

Civil



TaylorThomsonWhitting

128 Herring Road Residential Precinct Development - Road Works and Stormwater.

for Lipman Properties Pty Ltd

6th May 2010

TTW Job No: 091679

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Table of Contents

	Page
1. INTRODUCTION.....	2
2. PROPOSED DEVELOPMENT	4
3. ROADWORKS	5
4. STORMWATER	5
APPENDIX A ROAD & STORMWATER CIVIL PLANS.....	7

1. INTRODUCTION

This report is submitted by Engineering Consultancy firm Taylor Thomson Whitting (TTW) who have been engaged by Lipman Properties Pty Ltd.

The objective of this report is to provide a stormwater and road infrastructure plan which defines the civil engineering requirements of the proposed development site with respect to road access, stormwater drainage, detention and stormwater reuse provision, water quality treatment measures and erosion and sediment control requirements.

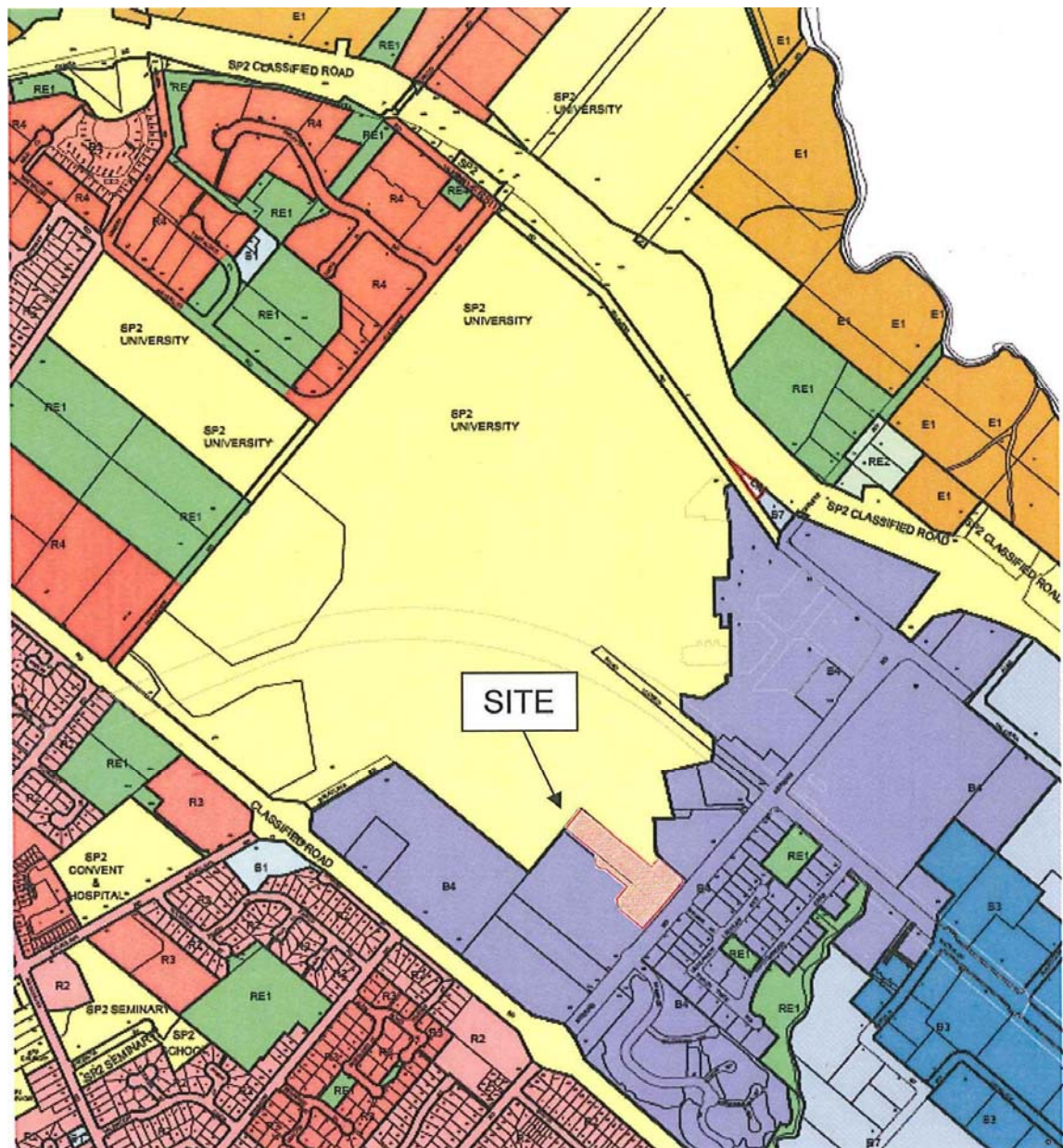


Existing Site

This report is intended to identify civil engineering issues for the 17,173 square metre development site.

The staged subdivision and staged development construction proposed will require detailed approval for each stage to ensure the development is compliant with the development consent requirements.

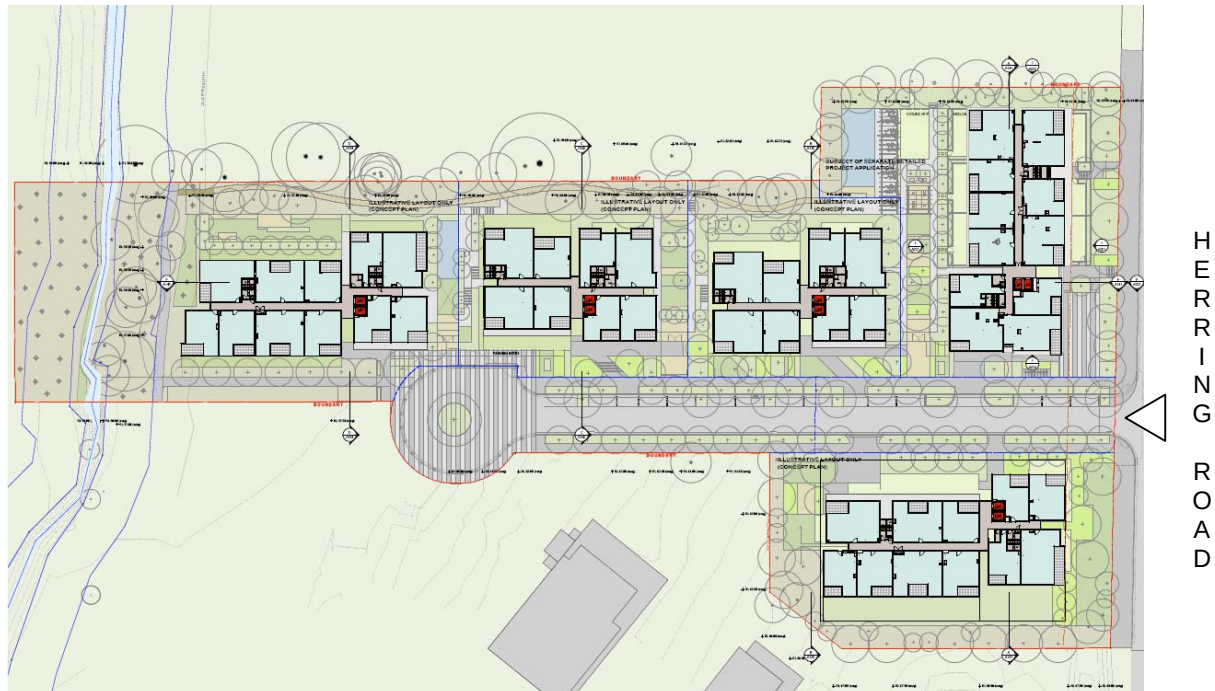
Each development stage will be designed to comply with the development consent requirements.



Local Environment Plan for the local area

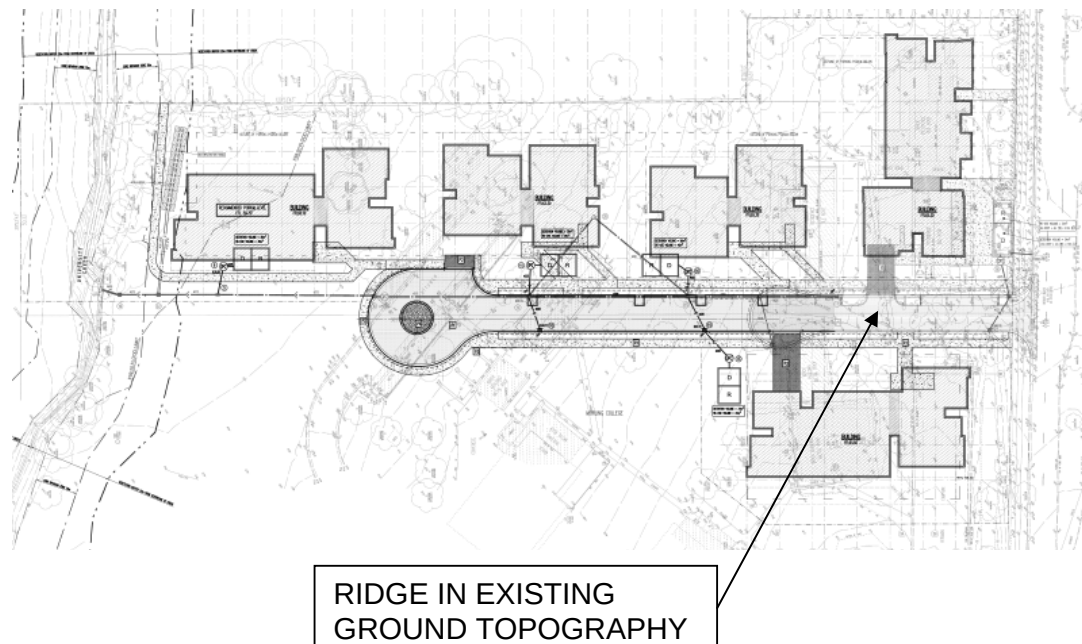
The site is currently zoned B4 mixed use based on the Ryde Council LEP 2008. The site is currently part of the Morling College campus. The Morling College site will be subdivided to accommodate the proposed development in three stages to form 7 Lots. The site is next to Macquarie University.

2. PROPOSED DEVELOPMENT



The proposed development consists of five residential buildings with road access from Herring Road.

The proposed road is approximately 160m long. The proposed road is generally in accordance with Ryde Council's DCP 2006 Macquarie Park Corridor Plan, type 3 road from chapter 5.0 of the Public Domain requirement.



130m of the road and four of the residential building development sites (Buildings B, C, D and E) drain to University Creek.

One of the five residential building sites (Building A – Lot 10) and 30m of the road will drain east toward Herring Road and connect into the Herring Road street drainage as per the fall of the proposed road connection.

2. ROADWORKS

The road works will be required to ensure adequate allowance is made for the residential traffic, garbage trucks and general traffic in accordance with AS2890.

Road levels are intended to match the existing road and ground levels to minimise the extent of retaining works and filling required.

Stormwater drainage for both construction stages of the roadworks of the development will be provided.

3. STORMWATER WORKS

The majority of the 128 Herring Road development falls to the west toward University Creek which is within the site boundary. The first stage development building (Building A) is intended to drain to Herring Road through a detention and retention system.

The flood impact of the University Creek watercourse requires that development is to be above the 100 year flood zone with suitable freeboard, and outside the riparian zone.

TTW recommend stormwater detention and reuse storage be provided for the development to ensure there is no increase of stormwater peak flow downstream due to the proposed development.

Roof water for each development stage is drained to a reuse tank to store rainwater for irrigation to landscape areas.

The overflow from the reuse tank, surface runoff for the podium of each stage and air conditioner condensate drains to a stormwater detention tank for each stage sized in accordance with Council's Stormwater Management Development Control Plan.

An oil and silt arrestor and gross pollutant trap has been provided for each development stage prior to discharge to the street drainage system.

A first flush bio-swale treatment has been proposed prior to the discharge to University Creek on the western side of the site.

Water quality modelling has been undertaken using Music to confirm the pollution reduction rates achieved by the development to limit the impact of the proposed development on downstream water quality.

TTW recommend the core riparian zone setback (CRZ) requirements be 10m from the top of bank as per the requirement for a first order water course with intermittent flow characteristics. The vegetation buffer has been nominated as 20m from the creek centreline for both the east and west sides of the creek (including the CRZ).

By:

TAYLOR THOMSON WHITTING (NSW) PTY LTD



STEPHEN BRAIN
Technical Director - Civil

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APPENDIX A

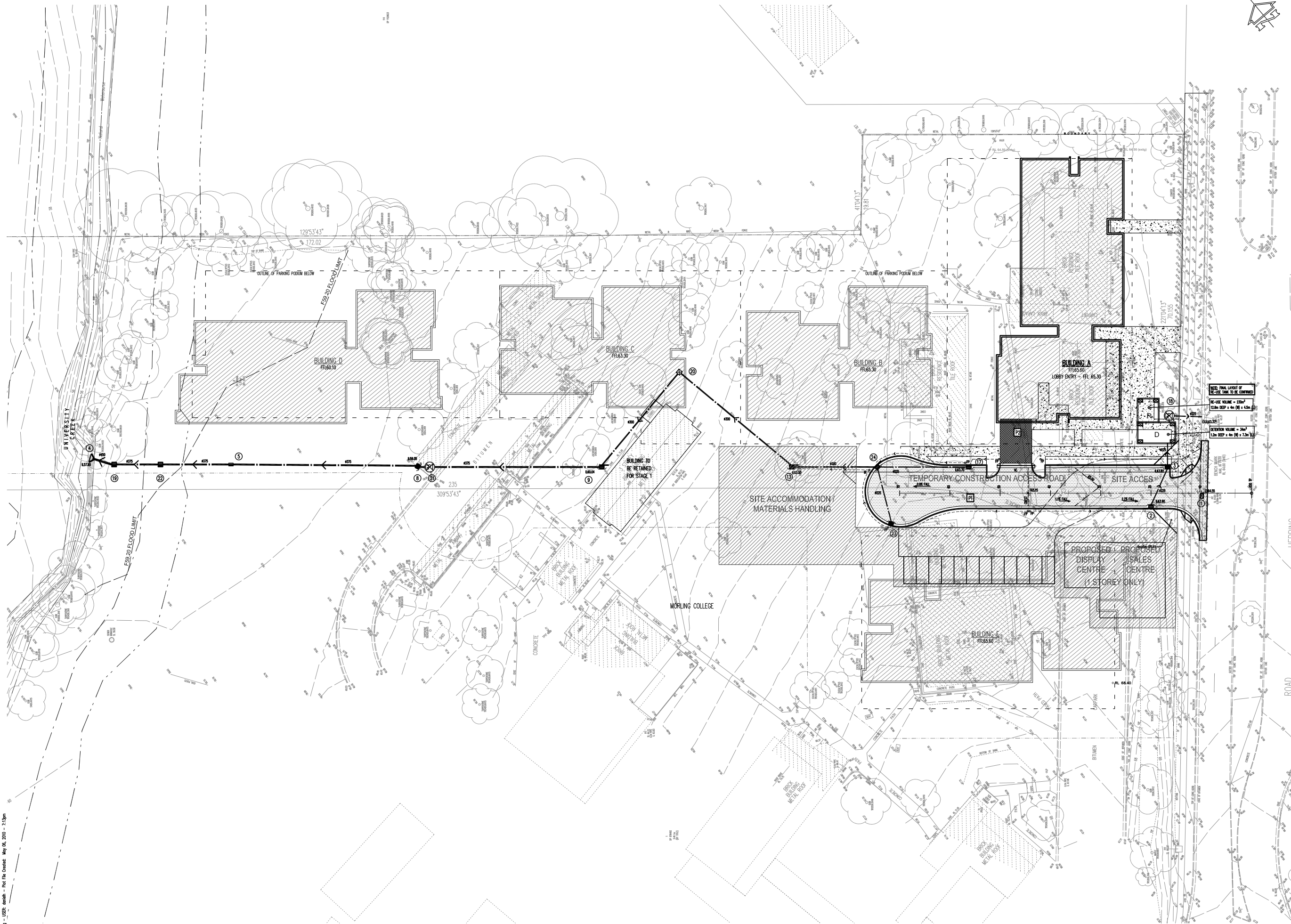
ROAD & STORMWATER CIVIL PLANS



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

FOR NOTES AND LEGENDS REFER TO DRAWING No C101

LEVELS SHOWN THUS - F10.00* - ARE TO BE CONFIRMED PRIOR TO THE COMMENCEMENT OF WORKS



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P3	ISSUE FOR COMMENTS	SB	DH	26.02.10
P2	ISSUE FOR COMMENTS	SB	DH	23.02.10
P1	PRELIMINARY	SB	OR	10.02.10

Project
**RESIDENTIAL DEVELOPMENT
128 HERRING ROAD,
MACQUARIE PARK**

Sheet Subject
**BUILDING A CONSTRUCTION
- STORMWATER CONCEPT
PLAN**

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Drawing No
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Revision
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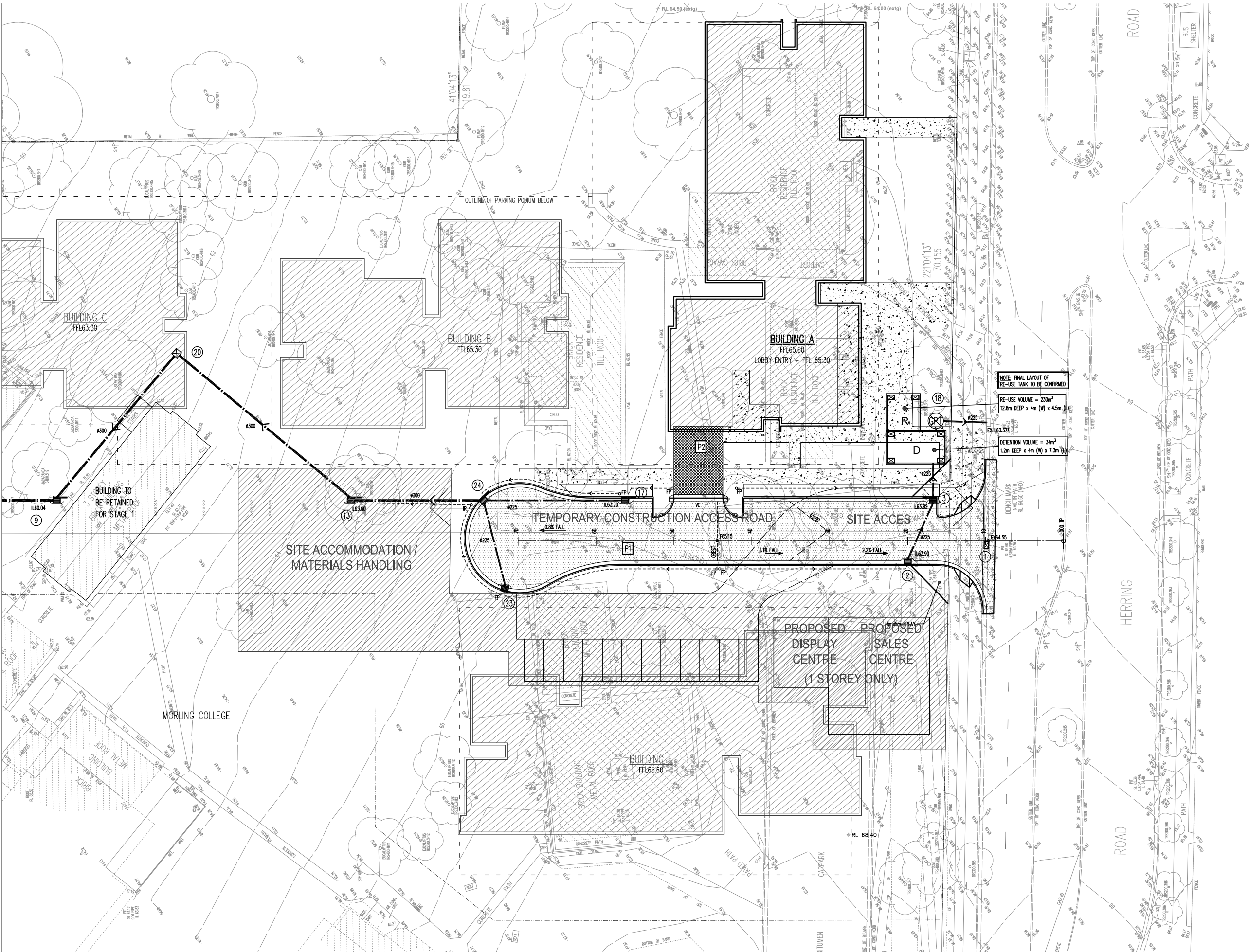
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P2	ISSUE FOR COMMENTS	SB	DH	26.02.10
P1	ISSUE FOR COMMENTS	SB	DH	23.02.10

Rev	Description	Eng	Draft	Date
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Project

**RESIDENTIAL DEVELOPMENT
128 HERRING ROAD,
MACQUARIE PARK**

Sheet Subject

**BUILDING A CONSTRUCTION
- SITEWORKS PLAN SHEET 1**

Architect
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LIPMAN
the obvious choice
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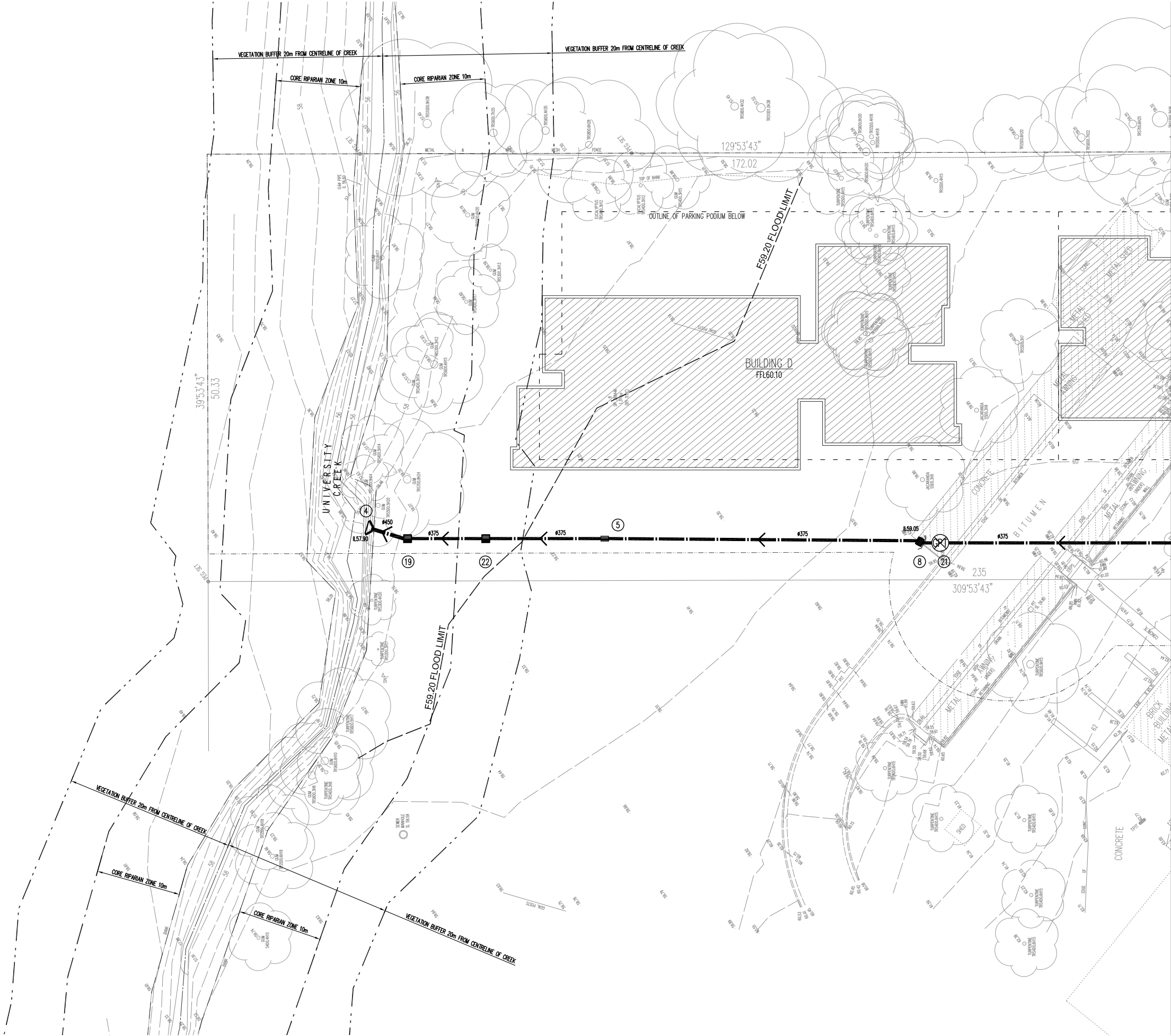
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AT ORIGINAL SIZE

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P2	ISSUE FOR COMMENTS	SB	DH	26.02.10
P1	ISSUE FOR COMMENTS	SB	DH	23.02.10
Rev	Description	Eng	Draft	Date

Project
**RESIDENTIAL DEVELOPMENT
128 HERRING ROAD,
MACQUARIE PARK**

Sheet Subject
**BUILDING A CONSTRUCTION
- SITEWORKS PLAN SHEET 2**

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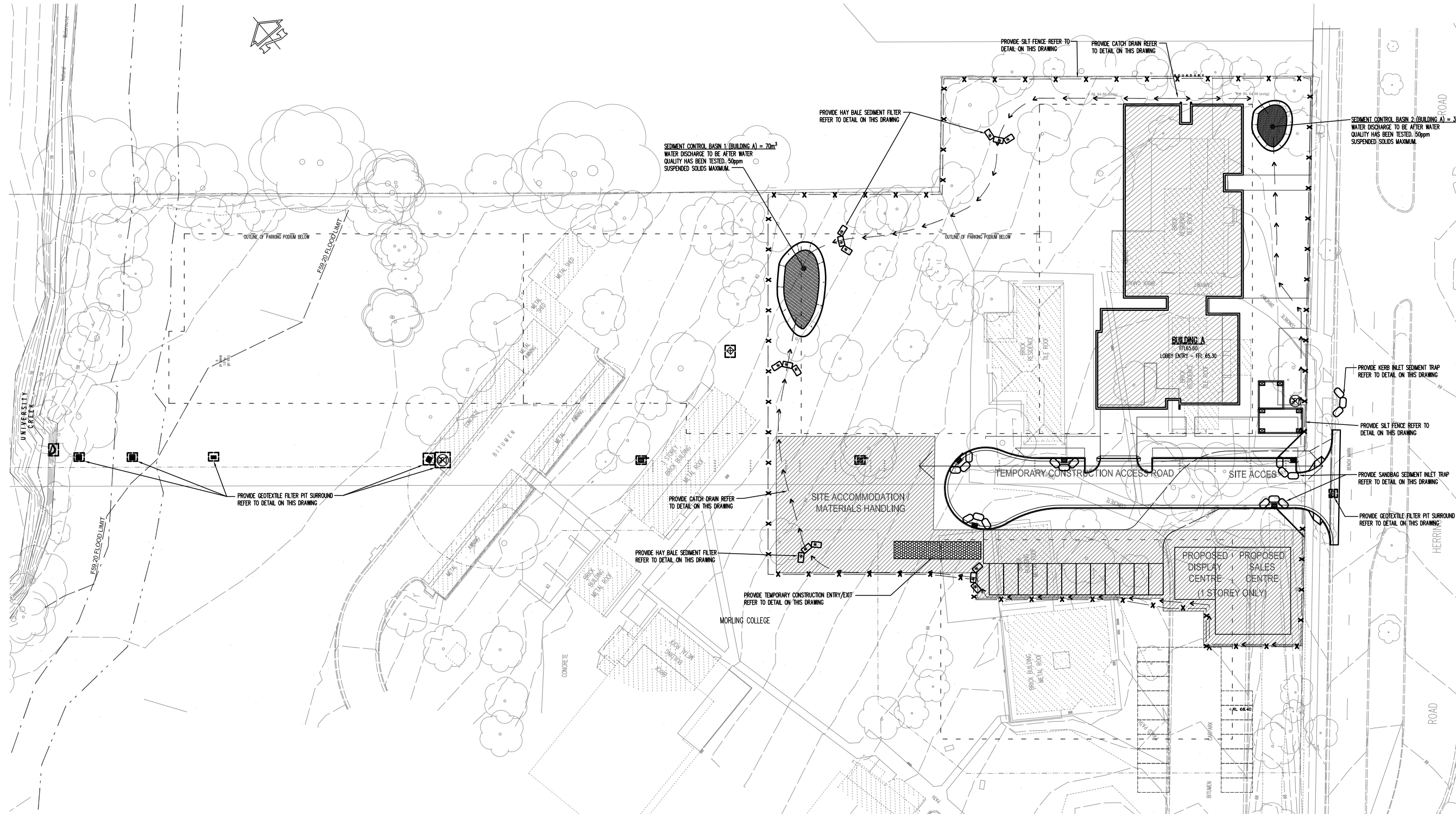
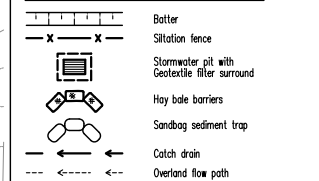
EROSION AND SEDIMENT CONTROL NOTES

- 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".
- 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.
- Maintain all erosion and sediment control devices to the satisfaction of the superintendent and the local authority.
- When stormwater pits are constructed prevent site runoff entering the pits unless silt fences are erected around pits.
- Minimise the area of site being disturbed at any one time.
- Protect all stockpiles of materials from scour and erosion. Do not stockpile loose material in roadways, near drainage pits or in watercourses.
- 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.
- Control water from upstream of the site such that it does not enter the disturbed site.
- All construction vehicles shall enter and exit the site via the temporary construction entry/exit.
- All vehicles leaving the site shall be cleaned and inspected before leaving.
- Maintain all stormwater pipes and pits clear of debris and sediment. Inspect stormwater system and clean out after each storm event.
- Clean out all erosion and sediment control devices after each storm event.

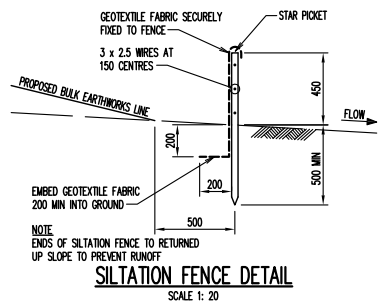
Sequence Of Works

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

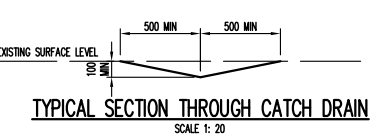
EROSION AND SEDIMENT CONTROL LEGEND



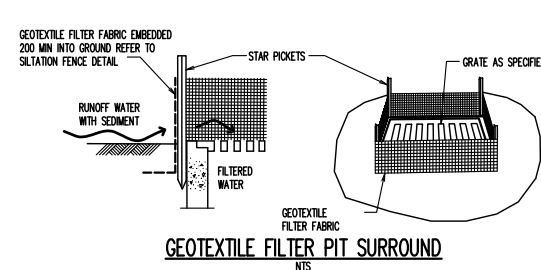
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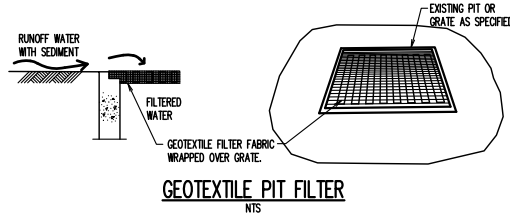
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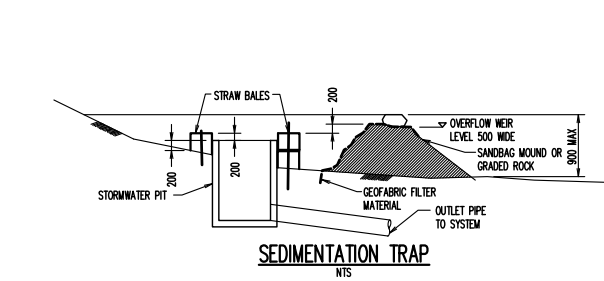
TYPICAL SECTION THROUGH CATCH DRAIN
SCALE 1: 20



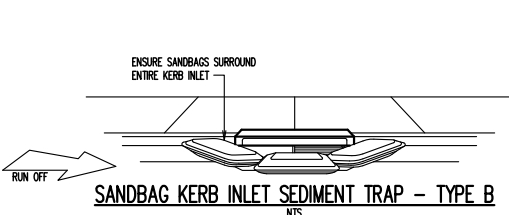
GEOTEXTILE FILTER PIT SURROUND
NTS



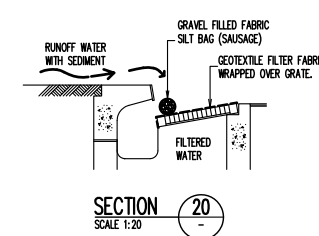
GEOTEXTILE PIT FILTER
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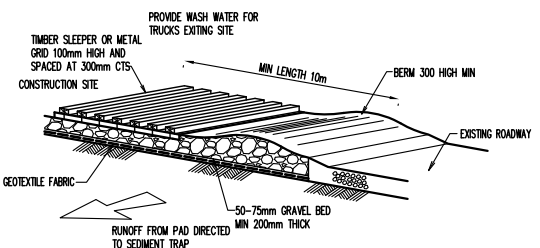
SEDIMENTATION TRAP
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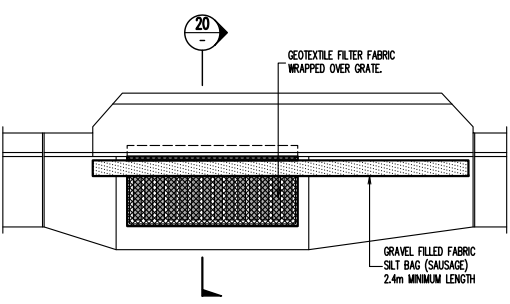
SANDBAG KERB INLET SEDIMENT TRAP - TYPE B
NTS



SECTION
SCALE 1: 20



TEMPORARY CONSTRUCTION VEHICLE EXIT
NTS



KERB INLET SEDIMENT TRAP
SCALE 1: 20

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P2	ISSUE FOR COMMENTS	SB	OH	05.03.10
P1	ISSUE FOR COMMENTS	SB	OH	04.03.10
Rev	Description	Eng	Draft	Date

Project
**RESIDENTIAL DEVELOPMENT
128 HERRING ROAD,
MACQUARIE PARK**

Sheet Subject
**BUILDING A CONSTRUCTION
- EROSION AND SEDIMENT
CONTROL PLAN**

Architect
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C105
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P3

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P3	ISSUE FOR COMMENTS	SB	DH	26.02.10
P2	ISSUE FOR COMMENTS	SB	DH	23.02.10
P1	PRELIMINARY	SB	OR	08.02.10

Rev Description Eng Draft Date

Project

RESIDENTIAL DEVELOPMENT
128 HERRING ROAD,
MACQUARIE PARK

Sheet Subject

BUILDING B CONSTRUCTION
- OVERALL PLAN

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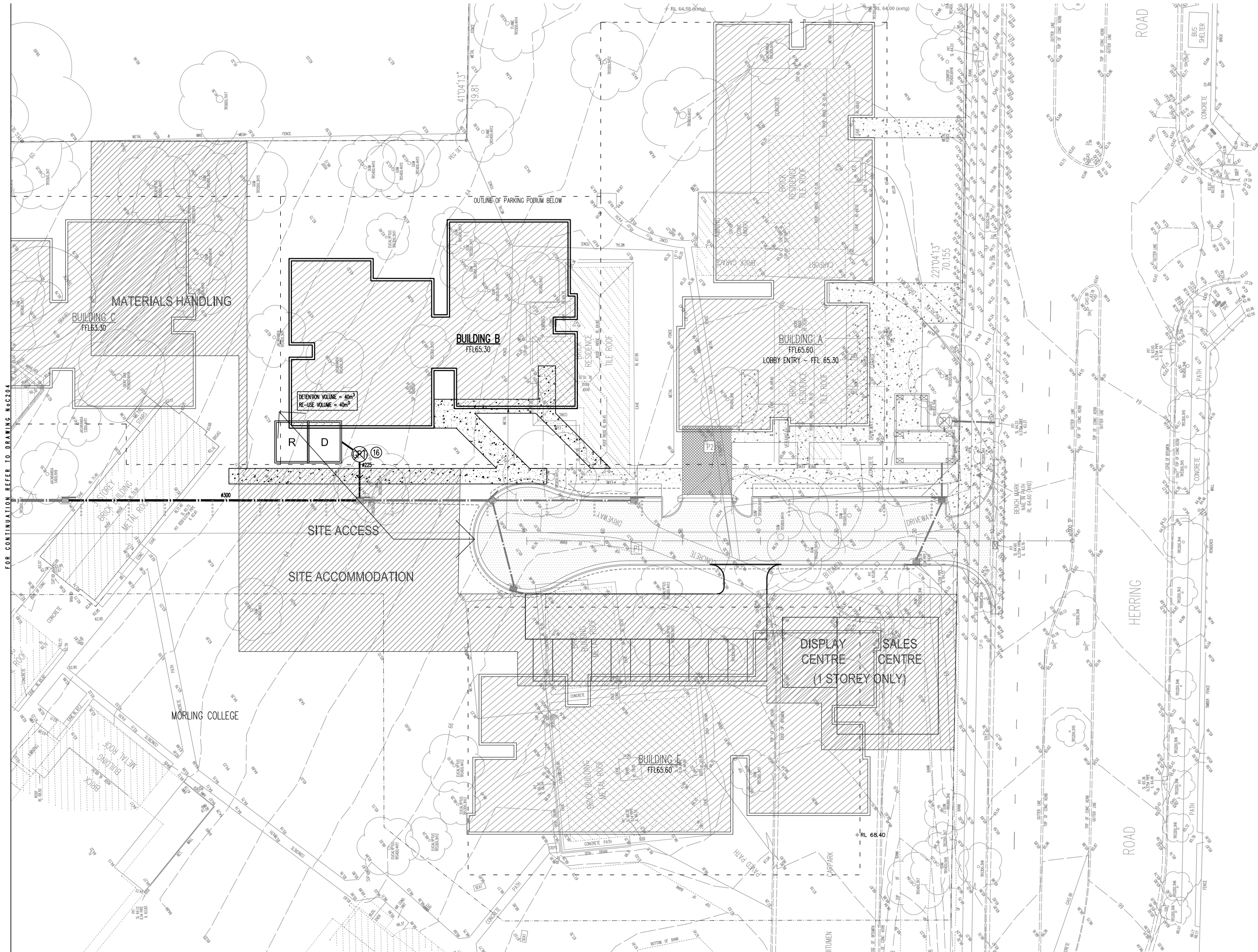
PLAN
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P1	PRELIMINARY	SB	OR	08.02.10

Rev	Description	Eng	Draft	Date

Project
**RESIDENTIAL DEVELOPMENT
128 HERRING ROAD,
MACQUARIE PARK**

Sheet Subject
**BUILDING B CONSTRUCTION
- SITEWORKS PLAN 1**

Architect
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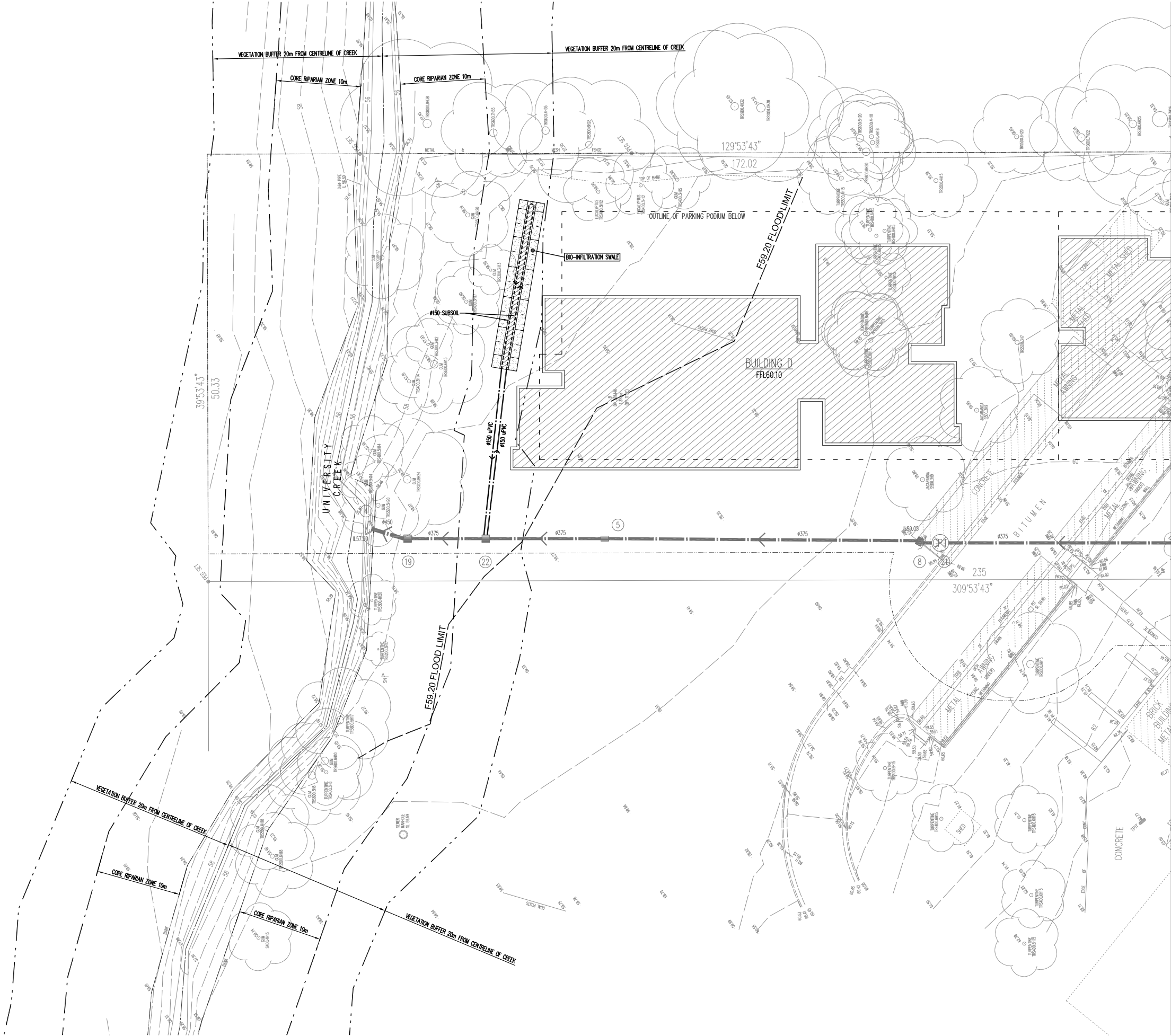
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PLAN
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AT ORIGINAL SIZE



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P3	ISSUE FOR COMMENTS	SB	DH	23.02.10
P2	ISSUE FOR REVIEW	SB	DH	17.02.10
P1	PRELIMINARY	SB	OR	08.02.10
Rev	Description	Eng	Draft	Date

Project
**RESIDENTIAL DEVELOPMENT
128 HERRING ROAD,
MACQUARIE PARK**

Sheet Subject
**BUILDING B CONSTRUCTION
- SITEWORKS PLAN 2**

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