.

When a CPU is issued, altered or revoked, the Director is also required to give notice to the municipality in which the property is located (including the chief building official, clerk of the local and, if any, upper tier municipality, and others as set out in Section 50 of O. Reg. 153/04).

7.7 Assessment of Off-Site Migration of Contaminants of Concern

The RA must identify all receptors (human health and ecological) both on and off the RA property. In addition, both the human health and ecological sections of the RA must include an interpretation of off-site risks, which must include, for each contaminant of concern, an assessment of whether the human health and ecological standards being proposed for the RA property are likely to result in a concentration greater than the applicable full depth site condition standard at the nearest receptor located off the RA property and, if this is the case for any contaminant, the RA must specify the contaminant, the applicable site condition for that contaminant and the property where the receptor is located and must describe the receptors that may be impacted. Note: For areas that rely on wells to supply drinking water, an applicable off-site receptor may include wellhead protection areas to ensure source water is protected. Refer to Table 1 of Schedule C of O. Reg. 153/04 for additional details regarding this RA report mandatory requirement and refer to local Source Water Protection Plans.

The purpose of this requirement is to help identify any potential off-site migration/abatement issues for the Ministry's local District or Regional Office. Based on this information (and any other information available to the Ministry), the local District or Regional Office may also request that additional information be provided regarding potential off-site migration. It is the Ministry's expectation that off-site migration/abatement issues be identified to the local District or Regional Office as early as possible (as soon as the property owner becomes aware of them), and well before initiating the RA process. Therefore, pre-consultation with the local District or Regional Office is strongly encouraged.

To address off-site migration concerns, the property owner may need to take additional actions (which may include conducting additional work on and off-site) to address off-

site migration/abatement issues and any concerns regarding potential adverse effects off-site.

7.8 Non-Standard Delineation

Understanding and documenting the lateral and vertical extent of contaminants in the subsurface is a key component of site characterization and is set out in section 7 of Schedule E of O. Reg. 153/04. This approach requires stepping out (laterally) and stepping down (vertically) to collect samples at distances that are reasonable and relevant to the type of contaminant source. The delineation of contaminants to the applicable site condition standard of all areas of potential environmental concern provides assurance that all contaminants of concern have been found and investigated; maximum concentrations of contaminants have been located; and impacted media above a standard has either been removed, remediated or risk managed (where applicable).

For some properties where an RA approach is being used, there may be practical challenges to meeting these requirements. For example, despite attempts to drill deeper, the concentrations of the contaminant of concern do not change significantly with increased depth.

O. Reg 153/04 allows for NSD when using an RA approach to file an RSC (refer to section 7.1 of Schedule E). NSD provides a limited ability to vary from specific delineation requirements when a QP provides rationale that shows that an RA property is appropriately characterized and additional efforts to delineate are unlikely to contribute meaningful and significant information about the distribution and extent of contaminants at the property. Specifically, this relief is limited to the vertical and lateral investigation to the point where COCs in soil or ground water meet the applicable site condition standard. In other words, all delineation requirements in section 7 of Schedule E must still be met, with the exception of clause 7(4)(c). Note that NSD cannot be used for properties undergoing MGRA as this streamlined process has to meet all delineation requirements.

QPs need to engage the Ministry’s district office when challenges to delineating COCs to applicable site condition standards at RA properties become evident and ESA work and reports have been completed to the fullest extent possible. Ministry involvement early in the RA process provides a higher chance of meeting regulatory requirements and Ministry expectations on RA and the subsequent RSC submissions. The Ministry will not accept cost or inability to meet development timelines as a rationale for not fully delineating an RSC property to applicable site condition standards. The written rationale for using the NSD approach must prove that the efforts to delineate were sufficient

enough to build a solid foundation for the RA.

QPs should contact the Ministry's district office if an NSD approach is being considered. The district office can provide support to help QPs understand Ministry expectations related to NSD. The Ministry expects QPs to document their activities and challenges delineating COCs to applicable site condition standards and methods used to resolve these challenges. This information will support conversations with the Ministry's district office and shows a QP's due diligence in appropriately characterizing the magnitude and extent of impacts at the site, up to the site boundaries.

If NSD is being relied on, O. Reg. 153/04 requires this to be documented in the PSF, RA report, RSC submission, and in the phase two CSM that supports these items. In the phase two CSM, the QP is expected to clearly show the COCs and media to which NSD was applied. QPs must demonstrate that all reasonable and appropriate actions were taken to ensure that the maximum concentrations have been identified on the property. QPs must provide evidence that supports their opinion that additional efforts to delineate the COCs are unlikely to contribute meaningful and significant information regarding the interpretation of the distribution and extent of contaminants on, in or under the phase two property.

The QP needs to also show that additional delineation efforts would be unlikely to alter the conclusions of the RA or result in additional, or changes to, risk management measures. QPs need to show that additional delineation efforts would not significantly change the interpretation of the off-site Human Health and Ecological Risk sections of the RA report. The QP must also show in the RA report and the CSM, the potential implications of applying NSD to the stated COC and media on the conclusions of the risk assessment.

The Ministry will review all information supporting the QP's rationale on the use of NSD at the property and will provide comments on the RA until satisfied that the site is appropriately characterized, and regulatory requirements have been met. Ministry concurrence with the use of the NSD approach occurs when the Director accepts the risk assessment.

7.9 Additional Considerations

The property owner and QP_{RA} should consider the following guidance when considering the feasibility of completing the RA process for their property:

- For RA files that are more complex and/or where other environmental compliance concerns may exist (including the possible need for abatement and/or additional work off-site to address historic abatement issues), property owners and their QPs

are encouraged to engage the local Ministry district office directly and as early as possible, prior to entering into the RA process.

- ESA work must be completed prior to the submission of any RA document (i.e. PSF, RA report) to the Ministry. Submissions that include complete, high quality ESA work will typically result in more timely decisions (e.g. decision whether to accept the RA) for the property owner and better support the submission and filing of an RSC in the Registry.
- RAs are multi-disciplinary, and typically require expertise in the following disciplines: hydrogeology, geosciences, soil sciences, human toxicology, ecotoxicology, and risk management engineering. Files with complete teams tend to have more favorable outcomes. In addition, note that it is uncommon for a single individual to have the necessary expertise in all of these disciplines.
- Ministry review timelines are fixed under O. Reg. 153/04 (i.e. either 8, 16 or 22 weeks per review, depending on the type of RA and complexity). The RA review process is iterative, and it is the Ministry's experience that there will be some back and forth between the QP_{RA} and the Ministry reviewers before the RA can be accepted. Property owners and QP_{RA}s should account for these timelines and processes when preparing overall project schedules and evaluating the feasibility of the RA approach.
- Recurring hallmarks of RA files that have successfully moved through the RA review process in a timely manner include providing complete and high-quality ESA work early on, with the first submission; QPs and property owners that consulted with the local district office, especially for sites with known ground water contamination and/or vapour intrusion concerns; and, once Ministry comments are provided to the QPRA and property owner, the QPRA and their team to adequately address Ministry comments, revise the RA and resubmit back to the Ministry in a timely manner.

8.0 SITE REMEDIATION

If a property does not meet the applicable site condition standards, or any property-specific standards set out in an RA accepted by the Director, actions will need to be taken to reduce the concentration of contaminants (i.e., remediation) before the RSC can be submitted for filing.

The legislative and regulatory requirements described in this Guide do not deal with how to remediate a property. The appropriate procedures and activities for the remediation of any particular property must be determined based on the specific circumstances related to that property.

If remediation activities are being undertaken to reduce the concentration of contaminants in soil, sediment and/or ground water, the QP must ensure the remedial action does not result in an increase in contaminant concentrations or the introduction of new contaminants. Furthermore, the QP must follow the requirements of Schedule E of O. Reg. 153/04 in terms of ensuring that sampling and analysis occur at the appropriate locations for all contaminants of concern, including any introduced during remediation

QPs should also be aware that environmental permissions from the Ministry may also be needed if there are activities that release contaminants into the air, land or water or involve the storage, transportation or disposal of waste. Permissions may also be needed for water takings. QPs can refer to the Guide to Applying for an Environmental Compliance Approval and the Guide to Permit to Take Water Application Form on the Ministry's website for more information.

In addition to Ministry permissions, there can be other agency requirements for remediation activities (municipal, conservation authority, other ministries, etc.). In addition to the sampling and analysis associated with confirming the remediation activities are effective (and ensuring minimum requirements of the phase two ESA are met), other record keeping may be necessary in relation to these other permissions, or more generally in relation to excess soils, waste management, site restoration, and other activities.

Free product can include, but is not limited to, a petroleum product that does not mix with or dissolve in water. If free product is suspected to be present at the property, the QP is expected to take measures during the investigation to reduce the likelihood that free product will be mobilized laterally or vertically within the subsurface (e.g., using telescoped drilling techniques). Free product should be removed from the property during remediation activities, where practicable. If free product cannot be removed, an RA approach may need to be considered, along with risk management measures; contact the local Ministry district office for further information or see Section 7 of this Guide.

Following the completion of remedial activities, the QP is required to undertake confirmatory sampling and analyses to demonstrate that the property meets the applicable site condition standards. The results of the remedial activities are reported in the remediation appendix (i.e., appendix b) of the phase two ESA report.

O. Reg 153/04 identifies two generalized approaches for reducing the concentration of contaminants in soil, sediment and ground water:

- in-situ remediation; and
- excavation of soil for off-site re-use, treatment or disposal.

Once the property has been remediated, the QP must conduct further sampling and analysis to verify that the impacted area(s) now meet applicable standards (i.e. site condition standards or standards specified in an RA). This involves conducting additional (i.e. confirmatory) sampling and analysis of the affected media (e.g. soil, ground water or sediment) and comparison with the applicable standards as part of the Phase two ESA.

QP is required to design and implement a sampling and analysis program to demonstrate the phase two property meets the applicable standards, for all contaminants of concern in all areas remediated. In particular, the QP must ensure that samples are collected and analyzed for each contaminant in any area (location and depth) and medium where the contaminant was present at a concentration greater than the applicable standard for the contaminant prior to remedial actions.

Confirmatory sampling must show that the applicable standards have been met. The duration of the confirmatory sampling program required under O. Reg. 153/04 is determined based on the type of treatment approach undertaken. In-situ remediation of soil may include, but is not limited to, treatment methods such as bioremediation, thermal desorption and soil vapour extraction. Where an in-situ remediation method has been used to reduce the concentration of a contaminant present in soil, the confirmation samples shall be collected at locations and depths where a contaminant was present above the standard prior to remediation.

In-situ treatment methods for ground water may include, but are not limited to, bioremediation, in-situ chemical oxidation, permeable reactive barriers and ground water extraction. Where an in-situ remediation method has been used to reduce the concentration of a contaminant present in ground water, the results from the analysis of samples collected from four consecutive quarterly sampling events, must meet the applicable site condition standard. The first sampling event is conducted a minimum of 90 days after the last remedial action.

Where soil has been excavated for off-site re-use, treatment or disposal, confirmation samples of soil are required in the frequencies specified in the O. Reg. 153/04 from each wall and floor to demonstrate the limits of the excavation are appropriate. In those situations where contaminants exceed the applicable site condition standard in soil and ground water prior to excavating, confirmatory sampling of soil and ground water is required. The results from the analysis of ground water samples collected from two consecutive quarterly sampling events, where the first event is conducted a minimum of 90 days after the last remedial action, must meet the applicable site condition standard.

Reporting of Remedial Action and Mitigation

An RSC must include information on any site remediation activities that have been

undertaken at a property for purposes of submitting the RSC for filing. The RSC must include remediation information such as the quantity of contaminated soil remediated and left on the property, the quantity of contaminated soil removed from the property, and the quantity of soil brought to the property for re-use. This information should be available from the Remediation Appendix (i.e., appendix B) of the Phase Two ESA report which is required to be completed prior to the submission and filing of an RSC in the Environmental Site Registry.

9.0 EXCESS SOIL MANAGEMENT

On December 4, 2019, the Excess Soil Regulation was finalized under the EPA to support improved management of excess soil. The regulation and associated document "Rules for Soil Management and Excess Soil Quality Standards" (Soil Management Rules) include clear rules and new standards that encourage reuse of excess soil if appropriate, while protecting human health and the environment. The Excess Soil Regulation is being phased in over time.

O. Reg. 153/04 was amended to clarify how the Excess Soil Regulation applies in relation to an RSC site. This section provides an overview of the Excess Soil Regulation and explains how it works alongside O. Reg. 153/04.

Visit the Ministry's excess soil webpage for more information on provisions that have come into effect, implementation timing for other provisions and other guidance materials about the Excess Soil Regulation.

9.1 Background

Excess soil is soil that has been excavated, typically during construction and remediation activities and is being moved off-site because it cannot be reused at the development site. The Excess Soil Regulation defines excess soil as soil, or soil mixed with rock, that has been excavated as part of a project and removed from the project area[2]. Excess soil includes both dry soil and liquid soil, and both are regulated by the Excess Soil Regulation. Liquid soil" means soil that has a slump of more than 150 millimetres using the Test Method for the Determination of "Liquid Waste" (slump test) set out in Schedule 9 to O. Reg. 347. Dry soil means soil that is not liquid soil. Soil that meets the hazardous waste definition must continue to be managed as hazardous waste.

Any RSC-related project that is generating excess soil, reusing excess soil or processing soil should be aware of the requirements in the Excess Soil Regulation.

[2] Project area is defined in the Excess Soil Regulation as: in respect of a project, a single property or adjoining properties on which the project is carried out.

An RSC property may be both a “project area” and a “reuse site” as defined under the Excess Soil Regulation. Where soil is being excavated at the RSC property to be removed for disposal off-site, it would be classified as a project area. By contrast, where the RSC property is receiving excess soil for final placement from off-site, it would be classified as a reuse site. Accordingly, it is important for owners of an RSC property to ensure that the applicable requirements in the Excess Soil Regulation are met. The key requirements include the following, once fully implemented:

1. **Excess soil Reuse and Management Requirements** - The Excess Soil Regulation sets clear requirements for the reuse and management of excess soil, including soil quality standards for appropriate reuse of excess soil. The regulation also includes criteria to determine when the waste designation does not apply to excess soil and specifies rules related to certain low risk soil management activities exempt from waste-related environmental compliance approvals. These provisions come into effect on January 1, 2021.

2. **Excess Soil Reuse Planning Requirements** – A project leader of a project generating excess soil may be required to file a notice on the Registry containing key project-related and excess soil reuse information. If so, the project leader will also be required to complete certain excess soil management and reuse planning requirements. In general, these requirements apply to sites within settlement areas generating 2,000m^3 or more of excess soil and sites generating excess soil potentially containing contaminants. Some of these excess soil planning requirements must be completed before any excess soil leaves the project area, and typically include an assessment of past uses, a sampling and analysis plan, a soil characterization report, and an excess soil destination assessment report. Before removing excess soil from the project area, the project leader must also develop and apply a tracking system to track each load of excess soil during its transportation and deposit at a reuse site. These provisions come into effect on January 1, 2022.

3. **Reuse Site Requirements** – In addition to ensuring soil meets appropriate soil quality standards, reuse sites that are accepting 10,000m3 or more of excess soil for final placement for an undertaking are subject to certain management requirements. This includes filing a notice in the Registry and developing and implementing procedures to account for each load of soil being received, and to ensure that the storage of excess soil at the reuse site does not cause an adverse effect. Some exemptions from these requirements exist. These provisions come into effect on January 1, 2022.

4. **Landfilling of excess soil** - The Excess Soil Regulation will restrict the deposit of clean soil at landfill sites, unless the soil is needed for daily or final cover or functions beneficial to the operation of the landfill. This requirement comes into effect on January 1, 2025.

The above-mentioned dates upon which certain provisions come into effect are accurate as of the date this Guide was prepared. Please refer to the Ministry's webpage for excess soil, or the Excess Soil Regulation to confirm these effective dates.

9.2 Bringing Excess Soil to RSC Properties

9.2.1 General

O. Reg. 153/04 includes provisions to ensure that rules for bringing soil to an RSC property are complementary to, and consistent with, the Excess Soil Regulation.

Section 55 of O. Reg. 153/04 specifies the key requirements for bringing soil to an RSC property from another site. Together with the Excess Soil Regulation coming into effect, section 55 of O. Reg. 153/04 and referenced sections in Schedule E to that regulation will be amended to be consistent with the Excess Soil Regulation. This includes, generally, the applicability of the generic Excess Soil Standards to soil brought on to an RSC property and ability to use sampling completed as part of a sampling and analysis plan prepared in accordance with the Excess Soil Regulation to support filing an RSC. Sampling and analysis of any excess soil brought for final placement at an RSC property is required regardless of whether the RSC is being filed on the basis of both a phase one and a phase two ESA, or a phase one ESA only.

Excess soil can be brought to and placed at an RSC property where the RSC is being submitted for filing on the basis of a phase one ESA only, if the use of the RSC property is currently an agricultural or other use, commercial use, community use, institutional use, parkland use or residential use (i.e. not industrial use), and the QP has determined, before the excess soil is brought to the RSC property, that the concentration of contaminants in the soil does not exceed the applicable soil quality standards, as determined in accordance with the Excess Soil Standards made under the Excess Soil Regulation[3]. In this case, the QP needs to ensure that sampling and analysis was completed and that a report that summarizes the results of the sampling and analysis is submitted when filing the RSC. The report must meet the requirements of Sub-Heading 10 (c) (i) (Excess Soil Brought to RSC Property) of Table 1 of Schedule E. See below for more information on required sampling and analysis.

When excess soil is being brought to and placed at an RSC that is being submitted for filing on the basis of a phase two ESA, the QP must ensure that the RSC property is the same as or within the phase two property. Unless there is a CPU issued in respect of the RSC property that provides otherwise, the QP must also ensure that the requirements in Schedule E to O. Reg. 153/04 with respect to excess soil brought on

[3] The Excess Soil Standards are Part II of the document "Rules for Soil Management and Excess Soil Quality Standards"

to the phase two property are met, and the concentration of contaminants in the soil do not exceed the applicable excess soil quality standards as determined in accordance with the Excess Soil Standards. Site-specific standards may only be used to bring excess soil to an RSC property if those standards are recognized in a CPU, which means that a risk assessment under O. Reg 153/04 must also have been accepted.

9.2.2 Sampling

Any excess soil being brought to the RSC property must be sampled and analyzed. Once the excess soil reuse planning requirements in the Excess Soil Regulation come into effect, the sampling and analysis must comply with either the requirements in Section 31 of Schedule E to O. Reg. 153/04, as amended, or be in accordance with a Sampling and Analysis Plan prepared under the Excess Soil Regulation. In both cases, a QP must undertake the sampling and analysis.

A sampling and analysis plan is required in relation to all soil coming to the RSC property, and must be adhered to, and a report related to excess soil sampling and analysis must be prepared that meets the applicable requirements in Table 1 of Schedule E to O. Reg. 153/04. This means that sampling and analysis results from the project area at which the excess soil was excavated may be used, and sampling and analysis does not have to be repeated for that soil, if the sampling and analysis was completed in accordance with the Excess Soil Regulation. The Soil Characterization Report, under the Excess Soil Regulation, can be used as the basis for information about soil quality for the required report.

Per the requirements of O. Reg. 153/04, as described in section 31 of Schedule E:

- the QP must prepare a sampling and analysis plan respecting the collection of representative samples at locations and frequencies that will be adequate to allow for the concentrations of any contaminants in the soil to be known and whether any additional contaminants may have been introduced to the soil while the excess soil was being handled, stored or transported and placed at the phase two property.
- The sampling and analysis plan also must ensure that the selection of samples for analysis is designed to obtain representative results that locate any areas in the soil being sampled where any contaminant may be present at a concentration greater than the applicable soil quality standard, as determined in accordance with the Excess Soil Standards.
- Samples shall be collected in accordance with the sampling and analysis plan and be handled and analyzed in accordance with section 47 of O. Reg. 153/04. Samples shall be analyzed for contaminants that may reasonably be expected to be present in the excess soil, having regard to the source site, the storage and transport of the excess soil, and any other relevant factors including potentially contaminating activity.
- At least one sample shall be analyzed for each 160 cubic metres of soil for the first 5,000 cubic metres of soil to be assessed at each source property. Once the volume of soil is greater than 5,000 cubic metres, at least one sample for each additional 300 cubic metres of soil shall be analyzed.

- When Section 31 of Schedule E applies, QPs will be required to conduct or supervise sampling of the excess soil to confirm the concentration of contaminants in the soil does not exceed the applicable soil quality standards, as determined in accordance with the sampling requirements of either O. Reg. 153/04 or the Excess Soil Regulation and Soil Management Rules.

If sampling is done in accordance with the Excess Soil Regulation, the key requirements related to preparing a sampling and analysis plan are found in Part I, Section B of the Soil Management Rules, subsection 2: “Sampling and Analysis Plan”.

Once the excess soil reuse planning requirements in the Excess Soil Regulation come into effect, if the project area triggers the need to complete a sampling and analysis plan in accordance with the Excess Soil Regulation, then sampling must be completed per the Excess Soil Regulation and the Soil Management Rules. If a project area (source site) does not trigger the need to complete a sampling and analysis plan in accordance with the Excess Soil Regulation, then the sampling requirements of either O. Reg. 153/04 or the Excess Soil Regulation may be selected.

9.2.3 Key Requirements that Apply on RSC Sites

It is important to take into consideration that various requirements in Schedule E to O. Reg. 153/04 that are relevant to soil management continue to apply. These include but are not limited to:

- during a field investigation for a phase two property, if soil is stockpiled on the RSC property for reuse on the RSC property, it will be stored in stockpiles according to contaminant and concentration of contaminant (s. 35);
- ensuring soil in stockpiles is appropriately sampled and analyzed (s. 36);
- taking precautionary measures before and during remediation (s. 37-39); and,
- undertaking confirmatory sampling (s. 39).

The amendments to O. Reg. 153/04 were also made to align minimum sampling frequencies for stockpiles with the Excess Soil Regulation and Soil Management Rules. Table 2 of Schedule E provides stockpile sampling frequencies, and this table also applies to stockpiles at source sites, as part of the Excess Soil Regulation and as described in the Soil Management Rules.

9.2.4 Standards Deemed to Have Been Met

A provision has been included in O. Reg. 153/04 (paragraph 1.1 of section 49.1) whereby, if the QP has determined based on a phase one ESA or a phase two ESA that excess soil has been deposited at the RSC property for final placement and the excess soil meets the applicable soil quality standards that apply to the RSC property

as determined in accordance with the Excess Soil Standards, then in these cases the applicable site condition standards (for the RSC property) are deemed to have been met.

This provision means that even if the excess soil quality standard is not the same as the applicable site condition standard (i.e., the 2011 soil, sediment and ground water standards of O. Reg. 153/04), the standard that applies to the RSC property is deemed to be met. The reason for these differences in some of these standards is that the latest science was relied upon in developing the Excess Soil Standards which resulted, in a few cases, in higher standards for some contaminants than the current site condition standards in O. Reg. 153/04.

9.2.5 Soil Previously Placed at an RSC Property

As described above, all soil received at an RSC property must be sampled and analyzed and the results of that analysis support the filing of an RSC. However, a site may have received and placed excess soil before commencing an undertaking for which an RSC is required or planned to be submitted. In this situation, there may be opportunity to use work completed under the Excess Soil Regulation to support the RSC process, as follows:

- If the soil that was previously placed at the property was sampled and analyzed in accordance with the requirements set out in the Excess Soil Regulation, the excess soil met the applicable excess soil quality standards (and not site-specific excess soil standards), and reports to this effect are available, then this previously placed excess soil will not be viewed as a PCA (i.e., “importation of fill material of unknown quality”) under O. Reg. 153/04.
- If the soil that was placed at the property that is now the subject of an RSC was not sampled in accordance with the Excess Soil Regulation, then this soil movement to the property will be viewed as a PCA under O. Reg. 153/04.

9.2.6 Site Specific Standards at an RSC Property

The Excess Soil Regulation includes a Beneficial Reuse Assessment Tool (BRAT) and allows risk assessments to be used to developed site-specific standards for reuse of excess soil at a site. However, if an undertaking at a site (e.g. the redevelopment of a commercial property into a residential use property) will result in an RSC being filed, these approaches under the Excess Soil Regulation cannot be used. O. Reg. 153/04 includes similar approaches to develop site-specific standards, the Approved Model and accepted risk assessments. The approaches and associated rules in O. Reg. 153/04 must be used to develop site-specific standards for soil at an RSC property, including in relation to excess soil deposited at that property.

10.0 RECORDS OF SITE CONDITION

An RSC is a document which summarizes the environmental condition of a property as determined by a QP by conducting a phase one ESA, a phase two ESA (if required) and confirmatory sampling (in the case of site clean-up). Under Part XV.1 of the EPA, an RSC must be submitted and filed in the Environmental Site Registry if a property owner wishes to change the use of a property in certain ways (generally from a less sensitive use to a more sensitive use) and/or obtain protection from potential future environmental orders for the property as specified in Part XV.1.

10.1 Contents of a Record of Site Condition

The legislative requirements for submission and filing of an RSC in the Environmental Site Registry are set out in Part XV.1 of the EPA. Additional details are set out in O. Reg. 153/04.

The type of information to be contained in an RSC includes a site description, property ownership and property use, ESA information, the standards that were applied to the site, maximum concentrations of contaminants in soil, sediment and/or ground water as of the certification date, certification statements and a description of any site remediation/clean-up activities. The information requirements are summarized below. In addition to this information, supporting documentation for the submitted RSC is also required as set out in O. Reg.153/04.

Site Description, Property Ownership and Property Use

An RSC must include the following type of information on site description, property ownership and property use:

- The name and address of the submitting owner;
- The name and address of any other current owners of the property;
- The municipal address for the property, if available;
- Geographic coordinates for the centroid of the property;
- The name and address of the QP submitting the RSC for filing; and,
- The current property use and the intended property use.

Environmental Site Assessment Information

An RSC must include the following types of ESA information:

- A list of the reports used in conducting the ESAs or relied upon in making the certifications.
- Indication of whether a phase two ESA was conducted.
- For an RSC based on a phase two ESA:
    - the applicable site condition standard;
    - the maximum concentration of contaminants measured in soil remaining on the property; and,
    - where applicable, the maximum concentration of contaminants measured in ground water or sediment.

Certification Statements

An owner will be required to make certification statements to the effect that:

- The owner acknowledges the RSC is being filed in a public registry and the registry contains a notice advising the public to consider conducting their own due diligence with respect to the environmental condition of the property.
- The owner has conducted reasonable inquiries for information relevant to the RSC and has disclosed this information to the QP.
- The certification statements made by the owner are true.
- The owner has ensured that access to the entire property has been afforded to the QP and to persons supervised by the QP for the purposes of conducting the site reconnaissance.
- if an agent is making the certifications, the agent has been authorized by the owner to make statements on the owner's behalf and that the owner has read and understand the statements being made on their behalf.

An RSC must include the following types of certifications made by the QP who assessed the site, such as:

- The ESAs of the RSC property were conducted in accordance with the regulation by or under the supervision of a qualified person as required by the regulation;
- There is no evidence of any contaminants on the property that would interfere with the property use;
- The opinions expressed by the QP are engineering or scientific opinions;
- The QP acknowledges the RSC is being filed in a public registry and the registry contains a notice advising users of the registry to consider conducting their own due diligence with respect to the environmental condition of the property;
- Ground water sampling has been conducted in accordance with the regulation, where applicable;
- If non-potable site condition standards have been used for the site, the municipality does not object or consents to their use (depending on the scenario); and,
- The certification statements made by the QP are true.

Remedial Action and Mitigation

An RSC must include information on the remedial action, if any, taken at the property for

purposes of submission and filing of an RSC in the Environmental Site Registry:

- The quantity of soil that has been remediated and left on the property;
- The quantity of contaminated soil that has been removed from the property;
- The quantity of any excess soil being deposited at to the property; and,
- The type of control, treatment or monitoring works, if any, used or needed at the site for the mitigation of soil or ground water contamination.

Supporting Documentation

The supporting documentation for an RSC, which must be attached to the electronic submission prior to submitting the RSC for filing includes the following documents:

- A plan of survey showing the surveyed boundaries of the RSC property, the phase one property, any phase two property and any RA property.
- A letter prepared by a lawyer that documents the legal description of the property, a list of its owners and a description of the nature of their interest and any municipal address, assessment roll number and property identified number applicable to the property, after reviewing a current plan of survey of the property that has been prepared, signed and sealed by a surveyor and all other necessary documents. Note that under section 4 of O. Reg. 153/04 “owner” is defined as including a beneficial owner of the RSC property.
- A copy of any deed, transfer or other document by which the RSC property was in whole or part acquired by the owner(s). In the case of a beneficial owner this could include a copy of a document such as a trust deed, a nominee agreement, or a Limited Partnership Report, as appropriate.
- Where the owner is a corporation other than a municipal corporation, or the owner is an entity other than a corporation or an individual, a copy of the Certificate of Status or equivalent document.
- Where the owner is an entity other than a corporation or an individual, a copy of a document that is equivalent to a Certificate of Status.
- A Table of Current and Past Uses of the Phase One Property.
- A Table of Areas of Potential Environmental Concern (not required for phase one RSC).
- The phase one CSM (not required for RSCs based on a phase one and two ESA).
- The phase two CSM (not required for a phase one RSC).
- If the owner has authorized an agent to make the owner’s certification statements in the RSC, proof that the agent has been authorized to do so.
- A document that meets the requirements of sub-heading (i) (excess soil brought to RSC property) in Heading (c) (Soil Excavated at the Phase Two Property or Excess Soil Brought to the Phase Two Property in Report Section 10 (Appendices) of Table

1 of Schedule E if excess soil is brought to a phase one property.

- Any property specific standards specified in an RA accepted by the Director (required only for an RSC being submitted based on an RA).
- Where the owner is a receiver of the property (i.e., the property is in receivership), proof of appointment as receiver, including any order, or proof that the receiver has taken possession or control of the property. (Note that under O Reg 153/04, “owner” includes a receiver in respect of the RSC property.)

11.0 ENVIRONMENTAL SITE REGISTRY

The purposes of the Environmental Site Registry are to allow the filing of RSCs to facilitate public access to information contained in those RSCs, to allow the filing of documents under Excess Soil Regulation, and to facilitate public access to those documents for the purpose of encouraging the beneficial reuse of excess soil. The Environmental Site Registry is an internet-based, electronic registry and can be accessed for purposes of submission and filing of an RSC in the Environmental Site Registry or viewing an RSC from a link on the Ministry website.

It is important to note that the Environmental Site Registry contains a notice indicating that users of the registry who have dealings with any property are advised to consider conducting their own due diligence with respect to the environmental condition of the property, in addition to reviewing information in the Environmental Site Registry. This notice is posted because the Ministry does not approve an RSC before it is filed to the Environmental Site Registry. The Ministry’s role is limited to a check of the contents of the RSC and the supporting documents against regulatory requirements; the ESAs are not submitted with the RSC (unless the Director notifies the property owner of their intention to conduct a review).

The QP is responsible for making the required certifications and statements that the property meets the relevant contaminant standards. QPs are encouraged to refer to “Submitting a Record of Site Condition” on the Ministry’s website to learn how to avoid common mistakes when submitting an RSC. QPs that take the time to review their submissions against this document have higher quality RSC submissions that meet Ministry expectations with fewer submissions.

This Section of the Guide summarizes the procedures for submission and filing of an RSC in the Environmental Site Registry or viewing an RSC in the registry and describes the type of information which the public can access by viewing the Environmental Site Registry.

11.1 Submission and filing of an RSC in the Environmental Site Registry

To submit and file an RSC in the Environmental Site Registry, a property owner must retain a QP who meets the qualification requirements set out in O. Reg. 153/04 (see Section 5.0 of this Guide), undertake one or more ESAs, and any other necessary work, to demonstrate that the property meets the applicable site condition standards or a standard specified in a risk assessment.

Once this work has been completed, the QP must set up a ONe-Key account with ServiceOntario in order to input information about the property and to submit the RSC for filing in the Environmental Site Registry. The RSC must be completed electronically and submitted by the QP, along with the necessary supporting documentation (e.g. plan of survey, letter prepared by a lawyer, etc.). The QP is deemed to sign the RSC through the acceptance of the terms and submission of the RSC electronically.

The process for submitting an RSC for filing consists of the basic steps described below in Subsections 11.1.1 to 11.1.4 of this Guide.

11.1.1 Setting up a One-key Account with ServiceOntario

The QP must set up a ONe-key account with ServiceOntario to obtain access to the RSC form. The ONe-key account is the QP's personal account. The QP is responsible for this account and for any RSC submitted from this account. A ONe-Key account can be set up by visiting this website: https://www.one-key.gov.on.ca/iaalogin/IAALogin.jsp

The Ministry expects that a QP may have an assistant help with the entry of information into the RSC form; however, the QP should implement a process to ensure the following:

- the person entering information on behalf of the QP is familiar with O. Reg. 153/04 and has detailed knowledge of the RSC property;
- the person entering information on behalf of the QP is known by the QP;
- the contents of the RSC, including the supporting documents are reviewed by the QP following entry of information by others;
- the QP is the only person to make the certifications in the RSC that are required to be made by QPs; and
- the QP is the only person to submit the RSC for filing on the Environmental Site Registry.

If a QP's membership status with the Professional Engineers of Ontario or Professional Geoscientists Ontario (formerly the Association of Professional Geoscientists of Ontario) changes, the onus is on the QP to verify that they are still permitted to act as a QP.

11.1.2 Completing and Submitting an RSC for Filing in the Environmental Site Registry

Once the QP has a ONe-key account with ServiceOntario, the process for completing and submitting an RSC to the Ministry consists of the following basic steps.

1. The QP searches for the RSC form within their ONe-key account.
2. The QP or designate enters the relevant property, owner and QP information and site data into the electronic form of the RSC.
3. The QP or designate saves a PDF version of the RSC and sends it to the submitting owner to review, along with a one-page document (saved in Word) containing the owner certification statements that is provided during the RSC submission process. If an agent has been assigned, the PDF version of the RSC is sent to the agent along with the agent certification statements.
4. Once reviewed, the submitting owner or agent signs and dates (both dates are the same and should be the date that they are signing) the certification form, scans and sends the signed document back to the QP or designate. No changes of any nature may be made to the certifications statement page.
5. The QP or designate uploads the required supporting documents, including the completed and signed owner or agent certification statements, and, if applicable, a completed and signed agent authorization form.
6. The QP (NOT the designate) reviews the completed RSC and all supporting documents.
7. The QP (NOT the designate) reads and agrees to all the certifications.
8. The QP (NOT the designate) electronically submits the completed RSC to the Ministry. Any applicable fee may be paid on-line.

11.1.3 Issuance of Notice of Receipt

Within a few days of receiving an electronically submitted RSC, the Ministry carries out a check of the RSC submission for completeness (i.e. have all of the supporting documents required for the submission been attached). If complete, the Director will send (by email) a Notice of Receipt to the submitting owner and QP indicating that all of the information required for the filing has been submitted, and the date by which the Director will respond. It is important to note that this completeness check only confirms that the correct

documents were sent, not that the contents of the documents met all regulatory requirements. If the RSC submission is not complete, the Ministry will follow-up with the QP by email to identify the document(s) that are missing. The QP or submitting owner can forward them by email to the Ministry's RSC's general mailbox (Reg153documents@ontario.ca). Within thirty days (excluding holidays and weekends), the Director will provide the submitting owner and QP with one of the following:

1. Acknowledgement that the RSC has been filed to the Environmental Site Registry;
2. A notice that the Director intends to conduct a review of the RSC; or
3. A notice that specifies the reasons why the RSC cannot be filed to the Environmental Site Registry.

11.2 Acknowledgment and Filing of the RSC in the Environmental Site Registry

Following the completeness check, the Ministry will complete an administrative and technical check of the contents of the RSC and all supporting documents against regulatory requirements. If the Ministry does not identify any deficiencies, the RSC will be filed to the Environmental Site Registry. The Director will promptly follow up with a written acknowledgement of the filing that is sent to the submitting owner and the QP, identifying the date of filing.

11.3 RSC Selected for Review Before it can be Filed

The Director may decide to undertake a review of a submitted RSC. In these cases, the property owner and QP will be notified in writing that the Director intends to conduct a review. The QP will be asked to send specific documents (e.g., phase one ESA, phase two ESA (if applicable), updates, etc.) within a specified time limit. Upon receipt of the documents, the Ministry will advise the property owner and QP as to the approximate length of time to undertake the review. The time required by the Ministry to conduct the review depends on several factors including the length of the reports and the complexity of the site and the quality of the reports. Upon completion of the review, the Director will give the property owner either a notice indicating that a defect prescribed by O. Reg. 153/04 has been found in relation to the RSC, or a written acknowledgement that the RSC has been filed. It is important to note that the review process will continue (through multiple submissions) until the Director is satisfied that, as a result of the submission, there is no defect prescribed by O. Reg 153/04 in relation to the RSC.

11.4 RSC Cannot Be Filed

If during the administrative and technical check of the RSC, the Ministry finds that the RSC has not been completed in accordance with O. Reg 153/04, the property owner and QP will receive a notice in writing specifying the reasons why the RSC cannot be filed in the Environmental Site Registry. The QP will need to address the deficiencies before submitting a new RSC for filing.

11.5 Viewing Documents in the Environmental Site Registry

An important purpose of the Environmental Site Registry is to facilitate public access to information contained in RSCs, especially information about the environmental condition and remediation, if needed, of a property. Through the Environmental Site Registry, the public can obtain information concerning ESAs using the CSM, the standards that were applied to the property and any remedial action which may have been undertaken to meet these standards. The Environmental Site Registry also contains information about instruments that may have been issued to the owner in relation to the RSC property such as a CPU.

The public can access the Environmental Site Registry and information about an RSC property by using the registry website (which can be accessed from a link on the Ministry website). A user name and password is not required for public access and viewing information in the Environmental Site Registry. The Environmental Site Registry has search capabilities to assist the public in finding RSCs which may have been filed for a particular property.

11.6 Records of Site Condition

RSCs are the primary instruments filed in the Environmental Site Registry. Each RSC contains information concerning the site description, property ownership and property use, ESA information, the standards that were applied to the site, certification statements and a description of any remediation activities. RSCs are discussed further in Section 10.0 of this Guide.

11.7 Certificates of Property Use

If the Director accepts an RA for a property, the Director may also issue a CPU requiring

the property owner to take certain actions, or refrain from taking certain actions, at the property, limiting the use of the property or prohibiting the construction of specified buildings. The Environmental Site Registry will indicate whether a CPU has been issued in relation to a property and will include a link to the CPU. In addition, the RSC for a property will identify whether any constructed works (including risk management measures) to control or otherwise mitigate the release or movement of contaminants are required for the property and any monitoring and maintenance requirements. CPUs and risk management measures are discussed in Subsection 7 of this Guide.

11.8 Environmental Orders

The Environmental Site Registry will indicate whether an environmental order has been issued with respect to the property. See Section 13 of this Guide for a discussion of the circumstances in which orders may be issued with respect to an RSC property.

12.0 MANDATORY FILING

Under Part XV.1 of the EPA, a property owner may submit a RSC for filing on the Environmental Site Registry if the applicable standards are met for soil, ground water and sediment, if any. Section 168.3.1 of the EPA prohibits a change in property use from a commercial or industrial use to a residential or parkland use or other change in use specified by O. Reg. 153/04, and prohibits the construction of a building if the building will be used in connection with such a change in use, unless a RSC has been filed in the Environmental Site Registry in respect of the property. Section 168.3.1 has been included in Part XV.1 of the EPA to ensure that properties being converted to a more sensitive use meet the appropriate standards. O. Reg. 153/04 includes further details of the types of property use changes affected by this mandatory filing provision.

See Section 13, 13.2 Integrating Planning and Environmental Requirements for more detail on when a planning approval authority may request that a property owner confirm the environmental condition of the subject property and whether it is suitable for the proposed use regardless of whether or not the proposed use is a change to a more sensitive use as required under O. Reg. 153/04.

RSCs may also be requested by financial institutions regardless of whether or not EPA requires the filing of a RSC in that instance. These RSCs are intended to provide assurance that subject properties are not subject to contaminant-related liabilities which could reduce their worth. Buyers may also request an RSC prior to completing a purchase to help ensure the property will not cause an adverse effect and result in

future liability or cost to remediate or reduced property value.

12.1 The Building Code and Property Use Categories

The following outlines how O. Reg. 153/04 works with the *Building Code Act*, 1992 (BCA) and to describe the definitions that have been included in O. Reg. 153/04.

Building Code and Building Permits

The BCA governs the construction, renovation, demolition and change of use of buildings. The responsibility for enforcing the BCA and O. Reg. 332/12 made under that Act (the Building Code) rests with principal authorities, primarily municipalities. Chief building officials, appointed by principal authorities, are required to issue a building permit to construct, demolish or change the use of buildings unless the proposed construction or demolition or change of use will contravene the BCA, the Building Code or any other "applicable law".

Building Code and Applicable Law

Applicable law, as set out in the Building Code, is a list of statutes, regulations and by-laws that must be complied with before the Chief Building Official issues a building permit. The list of applicable law ensures that building permit applications comply with, among other things, municipal zoning bylaws, environmental regulations, and heritage legislation. The list of applicable law provisions are found in Division A, Part 1, Section 1.4.1.3 and Division C, Part 1, Section 1.3.1.5 of the Building Code.

12.1.1 *Environmental Protection Act* and Link to the Building Code

The mandatory RSC filing provision, section 168.3.1 of the EPA is included in the list of applicable law provisions in the Building Code. This means that applicants submitting an application for a building permit must include confirmation that an RSC is filed for that property, if the building will be used in connection with a change of use mentioned in section 168.3.1 of the EPA.

Subsection 11(2) of O. Reg. 153/04 stipulates that the term "change in use" does not include a reference to a change in the zoning of the property under a municipal by-law. A change in use therefore refers to a change in the actual use of the property.

12.1.2 Property Use Categories

The definitions for the seven property use categories can be found in subsection 1(3) of O. Reg. 153/04. If a property is not being used, section 2 of O. Reg. 153/04 deems the property to have the type of property use to which the property was most recently put (e.g. an abandoned industrial property is still an industrial property).

The following is an overview of the seven property use categories (Table 3 in subsection 11.3.1 of this Guide shows the relationship of these definitions to the BCA definitions). Note that under O. Reg. 153/04 these categories refer to both uses of land and to use of a building on the property.

Industrial

"Industrial use" includes such things as an enterprise or activity involving assembling, fabricating, manufacturing, processing, producing, storing, warehousing or distributing goods or raw materials, or research or development in association with an enterprise or activity. Other activities considered industrial include such things as the use of the land or on-site buildings for the transportation of goods or people by railway or by airplane, production of oil or gas, mining or quarrying, generation or transformation of electricity, storage, maintenance or repair of transportation systems, use as a salvage yard, use of the land in connection with a sewage works, water treatment facility or sewage treatment facility.

Industrial – Indoor Cultivation, Growing and/or Harvesting of Agricultural Commodities

The definition of "industrial use" also includes the use of a building previously used for an industrial, commercial or community use, and repurposed for the cultivation, growing and harvesting of agricultural commodities, where the cultivation and growing are achieved through hydroponics or other methods that do not involve using soil from the property. Including this in the industrial use category reflects the assumption that this type of cultivation, growing and/or harvesting operation may involve the use of plant protection substances such as pesticides or herbicides. Because this is considered an industrial use, RSC filing will be required prior to changing the property to a more sensitive use.

Under section 14.1 of O. Reg. 153/04, the filing of an RSC is not required by this change in use (i.e. industrial, commercial or community use to industrial use). The industrial use category reflects the assumption that this type of cultivation, growing and/or harvesting operation may involve the use of plant protection substances such as pesticides or herbicides. Because this is considered an industrial use, an RSC filing will

be required prior to changing the property to a more sensitive use. If a property with a current or immediate past industrial, commercial or community use is to be used for cultivating agricultural commodities in such a way that soil from the property will be used to grow plants, either indoors or outdoors, the intended use is “agricultural or other” and the filing of a RSC will be required.

This exemption cannot be used for community gardens placed on industrial, commercial or community properties as it is specific to the growing of agricultural commodities. It also cannot be used for the construction of a new building elsewhere on the industrial, commercial or community property for the purpose of cultivating, growing and/or harvesting ~~of~~ agricultural commodities, or for the construction of an addition to the exterior portion of an existing building -- even if soil from the property is not being used to grow the plants. Those are ~~is~~ considered agricultural property uses and an RSC is required to be submitted to the Ministry and filed on the Environmental Site Registry. For example, construction of a greenhouse on an industrial, commercial or community use property, outside the building envelope, would be a change to an agricultural use and an RSC filing is required.

Commercial

“Commercial use” includes such things as an enterprise or activity involving the exchange of goods or services, including a hotel, motel, hostel or similar accommodation, or an office building.

Community

“Community use” includes such things as roads, buildings for indoor recreational activities or for indoor gatherings of people for civic, or social purposes or travel facilities, such as a railway station or airport passenger terminal. Note that community use also includes use of post-secondary classrooms in a building.

Community - Temporary and Crown Roads

There is no requirement to have an RSC filed in the Environmental Site Registry for a change of property use from a road which is temporarily required during construction of a new development (and will no longer exist as a road once all phases of the development are complete), to a residential, institutional or parkland use (refer to subsection 14.1 (2) of O. Reg. 153/04). This means that, although roads are part of the “community use” category, RSCs are no longer required to be filed prior to a change.

RSCs are also not required for changes in use from roads to which the *Public Lands Act* applies, including a “private forest road”, and from roads governed by the *Provincial Parks and Conservation Reserves Act,* including resource access roads and access

roads for provincial parks or conservation reserves.

Residential

“Residential use” include such things as a home or mobile home, health care facility, detention or correctional institution, penitentiary, or use as a residence associated with a university, college or other post-secondary institution (i.e. student residences). Residential use does not include motels or hotels, which establishments are considered to be commercial use.

Institutional

“Institutional use” includes such things as child care centres within the meaning of the *Child Care and Early Years Act*, *2014* or schools (public or private).

Institutional - Buildings Used for Indoor Gatherings of People for Religious Purposes

Buildings used for indoor gatherings of people for religious purposes are in the category of institutional use and can be converted to institutional or residential use without requiring an RSC. An RSC is required to change the use of a building or property that falls under the industrial, commercial or community category to the use for indoor gatherings of people for religious purposes. A transition period accommodates proponents with current plans to undertake this type of property use; this type of change is permitted without the filing of an RSC in the Environmental Site Registry until January 1, 2021. After that date, an RSC will be required to be filed prior to this type of change in use. Despite the transition period, it is important to note that some municipalities have policies that already require an RSC when there is a change in use from industrial to a use of a building for religious purposes.

Parkland

“Parkland use” includes such things as outdoor recreational activities, a day camp, an overnight camp, an overnight camping facility, or an outdoor gathering of people for civic or social purposes.

Agricultural or Other

“Agricultural or other use” includes such things as animal husbandry, aquaculture, beekeeping, dairying, field crops, forestry, fruit farming, horticulture, market gardening, poultry raising or the operation of glass- or plastic-covered greenhouses.

The “agricultural or other use” category also includes any other use that does not fall into any of the other RSC property use categories.

12.2 Mandatory Filing Requirements

Section 168.3.1 of the EPA and O. Reg. 153/04 require that an RSC be filed before a change in use occurs (in all or in part of the property) from an industrial, commercial or community property use to residential, institutional, parkland or agricultural or other property use. These requirements are summarized in Table 1.

Table 1: Mandatory Filing Requirements

Change in use from all or part of the following:	To any of the following (more sensitive)
Industrial or Commercial or Community	Agricultural or Other Use Institutional Use Parkland Use Residential Use

Note that a change from an industrial use, a commercial use or a community use to a more sensitive community use such as an indoor swimming pool, an indoor ice rink, an indoor arena, an enclosed stadium, an indoor sports field or an indoor gymnasium also requires an RSC.

An RSC filed for a property on the Environmental Site Registry represents that the property meets the applicable standards as of a point in time (the certification date - see subsection 4.2.1 - Certification date" and "date of the last work" in this Guide) for the intended use. Property owners should be aware of the consequences of continuing or placing a less sensitive use on an RSC property filed for a more sensitive use. A filed RSC does not apply to subsequent property use changes on the RSC property and municipalities need to consider the current use of the property. Property owners under this scenario may have to file a new RSC related to the current property use, despite the prior filing of an RSC for a more sensitive use.

Property owners should also be cautious about leaving a property vacant for an extended period following the filing of an RSC. A municipality may question the validity of a filed RSC if the property is left vacant for several years and request further confirmatory ESA work.

The best practice is for property owners to plan carefully and not submit an RSC for filing until they are ready to develop the property to the intended more sensitive use.

Further Exemptions

In addition to exemptions discussed in section 12.1.2 of the guide above, O. Reg. 153/04 also provides exemptions from the mandatory requirement to file an RSC in the following situations:

- A change of use from a railway line to a trail used for recreational activities, allowing for the common practice of converting an abandoned rail lines to recreational trails;
- A change in use from a landfilling site that is subject to an environmental compliance approval to another use;
- Construction in connection with relevant changes of use, where the only construction taking place is excavation and shoring; this recognizes that site remediation often takes place in concert with excavation and that an RSC could not be filed until after such excavation has taken place; and,
- Temporary health facilities or residential facilities that are built on land previously used for community or commercial purposes in response to emergencies declared under the *Emergency Management and Civil Protection Act.*

12.2.1 Exemptions and Restrictions Related to Buildings with a Mixed Use or Intending to Convert to a Mixed Use

There is an exemption to the requirement to submit and file an RSC in the Environmental Site Registry when converting upper floors of low-rise buildings (six stories or less) that are fully commercial or community use to commercial/community and residential/institutional use (mixed-use). Refer to paragraph 2 of subsection 15 (1) of O. Reg. 153/04. If a property owner wishes to convert the upper floors of a commercial/community use mid-rise or high-rise building (i.e. greater than 6 stories) to a residential/institutional use, an RSC will still be required. Additionally, an RSC would be required to covert the ground floor and/or subsurface floors to a residential and/or institutional use.

Separate ventilation, in accordance with the Building Code, between the commercial use floor and residential or institutional use floors is required when this type of change is made. A new mixed-use building would be considered ‘residential’ and an RSC is required for changes from industrial, commercial or community use to residential or institutional use.

There is an exemption with respect to RSC requirements for certain changes to buildings that are already mixed-use (refer to paragraph 1 of subsection 15 (1) of O. Reg. 153/04).

Neither of the mixed-use-related exemptions described above applies if the property on

which the building is located is currently, or was historically used, for an industrial use, a garage, or a bulk liquid dispensing facility, including a gasoline outlet, or the operation of dry-cleaning equipment.

Also, a criterion for both exemptions is that the building envelope (i.e. the physical barrier between the exterior and interior environments that encloses a structure) must remain intact with no additions to the exterior portions of the structure. An RSC is required if proposing to construct a new building with a more sensitive use outside of the confines of the existing building. An RSC would also be required to construct an addition to the existing building beyond the building's current exterior walls and ceiling (i.e. adding vertically or horizontally). An RSC is generally not required to make alterations to the building for aesthetics, safety, access or maintenance/repair, such as the addition or removal of doors and windows, replacement of a roof or addition of a dormer. Finally, O. Reg. 153/04 makes it clear that property owners cannot use the exemption to convert a fully commercial building to mixed-use and then use the mixed-use exemption in paragraph 1 of that subsection to convert the building to fully residential.

Municipalities should consider potential contamination sources from the subject property, as well as adjacent properties, especially if used as a garage, industrial use, or bulk liquid dispensing facility, including a gasoline outlet, of the operation of dry-cleaning equipment. Municipalities are encouraged to have local policies that supports the filing of an RSC outside of provincial requirements when there are known or suspected contaminated site concerns in mixed-use buildings. For example, elevated concentrations of volatile organic compounds in ground water from off-site source sources may be found in these mixed commercial/residential neighbourhoods.

12.3 What Building Officials Need to Know

As discussed in Subsection 12.1 of this Guide, Section 168.3.1 of the EPA is linked to the BCA. This means that a building permit applicant must demonstrate in their application for a building permit that an RSC has been filed in the Environmental Site Registry where construction related to certain property use changes. The information provided below is intended to assist municipal building officials in identifying the situations when an RSC is required.

12.3.1 When Proof of an RSC is Required

Table 2 provides an overview of when an RSC is a requirement prior to obtaining a municipal building permit, based on the link between the Building Code occupancy

classifications and the RSC property use categories. All seven RSC property use categories are defined in Subsection 1(3) of O. Reg. 153/04 (refer to Subsection 12.2 of this Guide). Building permit applicants and building officials should refer to O. Reg. 153/04 for the complete RSC definitions. Also, refer to Subsection 12.2 of this Guide for exemptions from the mandatory RSC filing requirements.

If the use of land or a building on the property does not fall into any of the other RSC property use categories, it will be considered to be in the “agricultural or other” RSC property use category. Differences between Building Code definitions and the O. Reg. 153/04 definitions should be noted for the purposes of submission and filing of an RSC in the Environmental Site Registry.

Table 2: Link with the Building Code

Building Code Occupancy Classifications	Link to RSC Definition	When Proof of an RSC is Required
- Group F, Division 1, high hazard industrial occupancies - Group F, Division 2, medium hazard industrial occupancies - Group F, Division 3, low	Industrial Use	Change in industrial use (all or part) to any of the following uses: - Residential - Institutional - Parkland - Agriculture
- Group D, business and personal services occupancies - Group E, mercantile occupancies	Commercial Use	Change in commercial use (all or part) to any of the following uses: - Residential - Institutional - Parkland - Agriculture

Of particular interest to building officials is the exemption for excavation and shoring in section 12 of O. Reg. 153/04. This exemption recognizes that site remediation often takes place in concert with building excavation and an RSC could not be filed until after an excavation has taken place.

12.3.2 Acknowledgement that an RSC has been Filed

Once the property owner has submitted an RSC for filing and the Ministry has filed the RSC in the Environmental Site Registry, the Director sends the property owner an

acknowledgement letter. This acknowledgement letter is proof that the RSC has been filed in the Environmental Site Registry. To verify whether the RSC has been filed, the Environmental Site Registry can be searched by using the Environmental Site Registry website. The Environmental Site Registry website could be accessed from a link on the Ministry's website.

12.3.3 Restrictions on the Property – Certificate of Property Use

The owner of the RSC property may choose to conduct an RA in relation to their property. The RA must be accepted by the Director before it can be used in an RSC which is to be filed in the Environmental Site Registry (refer to Section 7 of this Guide for more detail). In accepting the RA, the Director may impose conditions on the use of the property, such as not allowing basements in buildings on the property; these restrictions are contained in a CPU. CPUs are included in the list of applicable law for purposes of obtaining a building permit. A copy of any CPU should be provided by the building permit applicant to the building official when a building permit application is made.

If the Director issues, alters or revokes a CPU, the Director must notify the chief building official and the clerk of the local and upper tier (if applicable) municipality in which the property is located. Where applicable, the Director must also provide notice about the CPU to the associated board of health, planning board or conservation authority.

12.3.4 Conditional Building Permits

A municipality may choose to issue a 'Conditional Building Permit' before the RSC is filed under Sec 8(3) of the BCA. A Conditional Building Permit allows for activities beyond the exemption for excavation of soils and shoring for the purposes mentioned in the exemptions above. Under Section 8 (3) of the BCA, a conditional permit for any stage of construction may be issued by the chief building official under certain conditions. This involves a written agreement between applicant and municipality and others as may be required (i.e. upper tier municipalities etc.). As per Section 8 (3) (c) of the Building Code, the agreement requires, amongst other things, that the applicant assume all risk in commencing the construction and at the applicant's own expense, remove the building and restore the site in the manner specified in the agreement if approvals are not obtained or plans filed in the time set out in the agreement.

Although below grade construction may be advanced, the owner is responsible for ensuring that all necessary ESA work is completed to comply with the regulatory requirements needed to file an RSC. For example, property owners need to be

cautious about such activities as the placement of foundations or parking garages which may impede the ability to complete the required ESA work, such as confirmatory soil and ground water sampling. Municipalities issuing a Conditional Building Permit should include conditions that ensure property owners do not advance construction that could impede the submission and filing of an RSC in the Environmental Site Registry.

13.0 PLANNING AND ENVIRONMENTAL REQUIREMENTS

The information in this section is supplemental to the legislative and regulatory requirements described in this Guide. The information in this section is intended only as a general guide and does not in any way modify or affect any of the provisions or statutory responsibilities under the *Planning Act*.

13.1 Land Use Planning in Ontario

Land use planning in Ontario is governed by the *Planning Act*, which is within the jurisdiction of the Ministry of Municipal Affairs and Housing. Decision-making and approval powers under the *Planning Act* can involve the Minister of Municipal Affairs and Housing, the council of a municipality, a local board, a planning board, and the Local Planning Appeal Tribunal where there is an appeal of a decision of an approval authority.

Land use planning is also given direction through the Provincial Policy Statement, 2020, and Provincial Plans including A Place to Grow: Growth Plan for the Greater Golden Horseshoe. These contains policies which are generally supportive of brownfields redevelopment.

Mechanisms for Land Use Control

A proposal for the development of a contaminated or potentially contaminated property may trigger *Planning Act* mechanisms such as official plan and zoning by-law amendments, subdivision control, community improvement planning, site planning, minor variances, holding by-laws, interim control by-laws or temporary use by-laws. The appropriate local planning approval authority may be contacted for planning assistance. At the provincial level, there are five regional planning offices of the Ministry of Municipal Affairs and Housing, Municipal Services Offices which can provide assistance and advice.

When planning for the development of contaminated or potentially contaminated property, consideration must be given to all relevant legislation and regulations including, but not limited to: the *Planning Act*; the Provincial Policy Statement; the BCA; the EPA; Provincial Plans, such as A Place to Grow: Growth Plan for the Greater Golden Horseshoe, Greenbelt Plan, Oak Ridges Moraine Conservation Plan, and Niagara Escarpment Plan; and, local planning policies including, but are not limited to official plans, zoning by-laws and community improvement plans.

The Planning Review and Approval Process

The choice of planning mechanism and timing within the development control review process is affected by a number of variables including:

- the nature of the proposal (e.g. proposed use);
- municipal planning requirements at the time of an application (e.g. official plan policies and zoning);
- the state of the property (contaminated or potentially contaminated);
- documents required (e.g. environmental study/assessment requirements);
- verification of the state of the property requirements (e.g. RSC); and,
- the goals of a property owner and the municipality (e.g. timing and public consultation requirements).

Early discussions with the appropriate planning approval authority (lower tier, single tier, upper tier or provincial) can help proponents in establishing their planning and environmental requirements and can facilitate a smoother planning and development process.

13.2 Integrating Planning and Environmental Requirements

Where the subject property is contaminated or potentially contaminated, the planning approval authority may request that a property owner confirm the environmental condition of the subject property and whether it is suitable for the proposed use regardless of whether or not the proposed use is a change to a more sensitive use that requires the filing of a RSC under O. Reg. 153/04 (i.e. a non-mandatory RSC filing). For efficiency purposes, planning and environmental requirements can be integrated. In particular, while official plan policies may indicate that environmental studies, assessments and an RSC need to be submitted to a municipality, for some requirements, such as the RSC, the timing for completion of the work can be established during the planning review process rather than prior to submission of a planning application.

Municipalities should review the provisions of each planning mechanism under the *Planning Act*, to determine whether and how an RSC requirement can be imposed during a development review and approval process. Municipalities should consider the cost-benefit and necessity of placing an RSC requirement on property owners. An RSC may not always be the appropriate tool to impose on properties in non-mandatory scenarios as it has the potential to impact the viability of some development due to associated costs and time.

Phase One Environmental Site Assessment

Where a phase one ESA may be required, municipalities may consider whether its completion should be requested prior to the submission of a planning application. A general requirement for a report on the initial ESA can be set out in official plan policies for properties that are potentially contaminated. If further investigation is not required, the property owner should then submit all supporting documentation with the planning application.

Phase Two Environmental Site Assessment

If a phase one ESA indicates that a phase two ESA is necessary, municipalities may request completion of the phase two ESA prior to the submission of a planning application. A general requirement for a report on this phase two ESA assessment phase can be set out in official plan policies for properties that are potentially contaminated. If the results of the phase two ESA indicate that a remedial work plan is not required, the planning application and supporting documentation (e.g. report) with regard to site conditions may then be submitted with the planning application.

14.0 LIMITATIONS ON ENVIRONMENTAL LIABILITY

This part of this Guide summarizes provisions concerning protection from environmental liability found in Parts XV.1 and XV.2 of the EPA.

14.1 Effect on Owner Liability from the Filing of an RSC in the Environmental Site Registry

If an RSC is filed in the Environmental Site Registry, Part XV.1 of the EPA provides that, subject to specified exceptions, certain types of orders cannot be made against the owner of the property and certain other persons, including:

- the person who submitted the RSC for filing or a subsequent owner of the property;
- an occupant of the property at the time of or after filing;
- a person who has charge, management or control of the property at the time of or after filing; and
- a person who sold the property to a purchaser and the agreement for the purchase and sale of the property included a condition, covenant or term that the purchaser would file an RSC for the property and has subsequently done so.

Orders may be issued in relation to any new contamination at the property that occurs after the certification date. Orders may also be issued in other situations as described in the legislation, including where:

- the RSC contains false or misleading information;
- contamination from the property has moved off-site after the certification date;
- after the filing of an RSC, the property is used for a more sensitive use than the intended use of the property as stated in the RSC;
- a person contravenes a term or condition of a CPU or of an order respecting risk management measures; and
- the Director has reasonable grounds to believe that there is danger to the health or safety of any person related to the presence of a contaminant that was on, in or under the property as of the certification date.

14.2 Provisions Regarding Municipalities, Secured Creditors, Receivers, and Others

Part XV.2 of the EPA provides certain limited protections to municipalities, secured creditors, receivers, trustees in bankruptcy, fiduciaries and property investigators who may need to undertake certain investigative or other actions related to RSC properties, or take ownership or control of an RSC property. O. Reg. 298/02 made under the EPA provides additional details on these provisions.

Also included in these provisions are notice requirements. Municipalities, secured creditors, receivers, trustees in bankruptcy and fiduciaries, or their representatives, who become aware of a danger to the health or safety of any person must inform the Ministry's Spills Action Centre Toll Free within 24 hours. (Public Pollution Reporting Hotline 1-866-MOETIPS (6638477) or Regulatory Spill Reporting 1-800-268-6060).