APPENDIX 10
LONG TERM CONTAINMENT CELL MANAGEMENT

A10 APPENDIX 10 LONG TERM CONTAINMENT CELL MANAGEMENT

The Demolition and Remediation Environmental Impact Statement (EIS) (Ramboll Environ 2016) describes the following:

- The long term management and monitoring requirements following completion of the Containment Cell.
- The options available for the ongoing regulation of the Containment Cell.

The following sections are based on the information provided in the EIS, as well as the results of additional investigation and consultation undertaken by Hydro with internal and external stakeholders (including the EPA), and a review of submissions received during exhibition of the EIS.

A10.1 Management and Monitoring

The management and monitoring requirements for the Containment Cell would be described in a Containment Cell Environmental Management Plan (EMP).

The EMP would address the following:

- Introduction: discussing the activities covered by the EMP, the objectives of the EMP and Hydro's commitment to environmental management.
- Regulatory Mechanisms: describing the regulatory mechanisms (as discussed in **Section A10.2**) that would apply to the long term management of the Containment Cell.
- Activities: the activities covered by the EMP. This would also include plans showing the location of key activities. The proposed management activities are outlined in **Section A10.1**.
- Management Structure: the environmental management structure for the Containment Cell Management, including identification of the key environmental management personnel.
- Environmental Management: the procedures to be implemented and who is to be contacted in the event of a potential environmental incident. An outline of the proposed response to a potential environmental incident is described in **Section A10.1.3**.
- Monitoring: the monitoring, auditing and review procedures to assess compliance with, and performance of, the EMP. This would include any ongoing monitoring requirements to comply with the regulatory framework for the long term environmental management of the Containment Cell.
- Reporting: how the monitoring results would be reported; and the reporting procedures for environmental incidents and complaints.

Hydro would submit the EMP to the Department of Planning and Environment (the Department) and the EPA for review and approval. The EMP would also be reviewed and approved as part of the site suitability evaluation completed by the NSW EPA Accredited Site Auditor.

The EMP would also address the management, monitoring and reporting requirements of the approvals and licences for the long term environmental management of the Containment Cell.

A10.1.1 Monitoring and Inspections

Monitoring of the Containment Cell is anticipated to include the following:

A10.1.1.1 Visual

The Containment Cell would be visually inspected to confirm:

- The capping layer is stable.
- The vegetation cover is established; that appropriate coverage is maintained; and that inappropriate plants (such as deep rooted tree species) have not propagated on the capping layer.
- The safety barrier fencing/ bollards or other infrastructure (as described in **Section A10.1.4**) do not require maintenance.
- The gas vents do not require maintenance.
- Whether leachate has been generated and, if so, requires management.

Visual inspections would be undertaken:

- Of the leachate collection system on a quarterly basis.
- Immediately following a significant storm event (a 5% Annual Exceedance Probability event or greater).
- Immediately following an earthquake event of a magnitude of five or greater recorded within a 20km radius of the Containment Cell.
- Of general conditions on an annual basis (concurrent with the maintenance activities described in **Section A10.1.2.1**).

A10.1.1.2 Leachate

Leachate generation would be monitored at the leachate collection sump: on a quarterly basis; after a significant storm event; or immediately following an earthquake as defined in **Section A10.1.1.1**.

The EMP would outline the level at which leachate would be pumped out and treated through the water treatment plant. Depending on the volumes of leachate, a periodic pump out of the leachate collection sump by a licensed liquid waste contractor for treatment at an offsite licensed facility may be preferred.

A10.1.1.3 Gas

Gas monitoring would be completed from the gas monitoring vents on a quarterly basis. Gas monitoring would be completed for ammonia and methane.

The EMP would outline trigger levels that would initiate implementation of a contingency response. The EMP would also include a process (developed in consultation with the EPA) where this gas monitoring could cease based on results indicating that gas generation is not an issue.

The response would initially comprise an evaluation of risks to human health and the environment. If these risks prove unacceptable, then additional management measures would be implemented. This could include increased height of air vents, capture and treatment of emissions.

A10.1.2 Management and Maintenance

A10.1.2.1 Ongoing Management and Maintenance

In addition to monitoring the condition and performance of the Containment Cell, there would be a number of regular management activities. This would include:

- Maintenance of the vegetation cover as determined to be required based on the plant species selected. This would be undertaken to protect the capping layer and minimise bushfire risks associated with long grasses.
- The water treatment plant would be inspected and serviced as recommended by the manufacturer. In the event that the inspection identified potential operational issues, the plant would be immediately maintained.
- In the event that the visual inspection described in **Section A10.1.1.1** identified damage to the capping layer:
  - The damage would be repaired.
  - The source of the damage would be identified and measures developed and implemented to avoid a recurrence of the damage.

A10.1.3 Potential Incident Response

The potential for an incident to occur at the Containment Cell would be minimised due to:

- The design of the Containment Cell.
- The inclusion of a Containment Cell leachate collection and treatment system (as described in **Section A10.1.4**) in the event that leachate is generated within the Containment Cell.
- The low reactivity of the material to be placed within the Containment Cell.
- The quality controls to be implemented during construction and filling of the Containment Cell.
- The procedures that would be implemented through the EMP (as outlined in **Section A10.1**).

- Occupants of future industrial development adjacent to the Containment Cell reporting any observations of potential concern to the Containment Cell manager.

It is anticipated that in the unlikely event that an incident did occur, such incidents would be limited to:

- Generation of leachate: this would be managed by operation of the leachate collection and treatment system (as described in **Section A10.1.4**).
- Leachate is generated and the water treatment plant is inoperable:
  - The water treatment plant inspection, service and maintenance program described in **Section A10.1.2.1** would minimise the potential for this to occur.
  - In the unlikely event it did occur, retention of leachate within the leachate detection layers for a short period (less than three weeks) is acceptable allowing time for the treatment plant to be repaired.
- Slippage/ damage to the capping layer: it is anticipated that evidence of any such damage would be identified with an acceptable timeframe and repairs made. The design of the capping layer allows for repairs to be made in a manner that restores the cap integrity.

Leakage of the base liner allowing impacts to groundwater. The cell contents would not be putrescible and would not generate leachate due to decomposition. Leachate generation would therefore be related to rainfall infiltration which is minimal. Should leakage to the underlying aquifers occur, the Containment Cell is situated such that the natural clay and bedrock strata provide additional attenuation of contaminant migration.

A10.1.4 Leachate Treatment

The Containment Cell is designed to minimise the potential for water to contact the contents of the cell and thereby not generate leachate. In addition as only non-putrescible waste would be placed in the Containment Cell the material would not decompose or break down and produce leachate.

However there is a low potential for a small quantity of leachate to be generated. This could be due to the following:

- Residual moisture in wastes (such as soils and non-recyclable demolition wastes) could drain to the low point of the Containment Cell.
- Rain could have fallen onto areas of uncovered waste during placement of material in the Containment Cell and not evaporated or removed prior to capping of the waste material.

As such the Containment Cell does include a leachate collection and treatment system. However, as discussed in **Section A10.1.1.2** a periodic pump out of the leachate collection sump by a licensed liquid waste contractor for treatment at a licensed facility may be preferred.

A10.1.5 Security and Access

The Containment Cell is located within an area that a Local Environmental Plan Amendment proposes to rezone to zone IN3 Heavy Industrial. Preliminary layouts propose that the Containment Cell would be centrally located in the land zoned IN3 Heavy Industrial. A perimeter road would encircle the Containment Cell, and employment land lots would surround the cell.

Vehicle access to the Containment Cell would be restricted. Safety barrier fencing/ bollards would be provided along the perimeter road, and a secured gate would limit access to authorized vehicles to undertake maintenance (such as mowing) and monitoring activities.

A10.2 Funding, Liability, Ownership and Financial Security

The key potential regulatory mechanisms available to ensure the long term environmental management of the Containment Cell are the:

- Development Consent – EMP, Restrictive Covenant, Positive Covenant and Planning Agreement;
- A licence granted under the *Environmentally Hazardous Chemicals Act 1985* (EHC Licence);
- Environment Protection Licence (EPL); and
- Specific immobilised contaminants approval (SIC Approval).

Which of these mechanisms would be used, when their implementation would commence and cease, and the specific conditions of these mechanisms would be determined in consultation with the Department of Planning and Environment and the EPA.

The regulatory mechanisms to apply to the various phases of the Containment Cell would be determined prior to commencement of construction of the Containment Cell.

An example of when these potential regulatory mechanisms could apply during the life span of the Containment Cell is illustrated in **Figure 1-1**.

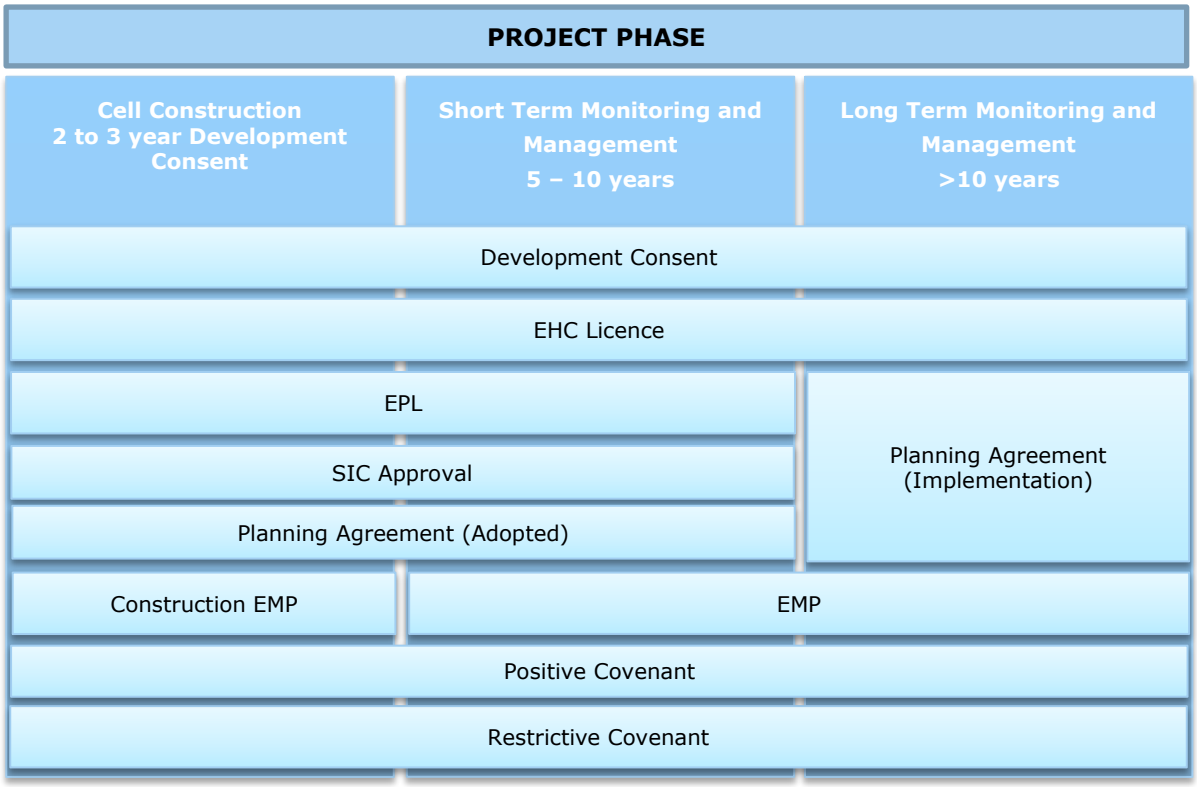

Figure 1-1: Potential Containment Cell Regulatory Options

A10.2.1 Development Consent

Development Consent for the Containment Cell could include a standard suite of conditions under Section 80A(1)(a) of the EP&A Act to:

- Prevent, minimise and/or offset adverse environmental impacts;
- Set standards and performance measures for acceptable environmental performance;
- Require regular monitoring and reporting; and
- Provide for the ongoing environmental management of the Project.

The Development Consent could include conditions which impose the following obligations to ensure the environmental performance of the Containment Cell:

- The preparation and implementation of an EMP (as described in **Section A10.2.1.1**);
- The registration of a restrictive covenant against the Containment Cell land (as described in **Section A10.2.1.2**);
- Arrangement of a positive covenant (as described in **Section A10.2.1.3**); and
- The requirements of a voluntary planning agreement (as described in **Section A10.2.1.4**).

This approach is illustrated in **Figure 1-2.**

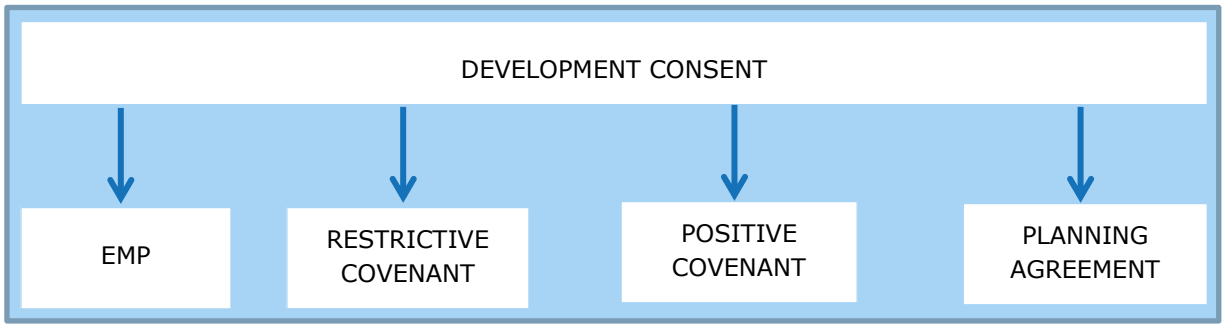

Figure 1-2: Potential Development Consent Containment Cell Long Term Management Options

Under the EP&A Act the Development Consent (which would include the obligation to implement and comply with the EMP, and potentially including conditions requiring a restrictive covenant, positive covenant and/or planning agreement) would remain with the land and bind, and be enforceable by any person against the person responsible for carrying out the long term environmental management of the Containment Cell as outlined in the EMP. This would include, for example, the suitably qualified expert that is proposed to be engaged to carry out the long term environmental management of the Containment Cell (Containment Cell Manager) and the owner/occupier of the Containment Cell land.

A10.2.1.1 Environmental Management Plan

The EMP would contain a detailed description of the environmental management, monitoring and reporting information described in **Section A10.1**, and would be agreed with the Department and the EPA.

A10.2.1.2 Restrictive Covenant

Limits on Use of Containment Cell Land

The Containment Cell is proposed within an area that a Local Environmental Plan Amendment proposes to rezone to zone IN3 Heavy Industrial. Preliminary layouts propose that the Containment Cell would be centrally located in the land zoned IN3 Heavy Industrial.

Hydro has identified a restrictive covenant (pursuant to section 88E of the *Conveyancing Act 1919*) as a potential regulatory mechanism. The restrictive covenant would constrain any development from being carried out on the Containment Cell land that presents a risk of adverse impacts on the cap structure of the Containment Cell.

Limits on Divestment of Containment Cell Land

The restrictive covenant could contain a mechanism which restricts the land owner from transferring the Containment Cell land to a third party unless the third party satisfies the applicable regulatory agency that it has the financial capacity to comply with all the long term environmental management obligations for the Containment Cell. The financial capacity requirements are developed in consultation with the EPA prior to surrender of the EPL, as outlined in **Section A10.2.3**.

The restrictive covenant would be registered against the title to the land and bind, and be enforceable by the applicable regulatory agency against the owner of the Containment Cell land.

A10.2.1.3 Positive Covenant

A positive covenant (pursuant to Section 88E of the *Conveyancing Act 1919*) can be imposed on a property by an appropriate regulatory agency, placing restrictions on the use of that property. In addition (pursuant to Section 88BA of the *Conveyancing Act 1919*) a positive covenant can include a requirement for maintenance and repair (if required) of the property.

The applicable regulatory authority is responsible for enforcement of a positive covenant.

A10.2.1.4 Planning Agreement

Hydro has identified a planning agreement (pursuant to section 93F of the EP&A Act) as a potential regulatory mechanism.

A planning agreement could operate from the date of surrender of the EPL and SIC Approval (if surrendered) to regulate the long term environmental management of the Containment Cell. However, terms of agreement of the planning agreement would need to be approved prior to determination of the Development Application for the Project.

Environmental protection measures (including financial assurance obligations) that could be included in the planning agreement would be:

- Generally consistent with the conditions of the EPL (and Specific Immobilised Contaminants Approval where relevant), as amended to address the findings of an environmental performance review report; and
- Agreed by the parties to the planning agreement prior to Development Consent being granted for the Project and enacted prior to the surrender of the EPL and SIC Approval under the POEO Act.

A planning agreement could:

- Specify the procedures to ensure that a suitably qualified consultant has been engaged to undertake the long term environmental management of the Containment Cell (the Containment Cell Manager). This would include how the ongoing performance of the Containment Cell Manager would be assessed; and
- Restrict the developer from transferring the Containment Cell land to a third party unless:
  (i) The third party first enters into a deed agreeing to comply with all the developer's obligations in relation to long term environmental management of the Containment Cell as if it were the land owner; and
  (ii) The developer satisfies the applicable regulatory agency that the proposed transferee has the financial capacity to comply with the obligations in relation to long term environmental management of the Containment Cell.

A planning agreement would be registered against the title to the land and be binding on, and enforceable against, the owner of the Containment Cell land.

A10.2.2 EHC Licence

Volume 1, Appendix 9 discusses the options available to ensure that the Project complies with the EHC Act.

Subject to the regulatory pathway that will be pursued to comply with the EHC Act, it is anticipated that a licence will be required under the *Environmentally Hazardous Chemicals Act 1985* (EHC Act) (an EHC Licence). Under the EHC Act and the ASW CCO such a licence can include conditions requiring the following:

- The physical security of premises and measures necessary to minimize the risk of environmental harm.
- The monitoring of any licensed activities and of the environment in relation to those activities, and the reporting and certification of the results of any monitoring.

An EHC Licence would apply to the construction, placement of material within the Containment Cell, and the ongoing management and monitoring of the Containment Cell.

A10.2.3 Environment Protection Licence

As discussed in **Volume 1**, **Appendix 9**, the occupier of the Containment Cell land would hold an EPL under the POEO Act to authorise the proposed scheduled activities associated with construction, placement of material within, and capping of the Containment Cell.

The holder of the EPL would be required to satisfy the fit and proper person test prescribed in the POEO Act. This test includes, among other matters, satisfying the EPA that they are technically competent and have the financial capacity to undertake the long term environmental management of the Containment Cell.

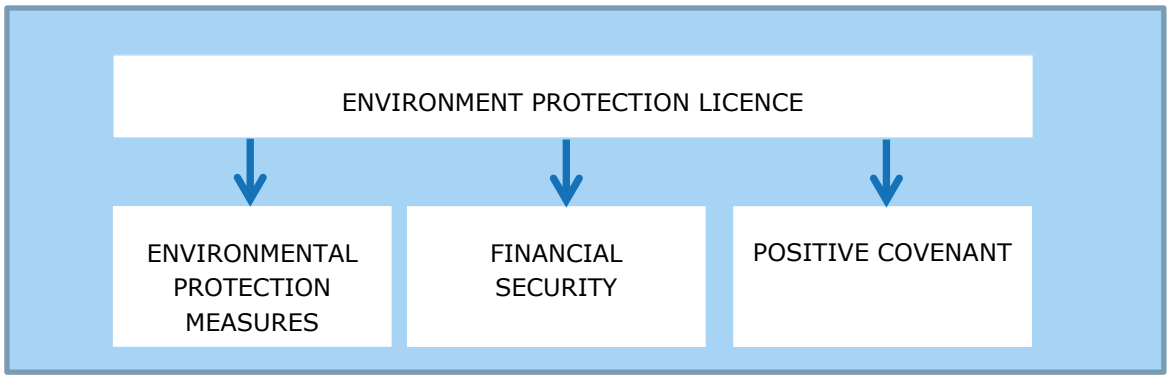

Figure 1-3: Environment Protection Licence Potential Key Elements

As illustrated in **Figure 1-3**, Hydro proposes that the EPL could contain:

- A standard suite of conditions to prevent, minimise, mitigate and monitor the environmental impacts of the Containment Cell.
- A condition/s requiring the licence holder to provide one or more of the following:
  - Financial assurance to secure the performance of the environmental obligations set out in the EPL (in accordance with section 70 of the POEO Act).
  - A policy of insurance for the payment of costs for clean-up action, and for claims for compensation or damages, resulting from pollution caused by the scheduled activity (in accordance with section 72 of the POEO Act).
  - Arrangement of a positive covenant under section 88E of the *Conveyancing Act 1919* (in accordance with section 74 of the POEO Act) (as described in **Section A10.2.1.3**).

The amount and form of the financial assurance is proposed to be agreed with the EPA following Development Consent and once the detailed design and location plans for the Containment Cell are approved by the Department of Planning and Environment and the EPA (pursuant to the conditions of the Development Consent). This approach would enable the amount and form of financial assurance to properly reflect the EPA's consideration of the following prescribed matters in the POEO Act:

(i) The degree of risk of environmental harm associated with the Containment Cell;
(ii) The remediation work that may be required because of activities under the licence;
(iii) The environmental record of the holder or former holder of the licence or proposed holder of the licence; and
(iv) Other matters prescribed in the regulations.

The EPL could not be surrendered, or transferred to another person, except with the consent of the EPA in accordance with the POEO Act (which would include the transferee satisfying the EPA of its financial capacity to comply with the environmental protection measures in the EPL). The conditions of the EPL (including maintaining the financial assurance) would remain binding and enforceable against the holder of the EPL.

There is potential that the EPL would not apply to the Containment Cell in perpetuity, and could remain in place until monitoring demonstrates to the satisfaction of the EPA that the Containment Cell complies with specified environmental performance criteria. The environmental performance criteria, time period for monitoring and mechanism for the engagement of a suitably qualified expert to prepare an environmental performance review report that assesses the Containment Cell's compliance with such criteria would be agreed with the EPA and inserted as conditions into the EPL.

Alternatively, the EPL could apply to the completed Containment Cell in perpetuity in place of, or in parallel with, the planning agreement (as described in **Section A10.2.1.4**). If such an approach was implemented, it is expected that the conditions of the EPL would be reviewed: following completion of the Containment Cell; and following an assessment of its operational environmental performance.

The EPL could address (among other potential matters):

- The specified environmental performance criteria for the Containment Cell which may include the Containment Cell's compliance with the Development Consent, EPL and the POEO Act, whether there will be an ongoing environmental impact arising from the activity authorised by the EPA after the activity ceases to be carried on, and whether it is appropriate to manage that impact through conditions of the EPL.
- The minimum time period for monitoring compliance with the environmental performance criteria.
- An obligation to engage a suitably qualified expert to prepare an environmental performance review report which assesses the Containment Cell's compliance with the environmental performance criteria and makes findings in respect of an appropriate ongoing management, monitoring, maintenance and financial assurance regulatory framework for the Containment Cell following surrender of the EPL.

A10.2.4 Specific Immobilised Contaminants Approval

The specific immobilised contaminants approval application is required to include the following:

- Details of the proposed immobilisation methodology.
- Evidence that it is not possible to reprocess the waste in order to reuse or recycle it.
- Details on quantity, form, background information and chemical composition of the waste.
- The equipment to be used and evidence of quality assurance/quality control.
- A description of the nature of the physical barrier to be established between the waste and the surrounding environment.
- Demonstration that the means by which the contaminants are immobilised will be maintained over time.

The specific immobilised contaminants approval would include conditions relating to operation, including:

- The period for which the approval is valid.
- The treatment required to immobilise the waste, for waste that is not naturally immobilised.
- Testing and record keeping requirements.
- Any other conditions which are required.

The EPA may choose for the specific immobilised contaminants approval to not apply to the Containment Cell in perpetuity, and that it would be revoked on the date the EPL is surrendered. Alternatively it could apply to the completed Containment Cell in perpetuity with the EPL in place of, or in parallel with, a planning agreement.

A10.2.5 Ownership

Hydro, as the current owner of the Project Site, is responsible for funding and ensuring compliance with the long term environmental management obligations for the Containment Cell. Hydro proposes to meet this obligation by engaging a suitably qualified consultant to oversee the construction of the Containment Cell, and implement the long term environmental management of the Containment Cell.

Subject to market demand, Hydro may seek to divest the Project Site (or parts thereof containing the Containment Cell land) to a third party for the purposes of industrial development. The incoming owner of that part of the Project Site containing the Containment Cell land would then take on responsibility for the long term environmental management of the Containment Cell. Hydro would need to satisfy the applicable regulatory agency that the incoming owner of the Project Site (or parts thereof containing the Containment Cell land) has financial capacity to comply with the long term environmental management obligations for the Containment Cell before it could sell that land to a third party. The regulatory framework described in **Section A10.2** would operate to bind, and be enforceable against, the new owner and any subsequent owners of the Project Site (or parts thereof containing the Containment Cell land).

Other divestment options that Hydro may wish to implement include subdividing the Project Site to realign existing land parcels to meet industrial market demand (including for example subdividing the Project Site so that the Containment Cell land is within a separate property). Hydro would need to obtain development consent to carry out any such subdivision of the Project Site. Hydro would need to satisfy the applicable regulatory agency that the incoming owner of the Project Site (or parts thereof containing the Containment Cell land) has financial capacity to comply with the long term environmental management obligations for the Containment Cell before it could sell that land to a third party. The regulatory framework described in **Section A10.2** would continue to operate to bind, and be enforceable against, the new owner (and any subsequent new owners) of the Containment Cell land within the subdivided Project Site.