APP

Project Management
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Project Management

Preliminary Construction Management Plan

PROJECT STAR

SYDNEY HARBOUR CASINO PROPERTIES PTY LTD

Tabcorp
the bigger better game

APP Corporation Pty Limited

APP Project Number: 7562
September 2008

Contents

APPENDICES

1.0 Introduction

This preliminary construction management plan is a dynamic tool that will be monitored and reviewed to ensure that its operation and objectives are carried out by the Contractor in its obligation to construct the works in accordance with the intent of this construction management plan. The nature of construction works will result in there being events undertaken in the immediate vicinity that will differ from the standard conditions in the surrounding environment. Disruption where they can not be avoided is proposed to be kept to a minimum and controlled in a safe and orderly fashion as outlined in this preliminary construction management plan.

2.0 Project Staging

This project staging is preliminary only and a detailed Construction Management Plan will be prepared by the Contractor prior to the commencement of construction.

Details of the preliminary proposed construction sequencing are as follows.

Stage 1: Enabling Works, Demolition and Excavation

The enabling work will include the relocation or vacating of existing tenancies affected by the proposed works.

Dilapidation surveys of the surrounding properties shall be undertaken prior to the commencement of the works.

Temporary full height hoardings will be erected around the Casino areas separating the live environments to the works areas. This is to protect the public and avoid the spread of dust and noise from the construction site.

External Class A hoardings will be erected around the Hotel “switching station” site bounded by Pyrmont Street, Union Street and Edward Street.

External Class A hoardings will be erected along the Pirrama Road perimeter. Class B hoardings will be installed to the Access and Exit locations to the east and western boundaries and along Pirrama Road. Refer Hoarding and Construction Plan attached (C.DA-D-101 and H.DA-D-101) **Appendix A**.

To ensure that the transport interchange at Level B02 along Pirrama Road is safe and remains operational during the construction period, full height hoarding and supporting structure is to be erected to the transport interchange to allow construction works (including demolition and excavation) to Pirrama Road be carried out and isolated from the transport interchange.

Demolition of the existing Pirrama Road structures will start from the north (Pirrama Road) and proceed in an orderly manor to the south (up to the line of the proposed new works).

Demolition to the proposed new Hotel “switching station” site is limited and will be completed as prior works by Contractors currently on that site.

The demolition and excavation areas will be isolated from the existing building by the construction hoarding noted above. Truck access and exit will be through dedicated construction gates controlled by gate keepers. It is intended that the main construction entry access will be via Pirrama Road construction gate to the east and the main construction exit access will be via the construction gate to Pirrama Road west. It is further proposed that a construction gate be established along Pirrama Road site boundary for the duration of the construction period. Access for the new hotel site will be from Edward Street.

Excavation to the new hotel site will follow demolition activities based on the methodology as described in the Geotechnical Report.

Stage 2: Pirrama Road Water Front

This staging of works involves construction of the new iconic structure to Pirrama Road, new Casino entry and associated internal area construction and refurbishment. Construction to the Pirrama Road stage will follow the demolition works from north to south.

The works will include the modification of the existing slabs. Minimal disruption is proposed to Pirrama Road. A Construction Zone is proposed to be established along the Pirrama Road footpath and road boundary for the duration of the construction period. Supervision by the construction gate traffic controller is proposed at all times when construction site works are underway.

Significant construction hoarding will be maintained throughout the construction period to avoid interface between construction activities and the general public.

During construction the other areas of the Casino will remain in full operation. Safe access to the operating areas will be provided via the existing access from Pyrmont Road. Full height hoarding to Levels B2 to 04 will be maintained and construction activities area will be clearly defined and access will be controlled by locked gates. Security guards will be provided as required where locked physical separation is unable to be provided to ensure no unauthorised access onto the construction works area and for the safety of the general public.

Stage 3: Main Casino Floor and Retail

This stage of works involves the refurbishment of the Casino floor to Level 01. The works to Stage 3 will be carried out in parts that will allow the Casino operations to remain operational. Stage 3 works will be staged into smaller packages to allow select areas of the Casino floor to be made safe by full height hoarding to separate construction work areas to the public areas.

Stage 4: New Hotel

Stage 4 for the new Hotel will commence at the completion of the Demolition and Excavation of the Hotel “switching station” site.

The new Hotel Tower will be completed during Stage 4. It is anticipated that areas of the Podium will be occupied whilst the remainder of the Hotel Tower is being completed. Interim occupation will be submitted to allow the Podium Retail and Casino floor to open for trading.

3.0 Site Accommodation and Temporary Services

Hoardings

Hoardings will be designed to allow sufficient head room for construction vehicles to pass through and also provide safe and clear passage for general public and pedestrians. Class A and Class B hoardings are proposed to be used on site.

Site Accommodation

During the construction period temporary site accommodation and ablution facilities will be provided by the nominated Contractor prior to commencement of site works.

Construction Materials Handling

Where possible, materials will be unloaded and placed immediately adjacent the structural elements in which they are to be incorporated to minimise repeat handling. Off site fabrication of the building components will be maximised where possible.

"Make Good" on Completion

The Contractor is to reinstate the areas used for site accommodation and materials handling at the end of the project. The reinstatement is to be at a level equal to the condition when the site was first obtained.

This will include the removal of:

- All hoardings;
- Temporary pipes;
- Cables;
- Lights;
- Switchboards;

- Fencing;
- Signage; and
- Any other elements used during construction

Damage to the Council's footpaths, kerbs or roadways or to the adjoining properties caused by building works carried out on site will be made good by the Contractor.

4.0 Safety and Security

The Contractor must ensure that the general public and any customers/tenants accessing the Casino or adjacent properties are adequately protected from activities occurring on the construction site. The construction site should be segregated from the public by temporary security fences or hoardings or by other approved means. The construction site and adjacent areas are to be kept neat and tidy to maintain public safety and local amenity.

Any site accommodation areas and the site compounds must also be enclosed by a temporary fence or hoardings to ensure that there is no ingress into the construction site by the public or unauthorised personnel.

Both safety and security fencing and hoardings are required to meet the requirements of Work Cover and any other authorities having jurisdiction over the works.

5.0 Environmental Conditions

The construction of the works will comply with the requirements set by NSW Department of Planning. The intent is to deliver the project in the shortest possible time through the effective management of the works whilst ensuring that noise and environmental management is maintained in accordance with the conditions of consent and legislation.

Working Hours

Hours of work during the construction period should be limited to the hours of 7:00am-6:00pm Monday to Friday and 7:00am-3:00pm Saturdays, with no audible work on Sundays, Public Holidays or other times.

Notwithstanding the above restrictions, the Contractor may apply to NSW Dept of Planning to extend the working hours in certain circumstances, if required. If the Police (or any other authority) requires the delivery of goods outside the specified hours for safety reasons or an emergency where people or equipment are in danger, provided the applicant notifies the NSW Dept of Planning immediately, and explains the reasons for extending the specified construction hours and the likely duration, the emergency works can proceed.

Construction Noise and Vibration Criteria

The Contractor must minimise the impact of noise and vibration on the immediate neighbourhood, and will undertake works in accordance with the Noise Level Objectives prepared by the acoustic consultant.

Erosion and Sediment Control

The contractor must minimize erosion and implement a system of sediment control during the course of the construction works. The contractor will ensure that erosion and sediment control will be in accordance with Proposed Erosion and Sediment Control Plans (C.DA-D-100 and H.DA-D-100) Attached **Appendix B**.

Construction Waste Management

A Construction Waste Management Plan prepared by Hyder Consulting June 2008 is attached **Appendix C**. The objectives of the Waste Management Plan are to:

- Reduce the demand for the waste disposal during construction
- Assist the Federal and Local Government waste minimization targets in accordance with overarching regulations and plans
- Document waste that may be generated as part of the Project Star construction works (identifications and proposed disposal method and destination).
- Ensure that the project will recycle
- Aim to achieve the project target to recycle at least 60% of waste generated on-site during the construction phase. (target as stated in the Project Star ESD Report 2008)
- The above target will be achieved through maintained and consistent reuse and recycling efforts throughout the entire construction phase.

The Waste Management Plan will guide the contractor to adhere to the steps to reduce the demand for waste disposal while minimizing the overall environmental impacts of waste during the construction phase of Project Star.

Dust Management

During the construction works, the Contractor shall minimise the generation of dust on the Construction site.

The Contractor may implement a Dust Management Plan that may provide the following detail:

- Identify the potential sources of dust during these works;
- Specify appropriate dust control criteria for the works;
- Describe in detail what measures and actions would be implemented to minimise the generation of dust on the construction site;
- Ensure that all dust is contained within the construction site and that surrounding residents are not disadvantaged; and
- Describe what procedures would be followed to ensure compliance.

6.0 Traffic Management

The Contractor will maintain traffic management procedures to ensure the safety of the public road users and pedestrians utilising traffic wardens where necessary as set out in the Arup Traffic Management Report. As part of the traffic management plan the Contractor will take into consideration the neighbouring properties that are adjacent to the construction site.

Construction vehicles entering the site will be required to enter via Pirrama Road and Edward Street where possible.

7.0 Occupational Health and Safety

The Contractor is responsible for maintaining the construction site and adjoining areas affected by the construction work in compliance with the Occupational Health and Safety Act 2000 and the Occupational Health and Safety Regulations 2001.

All personnel working on the construction site are to be site inducted and given security access passes to ensure they can be identified when moving around the construction site.

8.0 Complaint Handling Procedure

A Complaint Handling Procedure will form part of the project communications plant to be developed by the Contractor in conjunction with Star Harbour Casino Properties.

A complaint contact number will be displayed at the construction site entrances. A contact officer will be appointed by the Contractor to register, address and respond to complaints.

9.0 Conclusion

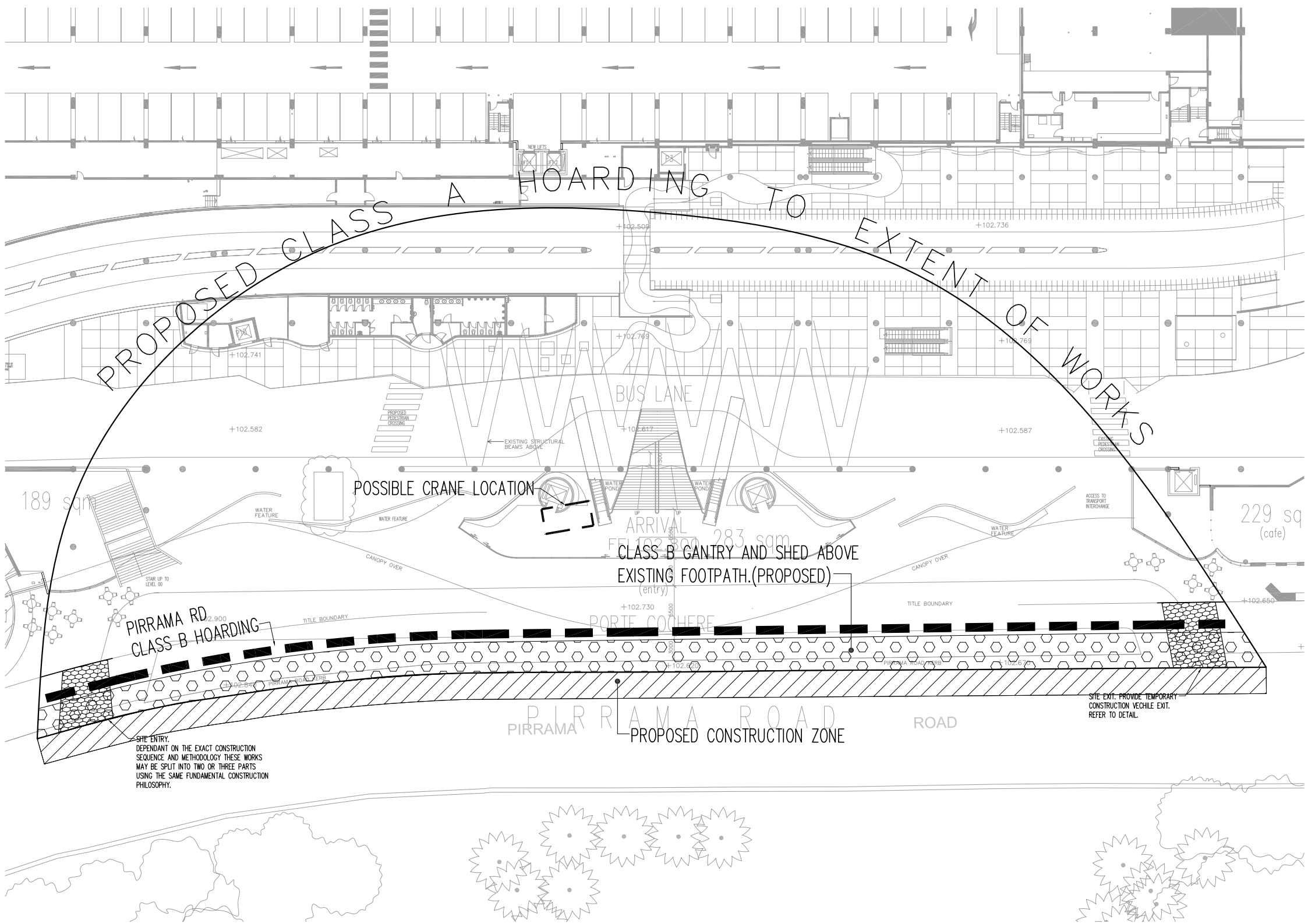
This Preliminary Construction Management Plan has been prepared to assist NSW Department of Planning in the assessment for the proposed Star City redevelopment.

The Preliminary Construction Management Plan will be used as a reference document that provides the framework to ensure that construction work on the site does not adversely affect the health, safety, amenity, traffic or the environment of the public, neighbours, staff and employees.

The Contractor will be required to submit a detailed Construction Management Plan to the satisfaction of NSW Department of Planning prior to the commencement of works on site.

Appendix A:

Hoarding and Construction Plan



HOARDING LEGEND

"A" Class Hoardings

These hoardings are built from standard ply-wood timber products, supported by concrete counter weights for stability against wind loads (free standing fence type). This type of hoarding restricts access to construction sites to authorised people with appropriate safety training.

"B" Class Hoardings

"B" class hoardings are engineer designed and certified steel structures with timber decking. They are built over the footpath to safeguard the public from the potential hazard of objects falling off the building site. "B" class hoardings can be built to accommodate site sheds, scaffolding or high climbers to height of the building. All decks on "B" class hoardings are to be designed to suit relevant loading.

CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK

Tabcorp

Star City SYDNEY HOTEL & CASINO

Project Consultant Team

Prefix	Consultant	Discipline
AC	The Buchan Group	Architect (Casino)
AH	The Cox Group	Architect (Hotel)
A	Arup	Acoustic Consult.
BS	Philip Chun & Associates	Building Surveyor
C	Hard & Forrester	Land Surveyor
CL	Tabcorp Holdings Limited	Client (Star City & Tabcorp)
D		Civil – Drainage
DD		Disability Consultant
E	Bassett	Electrical Services
F	Arup	Fire Services
FS		Fire – Sprinkler
G		Security & Surveillance
H	Steve Paul & Partners	Hydraulic Services
ID		Interior Design
J		Telephone & Data Ser.
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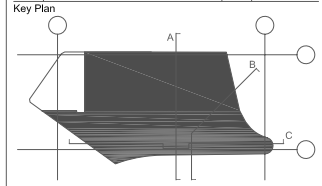
ST	Taylor Thomson Whitting Pty Ltd	Structural Consultant
T	Arup	Traffic Consultant
U	Hyder Consulting (Aust) Pty Ltd	Facade Consultant

ISSUE ADDED

No.	Description	By	Date
00	AUTHORITIES ISSUE	S.H	23.06.08
01	HOARDING LEGEND ADDED	S.H	25.06.08
02	ARCHITECTS LAYOUT UPDATED	C.R	02.09.08
03	HOARDING LOCATIONS REVISED	C.R	11.09.08

Key Plan



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Project

PROJECT STAR
PYRMONT, SYDNEY

Drawing Title

PROPOSED HOARDING AND CONSTRUCTION PLAN FOR PIRRAMA ROAD ENTRANCE

Scale : 1:250

Date drawings created: 23.06.08

Status DA

Project Number	Drawing No	Revision
081253PB	C.DA-D-101	03

Checked By P.Y

Approved By

FileName: C.DA-D-101.dwg – USER: cameron – Plot File Created: Sep 11, 2008 – 3:19pm

A1 0 1 2 3 4 5 6 7 8 9 10

HOARDING LEGEND

"A" Class Hoardings

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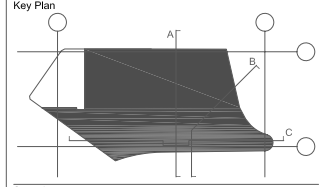
Key Plan



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Project

PROJECT STAR
PYRMONT, SYDNEY

Drawing Title

PROPOSED HOARDING & CONSTRUCTION PLAN FOR HOTEL

Scale : 1: 200

Date drawings created: 23.06.08

Status DA

Project Number	Drawing No	Revision
081253PA	H.DA-D-101	02

Checked By P.Y

Approved By

FileName: H.DA-D-101.dwg – USER: cameronr – Plot File Created: Sep 02, 2008 – 4:31pm

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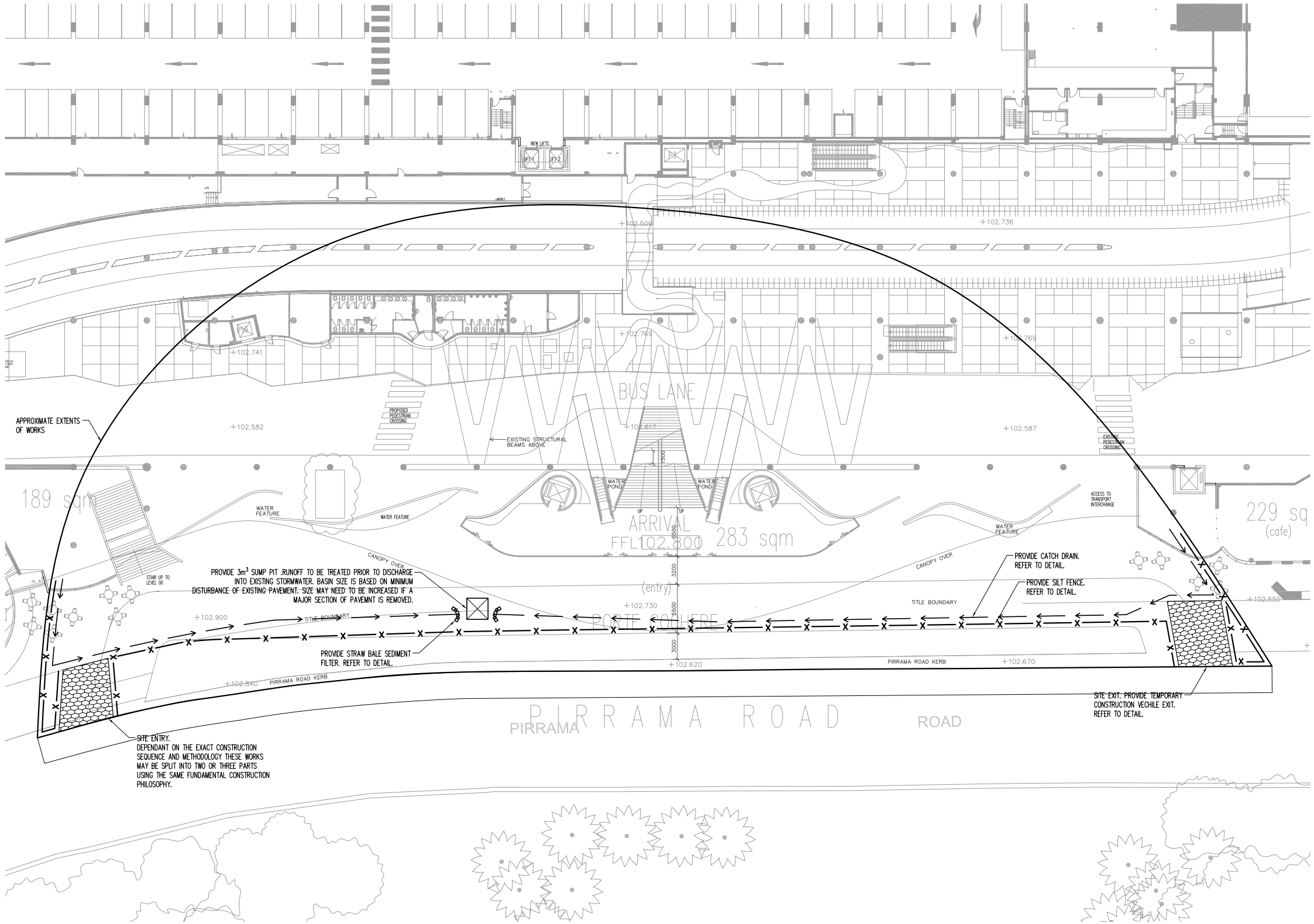
Appendix B

Proposed Erosion and Sediment Control Plans



EROSION AND SEDIMENT CONTROL NOTES

1. All work shall be generally carried out in accordance with
   (A) Local authority requirements,
   (B) EPA – Pollution control manual for urban stormwater,
   (C) Department of conservation and land management manual– "Urban Erosion & Sediment Control".
2. Erosion and sediment control drawings and notes are provided for the whole of the works. Should the Contractor stage these works then the design may require to be modified. Variation to these details may require to be approved by the relevant authorities. The erosion and sediment control plan shall be implemented and adopted to meet the varying situations as work on site progresses.
3. Maintain all erosion and sediment control devices to the satisfaction of the superintendent and the local authority.
4. When stormwater pits are constructed prevent site runoff entering the pits unless silt fences are erected around pits.
5. Minimise the area of site being disturbed at any one time.
6. Protect all stockpiles of materials from scour and erosion. Do not stockpile loose material in roadways, near drainage pits or in watercourses.
7. All soil and water control measures are to be put back in place at the end of each working day, and modified to best suit site conditions.
8. Control water from upstream of the site such that it does not enter the disturbed site.
9. All construction vehicles shall enter and exit the site via the temporary construction entry/exit.
10. All vehicles leaving the site shall be cleaned and inspected before leaving.
11. Maintain all stormwater pipes and pits clear of debris and sediment. Inspect stormwater system and clean out after each storm event.
12. Clean out all erosion and sediment control devices after each storm event.

Sequence Of Works

1. Prior to commencement of excavation the following soil management devices must be installed.
1.1. Construct silt fences below the site and across all potential runoff sites.
1.2. Construct temporary construction entry/exit and divert runoff to suitable control systems.
1.3. Construct measures to divert upstream flows into existing stormwater system.
1.4. Construct sedimentation traps/basin including outlet control and overflow.
1.5. Construct turf lined swales.
1.6. Provide sandbag sediment traps upstream of existing pits.
2. Construct geotextile filter pit surround around all proposed pits as they are constructed.
3. On completion of pavement provide sand bag kerb inlet sediment traps around pits.
4. Provide and maintain a strip of turf on both sides of all roads after the construction of kerbs.

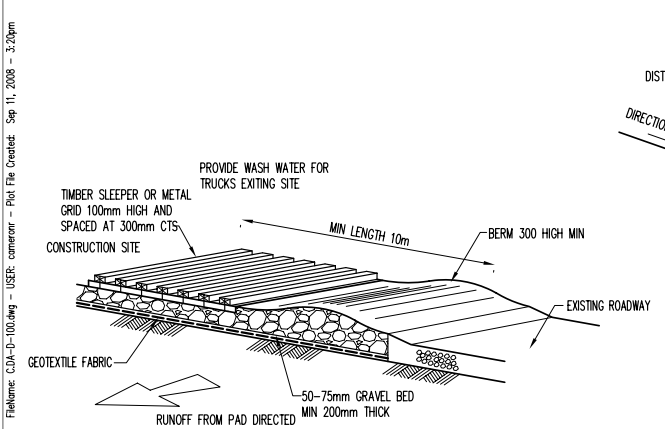
EROSION AND SEDIMENT CONTROL LEGEND

- Siltation fence
- Stormwater pit with Geotextile filter surround
- Hay bale barriers
- Sandbag sediment trap
- Catch drain

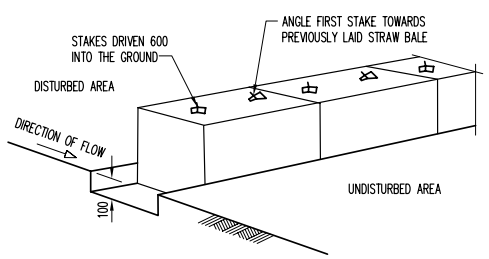
NO LEVELS HAVE BEEN PROVIDED. THIS PLAN WILL NEED TO BE MODIFIED TO ACCOUNT FOR GRADES ONCE SURVEY IS RECIEVED.

PITS EXTERNAL TO WORKS TO BE PROTECTED BY SANDBAG SEDIMENT FILTER TRAPS. REFER TO DETAIL.
PITS INTERNAL TO WORKS TO BE PROTECTED BY GEOTEXTILE FILTER SURROUND TRAP. REFER TO DETAIL

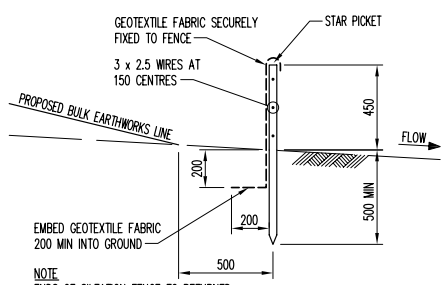
CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK



TEMPORARY CONSTRUCTION VEHICLE EXIT
NTS



STRAW BALE SEDIMENT FILTER
NTS
NOTE: STAKE TO BE EITHER TAR COATED STAR OR 50 x 50 HARDWOOD



NOTE
ENDS OF SILTATION FENCE TO RETURNED UP SLOPE TO PREVENT RUNOFF

SILTATION FENCE DETAIL
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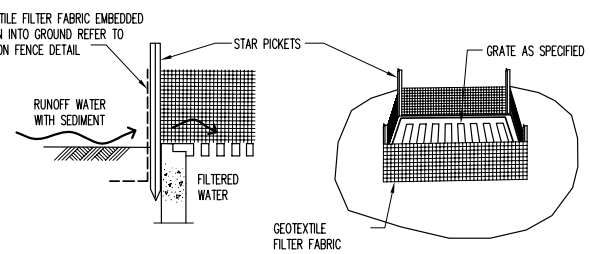

GEOTEXTILE FILTER PIT SURROUND
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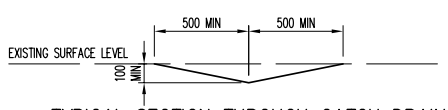
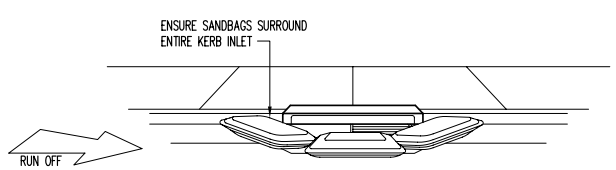


TYPICAL SECTION THROUGH CATCH DRAIN
SCALE 1: 20



SANDBAG KERB INLET SEDIMENT TRAP – TYPE B
NTS

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FileName: C:\DA-D-100.dwg – USER: cameron – Plot File Created: Sep 11, 2008 – 3:20pm

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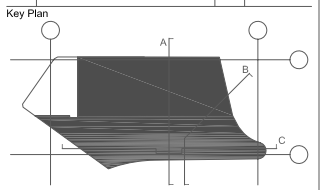
02	EROSION LOCATIONS REVISED	C.R	11.09.08

Key Plan



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Project

PROJECT STAR
PYRMONT, SYDNEY

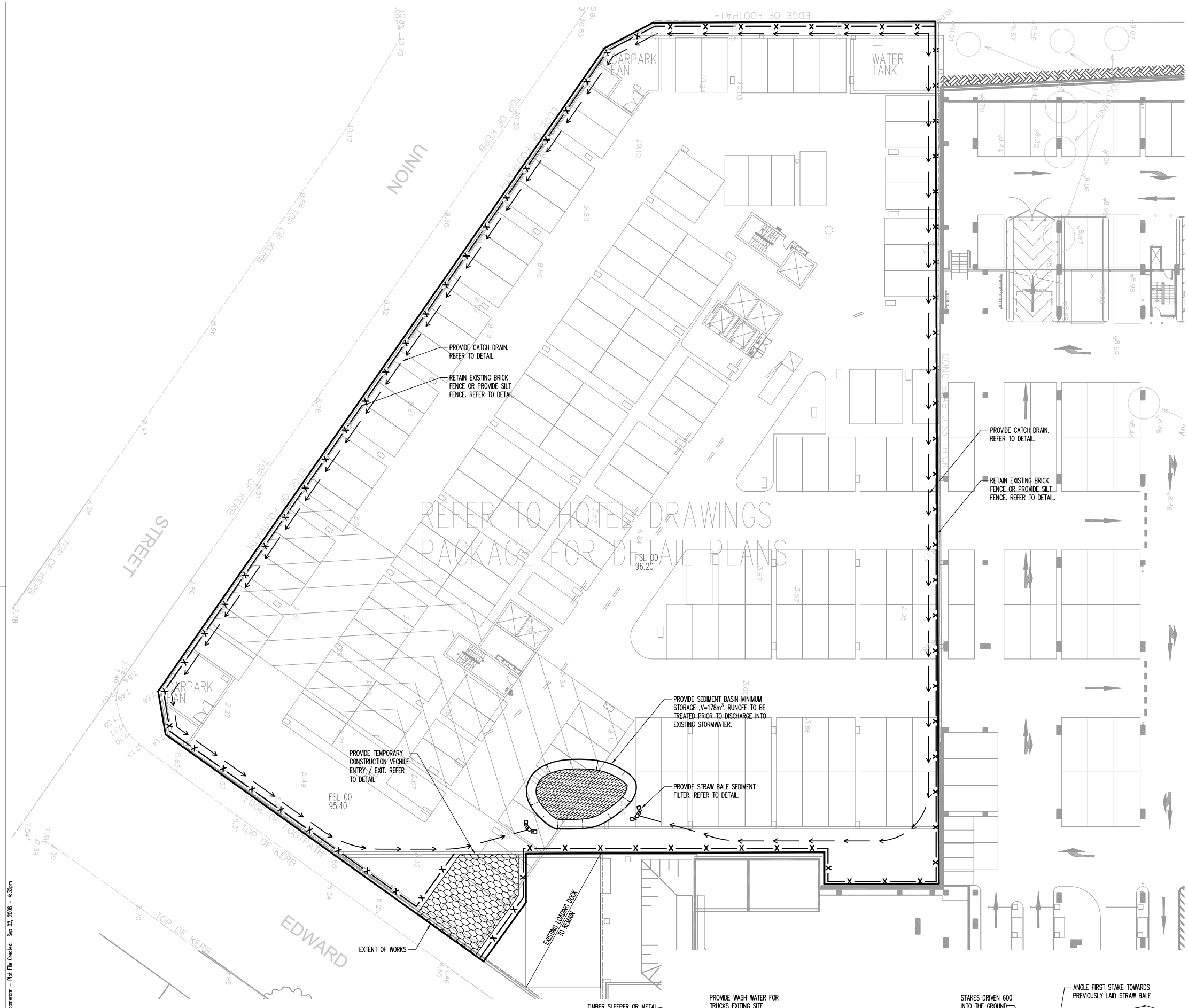
Drawing Title

PROPOSED EROSION & SEDIMENT CONTROL PLAN FOR PIRRAMA RD ENTRANCE

Scale : 1:250
Date drawings created: 20.06.08
Status DA

Project Number	Drawing No	Revision
081253PB	C.DA-D-100	02

Checked By P.Y
Approved By



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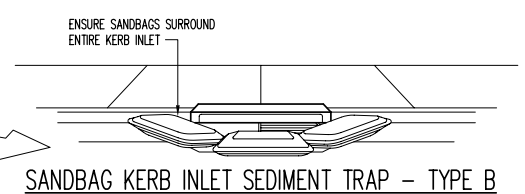
2. Construct geotextile filter pit surround around all proposed pits as they are constructed.
3. On completion of pavement provide sand bag kerb inlet sediment traps around pits.
4. Provide and maintain a strip of turf on both sides of all roads after the construction of kerbs.

EROSION AND SEDIMENT CONTROL LEGEND

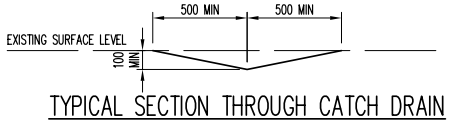
- Batter
- Siltation fence
- Hay bale barriers
- Sandbag sediment trap
- Catch drain

PITS EXTERNAL TO BOUNDRY TO BE PROTECTED WITH SANDBAG SEDIMENT TRAP. REFER TO DETAIL

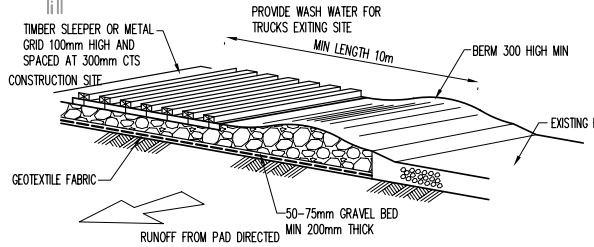
CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK



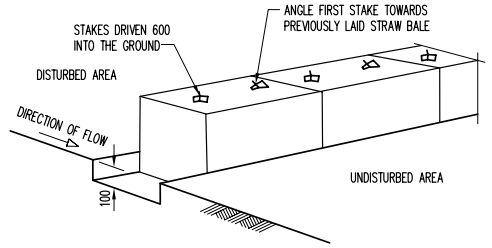
SANDBAG KERB INLET SEDIMENT TRAP – TYPE B
NTS



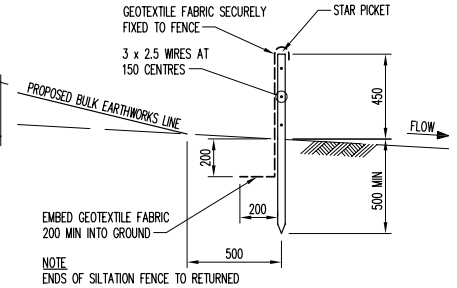
TYPICAL SECTION THROUGH CATCH DRAIN
SCALE 1: 20



TEMPORARY CONSTRUCTION VEHICLE EXIT
NTS



STRAW BALE SEDIMENT FILTER
NTS
NOTE: STAKE TO BE EITHER TAR COATED STAR OR 50 x 50 HARDWOOD



NOTE
ENDS OF SILTATION FENCE TO RETURNED UP SLOPE TO PREVENT RUNOFF

SILTATION FENCE DETAIL
SCALE 1: 20

A1 0 1 2 3 4 5 6 7 8 9 10

FileName: H.DA-D-100.dwg – USER: cameronr – Plot File Created: Sep 02, 2008 – 4.32pm

Tabcorp

Star City SYDNEY CASINO

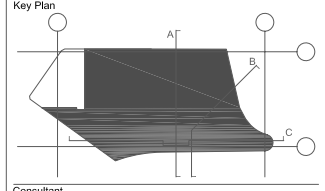
Project Consultant Team

Prefix	Consultant	Discipline
AC	The Buchan Group	Architect (Casino)
AH	The Cox Group	Architect (Hotel)
A	Arup	Acoustic Consult.
BS	Philip Chun & Associates	Building Surveyor
C	Hard & Forrester	Land Surveyor
CL	Tabcorp Holdings Limited	Client (Star City & Tabcorp)
D		Civil – Drainage
DD		Disability Consultant
E	Bassett	Electrical Services
F	Arup	Fire Services
FS		Fire – Sprinkler
G		Security & Surveillance
H	Steve Paul & Partners	Hydraulic Services
ID		Interior Design
J		Telephone & Data Ser.
K	Norman Disney Young	Lifts & Escalators
L	Tract Consultants	Landscaping Consult.
M	Bassett	Mechanical Services
N	Cundall (St Leonards)	ESD Consultant
PL	Urbis	Planning Consultant
PM	APP Corporation	Project Management
QS	WT Partnership	Casino – QS Reports
	Davis Langdon	Hotel – QS Reports
R	CB Richard Ellis	Retail Consultant
ST	Taylor Thomson Whitting Pty Ltd	Structural Consultant
T	Arup	Traffic Consultant
U	Hyder Consulting (Aust) Pty Ltd	Facade Consultant

ISSUE ADDED

No.	Description	By	Date
00	AUTHORITIES ISSUE	S.H	23.06.08
01	ARCHITECTS LAYOUT UPDATED	C.R	02.09.08

Key Plan



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Project

PROJECT STAR
PYRMONT, SYDNEY

Drawing Title

PROPOSED EROSION & SEDIMENT CONTROL PLAN FOR HOTEL

Scale : 1:200
Date drawings created: 23.06.08
Status DA

Project Number	Drawing No	Revision
081253PA	H.DA-D-100	01

Checked By P.Y
Approved By

Appendix C

Construction Waste Management Plan

Project Star

Construction Waste Management Plan

Report no: AA001706-R01-02
Date: 25 June 2008

Document Reference Number::
C.DA_U.1000
H.DA_U.1000

Hyder Consulting

Project Star

Construction Waste Management Plan

Author: Sally Asker

Checker: Ron Wainberg

Approver: Ron Wainberg

Report no: AA001706-R01-02 Date: 25 June 2008

Document Reference No: C.DA_U.1000
H.DA_U.1000

This report has been prepared for in accordance with the terms and conditions of appointment for Project Star dated . Hyder Consulting Pty Ltd (ABN 76 104 485 289) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

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Contents

1 Introduction

Sydney's largest entertainment complex, Star City opened in 1995. In 2008 Sydney Harbour Property Pty Ltd commissioned Hyder Consulting to prepare a Waste Management Plan (WMP) for the construction phase of Project Star, a project to both redevelopment and refurbishment to the existing Star City complex.

Sydney Harbour Property Pty Ltd seeks to ensure that the construction complies with best practice waste management requirements by preparing a construction WMP, for the complex.

Information to be provided as part of the Waste Management Plan includes the nature of waste which will be generated during construction, the location to which each type of waste will be taken for reuse, recycling, and/or disposal and WMP reporting and auditing.

The estimations of waste in the WMP present are in line with the best calculations available, however at this stage clear amounts are unknown

The prime intent of this WMP is to allow for the construction operations to contribute positively to the environment and save disposal costs.

1.1 Objectives

The objectives of the WMP are to:

- Reduce the demand for waste disposal during construction.
- Assist in achieving Federal and Local Government waste minimisation targets in accordance with overarching regulations and plans.
- Document wastes that may be generated as part of the Project Star construction works (identifications and proposed disposal method and destination).
- Achieve the project's target to recycle more than 60% of waste generated on-site during the construction phase (target stated in the Project Star ESD Report 2008).

The above target will be achieved through maintained and consistent reuse and recycling efforts throughout the entire construction phase.

2 Construction Scope of Works

The aim of the project is to create improvements to the world-class Star City Casino. The redevelopment and construction includes the following stages over a gross floor area of approximately 5000m^2:

2.1 Demolition

- It is proposed that part of the Pirrama Road frontage of the Casino including the Spanish steps will be demolished.
- It is proposed that part of the interior of the casino is redeveloped.

2.2 Excavation

- A four storey deep excavation is proposed at the proposed Switching Station Hotel site bounded by Pyrmont, Union and Edward Streets..

2.3 Refurbishment

- Refurbishment of the casino interior and retail level is proposed.

2.4 Proposed staging

The project manager for the project has proposed to stage construction so that optimum levels of waste materials can be recycled .

3 Waste Regulatory Framework

The construction phase of the project will take place within the framework of NSW waste related regulations as detailed below.

3.1 Waste Avoidance and Resource Recovery Act 2001

The Waste Avoidance and Resource Recovery (WARR) Act 2001 establishes the waste hierarchy to ensure that resource management options are considered against the following principles:

1. Avoidance – actions to reduce the amount of waste generated and undertaking activities
2. Resource Recovery – which includes reuse, reprocessing, recycling and energy recovery, consistent with the most efficient use of the recovered resources; and
3. Disposal – an 'end-of pipe' option that must be carefully undertaken to minimise any negative environmental outcomes.

The NSW Government's priority areas and actions for waste avoidance and resource recovery is outlined in the Waste Strategy 2007 (an update of the Waste Strategy 2003).

The four identified key areas in the strategy are:

1. Preventing and avoiding waste
2. Increasing recovery and use of secondary materials
3. Reducing toxicity on products and materials, and
4. Reducing litter and illegal dumping

The Strategy also includes the following recycling targets relevant to the proposed Project Star construction.

- Increase recycling of construction and demolition waste from baseline 65% to 76% in 2014.

3.2 Protection of the Environment Operations Act 1997

All material to be excavated and removed from the site (including associated activities such as classification) will be undertaken in strict accordance with the POEO Act 1997. Such requirements include:

- Ensuring waste is classified appropriately and in accordance with relevant guidelines
- Waste materials are disposed of to appropriately licensed facilities, and

- Other materials are removed to facilities lawfully able to accept such materials.

3.3 Protection of the Environment (Waste) Operations Act 2005

The regulations make requirements relating to non-licensed waste activities and waste transporting. The proposed works on the site will not require to be licensed. Section 48 of the Reg. requires that wastes are stored in an environmentally safe manner. It also stipulates that vehicles used to transport waste must be covered when loaded.

The regulation exempts certain waste streams from the full waste tracking and record keeping requirements, Waste tracking is required only for industrial and hazardous waste.

4 Waste Details

4.1 Types and quantities of waste

The following estimates** of waste type and quantities have been made based on the anticipated extent of construction works. It is noted that the scope of works are based on information supplied to Hyder Consulting on June 20 2008. The actual quantities of waste generated will be dependant on the distribution of materials found on site.

**At this stage quantity estimates are not available, estimates will be incorporated in a revision of this report as soon as quantity surveying is completed.

4.2 Estimated types and quantities of waste materials

The exact materials to be used in the construction are yet to be confirmed. Therefore quantities of waste construction materials have not yet been determined. Table 1 identifies the types of materials likely to be generated at the construction site. Anticipated material destinations are identified in Table 2 overleaf.

Table 1 Proposed waste types and area of generation.

Waste types	Location generated	Estimated Quantities of materials
Concrete	All areas especially Spanish steps area	TBA
Timber	From doors etc	TBA
Carpets	From gaming areas and retail space interiors	TBA
Metal	Related to any area with bricks, tiles , glass, plasterboard	TBA
Soil	From back of casino where excavation takes place	TBA
Rock/Rubble	From back of casino where excavation takes place	TBA
Plasterboard/ cladding	From retail level	TBA
Tiles	From retail level	TBA
Bricks	All areas	TBA
Plastics/PVC	All areas	TBA
Metal	All areas	TBA

Paper and cardboard	Very small amounts from all areas	TBA
Glass	From retail level	TBA
Light fittings	From gaming areas and retail space interiors	TBA
Office furniture (desks)	From gaming areas and retail space interiors	TBA
Other	General	TBA
Hazardous	Unknown at this stage	TBA

5 Waste Management and Resource Recovery Plan

Table 2: Waste Management and Resource Recovery Plan.

		Destination				
Waste Type	**Total waste**	**Re-used onsite**	**Re-used offsite**	**Sent to recycling facility**	**Sent to landfill**	**Contractor**
Soil	TBA High amount	Stockpiled and reused onsite as backfill		Remainder to recycling facility however reuse will have priority.		TBA
Rock/Rubble	TBA	Stockpiled and reused onsite as backfill		Remainder to recycling facility however reuse will have priority.		TBA
Green Waste	TBA			Separated onsite and sent to compost facility.		TBA
Concrete	TBA	Some quantities crushed and reused in construction as fill material.		Remainder to recycling materials however opportunities for reuse will have priority.		TBA
Plasterboard/ cladding	TBA			Separated onsite and sent to recycling facility.		TBA
Tiles	TBA			Separated onsite and sent to recycling facility		TBA
Bricks	TBA	Some quantities crushed and reused in construction as fill material.		Remainder to recycling materials however opportunities for reuse will have priority.		TBA
Wood	TBA			Separated onsite and sent to recycling facility		TBA

Waste Type	Total waste	Re-used onsite	Re-used offsite	Sent to recycling facility	Sent to landfill	Contractor
Plastics including PVC	TBA			Separated onsite and sent to recycling facility		TBA
Metal	TBA			Separated onsite and sent to recycling facility		TBA
Paper and cardboard	TBA			Separated onsite and sent to recycling facility	Dirty to landfill	TBA
Glass	TBA			Separated onsite and sent to recycling facility	Dirty or contaminated to landfill	TBA
Light fittings	TBA			Separated onsite and sent to recycling facility		TBA
Office furniture	TBA			Separated onsite and sent to recycling facility		TBA
Other	TBA				Disposal if no reuse/ recyclable material can be identified	TBA
Hazardous	TBA (Low)				Removed by accredited contractor, disposed of at an EPA licensed facility.	TBA
Total (in m3)	TBA					
% of total	100%					
WMP Target %	**60-80%**					

6 Waste Classification and Removal

6.1 Waste classification

All liquid and non-liquid wastes generated during construction works shall be classified in accordance with the requirements of DECC 2004.

6.2 Waste transportation access

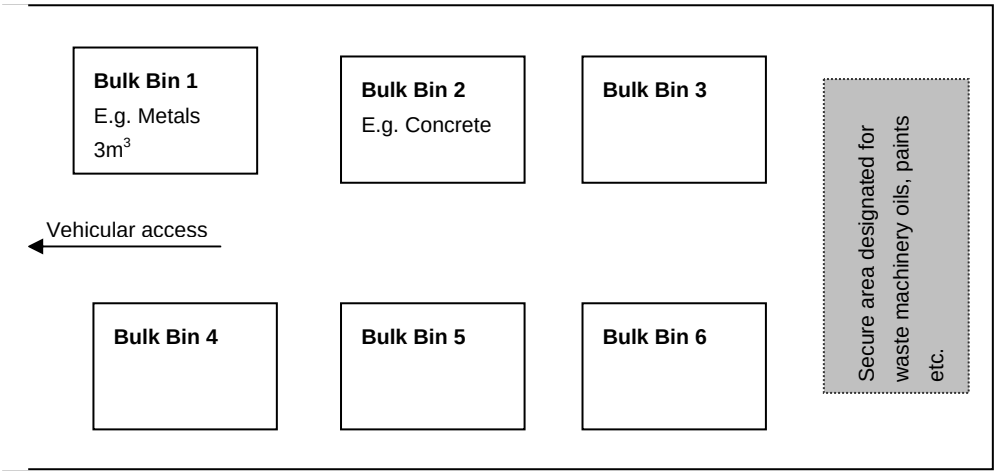
Access to the site for waste removal vehicles would be as determined for all construction and demolition vehicles.

6.3 Waste storage, recycling and disposal

It is anticipated that where possible, waste will be sorted and stored according to material type in a designated waste storage area on site. Clearly labelled bulk bins would be available for the placement of different materials.

Figure 1 Depicts an example waste storage area that would be established at the demolition site. The exact configuration and number of bins would be determined by the materials being generated at the time.

Figure 1 Example Waste Storage Area



Not drawn to scale

Container 2
Excavated Soil
(located near excavation area)

Container 1
Excavated Rock
(located near excavation area)

In addition to the above, the following waste management methods will be adhered to during construction to ensure the highest percentage of construction waste possible is diverted from landfill to reuse or recycling.

- Salvageable materials will be diverted from disposal where feasible.
- Before proceeding with any removal of construction materials from the construction site, recycling coordinators will inspect containers for compliance with WMP requirements.
- Wood cutting will occur in centralized locations to maximize reuse and make collection easier.
- Hazardous waste will be managed by a licensed hazardous waste vendor.

Further recommendations for the waste storage area include:

- It is recommended that waste management during Project Construction Phase is centrally administered so as to maintain one consistent system throughout the project.
- Between collection periods, all waste/recyclable materials generated on the site should be kept in enclosed bins with securely fitting lids so that the contents are not able to leak or overflow.
- The waste storage area should be able to accommodate bins which are of sufficient volume to contain the quantity of waste generated between collections.
- The type and volume of containers used to hold waste should be compatible with the collection practices of the nominated waste contractor.
- Waste management facilities should be suitably enclosed, covered and maintained so as to prevent polluted waste water runoff from entering the storm water system.
- Consideration should be given to the time of day at which containers are collected to minimise the adverse impacts on residential amenity, pedestrian movement and local traffic.
- Arrangements should be in place regarding the regular maintenance and cleaning of waste management facilities.
- Facilities should be provided for bin washing
- The waste storage area should be appropriately lit to maintain security of staff and be equipped with fire extinguishing equipment and smoke alarm.
- The waste storage area should be secure.
- The waste storage areas should meet all relevant OH & S requirements.

7 Waste Minimisation Recommendations

7.1 Recommendations for waste minimisation during demolition and preparations for construction

Measures to improve the minimisation of demolition waste include:

- Selection of reputable waste removal contractors who will guarantee that recyclable material will be recycled.
- Any vegetative matter removed as a result of demolition activities will be either preserved for use in the new development, or mulched for inclusion in landscaping activities. The remainder would be sent to a composting facility.
- Earth excavated from the demolition site would be used for infill and landscaping where feasible, the remainder would be sent to a recycling facility.
- Concrete components from existing structures would if possible be crushed and reused on site, the remainder would be sent to a recycling facility.
- Fuel and oil storage from demolition machinery would be secured and managed responsibly within compound sites during works, and removed upon completion of works.
- Re-use of material will have priority over recycling.

All waste that cannot be re-used or recycled would be disposed of in accordance with the NSW EPA's *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (1997).

7.2 Recommendations for waste minimisation during construction

It is recommended that the following measures are taken for the minimisation of construction waste at site:

- Select waste removal contractors who will guarantee that recyclable waste will be recycled,
- Order the correct quantities of materials,
- Prefabricate materials where possible,
- Reuse formwork,
- Use modular construction and basic designs to reduce the need for off-cuts,

- Separate off-cuts to facilitate reuse, resale or efficient recycling,
- Minimise site disturbance and limit unnecessary excavation,
- Reuse or recycle materials from the demolition phase where possible, e.g. use timber from demolition as formwork,
- Select landscaping which reduces green waste, and
- Coordinate and sequence trades people to minimise waste.

In addition it is recommended that:

- Recycling bins will be provided on site for paper and cardboard, metals, glass, plastic and oil, which would then be sent to approved recyclers.

All waste that cannot be re-used or recycled would be disposed of in accordance with the NSW EPA's *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (1997).

8 Waste Reporting

8.1 Evaluation plan

The General Contractor will develop, update, and post at the jobsite a graph indicating the progress to date for achieving the project's waste recycling goal of 60-80% by weight of the total project waste stream.

An audit of records will be conducted of material generated and removed off site. Where only volumetric measurements are possible standard approved density conversion factors shall be applied.

8.2 Communications Plan

8.2.1 WMP communication & education plan:

To ensure that the WMP and its targets are realised by those on-site during construction:

- The General Contractor will conduct an on-site pre-construction meeting with subcontractors. Attendance will be required for the subcontractor's key field personnel. The purpose of the meeting will be to reinforce to subcontractor's key field employees the commitments made with regard to construction waste management goals and requirements.
- There will be a nominated WMP site 'champion' to ensure the WMP is adhered to throughout works.
- Waste prevention and recycling activities will be discussed at the beginning of each subcontractor 'toolbox' meeting to reinforce plans are on track and to communicate reuse and recycling progress to date.
- As each new subcontractor comes on site, the recycling coordinators will present him/her with a summary of the WMP and provide a tour of the recycling areas.
- The subcontractor will be expected to make sure all their crews comply with the Waste Management Plan.
- All recycling skips/containers will be clearly labelled. Containers shall be located in close proximity to the building(s) under construction in which recyclables/salvageable materials will be placed.
- Lists of acceptable/unacceptable materials will be posted throughout the site.

- All subcontractors will be informed in writing of the importance of non-contamination with other materials or general waste.
- Recycling coordinators shall inspect the containers frequently to insure that no contamination is occurring and precautions shall also be taken to deter any contamination by the public.

9 Concluding Remarks

The WMP is somewhat limited by the information available at the current time (waste quantity data). Despite this the WMP is able to clearly guide and document wastes that may be generated as part of the Project Star construction works and identify best practice disposal methods and destinations.

This WMP guides the contractor to adhere to steps that reduce the demand for waste disposal while minimising the overall environment impacts of waste during Project Star construction. Further, the recommendations laid out in this plan will achieve waste minimisation targets in accordance with the overarching Federal and NSW waste regulations.

This plan will be revised as more quantity data becomes available.