



Deicorp Projects Showground Pty Ltd

Construction Management Plan

2 Mandala Parade, Castle Hill

8 July 2021

ENGINEERING PLANNING SURVEYING CERTIFICATION

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1	Draft	20/05/2021	
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Relevant Report Section

Planning Secretary's Environmental Assessment Requirements Section 4.12(8) of the *Environmental Planning and Assessment Act 1979* Schedule 2 of the Environmental Planning and Assessment Regulation 2000

Application Number	SSD-15882721
Project Name	Doran Drive Plaza Precinct
Location	2 Mandala Parade, Castle Hill within The Hills Local Government Area Lot 55 DP 1253217
Applicant	Deicorp Projects Showground Pty Ltd
Date of Issue	30/03/2021

Requirement

Construction

include an assessment of any potential impacts of construction on the amenity of the surrounding area (including the public domain) with respect to noise and vibration, air quality, dust and particle emissions, water quality, storm water runoff, groundwater seepage, soil pollution and construction waste, having regard to relevant standards and guidelines, and identify required measures to mitigate potential impacts to acceptable levels.

Noise and vibration impacts	Section 7.
Air Quality	Section 8.1.
Dust and Particle emissions	Section 8.1
Water Quality	Section 9
Stormwater runoff	Section 9
Groundwater seepage	Section 8.2
Soil pollution	Section 8.3
Construction waste	Section 10 and Appendix
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Appendix D – Construction Pedestrian and Traffic Management Plan

Appendix E – Soil and Water Management Plan

Appendix F – Excavation Plan

1 Introduction

Barker Ryan Stewart have been engaged by Deicorp Projects Showground Pty Ltd to prepare a Construction Management Plan (CMP) in accordance with the requirements of NSW Department of Planning, Industry and Environment and The Hills Shire Council. The CMP is prepared in support of a mixed-use development application for the Doran Drive Precinct 2 Mandala Parade, Castle Hill.

This CMP outlines the demolition, excavation and building process for the proposed development and how the builder and contractors will manage potential impacts caused by the demolition, excavation and building works.

The CMP includes a description of the project, outlines the process and addresses mitigation measures relating to the potential impacts of construction on the environment and the public, including noise and vibration, air pollution, water pollution, waste and recycling measures and traffic management.

1.1 CMP Implementation

This CMP is to be read in conjunction with the following documents attached in the Appendices:

- Construction Waste Management Plan; and
- Construction Traffic Management Plan.

This CMP is to be adjusted as required by the builder/contractor prior to the commencement of works on site, based on the additional reports / plans recommended, conditions of development consent and other site specific conditions during the progress of works.

Where this plan conflicts with the requirements of the builder/contractors Safe Work Method Statements (SWMS) or Work Health and Safety (WHS) Policy then the SWMS's and WHS and their safety and environmental obligations of the builder/contractors shall override this CMP.

1.2 Limitations

This CMP has been prepared to provide a general understanding of generic construction activities for delivering buildings and infrastructure, based on the development plans and site assessments provided by the client.

Following Development Approval and availability of the Development Approval conditions, the CMP may be reviewed and revised to incorporate the detailed design, including appropriate arrangements for detailed Construction, Environmental and Construction Management Plans by the contractors.

2 Project Overview

2.1 Existing Development

The site has been cleared for development with no structures remaining.

Aerial imagery identifying the site and surrounding development is provided at Figure 1.



Figure 1: Aerial view of site and surrounding development

2.2 Proposed Development

The proposed development includes excavation and construction of a mixed-use precinct comprising the development outlined in the table below.

Land Use		Yield
Residential	1 Bedroom	77 units
	2 Bedroom	311 units
	3 Bedroom	43 units
	Total	431 units
Retail /Commercial		10,935m ²

The proposal also includes basement parking and construction of street and upper level open space elements as provided in the Architectural Plans submitted with the DA.

3 Project Staging and Program

3.1 Project Staging

This CMP covers the excavation, shoring and the construction of the new buildings.

It is proposed to construct the works in three (3) stages from excavation through to the construction of a mixed-use precinct comprising of residential apartments, commercial and retail space, basement parking and associated facilities.

3.2 Project Program

The project duration for the excavation and building works are outlined below. Materials handling plans identifying staging are provided in **Appendix A and** Excavation Plan provided in **Appendix F**.

STAGE	ESTIMATED DURATION
Stage 1	18 months
 Basement car park, 	
Retail and commercial	
Park	
Stage 2	6 months
Residential Tower A and B	
Stage 3	6 months
 Residential Tower C and D 	
Childcare	



Figure 2: Proposed staging diagram

3.3 Building and Construction Works

All demolition, excavation and building works are to be undertaken in accordance with the conditions of development consent once it is issued.

The following items summarise the aspects of the demolition, excavation and building works that need to be considered in relation to the application of this Construction Management Plan;

- All construction vehicles enter and exit the site via site entry gates, as shown in the Materials Handling Plans in **Appendix A.**
- Construction Traffic is managed to minimise the impact on the local residents in the vicinity of the site.
- The proposed crane, hoist and landing platform locations are shown on the Crane Radial Plans in **Appendix B.**
- A combination of Heavy Rigid Vehicles (HRV) and Truck and Dog (Articulated) with a combined length of 12.5m 17m will be used to export approximately 157,000m³ of excavated material from the site. The swept paths are shown in the Construction Traffic Management Plan in **Appendix D** which confirm an AV can enter and exit the site.
- Cranes and other machines will be floated on trucks approximately 19m in length (Articulated Vehicle (AV).
- It is anticipated that stockpile sites will not be required as the material will be progressively loaded and removed from site on a daily basis.
- One shaker pad will be constructed at site egress points accessed from Andalusian Way for erosion and sediment control.
- Waste and recycling containers are to be located within materials handling areas shown on the Material Handling Plans in **Appendix A**.
- Concrete pumping is to be undertaken from the construction pumping and lifting zones or from within the site.
- All excavation and building works are to be undertaken in accordance with the conditions of development consent once it is issued.
- The estimated time frame to complete the excavation works is 6 months.
- The estimated time frame to complete the building works is 24 months.
- All construction vehicles enter and exit the site via Andalusian Way, as shown in the Materials Handling Plans in **Appendix A**.
- Construction traffic is managed to minimise the impact on the users of the existing road network in the vicinity of the site.
- A mix of A class and B class hoarding plus scaffold are to be erected during stages as shown on the Materials Handling Plans in **Appendix A**.

Note all demolition, excavation and building works, including and site establishment are to be carried out in accordance with relevant Australian Standards and Work Health and Safety requirements.

4 Construction Staff, Amenities and Machinery

The demolition, exaction and building site requires detailed management of staff, facilities and services. It is important to understand the number and type of staff on site to ensure appropriate facilities, services, parking and training is provided.

The follow table outlines potential issues and the measures adopted by the builders, contractors and construction workers to ensure an adequate and safe working environment for staff.

4.1 Construction Staff and Amenities

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Staff numbers	 Staff - Stage 1 A maximum of 50 construction staff will be onsite during stage 1 excavation works. Staff - Stage 2 A maximum of 350 and average of 150 construction staff will be onsite during stage 2 building works. 	Ongoing	Supervisor
Provide sufficient amenities for both male and female staff	 Staff Amenities - Stages 1, 2 and 3 The site will contain a staff amenities block during stages 1, 2 and 3 (refer to the Materials Handling Plans at Appendix A). The staff amenities block will include the main office, meeting rooms, induction room, office toilet amenities, first aid facilities and a lunch room. 	Ongoing	Supervisor
Staff Parking	 Staff parking - Stages 1, 2 and 3 No on-site parking will be provided for construction staff during stages 1, 2 and 3. Staff are encouraged to utilise the adjacent Sydney Metro. 	Ongoing	Supervisor
Ongoing supervision	 Measurement and Monitoring Monitoring of the staff amenities cleanliness, security, etc to ensure their effectiveness, safety and compliance is to be carried out by the Supervisor and recorded in the weekly Inspection. 	Ongoing	Supervisor

4.2 Construction Machinery

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Location, operation and security of cranes	 Crane location The crane locations are to be contained within the site as shown on the Crane Radial Plans at Appendix B. The crane hoist locations are shown on the Site Crane Radial Plans at Appendix B. The cranes are to be secured during non-operating times. All crane operators are to have undertaken training with appropriate accreditation in the use of the cranes. 	Ongoing	Supervisor
Use of machinery resulting in a negative impact on neighbouring properties	 Machinery Stages 1, 2 and 3 unloading of machinery to occur within the site accessed from Andalusian Way as shown on the Materials Handling Plans at Appendix A. The machinery will be secured during non-operating times. All staff are to have undertaken training with appropriate accreditation in the use of the machinery. When using cranes or mobile lifting equipment, the following steps are to be taken to prevent disruption to public areas: Ensure equipment does not restrict public thoroughfares and pedestrian access or, where restricted access is unavoidable, use gantries or other overhead protection Determine lifting zones for medium to long term use of the equipment Protect pavements and streets and conduct dilapidation surveys before and after works have taken place Implement procedures and lifting techniques to ensure safety on adjoining streets and signage. 	Ongoing	Supervisor
Concrete pumping location	 Concrete pumping Concrete pumping will be commonly pumped from on site or the Work Zones. 	Ongoing	Supervisor
Ongoing supervision	 Measurement and Monitoring Monitoring of the cranes, hoist and concrete pouring facilities to ensure their effectiveness, safety and compliance is to be carried out by the Supervisor and recorded in the daily and weekly Inspection. 	Ongoing	Supervisor

5 Construction Traffic Management

Appropriate access to and from the site by staff, contractors, deliveries and the general public is to be managed through the implementation of a Construction Traffic Management Plan (see Appendix D).

The follow table summarises the potential issues and how they are to be controlled.

IMPACT	CONTROL MEASURES	TIMING	OFFICER
Increased traffic congestion	 Construction Traffic Management Plan Refer to Construction Traffic Management Plan at Appendix D for measures to address increased traffic in the local road network. 	Ongoing	Supervisor
Altered traffic conditions	 Control Measures A range of traffic control measures will be implemented to provide safe movement of traffic. Truck control on the site and surrounding streets will be signed to control operation. RMS accredited traffic controllers are to manage the traffic in accordance with the requirements of the Traffic Control Plan at Appendix D. 	Ongoing	Supervisor and RMS accredited traffic controllers
Construction Parking Strategy	Staff/Contractors Car Parking On-site parking will not be provided for construction staff. Use of adjacent Sydney Metro train services and/ or other local public transport options will be encouraged.	Ongoing	Supervisor
Vehicular queueing at entrances	 Access RMS accredited traffic controllers are to manage the traffic in accordance with the requirements of the Traffic Control Plan at Appendix D. Access into and out of the site will be via the designated entrance, refer to Appendix E, Traffic Management Plan. Adjacent public roads will be maintained free of construction material. Loaded trucks leaving the site will have tray covers and tailgates closed to prevent dust during transport. 	Ongoing	Supervisor and RMS accredited traffic controllers
Limited access and parking impacting traffic and parking on the local road network	 General Public No general admission will be provided during Stages 1, 2 and 3. Appropriate fencing and gates will be provided to restrict access. Pedestrians will be protected by Class A and B hoardings in the locations shown on the materials handling plans in Appendix A. 	Ongoing	Supervisor
Reduced safety due to altered traffic conditions and increased rates of heavy vehicles	 Safety RMS accredited traffic controllers are to manage the traffic in accordance with the requirements of the Traffic Control Plan at Appendix D. Loading and unloading is to be undertaken on site or within the construction/loading zone within the site adjacent to Mandala Parade and Andalusian Way. The use of mobile phones will be banned on site whilst operating machinery. 	Ongoing	Supervisor and RMS accredited traffic controllers
Dispersal of dust from site	 Cleanliness Shaker pad on exit will be maintained to ensure wheel cleanliness. 	Ongoing	Supervisor

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IMPACT	CONTROL MEASURES	TIMING	OFFICER
	• The roads surrounding the site shall be regularly swept to ensure pavements are kept clean and safe.		
Staff movements impact traffic and parking on the local road network	 Construction workers parking During stages 1, 2 and 3 construction staff will be required to park off site. 	Ongoing	Supervisor
Regular deliveries impacting traffic and safety on the local road network.	 Delivery of goods and materials Construction vehicles will enter the site via Andalusian Way (See Appendix A). Loading and unloading will occur on site in the crane location shown on the Crane Radial Plans (See Appendix B). 	Ongoing	Supervisor
Increased traffic congestion impacting movements into and out of the neighbouring properties	 Adjacent properties Appropriate traffic management procedures will be in place to minimise the impact of increased traffic and queueing vehicles on neighbouring development. 	Ongoing	Supervisor
	Crane and Hoist Locations NOTE: outlined in other sections		
Ongoing supervision	Measurement and Monitoring Monitoring of the traffic control measures to ensure their effectiveness and compliance with TMP's is to be carried out by the Supervisor and recorded in the daily and weekly Inspection	Ongoing	Supervisor

6 Public Safety, Amenity and Site Security

The excavation and building works raise a number of concerns and potential risks in relation to safety and security. These risks include damage to neighbouring properties, injury to local residents, impacts to the amenity of locals and site security for the builders and contractors.

The following table outlines potential impacts and mitigation measures adopted by the builders, subcontractors and construction workers to ensure a safe and secure working site for the community and workers.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Restricting public access to the site.	 Hoarding/Fencing The site will be secured by A and B class hoardings around the entire perimeter as shown in the Materials Handling Plans in Appendix A. Gates will be secured after work hours to prevent unauthorised entry. The excavation and building site will be fenced to prevent entry. All fencing and hoardings will screen public view of the site to minimise any impact on pedestrian traffic flow. 	Ongoing	Supervisor
Impacts of Piling	 Piling The Impacts of piling are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
Impacts of Demolition	 Demolition The Impacts of demolition are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement and Management Plan prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
Impacts of Excavation	 Excavation The Impacts of excavation are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement and Management Plan prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
Reduced way finding and unauthorised access to the site	 Safety & Security Adequate lighting will be provided across the site at night. The site will be fully secured outside of working hours. Security measures will include fencing, locks, surveillance systems, security lighting and motion detectors. Site equipment and materials will be fully secured at night. Site materials and equipment will be located away from neighbouring properties to limit the potential use as climbing aids. All chemicals will be securely stored aware from emergency exits and stormwater pits. 	Ongoing	Supervisor

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POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Security signage	 Signage Contact and procedural details will be provided, at entrances and exits, in case of an emergency or security breach. Safety, traffic control and restricted access signage will be located on fencing and at entrances to the site. 	Ongoing	Supervisor
Damage to public areas	 Public Areas Any damage to public areas and assets will be rectified. The construction team will ensure there are no trip hazards from the hoarding or fencing on adjacent footpaths. Any utilities or services that cross the path will be covered with ramps in accordance with the relevant standards. Public areas will be protected from construction activities including vehicle loading and unloading. All bins will be stored on site in secure areas away from public access. All materials and machinery will be stored onsite, away from public areas. 	Ongoing	Supervisor
Use of street and pathway	 Street Space Occupation All necessary permits will be obtained from the Council permitting occupation of the footpath as required. 	Ongoing	Supervisor
Reduced visual amenity and outlook for neighbouring properties	 Prevent Unsightly Premises Trucks will be washed down to prevent soil, dust or debris falling on the adjacent road way and footpaths. Hoardings must be designed to reduce the potential for posters and graffiti through the use of wire mesh guards, signage and/or public art. Graffiti and posters will be removed on a regular basis. 	Ongoing	Supervisor
General Site Management	 General Management The Principal Contractor will provide written notice prior to commencement of works in accordance with the Conditions of Consent. Existing pedestrian and traffic signs will be retained. Additional safety signage will be in accordance with requirements. 	Ongoing	Supervisor
Ongoing supervision	Measurement and Monitoring Monitoring of public safety, amenity and site security to ensure effectiveness and compliance is to be carried out by the Supervisor and recorded in the daily and weekly Inspection.	Ongoing	Supervisor

7 Operating Hours, Noise and Vibration Controls

A Construction Noise and Vibration Plan of Management has been prepared by Koikas Acoustics (v2 18/05/2021) to identify noise emissions likely to be generated during construction (mechanical plant noise and increased vehicle noise). The Report provides recommendations for acoustic management controls in order to reduce noise impacts on surrounding development. Construction vibration control and mitigation measures are also addressed within the report.

In addition to all measures and recommendations identified in the Construction Noise and Vibration Plan of Management, the following table outlines operating hours and the noise and vibration controls and mitigation measures to be adopted by the builders, sub-contractors and construction workers to meet the compliance requirements of the Council and the relevant Australian Standards.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Noise impacts on neighbouring residents and businesses	 Hours of Operation Hours of onsite work operation will be limited to 7am to 6pm, Monday to Friday and 7am to 5pm on Saturdays. No onsite work operations will be undertaken on public holidays. Any proposed onsite work outside of these hours will be required to be approved by Council or the private certifier. 	Ongoing	Supervisor
Noise nuisance Noise pollution caused by loud noise from site disturbing workers	 Noise - Plant and equipment All practical precautions are to be taken to minimise the impact of noise emissions from the site. Equipment and machinery will be selected to meet the noise emissions requirements outlined in the Noise and Vibration Assessment report. Where practical equipment will be fitted with silencers. Regular monitoring of equipment will be undertaken to ensure all equipment meets requirements. Vehicles and machinery will be turned off when not in use. 	Ongoing	Supervisor
Vibration damage to structures and potential impacts to nearby business, residents and public infrastructure	 Vibration - Plant and equipment The major sources of vibration caused by the project during demolition and construction will include the use of excavators with rock breakers (or grinding heads attached), bulldozers and vibratory rollers. The following vibration mitigation measures should be adopted during site project activities: Staging of site works to maximise use of the existing site features/facilities as barriers where possible. All site personnel must adhere to the site OH&S requirements in relation to use of appropriate personal protective equipment (PPE) when operating, or in the vicinity of noise/vibration generating plant/equipment. Noise and vibration awareness training for all site staff including subcontractors as part of general site induction and tool-box talk activities. Strict adherence to approved works times. In the event that out of hours delivery activities are required, the approval process will be completed via consultation with the Project Managers office. 	Ongoing	Supervisor

	-		
	 Works will be scheduled, where practical, to avoid simultaneous vibration causing activities occurring on site. Vehicles, plant and machines/equipment used intermittently during construction activities (i.e. cranes, excavators, bobcats, lifting equipment, etc) will be shut down, as practicably achievable, in the period between works activities rather than allowed to idle. The duration of noise/vibration intensive works will be minimised through a regular review of the program and construction methodologies during project team meetings. Regular and effective plant/equipment maintenance will be completed and documented throughout the project period and documentation will be maintained on site demonstrating completion of maintenance logs and associated checklists in order to ensure all machinery is in good working order and use does not generate excess noise/vibration. Plant, equipment and vehicles will not be operated in the event that excessive noise/vibration is produced at start up as a result of maintenance being required. Care will be taken by site personnel to ensure materials will not be dropped from a height either onto or from vehicles or from the roof, overhead bridge or other raised location. Power drills, saws, planers, nail guns etc will be used inside where possible to achieve acoustic muffling or where possible, to the south of buildings to provide shielding between the user and sensitive receptors. 		
Construction noise	Neighbours	Ongoing	Supervisor
impacting the	 Activities which may impact on the amenity of 		
amenity of	neighbouring properties will only be conducted for		
neighbouring	short durations and these neighbours will be		
properties	notified prior to the works.		
Ongoing supervision	Measurement and Monitoring Noise effects shall be observed and recorded on the daily inspection report in accordance with the requirements of the Noise and Vibration Report.	Ungoing	Supervisor

8 Environmental Management

8.1 Air and Dust Management

The following table outlines the air and dust management items that are to be considered during construction.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Generating dust pollution	 Dust Fencing will be designed to minimise the impact of dust on neighbouring sites. Soil and other materials stored onsite will be covered to prevent dust. 	Ongoing	Supervisor
Dust pollution generated by machinery	 Machinery Equipment used on site shall not emit visible exhaust fumes for no more than 10 seconds after power has been applied. 	Ongoing	Supervisor
Dust pollution generated by machinery	 Excavation Excavation will be avoided during high wind conditions. Exposed or excavated soils will be regularly rehabilitated where possible to minimise dust. Exposed areas will be watered down to prevent dust, especially on windy days and in close proximity to dwellings and public areas. 	Ongoing	Supervisor
Dust pollution generated due to vehicular movements into and out of the site	 Traffic/Vehicular Movement Loaded trucks leaving the site will have tray covers to prevent dust during transport. A shaker pad will be located at exits to remove soil from vehicle tyres. Internal driveways near boundaries will be watered down to minimise airborne particles. Construction traffic will be confined to one entry/exit in Andalusian Way. 	Ongoing	Supervisor
Impacts of Piling	 Piling The Impacts of piling are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
Impacts of Excavation	 Excavation The impacts of excavation are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement and Management Plan prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
	 Other No burning will be undertaken on site. Waste and scrap materials will be stored to prevent dust emissions. 	Ongoing	Supervisor

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Ongoing supervision	Measurement and Monitoring	Ongoing	Supervisor
	Continual visual monitoring to be undertaken by the Supervisor. Any evidence of dust shall be recorded.		

8.2 Geotechnical

A Geotechnical investigation has been prepared by eiaustralia (E24724.G03_Rev1) for the following purpose:

- Assess the subsurface conditions within the site,
- Provide site classification,
- Provide recommendations regarding the appropriate foundation system for the site including design parameters, and
- Provide parameters for the temporary and permanent support of the excavation.

In addition to all recommendations provided in the Geotechnical Investigation Report, the following table outlines the Geotechnical management items that are to be considered.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Geotechnical requirements and excavation support	 Geotechnical requirements During construction, should the subsurface conditions vary from those inferred in the Geotechnical Report, the Geotechnical Consultant should be contacted to determine if any changes should be made to their recommendations. It is important the excavation is inspected regularly by the Geotechnical Consultant as it progresses. The exposed bearing surfaces for footings should be inspected by the Geotechnical Consultant Permanent shoring of excavations is required. 	Ongoing	Supervisor / Geotechnical consultant
Road Authorities	 Road Authority requirements Detailed documents and geotechnical reports relating to excavation adjacent to the Princes Highway and Charles Street support structures are submitted to the Council/RMS for approval prior to the issue of a construction certificate. 	Ongoing	Supervisor / Geotechnical consultant
Ongoing supervision	Measurement and Monitoring Measuring and monitoring is to be undertaken in accordance with the requirements of the Geotechnical Report.	Ongoing	Supervisor / Geotechnical consultant

8.3 Contamination Management

The following table outlines contamination management items that are to be considered during construction.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Pollution of soils on the site and pollution of ground waters by chemical, organic or physical contamination	 General All staff will be aware of proper handling procedures and appropriate measures will be taken to minimise the potential for contamination. Chemical spillage kits will be kept on site, staff will be made aware of the appropriate use of kits. 	Ongoing	Supervisor
Contamination from machinery	 Machinery High risk activities, including refuelling and servicing, will be undertaken allocated areas, controlled to reduce environmental impact. Fuel and oil storage areas will be bunded with a 120% capacity. Machinery will be inspected on a regular basis for leaks. Repairs will be undertaken immediately. 	Ongoing	Supervisor
Contamination from chemicals/materials	 Chemicals/materials All contaminants shall be handled in a manner so as to confine the material completely and prevent any fugitive emission. Material will be kept on segregated, covered, bunded areas and then disposed of by removal to a registered waste depot. Paint and slurry will not be discharged into the stormwater. A designated paint brush and roller washing area will be located near each building to prevent contaminating the stormwater. Construction materials and chemical will be stored appropriately to prevent leakages into surrounding water ways. 	Ongoing	Supervisor
Ongoing supervision	 Measurement and Monitoring Waste product will be assessed and categorised as contaminated or non-contaminated and disposed of accordingly If contaminated material is encountered, then it will be monitored for each type of material and the method of disposal recorded in the Contaminated Material Register. All hazardous materials will be removed from site and correctly disposed on completion of the works. 	Ongoing	Supervisor

9 Stormwater Management and Sediment Control

During construction activities the soil and water management procedures are to be implemented so as to ensure all runoff and discharge from the site is done so without environmental impact. A Soil and Water Management Plan has been prepared and is attached at **Appendix E**.

The following table outlines potential impacts as well as appropriate erosion and sediment control and stormwater measures to control sediment and reduce runoff generally.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Erosion and sediment control	 Frosion Sediment Control Measures All control measures will be installed prior to commencing works in accordance with the Soil and Water Management Plan, refer to Appendix E. Works will be appropriately staged where possible to minimise potential for erosion and sedimentation during the project. Silt fencing will be erected along batter slopes, stockpiles, and any disturbed surfaces that may drain into any adjacent water bodies and stormwater systems. Sandbags and other sediment controls shall be installed around stormwater inlets and outlets to prevent dirty discharge from works area entering stormwater systems. Soil and waste stores will be located in designated areas to prevent run off into drains. On project completion, the site will be left protected by temporary measures as required. Once permanent measures (i.e. revegetation) have been established the temporary measures may be removed. All sediment basins and traps will be managed in accordance with the requirements of the Soil and Water Management Plan at Appendix E. 	Ongoing	Supervisor
Stockpile locations	 Stockpiles Stockpiles for loose materials such as soil, sand and gravel are to be located in areas clear of overland flow paths. Sediment barriers are required around the stockpiles. 	Ongoing	Supervisor
Reduced water quality	 Water Quality The site is not identified as having Acid Sulfate Soil issues. Temporary diversion drains will be installed to divert clean run-off around the works area. Drainage system outlets will be directed to temporary or permanent retention basins. 	Ongoing	Supervisor
Sediment runoff due to excavation	 Excavation Disturbance onsite will be minimised by clearly marking boundaries and designating areas for construction activities and traffic movements. Exposed surfaces will be stabilised as soon as possible by hydro mulching or other means. 	Ongoing	Supervisor
Sediment washed into the stormwater network	 Stormwater Stormwater measures will be put in place during construction. The entrances/exit be stabilised with rock. 	Ongoing	Supervisor

2 Mandala Parade, Castle Hill

	 Shaker pads will be installed to collect mud from exiting vehicles. Shaker pads will be cleaned on a daily basis and link to the designated stormwater outlets. 		
Dispersal of sediments during the transportation of material	 Traffic Trucks transporting materials will be inspected before leaving or entering the site to prevent spillage of soil and other materials on roads and footpaths. 	Ongoing	Supervisor
Excessive use of water during construction	 Water Saving Measures All hoses will be in good condition and fitted with a trigger nozzle. Any wash down areas will utilise high pressure water nozzles. 	Ongoing	Supervisor
Ongoing Supervision	 Measurement and Monitoring Ensure the soil erosion and sediment control devices are installed and maintained accordance with the Soil and Water Management Plan (See Appendix E) Weekly site inspections by the Supervisor with appropriate corrective actions taken immediately. Additional inspections after each rain event by the Supervisor Maintenance of control measures: Repair damaged or blocked sections Remove silt from fencing where built up Records shall be kept of all ESC device installations, inspections and maintenance activities The quality and quantity of water released from site must be recorded 	Ongoing	Supervisor

10 Waste & Material Reuse Management

During excavation and building works there are numerous opportunities to reduce, reuse and recycle waste through the implementation of a Construction Waste Management Plan (WMP), see attached in **Appendix D**.

The following table outlines potential impacts as well as appropriate waste management measures reduce, reuse and recycle waste, as well as education and training for staff.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
General Site Management	 Site management The construction site will be kept free of rubbish, waste material and debris. Waste will be disposed of in accordance with the WMP at Appendix D. 	Ongoing	Supervisor
Waste storage and removal	 Waste Management Plan Chemical waste will be removed from site and disposed of at licenced facilities. Procedures for removal of other hazardous or dangerous materials from the site in accordance with State and Federal legislation including WorkSafe requirements. Waste collection shall only occur during permitted hours. For outside bins, self-closing lids must be installed to ensure waste does not become airborne. Litter and debris 'trapped' against site fencing must be regularly cleaned Procedures for removal of waste (materials that cannot be reused or recycled) from the site Demolished concrete will be reused on site for construction driveways where possible or sent to a concrete recycling plant. General waste will be stored in the designate bin/skip and removed by the waste contractor on a regular basis. Recyclable waste will be stored in a designated bin/skip and removed by the waste contractor on a regular basis. The waste bins will be stored in the designated materials handling areas, refer to Plans at Appendix A. 	Ongoing	Supervisor
Excess waste	 Reduce Efforts to minimise waste on site by avoiding overestimation of purchasing requirements, minimizing packaging materials, and buying environmentally approved and recycled content products Minimise use of packaging materials and recycle packaging products where possible Utilise quantity surveyor estimates to order materials, to prevent wasted materials. 	Ongoing	Supervisor
Not re-using material on-site	 Reuse Weeds and contaminated mulch will be disposed of separately. The office will utilise recycle waste paper bins. The re-use of timber, glass and other materials 	Ongoing	Supervisor

	 The type and quantity of materials that are to be re-used are to be detailed in the WMP at Appendix D. 		
Not separating recycle material from general waste	 Recycle Procedures are to be put in place for the collection and sorting of recyclable construction materials Training will be provided to all staff outlining the appropriate recycling procedures. Recycled waste bins will be appropriately sign posted. The type and quantity of materials that are to be recycled are to be detailed in the WMP at Appendix D. 	Ongoing	Supervisor
Construction staff and contractors waste	 Staff waste Provision of containers for recyclable materials including cardboard, glass, metal, and plastic and green waste Provisions for collection of daily rubbish from workers. 	Ongoing	Supervisor
Ongoing supervision	Measurement and Monitoring Waste monitoring will be recorded on the daily and weekly Inspection report.	Ongoing	Supervisor

11 Management Responsibility

11.1 Accountabilities

11.1.1 Project Manager

The Project Manager is responsible for construction management and shall establish and maintain the Company's policies for this project and shall be responsible for their effectiveness.

The Project Manager ensures that the Project Team understands and implements the requirements of the Construction Management Plan for the course of the project.

11.1.2 Site Manager

The Site Manager is responsible to the Project Manager for the day to day co-ordination and site control of direct labour, plant, subcontractors and suppliers for construction works.

The Site Manager is responsible for the correct implementation of the controls and their on-going monitoring and maintenance and correction of non-conformances.

11.1.3 Site Contracts Administrator

The Site Contracts Administrator reports to the Project Manager and is responsible for the preparation and implementation of the management system for a project. The Site Contracts Administrator shall ensure that all work be carried out in accordance with the Management System procedures.

The Site Contracts Administrator shall establish audit schedules in consultation with the Project Manager and assign personnel to carry out planned audits. Any deviation from the Management System will be reported to the Project Manager for rectification. Trends and cumulative effects from all projects shall be assessed and corrective actions determined.

11.1.4 Geotechnical Consultant

The Geotechnical consultant is engaged by the client to manage Geotechnical Engineering issues onsite. The Geotechnical consultant is to liaise with the site supervisor to ensure that all excavation, stabilisation and shoring is undertaken in accordance with the requirements of the Geotechnical Report.

11.2 Subcontractors

The Project Manager shall clearly define the scope of subcontracted work including the subcontractor's duties for:

- Planning, installation and monitoring of the controls outlined in the Construction Management Plan
- Record keeping

The subcontractor may only enter the site from the designated access points shown on the relevant Construction Pedestrian and Traffic Management Plan.

The subcontractor cannot proceed without the approval of the Project Manager.

11.3 Deicorp's Group Responsibility

Deicorp's Project Manager shall review the proposed controls outlined in the Construction Management Plan.

Subcontractor's personnel will be given Deicorp's site induction before starting work.

2 Mandala Parade, Castle Hill

Deicorp's Site Manager will monitor the subcontractor's compliance with the approved environmental controls and report any deficiency or non-conformance to the Project Manager

11.4 Communication Protocols

Both formal and informal communication systems are in place on this project to ensure that information regarding the Construction Management Plan is circulated effectively to relevant personnel both internal and external to the project. Also, that information is distributed to other Deicorp workplaces that might benefit from system improvements.

Subcontractors shall be included in communications to ensure the compatibility and effectiveness of their systems.

Communication with the community shall be done through the Project Manager. The Project Manager is responsible for the timing and effectiveness of all communications.

Deicorp Group promotes the following initiatives for communication and encourages all personnel to participate enthusiastically:

- Induction
- Tool box talk
- Risk assessment
- Pre-start briefing
- Site inspection and reporting
- Incident reporting and corrective action
- Complaint Procedure
- Incident Procedure

11.5 Work Site Monitoring and Inspection

The contact person with regard to implementation of the Construction Management Plan on this project is the Project Manager.

The Supervisor shall carry out regular inspections of all work areas to ensure that the following standards and processes are being maintained. All controls of the site shall be monitored at least weekly by the Project Supervisor and the results recorded.

After each rain event site soil erosion and sediment controls shall be inspected by the Supervisor and any necessary maintenance done as soon as practicable. A record of the inspection and maintenance shall be kept on site.

The Site Manager has authority to initiate emergency response procedures. If a potentially environmentally hazardous situation is identified and cannot be rectified immediately, a Non-Conformance Report shall be made and, if needed, work in the area shall cease until the situation is rectified.

The Project Manager shall determine appropriate corrective action to address the immediate consequences of the non-conformance including containment, clean up and restoration work.

The Project Manager shall regularly review reports to confirm that clean up, restoration and corrective actions have been completed and are effective. The Project Manager shall review all non-conformances and report significant findings to monthly management review meetings.

Any damage to areas outside the work site shall be immediately reported to the Supervisor who may advise on the nature of appropriate corrective action.

11.6 Training

A Project Management Plan should be prepared to outline the expected qualifications and training requirements for project personnel. It shall be kept current with any additional training that may become necessary during the course of the work. Records of training done on site shall be kept in the project file system including dates, personnel attending and trainer details.

All site staff and workers undergo a site-specific site induction or other training which includes:

- Environmental aspects relevant to their working on site
- Description of control measures used, their construction & maintenance
- The potential impacts from ineffective controls
- Monitoring and reporting procedures
- Emergency and incident response

Any alteration to the CMP relevant to site personnel shall be immediately communicated via updated inductions and tool box talks.

Subcontractors shall be inducted into the Deicorp system, and if their works require such, they shall be required to submit relevant work method statements with associated environmental protection measures.

11.7 Specific Emergency Responses, Contact Details, Emergency Preparedness

Any specific Emergency Response procedures required to be implemented are to be outlined by the Project Manager/Site supervisor.

The Contact detailed of the emergency services are to be located on site at a location that is easily accessible to all.

Appendix A Materials Handling Plans





MATERIALS HANDLING PLAN STAGE 1&2 WORKS

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NOTES





Project Title Scale Project No 19068 Doran Drive 1:200 @A1, 50%@A3 フ AM, VT, JL, JE Dwg No. Doran Drive, Castle Hill Castle Hill NSW 2154 Australia Rev Status DA-110-010 03 DA Subm Drawing Title GA PLANS T +61 2 8668 0000 F +61 2 8668 0088 turnerstudio.com.au TURNER Level 7 ONE Oxford Street Darlinghurst NSW 2010 AUSTRALIA Level 01







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Project Title Scale Project No Drawn by 19068 <u>1:200 @A1, 50%@A3</u> Doran Drive フ AM, VT, JL, JE Dwg No. Status Rev Doran Drive, Castle Hill Castle Hill NSW 2154 Australia DA-110-010 03 DA Subm Drawing Title GA PLANS T +61 2 8668 0000 F +61 2 8668 0088 turnerstudio.com.au TURNER Level 7 **ONE** Oxford Street Darlinghurst NSW 2010 AUSTRALIA Level 01



NOTES

MATERIALS HANDLING PLAN STAGE 3 WORKS

Project Title	Scale	Project No.		Drawn by	North
Doran Drive Doran Drive, Castle Hill Castle Hill NSW 2154 Australia	1:200 @A1, 50%@A3 Status DA Submission	Dwg No.	<u>19068</u> 10-020	<u>AM, VT, JL, JE</u> Rev 04	ア
Drawing Title					

GA PLANS Level 02

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NOTES

1 QA-210-407

PERIMTER SCREENS / SCAFFOLD TO BE ERECTED FROM LEVEL 2 TO ROOF

PERIMETER SCREEN / SCAFFOLD ^{20/04/2021} AM Pro Coordination

1 DA-210-307

Rev Date

Approved by Revision Notes

Project Title **Doran Drive** Doran Drive, Castle Hill Castle Hill NSW 2154 Australia Drawing Title

1:200 @A1, 50%@A3 Status Subject to Change

Scale

Project No 19068 Dwg No. DA-110-030

AM, VT, JL, JE

イ

GA PLANS Level 03

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Appendix B Crane Radial Plans

Do not scale from this drawing The technical details, illustrations & dimensions shown on this drawing are without liability. No claims whatsoever can be derived from these details. This drawing is the property of Cosmo Cranes and it must not be copied or used without consent.

Notes: It is the responsibility of the builder to inform Cosmo Cranes of any possible obstacles for safe operation of mobile and tower cranes at this

of mobile and tower cranes at this location, obstacles may include, but not limited to neighbouring buildings, aerlals, phone towers, large trees, overhead power lines and neighbouring tower cranes. Builder to ensure that the access and working area is cleared sufficiently to accommodate the crane and transport. Builder to ensure a suitable hard standing and level area to be provided to support all crane and transport loads Imposed.

DORAN DRIVE, CASTLE HILL Drawing Title: RADIAL PLAN PROPOSAL - LEVEL 2 Project - Drawing No: 1991-RAD-PLN-02 А Scale: A3 Checked: JH Date: Drawn By: N.T.S 27/04/2021 AW AW AW By: COSMO cranes

GROUP

Appendix C Construction Waste Management Plan

Deicorp Projects Showground Pty Ltd

Construction Waste Management Plan

Proposed Mixed Use Development

2 Mandala Parade, Castle Hill

June 2021

ENGINEERING PLANNING SURVEYING CERTIFICATION

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Project No.	SY200027
Author	ВМ
Checked	LW
Approved	ВМ

Rev No.	Status	Date	Comments
1	Draft	12/04/2021	
2	Draft v2	20/05/2021	
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This report is for development application purposes only and is not to be relied upon for construction purposes. The waste calculations included in the report are an estimate only, based on the plans and documents supplied by the client and waste generation guidelines from Council, the EPA and other third parties. This report is a guideline only and should not be used as a basis for feasibility studies, safety procedures, operational costs, demolition / construction estimates or bills of quantities. Should waste generation be higher than expected, the site manager shall make appropriate adjustments to accommodate additional waste. Any equipment recommended in this report shall be assessed by the supplier and site manager to determine it is fit for the intended purpose.



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1 Author and Contact Details

AUTHOR DETAILS	
Name	Barker Ryan Stewart
Address	Suite 603, 12 Century Circuit, Baulkham Hills NSW
Phone number(s)	02 9659 0005
Email	sydney@brs.com.au

DEVELOPMENT DETAILS	
Project Details	Proposed Doran Drive Mixed Use Precinct
Address of Development	Lot 55 DP 1253217 located at 2 Mandala Parade, Castle Hill.
Existing Buildings and other structures currently on the site	The site is vacant.
Description of proposed development	Proposed mixed use development known as the Doran Drive Precinct incorporating 431 residential units, retail and commercial space and Doran Drive Plaza. Basement car parking will be provided to service proposed uses.

This development achieves the waste objectives set out in the DCP. The details on this form are the provisions and intentions for minimising waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as council, OEH or WorkCover NSW.

Contact Name

Ben Miller

Signature

Date

29/06/2021

2 Introduction and Legislative Requirements

Barker Ryan Stewart have been engaged by Deicorp Projects (Showground) Pty Ltd to prepare a Construction Waste Management Plan (CWMP) to accompany a State Significant Development Application for the proposed Doran Drive mixed use precinct.

In collaboration with Landcom and Sydney Metro, Deicorp have made a commitment to divert \geq 95% of construction waste away from landfill. As discussed in Section 3.1, this Construction Waste Management Plan has been prepared to enable contractors and site management to meet specific waste objectives, including those required to achieve Green Star Design As Built accreditation.

This CWMP has been prepared having regard for the specific waste management controls and objectives of The Hills Development Control Plan 2012 (DCP), where development applications are required to demonstrate consideration of the following:

- a) To maximise opportunities for re-use through source separation and on-site storage.
- b) To minimise waste generation and maximise re-use and recycling
- c) To minimise waste generation through design, material selection and building practices.
- d) To ensure efficient storage and collection of waste and quality design of facilities

3 Waste Avoidance and Reduction

Concept approval waste requirements have been reviewed and Barker Ryan Stewart confirm the construction of the proposed Doran Drive Precinct can meet the required objectives.

Contractors will be provided with a waste management module which outlines primary actions to manage waste and divert excess construction materials from landfill. To ensure the project will divert more than 95% of waste from landfill, the construction waste strategy will include:

- Utilising all suitable topsoil on site for landscaping purposes.
- All inert fill excavated from the site will be transported to approved development sites to be reused where additional inert fill is required.
- All waste identified with contaminants to be disposed at approved waste facilities.
- Information on the importance of early waste separation and in-situ characterisation of waste;
- Methods to enable identification of waste and construction materials;
- Appropriate instructions for documenting volumes of waste and methods of disposal;
- Site Manager field observations and audits designed to ensure that contractors are adhering to the construction waste strategy;
- Reduce stockpiling of waste where possible as it becomes difficult to characterise specific materials for recycling when certain materials cannot be visually identified;
- Specific waste characterisation areas should allow waste to be sorted in a safe environment away from immediate construction danger;
- Procedures to be prepared prior to construction for Site Managers or persons responsibility for site waste to undertake a final inspection of landfill waste to ensure the materials have been characterised correctly; and
- Procedure to be prepared for potential reuse of construction materials on site.

3.1 Green Star Design As Built

The proposed development will be undertaken in accordance with the Green Star - Design As Built rating tool to ensure the sustainable management of demolition and construction waste. Refer to discussion below.

Table 1: Green Star Credit 22

Green Star Requirement	Comment			
All waste contractors and waste processing facilities that provide waste management and reporting services to Green Star projects must either provide:				
22.0A Compliance Verification Summary	Deicorp are responsible for ensuring that all waste			
	contractors hold a 'Compliance Verification			
A. Hold d Compliance Verification Summary	Summary which confirms that waste reporting has			
compliance with the Green Star Construction and	requirements.			
Demolition Waste Reporting Criteria; or				
	If Compliance Verification Summaries are not			
22.0B Disclosure Statement	obtained, Deicorp are responsible for ensuring that			
B. Where a 'Compliance Verification Summary'	Statement in accordance with Green Star As Built			
has not been obtained, complete a 'Disclosure	objectives.			
Statement' outlining how much of the Green Star				
Construction and Demolition Waste Reporting				
Criteria has been implemented.				

Green Star Requirement	Comment
22.1 A Percentage Benchmark 1 point is awarded where 90% of the waste generated during construction and demolition waste has been diverted from landfill. Waste shall be reported in kg/m2 GFA	This Construction Waste Management Plan confirms that opportunities are available to achieve the benchmark waste diversion percentage of 90%.

3.2 Construction Waste Monitoring and Reporting

Documentation of construction waste generation totals, methods of removal and on site reuse, off site reuse, off site recycling and off-site disposal should be maintained by contractors to ensure waste targets are achieved and documented in accordance with Green Star sustainability rating system. Where possible, Site Managers should be responsible for the preparation of monthly reporting to ensure waste objectives are being met.

A Waste Register is to be kept by all contractors documenting the following:

- Type of waste;
- Total tonnage and volume of waste;
- Category of waste (recycling, reuse, landfill);
- Destination for reuse, recycling or landfill; and
- Landfill and waste contractor receipts.

Any non-conformances throughout construction should be identified immediately and Site Managers should undertake any actions required to prevent the issue reoccurring.

3.3 Excavation Waste Reuse

The proposal will require the excavation of approximately 159,380m³ of material to facilitate construction. To ensure that more than 95% of excavation material is diverted from landfill, all inert material excavated from the site will be transported to local development sites requiring extra fill.

Any topsoil will remain on site for use in landscaping with remaining topsoil transported to nearby development sites. Details of nearby development sites will be provided prior to excavation of the material.

3.4 Roles and Responsibilities

Table 2 identifies typical roles and responsibilities associated with contractor waste disposal in large construction sites. Note roles and responsibilities will be assigned by the contractor and the following information is provided as a guide only.

Role	Typical Responsibility
Site Management or Waste Managers	Responsible for the meeting of all waste objectives within the site area including monitoring, reporting and delegating of tasks where required to ensure at least 95% of waste is to be diverted from landfill.
Construction personnel	Responsible for daily waste characterisation and maintenance to ensure waste objectives are being met. Construction personnel should be

Table 2: Typical Waste Roles and Responsibilities

Role	Typical Responsibility
	educated on the requirement of the waste strategy and any impacts associated with
WHS Managers	Typically responsible for management of site safety and induction of all workers prior to construction. This may include discussion of the waste management strategy and hierarchy associated with waste disposal on and off the site.
External Waste Contractors	Responsible for the collection and disposal of waste to recycling facilities or landfill. External waste contractors should report to the Site Managers or Waste Managers to ensure the waste strategy is being adopted and documentation of waste leaving the site is prepared.

3.5 Waste Avoidance and Reduction Methods

- All fixtures and fittings will be made to measure wherever possible;
- All materials will be ordered in accordance with a bill of quantities;
- Recycled materials will be utilised on site or on nearby sites where ever possible to reduce transport costs and impacts to the environment;
- Measures will be taken to ensure the construction contractor is aware of the waste management procedures and adheres to appropriate guidelines;
- Salvage materials for recycling and reuse during the construction process; and
- The remaining waste to be transported to a recognised builders recycling yard or waste facility.

3.6 End Destination for Waste Streams

Per requirements of the green star credit system, see below details of the Construction Waste Management contractor that is to be engaged to undertake construction waste removal from the site.

Cheap and Quick Waste Bins Pty Ltd.

25 - 27 Governor Macquarie Drive Chipping Norton NSW 2170

The waste contractor will utilise the below end destination for all recyclable materials.

KLF Holdings Pty Ltd 16 Grande Avenue Camelia NSW 2142

Landfill products will be transported to SUEZ at Kemps Creek.

3.7 Waste Recovery Rate

The Green Star Construction & Demolition Waste Reporting Criteria maintains that a waste processing facility's diversion of waste for recovery is limited to 50% of the facility's total input as follows:

This 50 percent cap is based on the GBCA's position that energy recovery from construction and demolition waste streams is not an acceptable substitution for recycling in its own right, but rather a complementary management solution for wastes that would otherwise go to landfill. As a consequence, waste processing facilities that divert waste streams for the production of

nonstandard fuels for waste-to-energy purposes should not rely on this waste diversion pathway for the majority of their recycling output.

It is therefore considered that the maximum waste recovery rate achievable for the proposed development is 50% of recycled waste generation calculations provided in Table 3.

4 **Demolition**

The site is vacant and demolition is not required.

5 Construction

5.1 Waste Generation

Table 3 identifies expected waste generation during construction. Note volume to mass calculations for construction waste have been guided by the Green Star Reduction of Construction and Demolition Waste document which provides a conversion factors table used to convert measurement of waste types from volume to weight.

Note excavation waste has been excluded from green start diversion percentages in accordance with Green Star Design & As Built v1.3.

Table 3: Expected Construction Waste Generation

	REUSE	RECYCLE	DISPOSAL	MASS	COMMENT
TYPE OF WASTE GENERATED	Estimate Volume (m³)	Estimate Volume (m³)	Estimate Volume (m³)	Estimate Mass (Tonnes)	Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used
Excavation material	159,380m ³	-	-	-	Excavated materials will be reused as fill on this site or other developments.
Timber (Side façade / dressed)	31m³	35.7m ³	-	20.01 tonnes	Reused on site or transferred to waste recycling facility.
Gyprock / Cladding	29m ³	33.7m ³	-	13.74 tonnes	Reused on site or transferred to waste recycling facility.
Concrete	11.1m³	6.4m ³	-	26.25 tonnes	Any excess concrete will be retained in the truck and used elsewhere or if required will be transferred to a waste recycling facility.
Masonry (Hebel Block/ cement sheeting/ Pavers)	19m³	23.5m ³	-	51 tonnes	Reused on site or transferred to waste recycling facility.
Tiles (roof)	N/A	N/A	N/A	N/A	No roof tiles will be used in the development.
Metal (roofing / framing / façade)	14m ³	16m³	-	27 tonnes	Reused on site or transferred to waste recycling facility.
Glass	N/A	N/A	N/A	N/A	All glass will be made to order.
Furniture	N/A	N/A	N/A	N/A	Not furniture waste at construction stage.

	REUSE	RECYCLE	DISPOSAL	MASS	COMMENT
TYPE OF WASTE GENERATED	Estimate Volume (m³)	Estimate Volume (m³)	Estimate Volume (m³)	Estimate Mass (Tonnes)	Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used
Fixtures / fittings	11.2m³	8.5m ³	-	5.91 tonnes	Fixtures will generally be made to order. Any excess will be reused or transferred to waste recycling facility.
Floor coverings	14m³	28.3m ³	-	12.69 tonnes	Reused on site or transferred to waste recycling facility.
Packaging (used pallets / pallet wrap)	49m³	27.4m ³	4.5m ³	24.27 tonnes	Pallets will be reused by delivery contractors or transferred to a Material Recovery Facility. Wrap and packaging will be a transferred to waste recycling or waste management facility.
Garden organics	12.6m ³	13m ³	-	3.84 tonnes	Organics will be ordered to size in accordance with the quantity survey. Any excess will be returned to provider, reused on site or another development site or transferred to a waste recycling facility.
Containers (cans / plastic / glass)	-	24.5m ³	-	0.24 tonnes	Containers will be a transferred to a waste recycling facility.
Paper / cardboard	-	39.1m ³	-	3.91 tonnes	Transferred to waste recycling facility.
Residual waste		107.5m ³	26m ³	94.5 tonnes	Residual waste will be sorted and transferred to a waste recycling facility or waste management facility as required.
Hazardous / special waste (specify)	N/A	N/A	N/A	N/A	No hazardous materials will be utilised in the construction.
TOTAL	190.9m ³ (excluding excavation amount)	363.6m ³	30.5m³	283.36 tonnes (excluding excavation amount)	

5.2 Meeting Waste Targets

Based on the above figures and without taking into account significant reuse of excavation materials, our estimates conclude that approximately 95.4% of construction waste can be recycled or reused and diverted from land fill.

5.3 Waste Confirmation

Final waste calculations during construction will be provided as part of a construction management plan included as part of the construction certificate process.

6 Conclusion

This Construction Waste Management Plan has been prepared to guide waste management processes associated with the proposed mixed use development.

The quantity of waste materials to be generated onsite are estimates based on the information provided. It is estimated that approximately 95.4% of construction waste can be reused or recycled and diverted from landfill in accordance with Green Star As Built objectives.

Site management are responsible for proactive waste protocols during the construction phase to ensure that > 95% waste is diverted from landfill.

Appendix D Construction Traffic Management Plan





Deicorp Projects Showground Pty Ltd

Construction Traffic Management Plan

2 Mandala Parade, Castle Hill

29 June 2021

ENGINEERING PLANNING SURVEYING CERTIFICATION

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Project No.	SY200027
Author	ВМ
Checked	RD
Approved	RD

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Planning Secretary's Environmental Assessment Requirements Section 4.12(8) of the *Environmental Planning and Assessment Act 1979* Schedule 2 of the Environmental Planning and Assessment Regulation 2000

Application NumberSSD-15882721Project NameDoran Drive Plaza PrecinctLocation2 Mandala Parade, Castle Hill within The Hills Local Government Area
Lot 55 DP 1253217ApplicantDeicorp Projects Showground Pty LtdDate of Issue30/03/2021

Requirement	Relevant Report Section	
Draft Construction Traffic Management Plan		
include a draft Construction Traffic Management Plan provid construction traffic movements, routes and access arrangen construction traffic impacts on existing traffic, public transpo networks would be appropriately managed and mitigated o construction traffic impacts with other surrounding developm and mitigated.	ding details of predicted ments, and outline how rt, pedestrian and cycle and how cumulative ment would be managed	
Predicted construction traffic movements, routes and access arrangements	Section 3.	
Outline how construction traffic impacts on existing traffic, publicTable 2.transport, pedestrian and cycle networks would be appropriatelyTable 2.managed and mitigatedImage: Construction of the second s		
Outline how cumulative construction traffic impacts with other surrounding development would be managed and mitigated.Section 3.2 and 3.3.		

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Appendix A – Traffic Control Plan (TCP) Appendix B – Vehicle Movement Plan (VMP) Appendix C – Swept Path Analysis

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1 Introduction

Barker Ryan Stewart has been engaged by Deicorp Projects Showground Pty Ltd to prepare a Construction Traffic Management Plan (CTMP) to detail traffic management procedures and systems for the demolition, excavation and building stages for the proposed mixed-use development at 2 Mandala Parade, Castle Hill in accordance with the requirements of:

- The Hills Development Control Plan 2012;
- RMS's "Traffic Control at Worksites" Manual 2018; and
- A\$1742.3 2009 "Manual of uniform traffic control devices"

The purpose of this plan is to ensure the safe and controlled movement of traffic at the site during the demolition, excavation and building works to address potential traffic, access, car parking and pedestrian issues generated by the works.

In preparing this CPTMP the following items have been considered/undertaken:

- An inspection of the site and surrounding road network to determine any constraints that may impact on the safe and controlled movement of traffic during demolition, excavation and building works.
- Determination of appropriate traffic/haul routes,
- Provision of a swept path analysis to ensure safe access/egress from the site,
- Traffic control plan (TCP) and Vehicle Movement Plan (VMP), and
- A brief outline of the demolition, excavation and building works in relation to traffic management.

2 Project Overview

2.1 Proposed Development

The site incorporates a total area of 7,969 square meters and is currently vacant of structures.

An application is to be submitted to NSW Department of Planning, Industry and Environment for the proposed excavation and construction of a mixed-use development.

The basement car park will be spread over three (3) levels.

Land Use		Yield
Residential	1 Bedroom	77 units
	2 Bedroom	311 units
	3 Bedroom	43 units
	Total	431 units
Retail		10,935m ²
Car Parking		431 residential spaces
		341 commercial spaces

2.2 Building and Construction Works

This CTMP covers the excavation and construction of the new buildings and can be broken into the following components.

- Excavation;
- Shoring of the excavation;
- Piling; and
- The construction of the mixed-use development, car parking, landscaping and associated facilities.

3 Traffic Management

3.1 General

Traffic management for the site shall be configured to ensure that workers can undertake demolition, excavation and building works safely at all times by separating workers and public road users. Contractors are responsible for the demolition and excavation work and the building contractor is responsible for construction management and shall establish and maintain the Construction Traffic Management Plan for this project and shall be responsible for its ongoing effectiveness, including the control of all quality, environmental and safety aspects that may apply to traffic control measures.

The TCP shall be implemented by appropriately qualified and authorised traffic controllers only. Traffic controllers must have completed TfNSW accredited courses for traffic controllers and must wear yellow vest with the words "Authorised Traffic Controller". Reflective white overalls with reflective bands must be worn at night.

All signs and devices shall be placed in accordance with the TCP prior to works starting and in clear view of public road users to inform and guide road users to pass the site. All devices and signs shall then be removed upon the completion of the works.

The road reserves bordering the site must not be obstructed by any materials, vehicles, refuse, skips or the like without prior approval of Council.

3.2 Potential Traffic Impacts

A summary of potential traffic impacts for the site are listed below:

- The existing surrounding residential dwellings.
- Potential impact on local commercial and residential road users including those using the adjacent Showground Metro Station and parking areas.
- Construction sites within the vicinity of the site,
- Duration of the project,
- Short term activities such as floating machinery to the site,
- Access, egress and parking in and near the worksite by employees and visitors,
- Pedestrian movements,
- Heavy vehicles parking in and around worksite,
- Vehicles depositing spoil on public roads,
- Loading and unloading, including construction zones,
- Truck/vehicle turning movements,
- Disruption of established traffic movements or patterns,
- Traffic interference in peak times (morning and afternoon),
- Interference to public transport services,
- Traffic volumes including nearby school, industrial, commercial, retail and residential developments

3.3 Traffic Control Plan

The Materials Handling Plans and Crane Radial Plans in the Construction Management Plan identify the proposed truck/crane hoist locations within the site. The Traffic Control Plans (TCP's) within **Appendix A** show the proposed traffic control measures to be made in the road network include the arrangements for warning traffic and guiding traffic around and/or past the worksite.

In the implementation of the TCPs the following steps should be undertaken;

- 1. Place all signs, devices and control measures,
- 2. Complete a Location Risk Assessment (as per Traffic Control at Work site (TCAW) manual) and identify any modifications that may be required,
- 3. Drive through and around the site to make sure the TCP is effective,
- 4. Record implementation, risk assessment and any modifications, and
- 5. Monitor conditions and record observations.

Where required the TCP's may be changed/updated as necessary to reflect changes in traffic flow or work practices by an appropriately qualified traffic control designer only.

Minor modifications to the TCP's which have been identified in a Location Risk Assessment can be made by a person with a current "Prepare Work Zone TMP" qualification. Should the TCPs be changed all relevant permits and details are to be forwarded to the PCA/Council as required.

Note that the TCP's do not relate to works within the road reserves. These TCP's will be prepared once the Public Infrastructure Engineering Design plans have been approved by the Road Authorities.

3.4 Construction Parking Strategy

On-site parking will not be provided for construction staff and Deicorp employees. The use of public transport (Sydney Metro and Buses) will be encouraged.

Staff and contractor parking is not to occur within the commuter car parks or the residential areas to the south of the site.

3.5 Traffic Management Strategy

Table 2 on the following page summarises the identified potential traffic impacts for this worksite and describes the control measures to be implemented to address each impact.

The Vehicle Movement Plan (VMP) is attached at **Appendix B** of this report. This plan shows the proposed construction vehicle routes to and from the site through the road network. The VMP shows that trucks, both AV and HRV, travelling to the site can access the site via Windsor Road, Showground Road and De Clambre Drive.

HRV's leaving the site can return to either Showground Road or Windsor Road utilising the same route as they used to enter the site.

AV's can proceed to Carrington Road, Showground Road and Windsor Road in accordance with the VMP.

A swept path analysis was undertaken to check vehicles can safely manoeuvre through road network for an Articulated Vehicle (AV), and a Heavy Rigid vehicle (HRV). HRV's can enter the construction site via Andalusian Way. AV's can access construction and pumping zones on De Clambre Drive and Mandala Parade. The swept path analysis is contained within **Appendix C** of this report.

The local community, road users and other stakeholders shall be kept informed of changed traffic conditions where required by Council.

Notification must be provided to affected property owners prior to the implementation of any temporary traffic control measures.

The peak construction vehicle traffic is likely to occur during excavation or during large concrete pours where it is estimated that up to 20 truck movements per day could occur.

Heavy vehicle movements are to be minimised during the commuter peak periods where possible to minimise potential conflicts with commuter traffic and pedestrian movement to and from the commuter car parks.

Table 2: Traffic Management Strategy

Potential Impact	Impact Assessment	Control Measure
Potential impact to the commercial, retail and residential developments in the vicinity of the site. Duration of project.	Heavy vehicle traffic movements through the following local streets: Windsor Road Showground Road De Clambre Drive Doran Drive Mandala Parade Carrington Road: and	Any potential conflicts in Mandala Parade and Andalusian Way to the metro station traffic are to be minimised through provision of Traffic Controllers providing right of access to local traffic where required. Construction vehicles entering the site should utilise the entry from Andalusian Way only. Location Risk Assessments are to be undertaken to enable safe access and from the site.
	Andalusian Way.	
Floating machinery to the site	In/out of the site.	Swept path analysis showing suitable turning movements (See Appendix C). All loading and unloading will be done on site or via the Work Zones on De Clambre Drive and Mandala Parade.
Construction Parking Strategy	Possible impact on Castle Hill Showground Metro station, residents, visitors and commercial/industrial developments in the vicinity of the site.	No parking will be available for construction staff on site. Parking for construction workers will occur off site and workers will be encouraged to use Metro train services and/ or other local public transport options. Construction staff are not to utilise Castle Hill Showaround Metro station parking.
Travel Management Strategy	Reduce the impact on construction parking by minimising commuter trips.	Workers will be encouraged to use nearby Metro Station services and/or other local public transport services.
Vehicles leaving the site	Depositing spoil on roadways.	Truck shaker grids will be installed at the vehicle entry/exit point at Andalusian Way for erosion sediment control and all loads are to be covered. Where sediment is tracked onto the road it is to be swept up immediately.
Pedestrian management	Pedestrians walking around construction zone.	Pedestrian pathways will not be obstructed around the perimeter of the site. Pedestrians will be protected by temporary Class A and B construction hoardings around site perimeters and will be free to use existing pathways.
Disruption of established traffic movements or patterns, Traffic interference in peak times (morning and afternoon)	Heavy vehicle traffic through the following local streets, particularly in morning and afternoon peaks with residents entering and exiting: • Windsor Road • Showground Road • De Clambre Drive • Doran Drive • Mandala Parade • Carrington Road; and • Andalusian Way.	Where possible construction vehicle movements will be kept to a minimum during local peak traffic AM/PM periods to ensure that existing traffic flows are not disrupted.
Interference to public transport services	Traffic movements blocking bus routes.	Access to and from the site is off Andalusian Way where traffic control devices and controllers will be in place to prevent disruption to bus routes during the excavation and building works. Any potential conflicts within construction and pumping zones will be mitigated through use of Traffic Controllers as required.

4 Monitoring and Performance

4.1 General

Regular monitoring of the performance of the Construction Pedestrian and Traffic Management Plan (CPTMP) to confirm the effectiveness of methods, equipment and controls shall be undertaken. This shall also include review of location and effectiveness of traffic management and TCP signposting. Observations shall be recorded by the supervisor/contractor's and opportunities for improvement recommended to the Project Manager.

4.2 Records

The following records shall be kept as evidence of the design, implementation and performance of the CPTMP:

- 1. Qualifications
 - RMS accredited Traffic Control Plan designers
 - RMS accredited Traffic Controllers
- 2. Principal Contractor's meetings minutes with Principal Contractor(s) from adjoining sites
- 3. TCP approval
- 4. Temporary speed zone approval (if applicable)
- 5. Community consultation (where required by Council) including provision of:
 - Letters
 - Handouts
 - Maps and plans
- 6. Location Risk assessment and any modifications
- 7. Confirmation of implementation and start of works
- 8. Monitoring reports
- 9. Incident reports and corrective action

5 Conclusion

This Construction Pedestrian and Traffic Management Plan details traffic management procedures and systems for the proposed excavation and building of the mixed-use Doran Drive Precinct development at 2 Mandala Parade, Castle Hill.

Potential traffic impacts have been identified locally with control measures specified to address these impacts.

Traffic Control Plans (TCP's) has been prepared showing appropriate traffic control devices to be implemented for the duration of the proposed works.

A Vehicle Movement Plan (VMP) have been prepared showing the proposed truck haulage and delivery routes to and from the site.

A swept path analysis has been undertaken for the site and shows that Heavy Rigid Vehicles (HRV's) can safely manoeuvre in and out of the site to/from Andalusian Way and Articulated Vehicle (AV's) can access proposed construction and pumping zones.

This Construction Pedestrian and Traffic Management Plan has been prepared to mitigate the potential negative impacts of the proposed site works on existing properties and local streets during the excavation and construction stages of the proposal.

Appendix A Traffic Control Plan (TCP)



Date: 30/06/2021 Author: Robert Day. Prepare Work Zone TMP Card No. 0051743288. Expiry: 13/07/2021 Project: Deicorp Projects Showground Pty Ltd - Stage 1 and 2 Works Comments:

All signs to be in accordance with The NSW Traffic Control at Worksites Manual 2018 and AS1742.3
 All signs to be installed and maintained by TfNSW Accredited Traffic Controllers.
 The sign locations are indicative and should be placed where they are neither obstructed by other signs nor obstructing other signs.



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Appendix B Vehicle Movement Plan



Appendix C Swept Path Analysis



Drawn: Checked: BM

JB

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STEWART

CTMP TURNING PATHS







AV TURNING PATHS SCALE 1:1000



Appendix E Soil and Water Management Plan



ISO

A.B.N 20 093 846 925 www.aecom.com

A.B.N ?? ??? ??? ???

01	13.05.2021	DRAFT ISSUE
I/R	DATE	DESCRIPTION

FOR INFORMATION ONLY

SHEET NUMBER

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Appendix F Excavation Plan



NOTES





Approved by Revision Notes JMC Draft DA for Review JMC Retail Update JMC DA Submission Rev Date 01 07.06.21 02 25.06.21 03 06.07.21

Project Title Doran Drive

Doran Drive, Castle Hill Castle Hill NSW 2154 Australia Drawing Title

1:200 @A1, 50%@A3 Dwg No. Status DA Submission

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AM, VT, JL, JE Rev 03

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