Technical Circular T-02/25
Date: May 9, 2025

To: All Engineering Directors
All Executive Directors
All Regional Managers of Project Delivery
All Project Managers
All District Managers
All HQ Directors: Operations, Properties and Major Projects
All Provincial Field Services

SUBJECT: **CONTAMINATED SITES: SOIL AND ROCK RELOCATION AND PROPERTY ACQUISITION**

DEFINITIONS

PROJECT: any Ministry of Transportation and Transit (MOTT) project e.g. highway projects, major projects, district projects, maintenance projects (excluding ditch waste removal), emergency projects, and gravel pit/quarry extraction.

SOIL AND ROCK: Type D and Type A as per the MOTT Standard Specifications for Highway Construction (SS). This includes Type D sub-classes Topsoil and Stripping as per SS 201.11.02 and Stripping in areas of a project captured by SS 201.14.

PURPOSE:

This technical circular outlines regulatory requirements and provides guidance to identify and report uncontaminated and contaminated soil and rock that is excavated during Ministry of Transportation and Transit (MOTT) projects and operations. Following this technical circular will ensure MOTT business units and their projects remain compliant with the soil relocation provisions in BC's Environmental Management Act (EMA), consider necessary works prior to property transactions, and have options to reduce construction and mitigation costs.

This technical circular does not replace the requirements in T-04/13 *Evaluating the Potential for Acid Rock Drainage and Metal Leaching at Quarries, Rock Cut Sites and from Stockpiled Rock or Talus Material used by the MOTT*.

This technical circular is intended to be utilized in consultation with a MOTT contaminated sites specialist.

This technical circular supersedes technical circular T-03/20 *Identification and Characterization of Potentially Contaminated Soil*. In addition, the remediation of selected heavy metals memorandum (Driedger, 2001) no longer applies.

BACKGROUND:

Soil and rock within MOTT right-of-way (ROW), MOTT gravel pits and MOTT owned properties may be contaminated or pose a risk to human health and the environment. Acquiring analytical data for all soil and rock cuts is unreasonable considering financial

and schedule requirements. The Contaminated Sites Regulation (CSR) and the EMA establish a process for identifying and reporting on uncontaminated and contaminated sites in BC. This technical circular outlines MOTT's regulatory obligations to meet these requirements when relocating soil and rock.

Section 6 (2) of EMA precludes the introduction of waste to the environment unless approvals or permits are acquired from the Ministry of Environment and Parks (MOE). Contaminated soil or rock is termed "waste" quality if the characterization data is above the land use standard at the source or receiver property. Waste quality soil or rock may be present on MOE-defined high risk sites which have additional management requirements.

The EMA also states that testing of soil and rock prior to relocation is required on properties that have been used for a specified industrial and commercial use as listed in the CSR under Schedule 2 Activities (Appendix B). This includes gravel pits and quarries unless the property qualifies for a CSR exemption as listed below.

Further, the current and/or historical boundary of a property is used when determining soil relocation requirements. Therefore, amalgamating multiple properties into one property or site by a project may still require screening and testing prior to soil relocation within the broader property boundary.

Where testing is not required by regulation, uncharacterized soil or rock represents a potential environmental liability when relocated to any MOTT or third-party property (e.g. a MOTT gravel pit). Projects may choose to characterize soil and rock where environmental liability is determined to be significant with the placement of the relocated materials.

MOTT should avoid creating properties with CSR Schedule 2 Activities. A property with a CSR Schedule 2 Activity will last in perpetuity and future assessments will identify it and require testing in advance of soil or rock relocation.

Additionally, information on contaminated sites will support decisions on alignment and design options, as well as property acquisition. The *Property Acquisition Guidelines: Internal Advice for MOTT Employees* issued by MOTT's Properties and Land Management Branch identifies contaminated sites as an item to review during property transactions.

POLICY:

RELOCATING SOIL AND ROCK FROM MOTT PROPERTY

All MOTT projects that plan to relocate soil or rock from a property must complete a Step A Screening Summary Report (Step A Report) for the project area. This includes district projects and maintenance contractor work. The project area may be composed of many current and historic individual property boundaries, which must be considered when relocating soil or rock by the project.

A Step A Report will identify activities listed in CSR Schedule 2. It will also identify past or current contamination at a property, including high risk sites as defined by MOE Protocol 12. Projects, except for maintenance contractors, should contact a MOTT contaminated

sites specialist to initiate and complete a Step A Report. Maintenance contractors must complete their own Step A Reports for their maintenance contract work. At some properties, this report may need to be periodically updated (for example, if additional materials are stockpiled at a property). See Appendix A for Step A Report requirements.

A MOTT contaminated sites specialist must be contacted if a project or a Step A Report identifies the potential presence of waste quality materials (i.e. material exceeding a land use standard and/or visual or olfactory evidence of contamination in soil or rock). This is required because relocating soil or rock on or off a property may require additional work as per the EMA (e.g. soil characterization, MOE approval or permit).

If a Step A Report identifies a CSR Schedule 2 Activity, then a project must engage a MOTT contaminated sites specialist to initiate the following requirements before soil relocation occurs:

1. MOTT-specific Step B soil characterization and Step C soil management strategy work requirements (see Appendix A).

2. MOE's Protocol 19 "Site Investigation and Reporting" (P19).

3. MOE's Technical Guidance 1 Site Characterization and Confirmation Testing.

4. Section 43 of the CSR. This requirement is a notice that is submitted to MOE when characterized soil or rock is removed and must be completed at least one week prior and within 2 years before the material is relocated off a property. This notice form is Schedule 8 in the CSR and includes soil or rock information, receiver property details, characterization data, etc. A CSR-defined qualified professional (QP) is responsible for submitting this notice.

5. Sections 45 and 46 of the CSR. When relocating volumes of industrial or commercial quality soil or rock exceeding 20,000 cubic metres, CSR Schedule 8.1 must be submitted to MOE. This application is to acquire approval for the creation of a high-volume site (HVS). A CSR-defined QP is responsible for submitting this application.

6. If applicable, an HVS requires an MOE-specific soil management plan (SMP). This includes the items listed in section 46.1 of the CSR (e.g. soil tracking data, annual groundwater monitoring, closure plan, etc.). MOTT should avoid creating HVSs because they require long term management and funding post-construction. The CSR exemptions pertaining to a HVS in a highway ROW are detailed in section 45 (3) and (4).

   Further instruction detailing the management of these materials during construction are described within Step C of Appendix A below.

Projects must follow the procedure and guidelines outlined below in Appendix A. As a due diligence measure, this procedure should also apply to soil being relocated from federal lands.

While not required, it is advisable that all soil or rock is characterized in situ before being relocated to a third-party property or when the receiver property owner requires analytical

data prior to accepting the relocated material. A decision to undertake this work will be made by the project team on a project-by-project basis. Testing may include potential contaminants of concern for areas not associated with a CSR Schedule 2 Activity. Consultation with a MOTT contaminated sites specialist is recommended.

During an emergency closure where road reinstatement is the priority, the requirements in this policy may need to be completed after the soil or rock has been relocated. MOTT's contaminated sites specialist may be approached for coordinating and funding the Step A Report.

A flowchart summarizing the steps in this policy is included in Appendix C.

PRIVATELY SOURCED SOIL AND ROCK

Third-party properties that have a CSR Schedule 2 Activity historically or currently on their property must supply the ministry with confirmation that the source site qualifies for exemption #3 below. Those that do not qualify for a CSR exemption are required to supply the project with a Step A Report. The third-party supplier must characterize and manage the relocated materials in accordance with MOE's protocols, technical guidance, CSR reporting requirements, and EMA when considering soil or rock relocation.

POLICY EXEMPTIONS:

Exemptions for characterizing soil or rock relocated from properties with a specified commercial or industrial use (i.e. CSR Schedule 2 Activity) are provided by MOE in sections 42 (2), 42 (3), 42 (4) of the CSR, in section 5.4 of Protocol 19 and are

summarized here:

1. The soil or rock receiving property is outside of the province.
2. The soil or rock receiving property is on federal land, other than a reserve within the meaning of the *Indian* Act (Canada).
3. The source property is being used to mine soil or rock for a construction purpose on land, the material is extracted in accordance with a *Mines* Act permit, and the material is transported directly to the receiver property ("directly" is interpreted to include processing, stockpiling and hauling within a period of 2 years).
4. The soil or rock is sourced and relocated within the current or historical property boundary and the material is not suspected to be waste quality (i.e. above the relevant land use standard).
5. Relocated preload when the preload originated from a property without a CSR Schedule 2 Activity.
6. The soil is winter-maintenance sand.
7. The volume of rock to be relocated is less than 1000 m^3 or less than 100 m^3 where the mined rock is to be relocated adjacent to sensitive habitat (defined in MOE Procedure 8).
8. The volume of soil or rock being relocated is 30m^3 or less from a property over a 2-year period and where the property is not classified as high risk by MOE.

These exemptions do not apply when the soil or rock is suspected or confirmed to be contaminated.

MOTT's ditch waste program is exempt from steps 1-7 in the policy section above as roadways and highways are not a specified commercial or industrial land use in the CSR (i.e. Schedule 2 Activity). The procedure in MOTT's SS165.14.03 may be used if unanticipated contamination is encountered during ditching because relocating waste quality soil requires a notice and/or permit. A MOTT contaminated sites specialist should be approached to assist with managing the relocation of waste quality soil or when ditch waste is relocated to a third-party receiver site.

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APPENDIX A

PROCEDURE AND GUIDELINES FOR CHARACTERIZATION OF SOIL AND ROCK

The following procedure will be conducted in accordance with the above Policy. This work must be directed by a qualified professional (QP) who is a member of Engineers and Geoscientists BC, BC Institute of Agrologists, College of Applied Biologists or the Association of Chemical Professionals of BC.

1. STEP A – SCREENING PROJECTS

Any project without an exemption identified on page 4 of this technical circular must complete and provide a Step A Screening Summary Report. The Step A Report will determine the historical and/or current presence of specified industrial or commercial activities listed in CSR Schedule 2. It will also identify contaminated sites, including an MOE-defined high risk site, within the project boundary. The Step A Report is not restricted to the area of soil and rock cuts. This is because the entire project area may be stripped as per MOTT SS 201.14 and 201.11.02. A project boundary may change during design and so a 100 metre buffer must be used during the screening of the project area and clearly stated within the Step A Report.

MOE's Site Registry must be reviewed as part of a Step A Report. The following resources may also need to be reviewed: the Federal Contaminated Sites Inventory, historical air photos, historical investigation reports, and title directory searches, etc. to determine current and historical activities. A site visit may be needed and will be determined in consultation with a MOTT contaminated sites specialist or by the MOTT maintenance contractor.

For project design sequencing, it is recommended that the Step A Report be completed early in functional design when there is an understanding of the design concept. The results of the Step A Report can help avoid acquiring properties with Schedule 2 Activities, highlight alternate alignment options, and minimize the management and/or disposal of waste quality soil or rock.

The deliverable for a Step A Screening Summary Report includes:

1. A statement and/or table outlining the records reviewed (e.g. 50% functional design, air photos, etc.).
2. If applicable, a description of the site visit observations.
3. A location map that outlines the assessed project area, including a 100 metre buffer, with the locations of properties with a CSR Schedule 2 Activity and MOE-defined contaminated and/or high risk sites if identified.
4. A table documenting the properties identified as having CSR Schedule 2 Activities including the type of activity and associated potential contaminants of concern within the project boundary. This includes contaminated or high risk sites.
5. If applicable, a recommendation must be included for Step B work as per this technical circular on these properties.
6. A similar recommendation in the conclusion section: "It is recommended that the material is characterized in situ per Step B of this technical circular prior to relocation if the cut soil or rock is being relocated to a third-party receiver property. If soil contamination (i.e. debris, or soil that exhibits odors or staining) is observed

during construction, the rock or soil should be addressed with MOTT's SS165.14.03 and Appendix 165-A requirements."

7. Design drawings or air photos are not required within the final report.

While not required, it is advisable that all soil (including MOTT SS 201.11.02 and 201.14) or rock is characterized in situ before relocation to a third-party property. Particularly when it is anticipated that the receiver property owner will require soil or rock data before accepting the material. This decision will be made by the project team on a project-by-project basis. This may include potential contaminants of concern for areas not associated with a CSR Schedule 2 Activity. Consultation with a MOTT contaminated sites specialist is recommended.

Step A Reports may need to be updated periodically regardless of historical data (for example, if new material is stockpiled, or if there is a change in land use at the property).

See section 4 of this technical circular if property will be acquired for the project.

2. STEP B – SOIL, ROCK AND SITE CHARACTERIZATION

Cut soil and rock must be chemically characterized in accordance with MOE protocols and guidance if a CSR Schedule 2 Activity is identified on a property. This work must be coordinated by a MOTT contaminated sites specialist, including maintenance contractor projects, and done prior to soil or rock relocation from a property, if the property doesn't qualify for an exemption. Similarly, soil or rock characterization may need to be completed when a contaminated site or an MOE-defined high risk site is identified on a property. Characterization may also be carried out if advised by the MOTT contaminated sites specialist based on a project-specific concern identified during Step A (e.g. relocation to a third-party receiver site). The appropriate regulatory standards and guidelines must be applied when relocating soil to or from federal land.

The Step B soil or rock characterization work must include Top Soil and Stripping as per MOTT SS 201.14 and 201.11.02. A QP must follow-up with the MOTT project to determine if there are areas of Advance Works, Early Works, culvert inlet/outlets, environmental offset areas, or utility trenches/corridors that need to be included in this work. A QP must also ask the project for design drawings showing where all planned soil cuts are to occur and the volumes of Type D and Stripping.

When the CSR Schedule 2 Activity F6 (i.e. petroleum, natural gas or sulfur pipeline rights of way excluding rights of way for pipelines used to distribute natural gas to consumers in a community) is identified during Step A, and soil characterization is required near the pipeline, the work may need to be guided and managed during construction by the Construction Contractor's approved qualified professional. This occurrence could be defined and accounted for in the project's risk register, addressed by including language in the Special Provisions of a contract, and will be managed on a site-by-site basis.

Soil characterization may also be required to facilitate the property acquisition strategy as per section 4.

2.1. Source Site Sampling, Testing & Screening – Soil

Analytical testing and screening will be completed to establish the quality of soil on properties with CSR Schedule 2 Activities in accordance with MOE's Protocol 19 "Site Investigation and Reporting", MOE's Technical Guidance 1, and/or any other applicable technical guidance, protocol etc. (e.g. TG2, TG4, TG5, P2, P4, P19, P21, P27, etc.), and the following requirements:

1. A conceptual site model (CSM) should be created and used to rationalize the soil and rock sampling program and characterization work. The CSM must be included in the Step B Soil or Rock Characterization Report (Step B). The rationale should detail the sampling design, sampling frequency, assumptions, adherence to MOE's Technical Guidance 1, etc.
2. Vertical sampling must occur to the depth of the soil cut at regular sampling intervals to facilitate delineation of potential contamination within the cut and must consider soil heterogeneity and variable Stripping depths.
3. Multiple samples should be collected, however not all samples need to be initially analyzed.
4. Soil samples must be collected to adequately characterize Type D, including the sub-classes defined in SS 201.11.02, i.e. Topsoil and Stripping, if separate volumes are required for contract language (e.g. Schedule 7) as determined by a MOTT Project Manager.
5. Soil type will be classified according to the Unified Soil Classification System and will be recorded on the Summary Logs (as described below in Section 2.4).
6. Soil data must be screened against the most conservative site-specific soil matrix standard for Agricultural (AL-), Industrial (AL+/IL-) and Waste (IL+) quality soils or other land use types on a site-specific basis as determined in consultation with a MOTT contaminated sites specialist. This will facilitate re-use options on or off a property.
7. If the volume of soil being relocated off a property exceeds 20,000 cubic metres, then the soil must be analyzed for all contaminants according to CSR 45 3 b (i) prior to relocation.
8. Vapour sampling, if required, noting any exemptions in the CSR guidance or Protocol documents.
9. The use of Protocol 27 and other MOE guidance, protocols, etc. when screening data may allow for greater on and off site soil disposal options.

Additional work may be required if contamination is confirmed and will be driven by the project design, property acquisition strategy, divesture plans and/or MOE regulatory requirements (e.g. contaminant delineation, testing of water wells and septic fields and other work described in Section 4).

The procedure above may be used when MOTT chooses to characterize soil that is not associated with a Scheule 2 Activity.

The requirements above may be tailored for design build contract work and must be confirmed with the contaminated sites specialist and project.

Once soil sampling, testing, and screening is completed, the QP must determine whether the soil exceeds the source or receiving property's CSR standards. If the receiver property standards are exceeded soil relocation to a property is regulated under the EMA,

the CSR, the Waste Discharge Regulation, and/or the Hazardous Waste Regulation. The associated MOE-issued instrument and/or authorization (i.e. approval or permit) must be secured before relocating soil on or off a property.

2.1.1 Receiver Site Screening

The soil characterization results must be screened against the site-specific conditions at the receiving site, as per Protocol 19, and summarized below:

1. Determine the applicable land use in consultation with a MOTT contaminated sites specialist.
2. Assume that all possible CSR Schedule 3.1 Part 1 matrix factors apply at the receiver property. CSR background soil concentrations and Protocol 21 for Contaminated Sites Water Use Determination may be used to discount potential exceedances.
3. Assume the most conservative soil pH or establish soil relocation receiving site pH per MOE Technical Guidance 5.
4. Screen the data against the lowest applicable generic or site-specific soil matrix standard.

Consult a MOTT contaminated sites specialist for an approach contrary to the above.

2.1.2 High Volume Site Requirements

If a high volume site needs to be created because the design requires more than 20,000 cubic metres of soil or rock relocated from a property with a CSR Schedule 2 Activity to a different property, then the Soil Management Plan (SMP) requirements in section 46 of the CSR must be completed (e.g. Schedule 8.1 MOE registration form). Prior to preparing a soil management strategy in Step C, approval for the registration of the high volume site must be secured from MOE. The project must ensure that measures are put into place for the ongoing operation, long term monitoring and closure of the HVS.

2.2 Source Site Sampling and Testing - Rock

Bedrock must be chemically characterized and relocated in accordance with MOE Protocol 19 section 5.4 if a CSR Schedule 2 Activity or an MOE-defined high risk site is identified on a property prior to relocation off a property. Additional characterization work may be needed in consultation with a MOTT contaminated sites specialist (e.g. additional samples, XRD-R, T-04/13, etc.).

2.3 Soil Characterization or P19 Rock Characterization Reports

Reporting must include the soil or rock characterization data illustrated in black and white symbology and/or shaded/hatched areas on designer-supplied 100-series plan drawings as overlays on figures and with the property acquisition drawings overlaid as applicable. All soil characterization drawings, tables and reports must include the following notice to reader language:

> *Notice to Reader: The soil chemical results shown are based on the specific standards and conditions applicable at this site. The application of these results to prospective soil receiver properties must consider the standards and conditions applicable at those properties. It is recommended the Contractor retain an Approved Qualified Professional*

to assist with determining suitable soil relocation options, and to conduct further soil quality assessment as warranted.

The report must describe the lateral stationing and vertical depths of each of the three soil qualities for Type D, including the sub-classes Topsoil and Stripping per MOTT SS 201.11.02. These qualities include AL-, AL+/IL- and IL+. Volume estimates of Type D may be included in the final report as determined on a site-specific basis as discussed with a MOTT contaminated sites specialist and Project Manager. For example, Topsoil may be included as Stripping if Schedule 7 of a contract does not distinguish these two soil types from one another. A table summarizing this information must be included in the Step B Report.

The Step B Soil or Rock Characterization Report (Step B Report) will be a stand-alone report and not combined with other reports. The Step B Report must include the CSM and sampling rationale which may include plan drawings, cross sections, etc., and the associated language. In addition to the final report, the QP must provide electronic raw data tables (e.g. Excel), lab reports, CAD files, etc. as part of the deliverables for this phase of the assignment.

2.4 Summary Logs

Electronic summary logs must be provided to MOTT and sent to the email address below once an investigation or Step B Report is finalized. Contact the Senior Geotechnical Design Technologist at MOTT.Gint@gov.bc.ca to determine the current summary log format preferred by MOTT for every assignment. If gINT files are specified, they must include:

- Project file .gpj and library file .glb;
- Logs should be exported as DXF or DWG (AutoCAD) and PDF format; and
- Scanned or digital Driller's field logs are required to be submitted. Driller's field log templates for both soil and rock are available in excel and PDF formats and can also be found at the link above.

Templates and periodic updates are available at:
http://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/geotechnical-materials-pavement-engineering

Survey information on all Summary Logs will include:

- UTM (NAD83) coordinates (Northing, Easting, Elevation and UTM zone) and should be noted if coordinates were taken by GPS or Surveyed (with date of survey). If local coordinates are provided, a control table must be supplied with the logs to convert coordinates to UTM coordinates.

3. STEP C – SOIL MANAGEMENT STRATEGY (SMS)

Regardless of the soil qualities determined in Step B, the QP must develop a soil management strategy in accordance with MOE guidance and regulations and in consultation with a MOTT contaminated sites specialist.

The soil management strategy must be submitted in a stand-alone Step C SMS Report and may not be combined with other reports. The steps in the SMS does not apply to rock, except for tracking requirements and submission of CSR Schedules 8.0 & 8.1. The management of rock material is captured by T-04/13.

A Step C SMS Report may not be required for design build contract work and must be confirmed with the contaminated sites specialist and MOTT project.

The Step C SMS may:

1. Summarize the soil qualities (i.e. Agricultural Al-, Industrial AL+/IL-, and Waste IL+ quality or by screening against other land use standards on a site-specific basis as determined in consultation with a MOTT contaminated sites specialist). The summary must include the lateral stationing and vertical depths of each soil quality and their respective volumes (i.e. Type D, Top Soil, and Stripping). A table summarizing this information must be used in the Step C SMS Report.
2. Document the preferential relocation of the poorest quality soil within the ROW or other MOTT property such as a gravel pit (unless the MOTT gravel pit is in an Agricultural Land Reserve).
3. Consider the current and future land use on and off site (i.e. property specific) when preparing an SMS.
4. Describe the land uses where the soil can be relocated to or state the requirement to re-evaluate the data before relocating to an off site (i.e. property specific) location.
5. Outline BC MOE notification requirements (e.g. Notice of Independent Remediation, both initiation and completion, Site Risk Classification Report, Summary of Site Condition form, etc.).
6. When a property has a CSR Schedule 2 Activity, the SMS must also outline the following applicable notifications for soil relocation: CSR Schedule 8.0, 8.1, or a Site Disclosure Statement (CSR Schedule 1).
7. If requested by a MOTT contaminated sites specialist and the waste quality soil is not going to an MOE-authorized facility, summarize the steps needed to acquire a Waste Discharge Authorization (WDA) approval or permit or a Certificate of Compliance (C of C) from the MOE.
8. Outline disposal site considerations for each specific property when contemplating WDA or C of C applications. For example, the geotechnical suitability of the disposal area, the segregation of material types (e.g. Type D, Topsoil, and Stripping), slope angles of piles, revegetation, or cover requirements, if needed.
9. Outline construction soil or rock tracking.
10. Include a statement if the contractor must provide a disposal plan (that adheres to the EMA and CSR) when soil relocation is contrary to the SMS and/or Special Provision language (e.g. in a sub-plan within a Construction Environment Management Plan prepared by an AQP).
11. The Step C SMS Report must include one section where the SMS is written in a manner (e.g. bullets) that allows it to be easily adopted as Special Provision language and/or as a Reference Document (e.g. T3) document for MOTT construction tender packages. This will include a description of witness or hold points for the Ministry's QP to fulfil Engineer or Geoscientist of Record requirements.

The Step C SMS Report shall not include Schedule 7 unit rate estimates for disposal or relocation as this information must be provided via email to the MOTT contaminated sites specialist.

When a project creates a high volume site, the Step C SMS must:

12. Clearly document and include mention of the work required by MOE and CSR 46.1 (e.g. a soil management plan (SMP) has been completed and the HVS is ready to accept the non-waste quality soil).
13. Outline any requirements that the construction contractor must abide by when placing material at the HVS.
14. Outline construction witness points for the MOTT's QP to supervise the implementation and construction of the HVS.
15. Include the data collection needed during construction to fulfill and update the MOE's SMP requirements.

4. PROPERTY ACQUISITION

If a land credit is sought for surplus property from the British Columbia Transportation Financing Authority (BCTFA) it is recommended that the project's property services representative contact the *Properties and Land Management Branch* in Victoria to discuss the level of contaminated sites investigation that needs to occur on each property.

At a minimum, a Stage 1 Preliminary Site Investigation (PSI), as per Technical Guidance 10, needs to be conducted on each property when a land credit will be sought to facilitate the application for an MOE instrument (e.g. Certificate of Compliance or Determination). If the project has determined the limits of surplus land then the Stage 1 PSI can focus on this area and not the area of the future ROW. The Stage 1 PSI may also inform a soil characterization program and property acquisition strategy. The contaminated sites work, e.g. Detailed Site Investigation(s), human health and ecological risk assessments, site remediation, testing of water wells and septic fields, feasibility studies and remedial cost estimates should be done in consultation with property staff and a MOTT contaminated sites specialist.

Ideally, any investigative work should be done in conjunction with Steps A and B above to realize any efficiencies in investigative costs.

SCHEDULE 2
SPECIFIED INDUSTRIAL OR COMMERCIAL USES

A	**Chemical industries and activities** 1. adhesives manufacturing or bulk storage 2. chemical manufacturing or bulk storage 3. explosives or ammunition manufacturing or bulk storage 4. fire retardant manufacturing, bulk storage or shipping 5. fertilizer manufacturing, bulk storage or shipping 6. ink or dye manufacturing or bulk storage 7. leather or hides tanning 8. paint, lacquer or varnish manufacturing, formulation, recycling or bulk storage 9. pharmaceutical products, or controlled substances as defined in the *Controlled Drugs and Substances Act* (Canada), manufacturing or operations 10. plastic products (foam or expanded plastic) manufacturing or repurposing 11. textile dyeing 12. pesticide manufacturing, formulation, bulk storage or shipping 13. resin or plastic monomer manufacturing, formulation or bulk storage
B	**Electrical equipment and activities** 1. battery manufacturing, recycling or bulk storage 2. facilities using equipment that contains PCBs greater than or equal to 50 ppm 3. electrical equipment manufacturing, refurbishing or bulk storage 4. electrical transmission or distribution substations 5. electronic equipment manufacturing 6. transformer oil manufacturing, processing or bulk storage 7. electrical power generating operations fueled by coal or petroleum hydrocarbons that supply electricity to a community or commercial or industrial operation, excluding emergency generators.

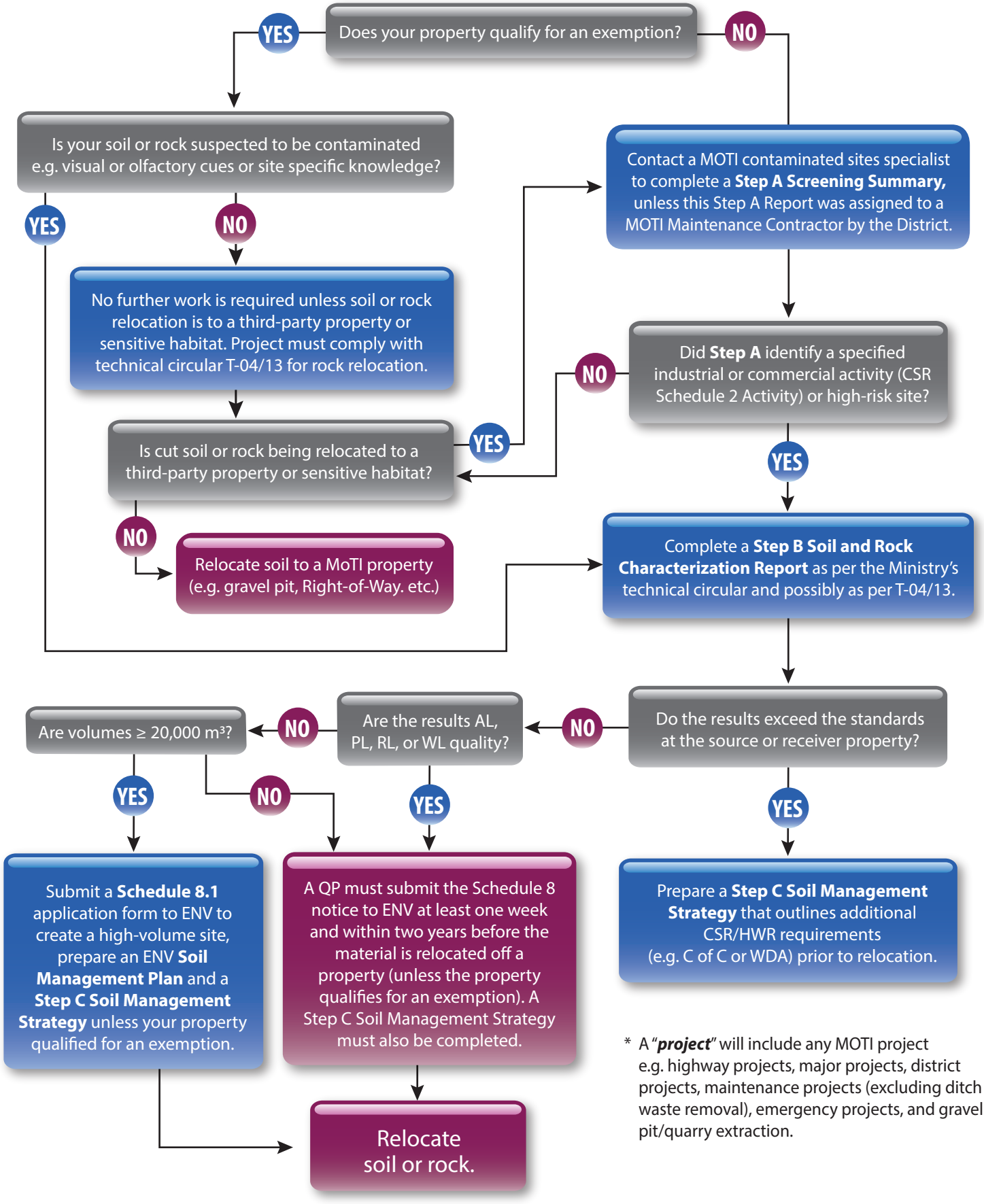
C	**Metal smelting, processing or finishing industries and activities** 1. foundries 2. galvanizing 3. metal plating or finishing 4. metal salvage operations 5. metal smelting or refining 6. welding or machine shops (repair or fabrication)
D	**Mining, milling or related industries and activities at or near land surface** 1. asbestos mining, milling, bulk storage or shipping 2. coal coke manufacture, bulk storage or shipping 3. coal or lignite mining, milling, bulk storage or shipping 4. milling reagent manufacture, bulk storage or shipping 5. metal concentrate bulk storage or shipping 6. metal ore mining or milling
E	**Miscellaneous industries, operations or activities** 1. appliance, equipment or engine maintenance, repair, reconditioning, cleaning or salvage 2. ash deposit from boilers, incinerators or other thermal facilities 3. asphalt and asphalt tar manufacture, storage and distribution, including stationary asphalt batch plants 4. coal gasification (manufactured gas production) 5. medical, chemical, radiological or biological laboratories 6. outdoor firearm shooting ranges 7. road salt or brine storage 8. measuring instruments (containing mercury) manufacture, repair or bulk storage 9. dry cleaning facilities or operations and dry cleaning chemical storage, excluding locations at which clothing is deposited but no dry cleaning process occurs 10. Repealed. 11. fire training facilities at which fire retardants are used 12. Repealed.

F	**Petroleum (including blends and biodiesels) and natural gas drilling, production, processing, retailing, distribution and commercial storage** 1. petroleum or natural gas drilling 2. petroleum or natural gas production facilities 3. natural gas processing 4. petroleum coke manufacture, bulk storage or shipping 5. petroleum product, other than compressed gas, dispensing facilities, including service stations and card locks 6. petroleum, natural gas or sulfur pipeline rights of way excluding rights of way for pipelines used to distribute natural gas to consumers in a community 7. petroleum product (other than compressed gas), or produced water storage in non-mobile above ground or underground tanks, except above ground tanks associated with emergency generators or with secondary containment 8. petroleum product, other than compressed gas, bulk storage or distribution 9. petroleum refining 10. solvent manufacturing or bulk storage 11. sulfur handling, processing, or bulk storage and distribution
G	**Transportation industries, operations and related activities** 1. aircraft maintenance, cleaning or salvage 2. automotive, truck, bus, subway or other motor vehicle maintenance, repair, salvage or wrecking 3. dry docks, marinas, shipbuilding or boat repair and maintenance, including paint removal from hulls 4. marine equipment salvage 5. rail car or locomotive maintenance, cleaning, salvage or related uses, including railyards
H	**Waste disposal and recycling operations and activities** 1. antifreeze bulk storage, recycling or shipping 2. barrel, drum or tank reconditioning or salvage 3. biomedical waste disposal 4. bulk manure stockpiling and high rate land application or disposal (nonfarm applications only) 5. landfilling of construction demolition material, including without limitation asphalt and concrete 6. contaminated soil or sediment storage, treatment, deposit or disposal 7. dry cleaning waste disposal 8. electrical equipment recycling 9. industrial waste lagoons or impoundments 10. industrial waste storage, recycling or landfilling

	11. industrial woodwaste (log yard waste, hogfuel) disposal 12. mine tailings waste disposal 13. municipal waste storage, recycling, composting or landfilling 14. organic or petroleum material landspreading (landfarming) 15. sandblasting operations or sandblasting waste disposal 16. septic tank pumpage storage or disposal 17. sewage lagoons or impoundments 18. hazardous waste storage, treatment or disposal 19. sludge drying or composting 20. municipal or provincial road or yard snow removal dumping 21. waste oil reprocessing, recycling or bulk storage 22. wire reclaiming operations
I	**Wood, pulp and paper products and related industries and activities** 1. particle or wafer board manufacturing 2. pulp mill operations 3. pulp and paper manufacturing 4. treated wood storage at the site of treatment 5. veneer or plywood manufacturing 6. wood treatment (antisapstain or preservation) 7. wood treatment chemical manufacturing or bulk storage

APPENDIX C–Soil and Rock Relocation Flowchart for MoTT Projects*

(The flowchart does not apply to privately sourced soil and rock.)



* A "***project***" will include any MOTI project e.g. highway projects, major projects, district projects, maintenance projects (excluding ditch waste removal), emergency projects, and gravel pit/quarry extraction.