

Tel: 02 8004 0460 www.auswideconsulting.com.au info@auswideconsulting.com.au ABN 18 162 361 042

CONSTRUCTION MANAGEMENT PLAN

231 WHALE BEACH ROAD, WHALE BEACH, VIC 2107

Proposed Mixed-Use Development

Prepared for: Richard Cole Architecture

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Northern Beaches Council Application #:

TBA



INDEX

Introduction	4
Background and Existing Conditions	5
Figure 1: Location of the Subject Site	5
Figure 2: Aerial View of the Subject Site	6
Site Details	7
Approach	7
Hours of Operation	7
Construction/Works Zone	7
Stages & Expected Work Periods	8
Description of Works	8
Site Fencing/Security	8
Demolition & Construction Waste Management	9
Avoid/Reduce	9
Reuse	9
Recycle	9
Disposal	9
Materials & Waste Handling	10
Concrete	10
Rubbish Removal	10
Vermin	10
Demolition Works	
Construction Works	
Estimating Waste Quantities	
Waste Types & Handling	
Sediment Control	
Noise & Vibration Management	
Dust Management	
Hazardous Materials Management	
Tree Management	18
Impact of Works	19
Public Car Parking	19
Pedestrians	19
Public Transport & Emergency Services	19
Public Safety Measures	
Council Approvals	
Public Notifications/Neighbours	
Remediation & Civil Works	20



Truck Details & Movements	22
Truck Sizes & Frequencies	22
Truck Loading/Unloading	22
Truck Movements	22
Company Contact Details	23
Appendix A – Traffic Management Plan - Trucks	24
Appendix B – Traffic Management Plan – Traffic Controllers	25
Appendix C – Truck Movements	26
Appendix D – Sediment Control Plan	27



Introduction

AusWide Consulting was commissioned by Richard Cole Architecture to prepare a Construction Management Plan (CMP) for approval of the proposed Mixed-Use development at 231 Whale Beach Road, Whale Beach (Sydways 180 D2).

This Construction Management Plan has been documented to describe how the Project Management team shall implement and conduct its allocated site management responsibilities during both the Demolition and Construction phases of the development works at 231 Whale Beach Road, Whale Beach (the Project).

A fundamental aim of this Plan is to ensure all construction is properly facilitated, integrated and coordinated so as to deliver certainty to the objectives of the Project.

This Plan provides an approach that:

- advises how the project management team will comply with the requirements of the contract relating to construction;
- defines the project objectives and targets of particular relevance to each phase;
- describes constraints specific to each phase and the project in general;
- describes the process for the identification and control of risks specific to each phase;
 and
- details the proposed strategy for each phase, with particular regard to establishment resourcing, site organisation and demolition and construction controls.

The proposed works consist of demolishing the existing buildings on site (a single storey brick building containing a row of shopfronts on Whale Beach Road, a 3 & 4 storey flat building and two small garages) and constructing 5 apartments, 3 retail spaces with basement parking.

In the course of preparing this CMP, the subject site and its environs have been inspected, plans of the development examined, and all relevant council requirements and documentation collected and analysed.

This CMP has been prepared based on the following information:

Architectural Plans provided by Richard Cole Architecture (8/01/2020)



Background and Existing Conditions

Location and Land Use

The subject site is located at 231 Whale Beach Road, Whale Beach, on the eastern side of Whale Beach Road, with a frontage on Surf Road. The nearby land uses on all sides are a mix of residential and commercial.

Figure 1 provides an overview of the area and its surrounding land uses whilst **Figure 2** provides an aerial view of the immediate area surround the subject site.

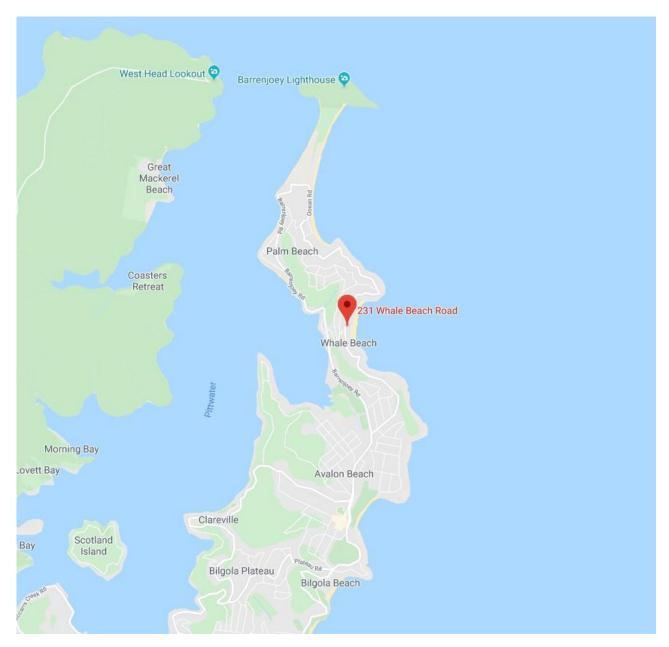


Figure 1: Location of the subject site





Figure 2: Aerial View of the Subject Site



Site Details

Approach

The major external constraints on the project and construction responsibilities that the builder will take ownership of include:

- Maintaining smooth traffic and pedestrian flow with minimal disruptions to the surrounding streets and land users;
- Undertaking works with minimal impact on residential neighbours;
- Monitoring and managing acoustic impact during demolition and excavation;
- Adequate treatment of the groundwater and surface water flowing across the site;
- Ensuring safe access and egress from the site with traffic control procedures implemented for heavy vehicle movements as required;
- Ensuring safe pedestrian passage across the site perimeter and footpath;
- Ongoing maintenance responsibility for the council assets (footpath and kerbside) throughout the life of the development construction works until final certification.

Upon commencement, our project team's immediate tasks will be to:

- Implement SafeWork NSW practices, staff inductions (CMP to be shown to all staff at the initial staff induction) and usual construction protocols to all workers entering the site,
- Install appropriate site safety and regulatory signage on site, and source traffic management signage,
- Implement sediment control measures.

Hours of Operation

The hours of demolition and construction are 7:00am – 5:00pm (Mon - Fri) and 9:00am – 1:00pm (Sat).

No work will be carried out on Sundays, or Public Holidays.

The site will remain locked at all times when the site is not in operation.

Works Zone

A works zone will be required at the front of the site in the slip lane on Whale Beach Road. All vehicles will load/unload from this works zone.



Stages & Expected Work Periods

These stages are listed as a guide only at the planning stage of the project and may vary subject to availability of trades, weather conditions, etc.

Site Establishment (4 weeks)
Site Works & Demolition (6 weeks)
Excavation & Bulk Site Filling (10 weeks)
Concrete Floors Slab (8 weeks)
Framing (8 weeks)
Roofing (8 weeks)
Brickwork (8 weeks)
Glazing & Lock-Up (8 weeks)
Finishing & Fit-Out Trades (18 weeks)

Total 78 Weeks

Description of Works

The proposed works consist of demolishing the existing buildings on site (a single storey brick building containing a row of shopfronts on Whale Beach Road, a 3 & 4 storey flat building and two small garages) and constructing 5 apartments, 3 retail spaces with basement parking.

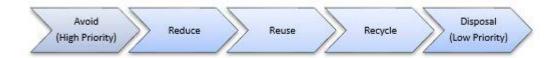
Site Fencing/Security

1.8m high temporary fencing will be installed at the front of the site for security and safety in accordance with Workcover requirements. This fencing will remain entirely within the site and therefore not encroach onto the footpath.



Demolition & Construction Waste Management

When dealing with waste, the following hierarchy has been adopted, prioritising from left to right;



Avoid/Reduce

Particularly during the construction phase, avoidance of waste will be achieved through:

- Selecting design options with the most efficient use of materials;
- Selecting materials with minimal wastage, such as pre-fabricated materials.

Reuse

Some of the materials encountered in the demolition stage can be recovered and reused both on-site and off-site. This will be practiced wherever possible. Reusable materials shall be appropriately stored to avoid damage from weather or machinery.

Recycle

Similarly, many materials form the demolition stage will be recyclable. These materials will be identified prior to demolition, and a system incorporated to efficiently separate reusable materials, recyclable materials and disposable materials. Recyclable materials shall be appropriately stored to avoid damage from weather or machinery. Details and receipts verifying the recycling of these materials shall be kept present on site at all times.

Disposal

The waste disposal contractor chosen for the job will comply with Council's DCP. Details and receipts verifying the disposal of these materials shall be kept present on site at all times.



Materials & Waste Handling & Storage

Demolished building materials and excavated materials will be subject to on site materials separation, classification and removal.

Waste sorting areas and vehicular access on-site during demolition shall be adequately maintained. The material (demolition material, excavation material, construction material and waste) stockpiling area shall always remain within the site boundary and relocate during different demolition stages as necessary. The waste area shall be largely located at the front of the site. This is to maintain easy access and removal of waste. The stockpiling area shall not infringe on access to the site.

Trucks will be directed to the site entry in advance to speed up movements and facilitate removal with minimal interference to local traffic and neighbours. Where multiple vehicle movements are required during the day, trucks will be evenly spaced throughout the day to avoid waiting in other regional roads and to minimise congestion in the immediate surrounds of the construction site.

Concrete Handling

Concrete handling and pours will be managed from within the site and pumped to the area under construction.

Spill and stripped materials will be stored in on-site bins and removed as required to minimise the number of vehicle movements from the site.

NOTE: The concrete pump and concrete trucks will all park in the works zone.

Rubbish Removal

Rubbish will be removed from site by a licenced waste contractor and taken to a transfer facility after being separated on site.

As per council feedback:

A trade waste hopper will be provided on site at all times.

Only Licensed Bin Hire Contractor(s) to be appointed.

During the construction all litter (including items such as cement bags, food packaging and plastic strapping) must be disposed of responsibly.

Vermin

Rat traps will be placed within the site to reduce the risk of vermin.



Demolition Works

It should be noted that the demolition stage has the greatest potential for waste minimisation, particularly in Sydney where there are high levels of development, relatively high tipping charges and where alternative quarry materials are located on the outskirts.

The contractor should consider whether it is possible to re-use existing buildings, or parts thereof, for the proposed use. With careful onsite sorting and storage and by staging work programs it is possible to re-use many materials, either on-site or off-site.

Councils are typically seeking to move from the attitude of straight demolition to a process of selected deconstruction, i.e. total reuse and recycling both off-site and on-site. This could require a number of colour-coded or clearly labelled bins onsite (rather than one size fits all).

Site contractors should demonstrate project management which seeks to:

- Re-use of excavated material on-site and disposal of any excess to an approved site;
- Green waste mulched and re-used in landscaping either on-site or off-site;
- Bricks, tiles and concrete re-used on-site as appropriate, or recycled off-site;
- Plasterboard re-used in landscaping on-site, or returned to supplier for recycling;
- Framing timber re-used on-site or recycled elsewhere;
- Windows, doors and joinery recycled off-site;
- Plumbing, fittings and metal elements recycled off-site;
- All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with Workcover Authority and EPA requirements;
- Locations of on-site storage facilities for material to be reused on-site, or separated for recycling off-site; and
- Destination and transportation routes of all materials to be either recycled or disposed of off-site.



Construction Works

The following measures shall be considered during the construction stage in order to save resources and minimise waste:

- Purchasing Policy i.e. ordering the right quantities of materials and prefabrication of materials where possible;
- Reusing formwork;
- Minimising site disturbance, limiting unnecessary excavation;
- Careful source separation of off-cuts to facilitate re-use, resale or efficient recycling; and
- Co-ordination/sequencing of various trades.

Estimating Waste Quantities

There are many simple techniques to estimate volumes of demolition waste. The sequence of steps provided below can be used as a guide;

- 1. Quantify materials for the project
- 2. Use margin normally allowed in ordering
- 3. Copy these amounts of waste into your waste management plan

When estimating waste generation, the following percentages can be used as a "rule of thumb" practice;

Table 1: Estimating Waste Levels

Material	Waste as a Percent of the Total
	Material Ordered
Timber	5-7%
Plasterboard	5-20%
Concrete	3-5%
Bricks	5-10%
Tiles	2-5%

Subsequently, the following table illustrates how to convert volumes of material to their respective weights. This information is particularly important during material storage and transportation stages.

Table 2: Converting Volume into Weight

Timber = 0.5 tonnes per m3
Concrete = 2.4 tonne per m3
Bricks = 1.0 tonne per m3
Tiles = 0.75 tonne per m3
Steel = 2.4 tonne per m3



Wastage Types and Handling

Exact waste volumes produced by excavation and demolition stages shall be estimated by the contractor at the construction certificate stage. Where possible, materials shall be reused or recycled, with disposal being the last resort. The destination of all recycled and disposed material shall be announced upon the selecting the waste collectors and recyclers.

The arrangements for all reused, recycled and disposed waste shall be tracked and recorded, and all receipts shall be held on-site.

Table 3: Waste Types and Handling

Demolition Phase

Materials On Site	Waste Estimate - Volume (m3) or Weight (T)	On-site Reuse	Off-site Recycling	Off-site Disposal (In accordance with DECCW)
Bricks	TBA			23
Ceramic Tiles	TBA			
Timber	TBA			
Concrete	TBA			
Metals	TBA			
Other	TBA			

The Demolition reuse/recycling/disposal information will be advised at CC Stage.

Construction Phase

Materials On Site	Waste Estimate - Volume (m3) or Weight (T)	On-site Reuse	Off-site Recycling	Off-site Disposal (In accordance with DECCW)
Bricks	TBA			×
Ceramic Tiles	TBA			
Timber	TBA			
Concrete	TBA			
Metals	TBA			
Other	TBA			

The Construction reuse/recycling/disposal information will be advised at CC Stage.



Sediment Control

The most efficient and widely accepted sediment barrier for construction sites is a specially manufactured geotextile sediment fence. Sediment fences act like dams - trapping the sediment while allowing water to leave the site.

They are effective in retaining suspended solids coarser than 0.02 mm.

They are simple to construct, relatively inexpensive and easily moved as development proceeds. When using a sediment fence, keep in mind that it will be effective within the following parameters:

- It is generally not designed to filter concentrated flows and therefore needs to be placed following the contours whenever possible.
- It should last for up to six months but requires regular maintenance and weekly checks are needed. The performance of a sediment fence diminishes considerably when crushed by delivery of building materials. It must remain vertical and keyed into the soil.
- Where the sediment fence is not installed correctly water will inevitably flow through the point of least resistance. Damaged fences must be repaired promptly.
- Sediment fences need to be trenched in at least 150 mm and buried so the water flows through and not underneath.
- Soil on both sides of the fence must be compacted to avoid seepage under the barrier.

This will ensure that stormwater from the development does not enter adjoining properties, and that all water that enters the council stormwater system does not contain silt or other contaminants.

The following possible solutions may also be implemented during each phase of construction. These options will be developed further and consolidated into the overall management plan.

Demolition / Excavation – At the commencement of these works, screens and bunding at the perimeter of the site where stormwater may run off will be installed. Bunding will also be implemented around stormwater drains. Sand bags will be located on roadway drainage pits to prevent debris from the site entering the pit.

Vehicles and machinery will be reviewed and assessed prior to leaving the site to limit any transfer of site materials to the local road reserve. Diligent housekeeping will be implemented to minimise risk of dust/debris being washed into stormwater pits.

Construction - Drainage pits will be bunded or have filter cloth applied to ensure debris and silt does not enter the council's drains. Sand bags will be located on roadway drainage pits to prevent debris from the site entering the pit.

The bunded area will be cleaned periodically to remove any building materials, sand, rock, and organic matter.

The Sediment Control Plan can be found in **Appendix D**.



No wash down from any plant or equipment will enter the Council stormwater system.

Waste material, including liquid wastes such as paint, concrete slurries and chemicals, will not be discharged into a stormwater drain. Purpose wash bays will be provided for such cleaning of waste material.

During the construction, vehicle borne material will not accumulate on the roads abutting the land.

During the construction, the cleaning of machinery and equipment will take place on the land and not on adjacent footpaths or roads.

Stormwater Considerations:

Any discharge of treated water into the Council stormwater system will meet EPA requirements and the relevant water authority requirements.

Fitted Silt Socks/Fine Mesh will be placed on all stormwater pits surrounding the site.

Any handling and disposal of contaminated site material will be in accordance with the requirements of the Environment Protection Authority and the Environment Protection Act 1970.

All refuse which requires containment will be placed in a refuse facility.

During the construction, any stormwater discharged into the stormwater drainage system will be in compliance with Environment Protection Authority guidelines.

During the construction, stormwater drainage system protection measures will be installed as required to ensure that no solid waste, sediment, sand, soil, clay or stones from the land enters the stormwater drainage system.



Noise & Vibration Management

The normal hours of work will be 7:00am – 5:00pm (Mon - Fri) and 9:00am – 1:00pm (Sat).

No work will be carried out on Sundays or Public Holidays.

Noise management will generally be in accordance with the NSW Industrial Noise Policy environmental noise management criteria. All plant will be regularly maintained and log books kept ensuring that there are no excess noise emissions. Where it is practical, electric machinery will be used in lieu of mechanical devices.

Equipment will generally be located away from sensitive areas/residential properties to minimise the equipment and machinery noise.

All subcontractors will be responsible for managing noise and vibration in accordance with their project specific Management Plans.

It is not proposed to undertake any after hour's works for this project. However, should this change, the builder will notify Council and adjoining business and residences in advance of any works commencing.

Council notification will occur at all times prior to any works being scheduled. All businesses and surrounding residents will be given notification via email, or mail where no email addresses are available of the proposed work schedule prior to the works commencing which will include details of the works and the time to undertake each activity and the contact details of the Site Supervisor.

We do not envisage vibration generated by the works affecting adjoining properties. The excavation of the rock may cause some vibration but this will be monitored.

All site operations will comply with the relevant Environmental Protection Authority's Guidelines on Construction and Demolition Noise and with the Environmental Protection Authority noise control Guideline 12 for Construction (Publication 1254 Oct 2008).

All plant and machinery shall have the correct bafflers attached.

If requested by council, a noise and vibration report will be compiled by an accredited acoustic engineer and provided to council, at any time before or during demolition, excavation and construction works.

Residents will be notified 2 days in advance of scheduled noisy works, including, but not limited to, excavation and piling.

Equipment and machinery will not be operated if repairs or maintenance would eliminate or significantly reduce a characteristic of noise from its operation.



Dust Management

The demolition and excavation works required for this development will be medium level, mainly with a 25T excavator. Dust is expected to be minimal from these activities.

However, dust control measures will be implemented as required, and will be in accordance with NSW Workplace health and safety regulations and the Environmental Protection Act.

Dust Management will be most critical during the demolition phase of the project, with the subcontractors for these trades specifically dealing with dust management within their project specific management plans.

Measures that may be employed include:

- Demolition All trucks removing materials from site will be loaded whilst inside the site perimeter, with loads covered before exiting.
- Excavation water down working surfaces as required. Minimise stock piling of material. Maintaining stabilised access roads and driveway.
- Maintaining the Council walkway adjacent to the site free from hazardous materials, dust and building debris.
- Construction Maintain a high level of housekeeping to minimise likelihood of windblown dust.

The amenity of the area will not be detrimentally affected by the construction through;

- a) The transport of material or commodities to or from land;
- b) The appearance of any buildings, works or materials;
- c) The emission of noise, artificial light, vibration, smell, fumes, smoke, vapour, steam, soot, ash dust, waste water, waste products, grit, oil or the presence of vermin.

All development activities, materials, soil and debris will be contained within the site unless approved by the Responsible Authority.

Hazardous Materials Removal

Any hazardous materials removal will be undertaken by industry specialists who will ensure environmental certification of the construction and compliance with SafeWork Codes of Practice and Australian Standards.



Tree Management

All construction workers, including contractors, will be made aware of the Tree Management Plan as part of their initial site induction.

If tree(s) are to be removed from council property, removal works are to be carried out by council contractors while under direction and authorisation from council. Council must give authorisation for the tree(s) to be removed in writing prior to any tree removal works commencing.



Impact of Works

Public Car Parking

The impact on local traffic will be kept to a minimum. The following will be implemented to achieve this:

- Trucks and delivery vehicles will park to load/unload within the works zone.
- Workers will park either on site or in the surrounding streets in 24-hour parking zones.
- Where possible, workers will catch public transport or car pool.

Pedestrians

It is expected pedestrians will be affected minimally by the works. Signage at both ends of the work site will advise pedestrians to "watch your step". A Traffic Controller may be required to assist pedestrians safely around the worksite during concrete pours etc as needed.

Public Transport & Emergency Services

Being that the works and deliveries will occur within the site, both Public Transport Services and Emergency Vehicle Access with be minimally affected by the works. Where traffic controllers will require to stop traffic for short periods of time, right of way will always be given to emergency vehicles.

Public Safety Measures

The following safety measures will be put in place to ensure the safety of the public at all times:

Traffic Control - Traffic Control measures will be put in place to advise the public of the works and specific signage used depending on the type of works being done each day. Traffic Controllers may be required at some stages.

All site staff and subcontractors will be required to complete a site specific induction before commencing work on site. The induction will cover aspects relating to safety and amenity; including access, emergency evacuation procedures, location of first aid facilities, location of amenities, site hours, material handling, noise & dust policies and environmental management.

Prior to commencing works on site, all subcontractors will be required to submit a project specific Safety Management Plan. This plan will be reviewed by the builder for compliance with the overall Project Safety Plan.

All site staff will be adequately trained in the field of health and safety compliance.



Council Approvals

When traffic control is required, permits will be obtained from the Northern Beaches Council.

For any road/laneway closures, 7 day notification to local residents will be issued to each resident via letter-drop, within 100m of the site. Prior to issue of notification Council must approve the notification letter.

A letter drop will take place notifying the locals of the next stage of development, at least every 4 months.

All contractors, tradespersons and subcontractors will operate in accordance with the Construction Management Plan.

Service cables and lines will not be affected or interfered with without consent from the relevant responsible authority.

Consent from the relevant responsible authority will be obtained where vehicle ingress or egress to site requires for traffic to be temporarily halted on an arterial roadway or any roadway used by public transport services, including but not limited to bus services and routes.

Public Notifications/Neighbours

When major works are being done, a letter drop will be done to nearby residents who may be affected as well as all stakeholders.

At key points along the construction timeline, and especially during heavy vehicle and equipment periods (e.g. demolition, excavation, concrete works etc.) the builder will communicate via a letter box drop, and email (where we have been provided with email addresses) to keep stakeholders informed on the project timeline and key issues.

Remediation & Civil Works

It is noted that any endorsement of this CMP does not constitute an endorsement of any civil/architectural plans, designs or drawings contained within the endorsed CMP document.

Any person will not, without a permit, undertake any activity which is likely to or does damage, interfere with or destroy anything in, on or under any road or Council land including, without limitation, any fence, tree, tree band/guard, sign, sprinkler, service conduit, hydrant or other assets vested in or under the control of the Council.

Any damage to council assets throughout the development will be reinstated to the standard and satisfaction of the responsible authority and at the cost of the permit holder with any relevant permits or consent obtained from Council.



Any modification of council assets to facilitate construction works, as part of the development, must be fully reconstructed to the satisfaction of council prior to the completion of works on site. Relevant permits and approval for modification of assets and reinstatement works must be obtained from council and any other relevant responsible authority prior to works commencing.



Truck Details & Movements

Truck Sizes/Frequencies

Site Establishment (4 weeks) - 3T Excavator, 10T Truck – 2 trips.

Site Works & Demolition (6 weeks) - 3T Excavator, 10T Truck – 2 trips.

Excavation & Bulk Site Filling (10 weeks) - 3T Excavator, 10T Truck – 2 trips per hour.

Concrete Floors Slab (8 weeks) Concrete Pump, Concrete Trucks – 20 trips.

Framing (8 weeks) - 10T Truck – 2 trips.

Roofing (8 weeks) - 10T Truck – 2 trips.

Brickwork (8 weeks) - 10T Truck – 2 trips.

Glazing & Lock-Up (8 weeks) - Delivery Vans & Utes.

Finishing & Fit-Out Trades (18 weeks) Delivery Vans & Utes.

Truck Loading/Unloading

All trucks will load/unload within the works zone.

Truck Movements

Trucks will be directed to the entry via mobile phone calls in advance to speed up movements and facilitate removal with minimal interference to local traffic and neighbours. This advance warning system will ensure site staff are ready to accept truck movements, materials deliveries and waste removal, thus avoiding trucks sitting in the general area waiting for acceptance from site management staff and greatly reduce turnaround and wait times on the street. Traffic controllers will assist if and when required.

Trucks will not stage on any local roads within the municipality at any time.

Any deliveries on to site shall be within the confined hours of the planning permit and that any necessary deliveries outside of permitted hours, that an out of hours permit request will be submitted to Council.

Any trucks leaving site with excavation material will be adequately covered.



Company Contact Details

Builder

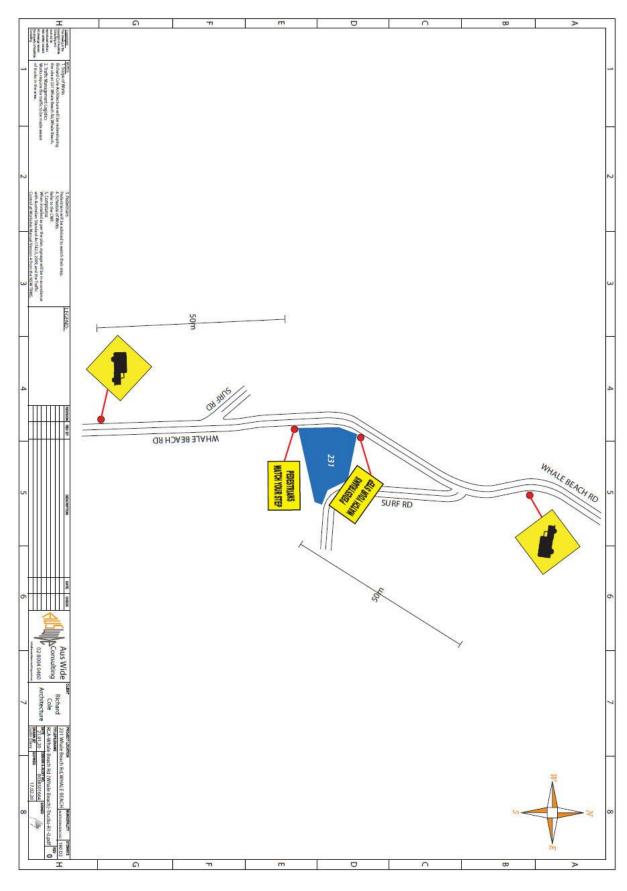
TBA Phone: Email:

Site Manager – TBA

Traffic Manager/OHS Officer – TBA

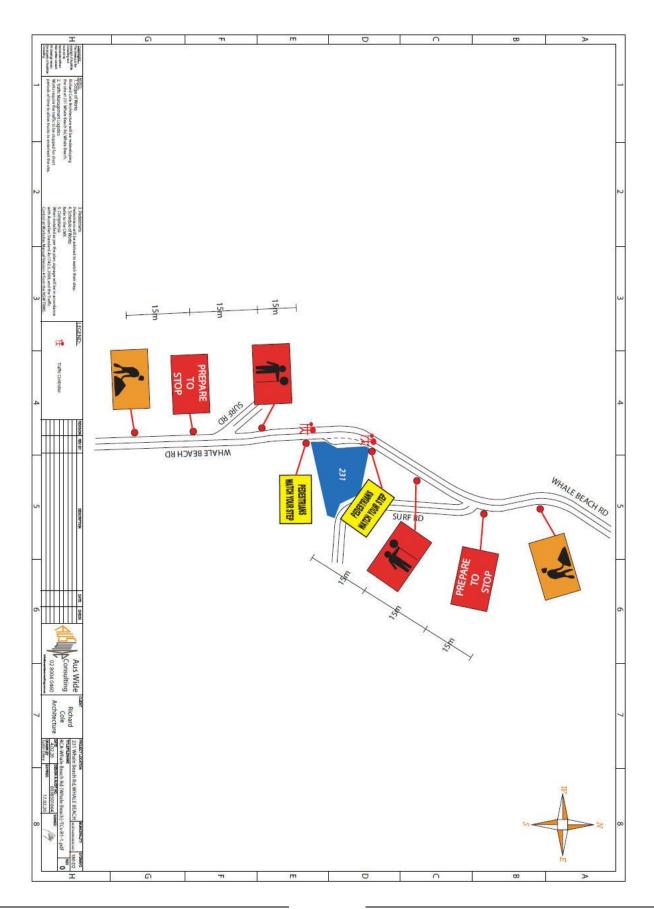


Appendix A – Traffic Management Plan - Trucks



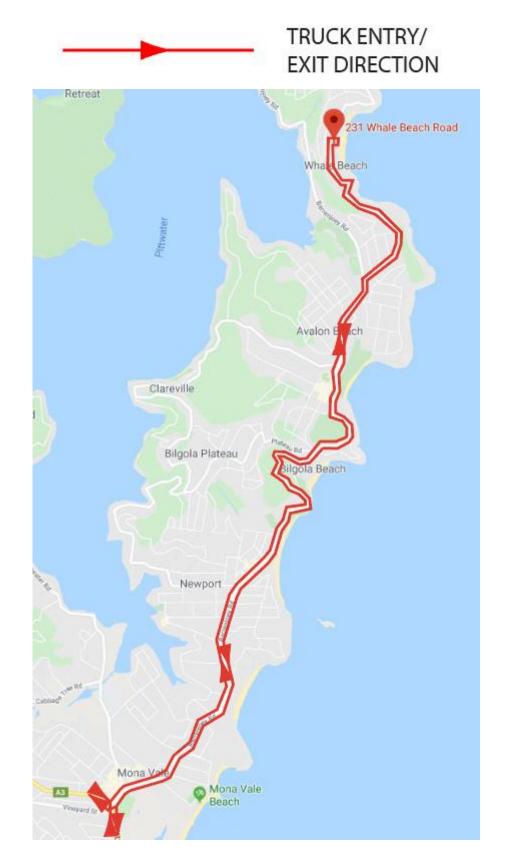


Appendix B - Traffic Management Plan - Traffic Controllers





Appendix C - Truck Movements





Appendix D - Sediment Control Plan

