4 PROJECT DESCRIPTION

4.1 Overview of the Project

The proposal involves the remediation of land comprising the CPWE in accordance with Conditions E1, E2 and E3 of Orica's EPL (No. 2148).

Following an extensive program of technology assessment, feasibility studies and community consultation, Orica has identified DTD technology as the most appropriate method to undertake the remediation of the CPWE.

The primary objectives of the project are:

- to comply with Conditions E1, E2 and E3 of Orica's EPL (No. 2148) which requires remediation of the CPWE; and
- to remediate the CPWE to an extent suitable for productive industrial purposes, a form that is compatible with surrounding land uses within the BIP.

The detailed design of the DTD Plant and associated plant/equipment to be used for this project would be undertaken following any project approval. Details would be provided as part of the Technology Assessment required to be submitted under the EHC Act. All elements of the plant would be Stockholm Convention compliant, where relevant, and plant components would be selected to ensure that the actual environmental performance is within the commitments set by this EA. Further information is provided in **Appendix K**. The components of the plant and the DTD process itself are generally described in the following key steps:

1. Construction of necessary buildings, plant and facilities on the Site including an Excavation Soil Building (ESB) with associated ECS, a Water Treatment Plant (WTP), a Feed Soil Building (FSB) and associated ECS, the DTD Plant, hardstand areas, environmental controls, and internal haulage roads.
2. Excavation of contaminated soil within the ESB.
3. Screening of excavated material within the ESB to remove oversized materials.
4. Transportation of contaminated soil by covered truck to the FSB.
5. Further screening and testing of contaminated material within the FSB.
6. Feeding of contaminated material into the DTD Plant.
7. Treatment of contaminated material in the DTD Plant.
8. Validation testing and validating of material treated by the DTD Plant.
9. Stockpiling of treated material.
10. Decommissioning of plant and buildings.
11. Reinstatement of the CPWE area with validated material.

These steps are described in greater detail in the following sections.

4.2 Site Establishment and Construction

The proposed remediation process would require an initial construction and set up period of some 26 weeks which would include the following:

- Site establishment and construction of the first stage ESB, associated ECS and WTP;
- Establishment at the site of the former Propathene Plant area (including laying of hardstand area) and construction of the FSB and associated ECS, as well as the DTD Plant;
- Construction of internal haul roads linking the ESB with the FSB and the treatment area to the surplus soil stockpile area.

A sealed and bunded area would be constructed adjacent to the DTD Plant.

In addition to the general plant and treatment buildings required for the project the following accommodation and facilities would be established at the Site:

- Site offices, stores, work sheds, lunchrooms and changing areas; and
- Temporary site sheds, ablution blocks and decontamination units.

A range of Site establishment activities would also be undertaken prior to the commencement of remediation works on the Site. These activities would include the establishment of environmental protection, materials handling, site security and health and safety measures.

The layout of the Site showing the arrangement of the above buildings, plant and support facilities is illustrated in **Figure 5**.

4.3 Excavation Soil Building

Excavation of the CPWE would take place within a fully enclosed building known as the ESB. The excavation may extend into the sandy soil surrounding the CPWE if it is found to contain elevated contaminant concentrations, when assessed against the derived risk based soil concentrations. In addition, the Hypalon® liner used to contain the waste is likely to require treatment.

The excavation of material from the CPWE would be undertaken in up to five stages, depending upon the outcome of detailed design studies. It is anticipated that the maximum impact to the surrounding environment would occur in the five stage scenario. Therefore the EA and associated specialist studies assess the five stage option as a conservative estimate of potential impacts.

The excavation works would include the following steps:

- Construction of the first stage of the ESB (Stage 1);
- Excavation of the encapsulated material within the first stage of the ESB;
- Upon commencement of excavation in the first stage, the construction of a second stage of the ESB for Stage 2 excavation;
- Deconstruction of the first Stage of the ESB and relocation to third stage area; and
- Excavation of the encapsulated material within the second stage.

The staging process is illustrated in **Figure 6** and would continue until all stages of excavation have been completed. Once excavation is completed and the ESB is relocated, the excavation face would be covered to manage dust and other fugitive emissions. It should be noted that the air quality assessment has considered fugitive emissions from the face of the excavation during the relocation of the ESB (five stages).

Further details of this process are provided in the RAP prepared in respect of the works and included as **Appendix D** to this EA.

The ESB would completely cover the area of excavation, with each stage covering a minimum 3,000 m^2. Excavation of the bitumen cap, sand and encapsulated material would take place within the ESB via the use of an excavator. Excavated material would be stockpiled within the building before being fed to a coarse vibrating screen ("Grizzly") by a front end loader to remove oversized materials, such as bricks, concrete, crushed drums etc. Prior to excavating material from the CPWE, seepage or free water that may be present in the CPWE would be removed (by pump) for treatment at the WTP.

The oversized material would be stockpiled and tested for contamination before being disposed to an appropriate waste facility, recycled where possible or transported to the FSB for treatment. The remaining material would be temporarily stockpiled within the ESB before being loaded into trucks for transportation to the FSB. Access to the ESB would be via double air-lock entry and exit doors fitted with an automated wheel wash facility - to be used by trucks exiting the building.

The ESB would be constructed of steel and fitted with louvres for ventilation as required to facilitate management of air flow. An ECS would be constructed and operated to preserve air quality within the building and minimise emissions to the atmosphere. The ECS would be operated to ensure the flow of air into the building and through the ECS at all times. The ECS would typically comprise a fan, duct work, dust filters, two stage carbon beds and a stack. It is anticipated that the ECS used would be sized at 90,000 m^3/hr. However, the actual capacity would be determined through detailed design studies, to satisfy Occupational Health and Safety (OH&S) considerations. The ECS would be located directly to the west of the CPWE on the existing Qenos Olefines facility car park.

The ESB would also be serviced by a WTP with expected capacity of some 10,000 m^3 per month to process seepage water encountered within the CPWE, as well as truck wheel wash water and other contaminated water recovered during the project. The WTP would use a process of filtration and carbon absorption to treat water to a standard to enable reuse in the wheel wash, on treated soil stockpiles for rehydration and dust control, or disposal to the BIP effluent system or sewer.

A Water Management Program would be implemented at the Site to minimise the volume of contaminated water generated, and to manage the water in the most efficient manner possible in compliance with regulatory requirements. In summary, water that does not meet the water reuse criteria as presented in the RAP (see **Appendix D**) would be recovered and treated in the WTP before being recycled or disposed of as appropriate.

Plant to be used within the ESB would include an excavator, a front end loader and a Grizzly screen all of which would operate up to 12 hours per day (7am to 7pm), six days per week. However, the ECS would be operational 24 hours, seven days. It is anticipated that the operation of the ESB would require four staff excluding truck drivers.

The layout and processes to take place within the ESB are schematically illustrated in **Figure 7**.

4.4 Soil Treatment Area

The Soil Treatment Area (STA), located on the former Propathene Plant area, comprises the FSB, DTD Plant and treated soil stockpiles. The layout of the STA is shown in **Figure 9**. The processes proposed in this area are discussed in more detail below.

4.4.1 Feed Soil Building

Further handling and testing of excavated material would take place within the FSB before material is fed into the DTD Plant for treatment.

The FSB would be constructed over a hardstand area and would be fully enclosed, ventilated and operated in the same way as the ESB, as described in **Section 4.3** above

Loaded trucks would enter the FSB through a double air-lock door before being unloaded by front end loaders in the central area of the FSB. The trucks then proceed to the decontamination area (automated wheel wash) before exiting via another double air-lock door. Water collected from the decontamination area and wheel wash would be pumped to the WTP at the ESB for treatment and recycling/disposal as appropriate,

Material transported to the FSB would be stockpiled using a front end loader before undergoing further screening and testing for contaminant levels and other characteristics. The material would be blended (physically and chemically) to achieve a relatively homogenous feed material prior to being loaded into the feed hopper of the DTD Plant. Material must be continually fed into the Plant 24 hours per day and this would take place at a rate of up to some 35 tonnes/hour. Activities within the FSB, including screening and testing would therefore also take place 24 hours per day.

Oversized contaminated materials (which may include concrete, steel corroded drums and timber) requiring treatment would be crushed or shredded in the FSB and fed into the DTD Plant.

The layout and operations within the FSB are schematically illustrated in **Figure 10**.

4.4.2 Directly-heated Thermal Desorption Plant

DTD technology has been used for more than 20 years to treat hazardous waste and has been used extensively in the United States (US) to treat soil contaminated with chlorinated organic compounds.

There are two main types of DTD plants currently used to treat contaminated material including chlorinated compounds. They differ principally in terms of the direction of gas and soil flow in the rotary dryer (co-current and counter current), with consequent differences in gas temperatures and the sequence of unit operations used to treat the off-gas. Both types of plants produce similar outcomes in terms of soil treatment levels and air emissions when treating material that contains chlorinated chemicals. As indicated, the detailed design for the DTD Plant and associated equipment/plant would be completed following any project approval. For convenience the co-current type of DTD plant is once again described herein. Further detail on the compliance to the Stockholm Convention and NSW legislation and regulations in regard to the DTD Plant is provided in **Appendix K**.

The process is illustrated in **Figure 11** and is discussed in more detail below.

Rotary Dryer
The first step in the DTD treatment process involves the volatilisation or separation of contaminants from the material in the rotary dryer.

The rotary dryer utilises natural gas as fuel to heat the contaminated material to a temperature of approximately 300ºC to 450ºC.

In a co-current system, the contaminated material enters the rotary dryer at the end where the burner is located and the combustion gas and treated soil move in the same direction to where they exit at the opposite end of the dryer.

Contaminants desorb and volatilise as they pass through the dryer. Soil is heated in the first third of the dryer with most desorption and volatilisation occurring in the next third as contaminants reach their boiling points.

The operating temperature of the rotary dryer would be determined considering both the efficiency of removal of organics from the soil and the environmental sustainability of the process. The optimum soil treatment temperature is the temperature above which there is a diminishing removal rate for organics from the soil. Operating above this temperature would raise broader environmental issues such as the greenhouse impact of the carbon dioxide (CO_2) generated and climate change. This issue has not previously been considered in the context of thermal treatment of contaminated soil.

A further consideration in determining the optimum soil treatment temperature for the rotary dryer is the volatilisation of mercury from the soil and consequent emission of mercury to air from the DTD Plant stack. As the soil treatment temperature is increased from 350 to 550°C, the amount of mercury released from the soil would increase from 50 to 100%. Given that removal of mercury from the process gas is poorly understood, it may be necessary to lower the soil treatment temperature to minimise potential emissions of mercury from the stack.

Therefore, a balance must be determined that optimises the outcome for these competing environmental outcomes. This balance would have a bearing on the final operating temperature of the rotary dryer. These issues which would be further considered when refining the detailed design of the plant and would be addressed as part of the Technology Assessment for the project. Further information is provided in **Appendix K.**

Once it has passed through the rotary dryer, the heated soil material passes to a pugmill where it is sprayed with water for cooling and rewetting. The treated material is then transferred to temporary treated soil stockpiles awaiting validation.

Cyclone

The off-gases flow from the rotary dryer through a cyclone, where large dust particles are removed, to the thermal oxidiser. The dust from the cyclone is directed to the pugmill where it is mixed with the treated soil for rewetting and validation.

Thermal Oxidiser

The thermal oxidiser is used to treat the gases produced through the heating of the soil material in the rotary dryer and would be designed to be Stockholm compliant, i.e. with appropriate residence time, temperature and turbulence.

The thermal oxidiser operates at a temperature typically between 900 to 1,000ºC using natural gas fuel. At this temperature, the contaminants present in the gas (from the feed material) oxidise or decompose forming carbon dioxide (CO_2), water vapour and hydrogen chloride (HCl) with small amounts of other by-products such as chlorine (Cl_2) and sulphur compounds.

In order to maintain the correct temperature to maximise destruction efficiency and minimise the formation of by-products, the thermal oxidiser would be fitted with a sophisticated temperature control system which would be consistently monitored.

The operating temperature and destruction efficiency of the thermal oxidiser would be discussed in the Technology Assessment. A new consideration would be balancing the competing environmental issues of contaminant destruction and greenhouse gas emissions, in line with the principles of ecologically sustainable development (ESD), as described above for the rotary dryer. There would also be an optimum operating temperature for the thermal oxidiser, above which there is a diminishing return in terms of the incremental mass of contaminant destroyed and incremental amount of greenhouse gas produced.

Further information on the thermal oxidiser is provided in **Appendix K**.

Quench

Once gases have passed through the thermal oxidiser they must be rapidly cooled to minimise the potential for dioxin formation and allow further treatment before release to the atmosphere – as required by the Stockholm Convention.

To achieve this, the hot gases are drawn into the quench by an induced draught (ID) fan. In the quench, water is injected to rapidly cool the gases to a temperature which is suitable for further treatment.

Further information on the quench is provided in **Appendix K**.

Baghouse

The cooled gas from the quench is combined with steam from the pugmill and drawn into the baghouse by an ID fan. The baghouse contains a series of fabric filters which remove particulates. If required, activated carbon may also be blown into the baghouse to coat the fabric filters and assist with removal of mercury which is present in the feed soil. The need for this additional control technology would not be known with certainty until commissioning trials have been completed, but provision would be made for the necessary hardware.

The design of the baghouse would also take into account other factors such as the high moisture and acidity of the gas stream and suitable materials of construction and insulation would be used as required. These are matters of detail that will be addressed in the plant design, Hazard and Operability (HAZOP) study and Technology Assessment. However preliminary design data has been included as **Appendix K** to this EA.

Acid Gas Scrubber

The final step in the treatment process involves the removal of acid gases from the exhaust gas. The acid gas scrubber consists of a packed tower with a re-circulating caustic solution that reacts with any HCl and Cl_2 in the exhaust gas to form a salt solution.

Following this, the ‘clean’ treated gas is vented to the atmosphere via the scrubber stack which is some 30 m in height.

Treated Soil

Treated soil would be stockpiled in the south and west of the STA with drains and bunds provided to manage runoff. An additional, overflow stockpile area has been identified on Orica land to the east of the STA (see **Figure 5**). Stockpiles would be stabilised with spray grass or other such treatment and would be wetted when necessary to control dust. Stockpile management is illustrated in **Figure 12**.

The treated, stockpiled soil would be retained until completion of remediation works on the CPWE when it would be transported (by truck) to the CPWE site for reinstatement of the area. Surplus treated soil would be retained for future reuse on other Orica land within the BIP.

4.5 Treatability Trials

Orica engaged Thiess and URS to undertake Treatability Trials for the CPWE to provide information which is required for the detailed design of the DTD Plant. Information on the Treatability Trials will be detailed in the Technology Assessment.

4.6 Decommissioning

Upon completion of the remediation works, the Site buildings, plant and equipment would be decommissioned, decontaminated and removed from the Site.

Decommissioning of the Site would include:

- Disconnection of unnecessary utilities;
- Removal of Site facilities;
- Removal of temporary fencing;
- Removal of pollution controls; and
- Removal of plant and equipment.

4.7 Reinstatement of Site

The CPWE site would be reinstated using the treated, validated soil material to the level of Corish Circle, leaving some surplus soil in the stockpile areas for future reuse on other areas of the BIP, as shown in **Figure 13**.

The Site would be stabilised with turf at the completion of reinstatement activities. A landscaped mound would be reinstated along the eastern boundary with Corish Circle to preserve the existing outlook across the CPWE site and provide screening for future development.

The future use of the CPWE site has not yet been determined, however it is likely to be a commercial/industrial use in line with the existing zoning and the surrounding BIP.

4.8 Access and Transport

4.8.1 Access

The primary access route to the Site would be via the main entry gate to BIP on Denison Street (Gate 3) and the secondary access route would be via the Wight Street gate located at the northern end of the BIP (refer to **Figure 8**). As the main access point for the Site would be via Denison Street, the Wight Street access would only be used where necessary.

These entry points would control access to and around the Site during the remediation works. Existing access via Corish Circle would be closed off during works to minimise impacts upon nearby residents. The site offices, amenities and decontamination facilities would be located at the southern end of the CPWE adjacent to Corish Circle (refer to **Figure 5**). All site personnel entering and leaving the Site would be required to pass through the clean/dirty zone and the decontamination station located adjacent to the Site offices.

4.8.2 Vehicle Movements and Parking

Vehicles travelling to and from the Site will be limited to employees, delivery of plant and equipment and deliveries of consumables. Primary access to the CPWE will be via Gate 3 on Denison Street. Likely routes to the Site would be:

- Inbound - along General Holmes Drive, then Foreshore Road, Beauchamp Road, and then Denison Street accessing the BIP through Gate 3; and
- Outbound – exit via Gate 3, along Denison Street, Wentworth Avenue, and then Southern Cross Drive.

Access routes to the secondary access point at Wight Street are as follows:

- Along Southern Cross Drive, then Foreshore Road, Beauchamp Road, Denison Street, Wentworth Avenue, Baker Street, Moore Street and then Wight Street accessing the CPWE; or
- Along Southern Cross Drive, then Wentworth Avenue, Page Street, Holloway Street, Baker Street Moore Street and then Wight Street accessing the CPWE.

The primary traffic routes to and from the Site utilise arterial roads to access to the Sydney metropolitan area, therefore minimising the impact on the local road network.

There is expected to be a maximum of 45 construction personnel at any one time during the Site establishment and construction period. During operation, it is anticipated that there would be a maximum of 30 employees on the Site and it is assumed that all employees would travel by private car to work. Parking for employees will be provided in the existing Qenos car park (adjacent to the CPWE) with overflow parking provided in the Contractors car park near Gate 4.

4.8.3 Transportation of Material

During operation, a fleet of three tip trucks, fitted with solid steel lids, will be used to transport the material from the ESB to the FSB. Trucks will be loaded within the ESB, lids closed and the external surfaces of the truck decontaminated prior to exiting the ESB. The trucks will then travel via the internal haulage routes shown in **Figure 8** to the FSB. Once inside the FSB, the trucks will deposit their loads, and external surfaces will be decontaminated before returning to the ESB for the next load. It is anticipated that these trucks would operate on the Site up to 12 hours per day (7am to 7pm), six days per week.

4.9 Site Security

Fencing will be erected where necessary to secure portions of the Site. Shade cloth will be erected on all perimeter fences.

Entry to the Site will be controlled through the introduction of a sign-on/sign-off log system at both access points – Denison and Wight Streets. Alternative entrances to the specific areas of the Site such as the CPWE area and STA will only be used in the event of an emergency. The following Site controls will be implemented:

- Only authorised personnel will be allowed on-site;
- Site personnel will gain access to the Site only after they have:
  - Undertaken the required medical examination;
  - Signed on in the sign-on/sign-off logbook;

  - Attended and completed a site safety induction briefing (applicable to all site workers and visitors);
  - Are wearing all applicable personal protective equipment (PPE); and
  - Signed the OH&S Plan (OHSP) acceptance form (applicable to all site workers and visitors).
- All construction vehicles and delivery vehicles will enter the Site through the nominated gate. When a vehicle enters the Site, it will proceed along the designated vehicle route to the pre-arranged rendezvous area where an authorised person will meet the vehicle and provide the driver with further instructions.

In the event of an emergency on-site and the need for off-site emergency services personnel to access the Site works, the access process may be expedited. In these situations, which require the need to minimise delays in accessing injured site personnel or critical areas of the Site, prior arrangement will be made for special Site access procedures. However, given the nature of the remediation works, all PPE and decontamination protocols will remain in effect at all times. An Emergency Response Plan (ERP) will be developed prior to site establishment detailing the specific procedures relating to site emergencies.

In addition, appropriate OH&S and planning activities would be completed, documented and approved where necessary prior to site establishment. These activities include:

- Verifying the OH&S training of all employees and subcontractors scheduled to work at the Site;
- Medical examinations for all employees and subcontractors who are to work at the Site for a period of more than one month;
- Documented attendance at an on-site safety induction briefing for all employees and subcontractors scheduled to work at the Site;
- Appointment of a Site Safety Officer (SSO);
- Provision of first aid and medical facilities and supplies at the Site;
- The procurement, provision and training in the use of personal protective equipment (PPE) detailed in the OH&S Plan (OHSP) and works procedures;
- Completion of all quality assurance (QA) and maintenance checks on all electrical equipment, plant and tools to be used at the Site at the commencement of works. Scheduled on-going checks will be performed on all plant and equipment brought on-site;
- Installation of decontamination units at the specified areas on the Site, as detailed in the OH&S Plan and the design drawings; and
- All activities required to provide a safe and healthy work environment for all personnel who work or visit the Site.

4.10 Environmental Controls

Excavation and handling of contaminated material will be undertaken within the enclosed ESB and FSB. Both buildings will be fitted with an ECS to minimise release of contaminated emissions and to protect workers.

Further measures to protect the environment during the remediation works include:

- Stormwater control measures such as retention basins, bunding, silt fences, oil absorbent materials, dewatering systems, and water treatment systems for the management of site water;
- Process venting controls, vehicle emission controls, stockpile covering and treatment designed to control air and dust emissions from equipment, plant and stockpiles used during Site works;
- Layout of Site such that noise generating plant and equipment is located as far from residences as possible with buildings and soil stockpiles providing visual and acoustic buffers;
- Silencers fitted to plant and equipment to minimise noise;
- Equipment decontamination control measures comprising a wheel wash and truck wash facilities, to manage the potential for cross-contamination during the excavation and soil treatment phases of works; and
- Protective fencing and restricted Site access including delineation of Exclusion Zones (areas of the Site outlined in the OHSP that either require additional protective measures or may require the adoption of additional OH&S requirements and work practices) to limit unauthorised access to designated areas of the Site.

For spill management, plant, buildings and decontamination units will be bunded and appropriate emergency response and incident management procedures would be in place on the Site at all times.

Regular inspections of all implemented environmental control measures will be undertaken as follows:

- Within the CPWE area and in the vicinity of the STA area – prior to the commencement of work on each day;
- Along haul roads and in perimeter areas outside Exclusion Zones – prior to the commencement of work on the first working day of each week; and
- At all Site locations – at hourly intervals throughout major storm events.

An inspection report will be recorded and maintained on file after each inspection.

Further details of specific environmental controls to be implemented on the Site are provided in the RAP included as **Appendix D** to this report, and the Statement of Commitments in **Section 9** of this EA.

4.11 Program of Works

The remediation process is expected to take approximately 18 months to complete including site establishment, pre-treatment, treatment, validation, decommissioning and reinstatement.

The breakdown of this program is generally as follows:

- Site establishment and construction (including DTD Plant Commissioning and Proof of Performance (CPoP) testing) – approximately 26 weeks
- Excavation and treatment – approximately 30 weeks
- Decommissioning and demobilisation – approximately 14 weeks
- Reinstatement of site (the CPWE) – approximately 14 weeks (NB Concurrent with demobilisation)

Construction and demobilisation hours would be between the hours of 7am and 6pm Monday to Friday, and 7am to 1pm Saturdays. No construction work would occur on Sundays and Public Holidays.

4.12 Utilities and Resources

Utilities and resources required for the proposed remediation works include:

- Natural gas;
- Electricity;
- Diesel; and
- Potable water.

Any existing utilities located within materials requiring excavation would be temporarily bypassed and removed so as not to hinder excavation activities. These services and utilities would be re-established as required as part of the reinstatement works.

4.12.1 Natural Gas

Natural gas is required for the rotary dryer and thermal oxidiser of the DTD Plant. Gas will be supplied to the DTD via underground pipe from AGL's network or via the existing reticulation system on the BIP.

The amount of natural gas required to operate the plant will depend on the final operating temperatures of the rotary dryer and thermal oxidiser. As discussed previously, the principles of ESD must be considered to determine the appropriate operating temperatures for these components, and to balance competing outcomes of contaminant removal and destruction, against greenhouse gas emissions and climate change.

No alternative or back-up fuels are proposed and a loss of gas supply would automatically initiate a controlled shutdown of the DTD Plant. This is discussed in greater detail in **Section 8.8** of this EA.

4.12.2 Electricity

During normal operation all power for the plant will be supplied from the existing grid.

The DTD Plant will be fitted with a back-up power supply to enable controlled shutdown and restart in the event of a power outage. This event is discussed in more detail in **Section 8.8** of this EA.

4.12.3 Diesel

Diesel is required for the back-up generator fitted to the DTD Plant as well as for the operation of equipment to be used on Site such as excavators, loaders and trucks. All re-fuelling will be by mini-tanker in a dedicated bunded area. No diesel storage will be provided on Site.

4.12.4 Potable Water

Water is required for the cooling process within the quench and the acid gas scrubber within the DTD Plant. This water will be supplied from the existing BIP town supply to a break tank at the DTD. It will then be pumped from the break tank to the quench and acid gas scrubber.

A back-up water tank will be provided for the quench, pressurised by air cylinders to cater for loss of mains water flow.

Consideration was given to the reuse of water from the GTP, located on the BIP, however this water is already proposed to be recycled for other purposes within the BIP. Therefore there is insufficient water available from this source to service the needs of the CPWE remediation project. Should a surplus become available in the future, Orica may consider using this for the DTD Plant.

4.13 Auditing and Validation

The CLM Act sets out requirements for site audits. The Act requires a site audit to be undertaken under certain circumstances such as where a voluntary investigation proposal or voluntary remediation proposal has been agreed with the DEC or where required under *State Environmental Planning Policy No. 55 - Remediation of Land* (SEPP 55).

Currently, SEPP 55 does not require a mandatory site audit at any stage of the planning process for this remediation work, and the CPWE site is not subject to a voluntary investigation and voluntary remediation proposal, therefore a site audit under the CLM Act is not required at this time. Although a site audit is not required, Orica has made a commitment to engage an independent, DEC accredited Contaminated Land Auditor in respect of the proposed works. Given this, the Contaminated Land Auditor will be required to review and endorse the RAP for the project (see **Appendix D** to this EA) and any remediation goals.

HLA

Botany industrial park site boundary
CPWE site boundary
Untreated material
Treated, unvalidated material
Validated, treated material

Figure 5

Conceptual Site Layout

Orica Australia Pty Ltd

Remediation of Car Park Waste Encapsulation

Botany Industrial Park

Environmental Assessment

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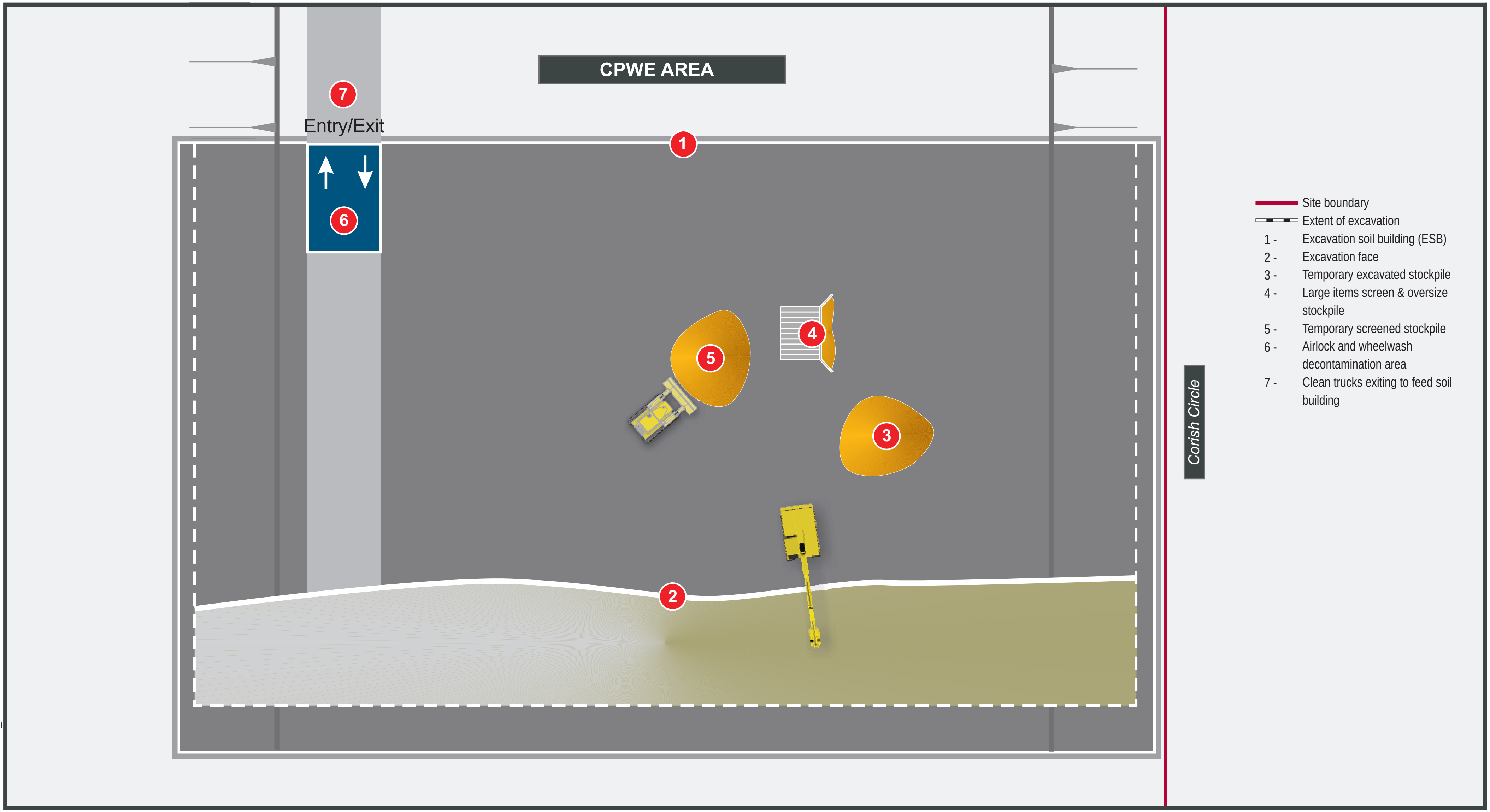
HLA

0 75m

Botany industrial park site boundary
2:1 Excavation batter
Emission control system stack

Figure 6
Conceptual Excavation Staging
Orica Australia Pty Ltd
Remediation of Car Park Waste Encapsulation
Botany Industrial Park
Environmental Assessment



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HLA

Figure 7

Conceptual Excavation Soil Building Layout

Orica Australia Pty Ltd

Remediation of Car Park Waste Encapsulation

Botany Industrial Park

Environmental Assessment