



The session will start soon

IRMA Standard Revision Process

Stakeholder Feedback Webinar

Chapter 4.XX – LAND & SOIL MANAGEMENT

Agenda

1. House rules
2. Ways to contribute today
3. IRMA revision process
4. Overview of the proposed changes
5. Q&A and live chat contribution

1. House rules

- This event is hosted by **IRMA, the Initiative for Responsible Mining Assurance.**
- This event is being recorded and the recording will be made publicly available on the IRMA website.
- Participants may not post any unlawful, offensive, threatening, libelous, defamatory, obscene or otherwise objectionable content.
- Participants may not post, or send, or link to hateful, degrading, criminal or sensitive imagery or content, or to any content or material that violates laws, violates third party's privacy rights, advocates intolerance or hate against other people on the basis of actual or perceived ethnicity, national origin, caste, sexual orientation, gender, gender identity, religious affiliation, age, disability, or disease.
- Participants may not post or send or link to Spam content or mass unsolicited or aggressive activity that attempts to drive traffic or attention to unrelated accounts, products, services, or initiatives.

2. Ways to contribute today

- This event represents one of the many opportunities and channels available to contribute to the IRMA Standard Revision Process (incl. a dedicated online platform: www.responsiblemining.net/comments2)

Chat function

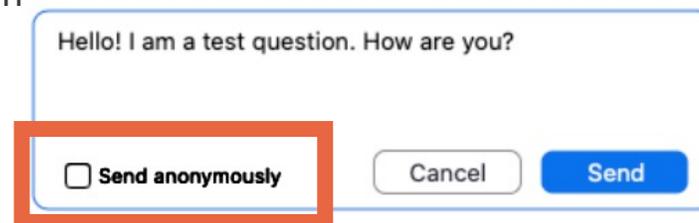
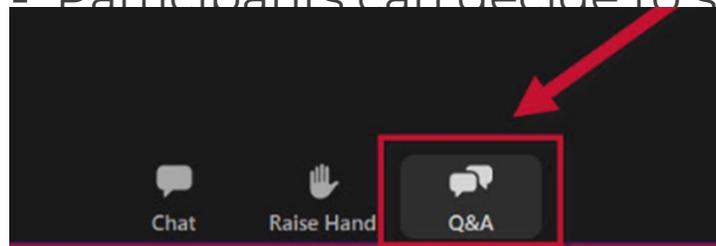
- Participants can also use the Chat function of zoom to share content with the whole audience
- Please note that the chat cannot be used in an anonymous way

2. Ways to contribute today

- This event represents one of the many opportunities and channels available to contribute to the IRMA Standard Revision Process (incl. a dedicated online platform: www.responsiblemining.net/comments2)

Q&A function

- Participants can use the Q&A function of zoom to submit any comment, suggestion, feedback, question, concern, recommendation to IRMA.
- Participants can decide to submit content via the Q&A function in an **anonymous** way



2. Ways to contribute today

- This event represents one of the many opportunities and channels available to contribute to the IRMA Standard Revision Process (incl. a dedicated online platform: www.responsiblemining.net/comments2)

=> All content shared with us today will be saved and considered by IRMA as part of the Standard revision process

3. IRMA revision process

A comprehensive revision of our standards allows us to:



Remain accountable to all sectors



Remain up-to-date



Add clarity



Add consistency

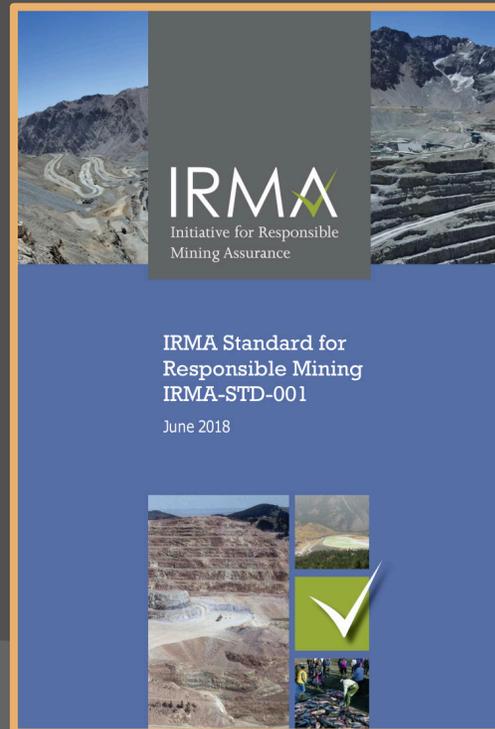


Fill gaps

Holistic and integrated approach

IRMA is evolving to address key phases of the mineral supply chain.

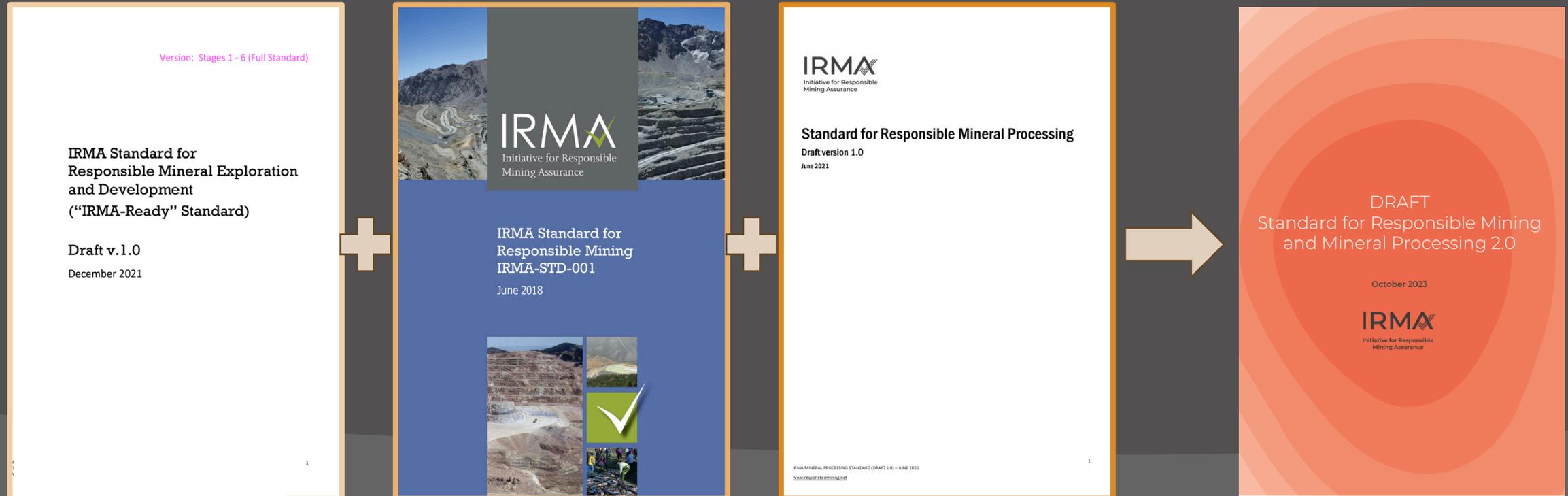
■ Mining



Holistic and integrated approach

IRMA is evolving to address key phases of the mineral supply chain.

- Exploration & Development
- Mining
- Mineral processing



What is in the new consultation draft?

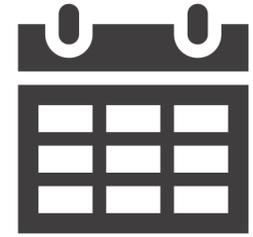
- **Transmittal Letter:** **Not a Board-approved Standard**; but an invitation for comments on all content; reflection of IRMA principles (best practice, sound science, efficiency, equal stakeholder value, etc.), the context for proposed changes and questions
- **Drafters' Notes:** Indicate divergence with the 2018 Mining Standard, why the change is being proposed.
 - **NOTES** at the beginning of each chapter (summary of changes proposed)
 - **NOTES** under requirements that are proposed to change and why (e.g., previous requirement wording was unclear, or we had a gap with other standards, international norms, regulatory bodies. Indicates **NEW** or **REVISED** or unchanged.)
 - **CONSULTATION QUESTIONS** lay out the challenging issues that have been raised and ask for feedback to help resolve them
- An **Excel version**, as some prefer to read and comment back in Excel. It contained consultation questions and NOTES.
- **Spanish** version of the Draft Standard is also available

Consultation draft informed by:

- Experiences from initial IRMA audits
- Review of other standards
- Increased public awareness and evolving expectations of best practice
- Review of emerging issues garnering international discussions
- Comments on DRAFT IRMA-Ready and Mineral Processing
- Ongoing input from stakeholders on particular content
- Expert working group discussions

Public Consultation period is open

From Oct 26 – Jan 26: **90 days**

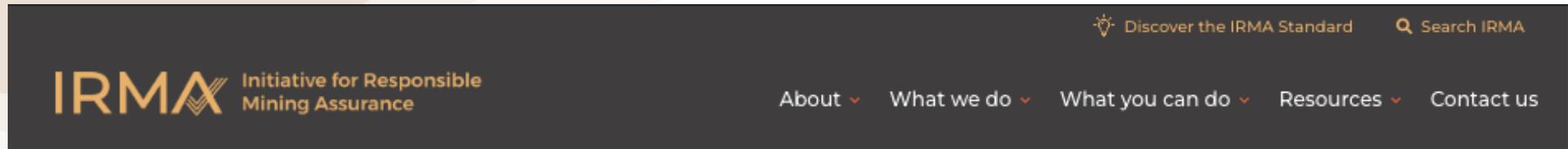


End date:
January 26, 2024

- Consultation period is 90 days
- There are many ways to participate!
- All comments will be considered equally and objectively
- Comments will be included in a public summary of all comments received
- **Comments may be treated confidentially if desired**

Online platform

<https://www.responsiblemining.net/comments2>



Standard 2.0 online comments

Welcome to the online commenting form for the DRAFT Standard for Responsible Mining and Mineral Processing 2.0. Commenting on the draft is open until 25 January 2024.

To start commenting enter the required fields on the *Get Started* tab and click *Proceed*. For assistance with this form visit the *Support* tab. Visit the [main Standard 2.0 page](#) to learn more about the Standard and other ways to comment.

Get Started

Support

Chapter 1.1
Legal Compliance

Get Started

Name (REQUIRED)

First

Last

Other channels

- Via email

comments@responsiblemining.net

- Via WhatsApp

To comment via text or voice, use the IRMA WhatsApp number:

+1.301.202.1445

- Via postal mail to

IRMA Std Comments

113 Cherry St, #74985

Seattle, Washington, 98104

USA

4. Proposed changes

Proposed new Chapters

- **Gender Equality & Gender Protections**
- **Management of Physical Stability**

- **Land and Soil Management**

adapted from 2021 Draft Standard for
Responsible Mineral Processing – Chapter 4.9

- **Mineral Supply Chain and Responsible Sourcing**

Consolidated Chapters

- **Cyanide and Mercury Management**

are now integrated within existing chapters, especially **Waste, Materials, Water,** and **Air Quality** management

Objectives/Intent of this chapter

To prevent contamination, mitigate and remediate soil pollution and address degradation of land and soil to enable current and future beneficial uses of soil and land resources.

Scope of application

This chapter is applicable to all exploration, mining and mineral processing projects and operations.

(note: two requirements are only applicable to stand-alone mineral processing operations)

Overview of Proposed chapter

Range of new definitions proposed for the glossary, including:

Background Soil Quality

Established after an operation has commenced, it is the soil quality in an area with similar soil characteristics that is outside of the operation's influence.

Brownfield

Land which has previously been developed for industrial use and where disturbance, degradation and/or pollution have not been effectively addressed through rehabilitation or restoration.

Receptor

Any human, plant, animal, or structure which is, or has the potential to be, affected by the release or migration of contaminants.

Contamination

The presence of a substance where it should not be or at concentrations above background, but not necessarily high enough to have an adverse impact on ecosystem and/or human health.

Greenfield

Land that has not previously been developed for industrial use or land previously developed for industrial use where disturbance, degradation and/or contamination have been effectively addressed through rehabilitation or restoration.

Soil Remediation

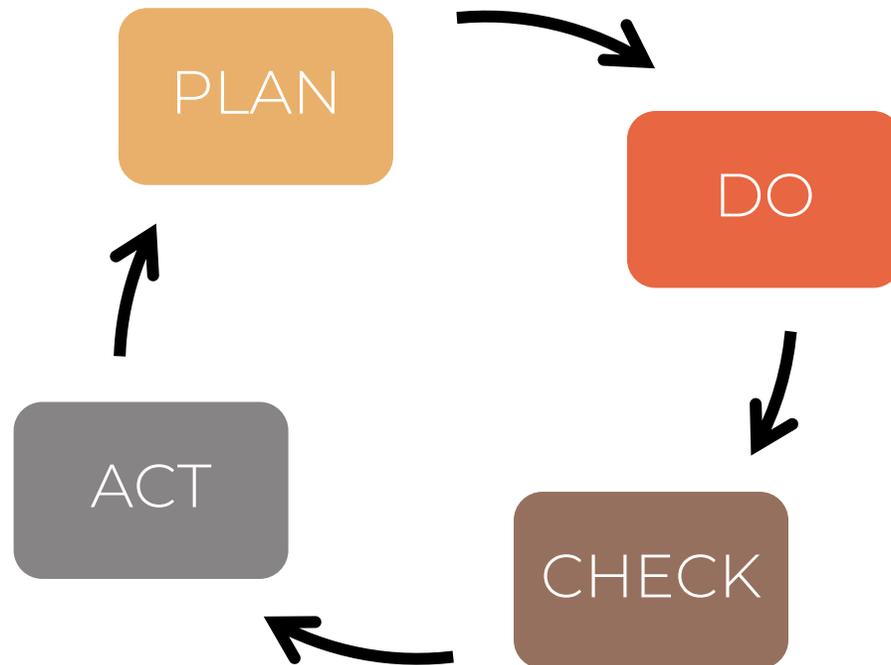
The treatment of contaminated soils to remove contaminants or convert them to harmless products using physical, chemical and biological processes. Ex-situ and in-situ remediation of soils are both commonly applied methods.

Overview of Proposed chapter

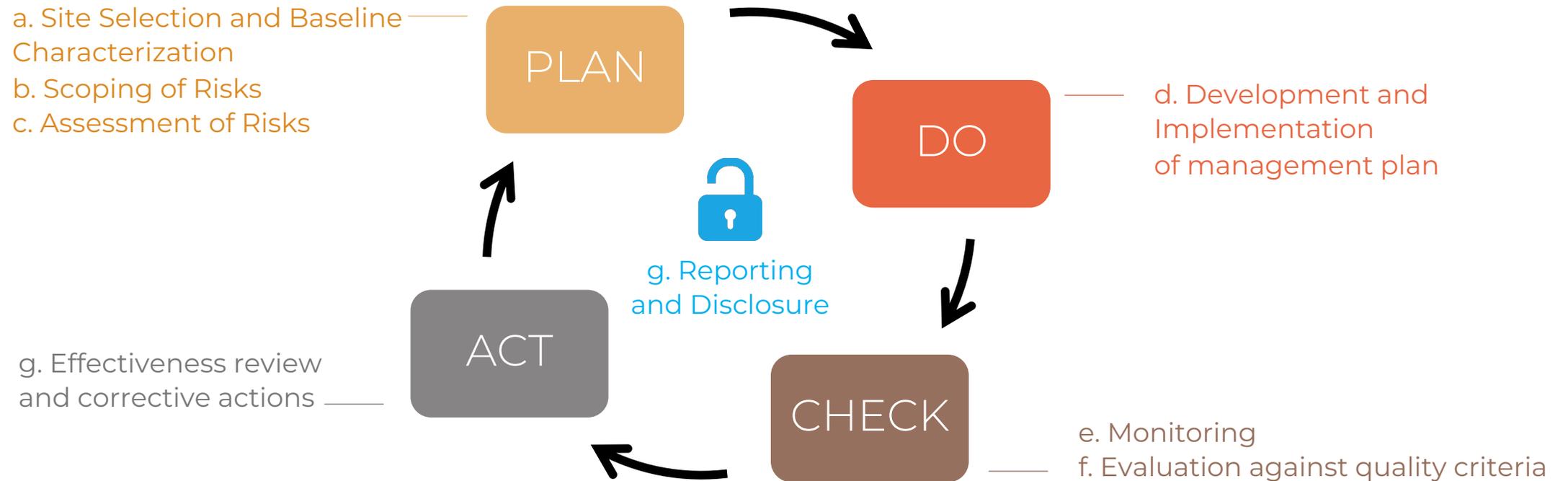
Chapter is organized to flow like other similar social and environmental responsibility chapters (esp. Water):

- a. Site Selection and Baseline Characterization
- b. Scoping of Risks to Land and Soil
- c. Assessment of Risks to Land and Soil
- d. Management of Risks to and Impacts on Land and Soil
- e. Monitoring
- f. Comparison of Monitoring Results to Soil Chemical Quality Criteria
- g. Effectiveness review and corrective actions
- h. Reporting and Disclosure on Land and Soil Management

Overview of Proposed chapter



Overview of Proposed chapter



Overview of Proposed chapter

- 4.XX.1.1 Site selection (brownfield VS greenfield)
- 4.XX.1.2 Land and soil baseline (or background data)

- 4.XX.2.1 Users/Rights holders/stakeholders identification
- 4.XX.2.2 Collaborative identification of current and potential future uses of land that may be affected
- 4.XX.2.3 Collaborative impact identification process
- 4.XX.2.4 Conceptual site model (CSM)

- 4.XX.3.1 Assessing and documenting the level of risk and/or impacts (health, safety, environment, land use)
- 4.XX.3.2 Analyses to predict and quantify potential soil contamination, soil and land loss (informing the risk assessment)
- 4.XX.3.3 Consistency with best industry practices/credible methodologies; and annual review + update
- 4.XX.3.4 Regular review and Update of Risk/Impact assessments

- 4.XX.4.1 Identification of impacts, Legal Due diligence and remediation plan for for brownfield pre-existing/legacy pollution
- 4.XX.4.2 Mitigation measures
- 4.XX.4.3 Adaptive management plan
- 4.XX.4.4 Review of monitoring data and effectiveness of actions taken + corrective action/continuous improvement

- 4.XX.5.1 Impact monitoring (at least annually)

- 4.XX.6.1 Soils contamination levels (consistent baseline/background; or maintained at quality compliance levels)

- 4.XX.7.1 Collaborative stakeholder discussions (management plans, monitoring results, performance)
- 4.XX.7.2 Access to information policy (or equivalent)

Criteria #	Criteria name	Req #	Requirement						
				Exploration - Stage 1	Exploration - Stage 2	Exploration - Stage 3	Project Development	Project Permitting	Operating Mine or Mineral Process
4.XX.1	Site Selection and Baseline Characterization	4.XX.1.1	Site selection (brownfield VS greenfield)				Yes	Yes	Mineral Processing ONLY
4.XX.1	Site Selection and Baseline Characterization	4.XX.1.2	Land and soil baseline (or background data)			Yes	Yes	Yes	Yes
4.XX.2	Scoping of Risks to Land and Soil	4.XX.2.1	Users/Rights holders/stakeholders identification			Yes	Yes	Yes	Yes
4.XX.2	Scoping of Risks to Land and Soil	4.XX.2.2	Collaborative identification of current and potential future uses of land that may be affected			Yes	Yes	Yes	Yes
4.XX.2	Scoping of Risks to Land and Soil	4.XX.2.3	Collaborative impact identification process			Yes	Yes	Yes	Yes
4.XX.2	Scoping of Risks to Land and Soil	4.XX.2.4	Conceptual site model (CSM)			Yes	Yes	Yes	Yes
4.XX.3	Assessment of Risks to Land and Soil	4.XX.3.1	Assessing and documenting the level of risk and/or impacts (health, safety, environment, land use)			Yes	Yes	Yes	Yes
4.XX.3	Assessment of Risks to Land and Soil	4.XX.3.2	Analyses to predict and quantify potential soil contamination, soil and land loss (informing the risk assessment)			Yes	Yes	Yes	Yes
4.XX.3	Assessment of Risks to Land and Soil	4.XX.3.3	Consistency with best industry practices/credible methodologies; and annual review + update			Yes	Yes	Yes	Yes
4.XX.3	Assessment of Risks to Land and Soil	4.XX.3.4	Regular review and Update of Risk/Impact assessments			Yes	Yes	Yes	Yes
4.XX.4	Management of Risks to and Impacts on Land and Soil	4.XX.4.1	Identification of impacts, Legal Due diligence and remediation plan for for brownfield pre-existing/legacy pollution				Yes	Yes	Mineral Processing ONLY
4.XX.4	Management of Risks to and Impacts on Land and Soil	4.XX.4.2	Mitigation measures			Yes	Yes	Yes	Yes
4.XX.4	Management of Risks to and Impacts on Land and Soil	4.XX.4.3	Adaptive management plan			Yes	Yes	Yes	Yes
4.XX.4	Management of Risks to and Impacts on Land and Soil	4.XX.4.4	Review of monitoring data and effectiveness of actions taken + corrective action/continuous improvement			Yes	Yes	Yes	Yes
4.XX.5	Monitoring	4.XX.5.1	Impact monitoring (at least annually)			Yes	Yes	Yes	Yes
4.XX.6	Comparison of Monitoring Results to Soil Chemical Quality Criteria	4.XX.6.1	Soils contamination levels (consistent baseline/background; or maintained at quality compliance levels)			Yes	Yes	Yes	Yes
4.XX.7	Reporting and Disclosure on Land and Soil Management	4.XX.7.1	Collaborative stakeholder discussions (management plans, monitoring results, performance)			Yes	Yes	Yes	Yes
4.XX.7	Reporting and Disclosure on Land and Soil Management	4.XX.7.2	Access to information policy (or equivalent)			Yes	Yes	Yes	Yes

Key consultation questions

Do you agree with the proposal to add a new chapter on 'Land and Soil Management'?

If not, why not?

Key consultation questions

While **maintaining soil properties** may be of critical importance for agricultural systems, maintaining or restoring the exact soil properties that existed prior to mining (e.g., the same organic matter content, diversity of soil organisms, crumb structure, etc.) **does not seem realistic for highly disturbed industrial sites.**

Instead, in alignment with IRMA's chapter on reclamation and closure, we are expecting that sites be **maintained or restored to a stable landscape**, which would mean stabilizing soils (to minimize future erosion or mass movement), that soil conditions allow for the re-establishment of vegetation and ecological processes that align with post-closure land use objectives determined by regulations and input from affected communities. To reach post-closure land use objectives, soils may need to be remediated or amendments added, but it is unlikely that the only way to achieve the objectives would be by maintaining the original biological and physical quality of soils.

Do you agree that soil does not need to be maintained or restored to original (pre-mining) biological and physical quality?

If you do not agree, please explain.

If you believe the chapter should have additional best practice requirements, please feel free to make suggestions, and if possible, provide examples of where your best practice suggestions are being implemented at mining or

Key consultation questions

And where Mineral Processing Operations are located on brownfield sites with pre-existing pollution, we propose to require soil remediation plan and actions

Can you recommend examples of international good practice related to soil remediation that relates to mining and/or mineral processing?

Are these requirements too onerous in cases where there is no legal liability? In such cases, does the scope of the requirements need to be narrowed? For example, should remediation only be required within the site boundary (as long as on-site contaminated areas are not contributing to off-site contamination or

Key consultation questions

This is how we propose to adapt the mitigation hierarchy to land and soil risk and impact management:

1. Priority is given to source control and other measures that **prevent soil contamination**, and **prevent erosion and loss** of land and soil;
2. Where prevention is not practicable or effective, controls are developed to **minimize the movement of contaminants** to soil or lands where they can cause pollution (i.e., harm to human or ecosystem health), and **minimize the amount of erosion and loss** of land and soil;
3. If necessary, soils **are treated in-situ or ex-situ to remove contaminants** such that soil chemical quality is sufficient for beneficial use at the site; and
4. If prevention, minimization and treatment measures are not feasible or do not eliminate impacts, **contaminated soils are excavated and disposed** in a manner that protects human and ecosystem health, and **compensatory actions** are taken to offset impacts or losses;

Are there other strategies that you can suggest to protect soil chemical quality and minimize erosion and loss of soil and land? If so, where would your suggestions fit in the mitigation hierarchy?

Key consultation questions

Regarding the monitoring of soil erosion and soil loss over time

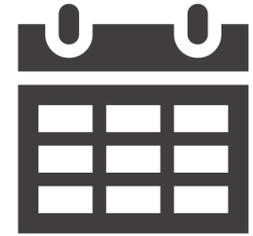
Do you believe it is critical to quantify soil erosion rates, or should monitoring focus on qualitative visual inspections to recognize the signs of erosion and prioritize affected areas for mitigation and restoration?

If you believe that soil erosion measurements are needed, are there particular methods that you would recommend?

Is knowing the actual volume of soil or land loss important? Or should these numbers not be a concern as long as actions are taken to effectively return land to a productive, beneficial use?

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End date:
January 26, 2024

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- Via WhatsApp

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- Via postal mail to: IRMA Std Comments; 113 Cherry St, #74985; Seattle, Washington, 98104; USA