

Construction Certificate Determination

issued under the Environmental
Planning and Assessment Act 1979
Section 109C (1) (b), 81A (2) and 81A (4)

\$130.00
157940

Certificate No. 2004/405

Council

Pittwater

**Determination
date of determination**

Approved
3 December 2004

**Subject land
Address
Lot No, DP No.**

16A Ponderosa Parade, Warriewood
Lot 16 DP 12240

**Applicant
Name
Address
Contact No. (phone)**

Michael Ambrosius
PO Box 973, Mona Vale NSW 1660

**Owner
Name
Address
Contact No. (phone)**

Mirrorbox Pty Ltd
PO Box 973, Mona Vale

**Description of Development
Type of Work**

Boat & trailer storage facility and caretakers
residence

**Builder or Owner/Builder
Name
Contractor Licence No/Permit**

Kelpie Concrete
67711C

**Value of Work
Building**

\$10,500.00

Attachments

Nil

**COUNCIL
COPY**

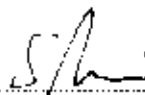
**Plans & Specification
approved**

 List plans no(s) & specifications
Reference

1. Architectural Plans, reference no. 920A Pages 1 & 2, dated 31 May 2004, prepared by Peter Formosa
2. Structural Engineers Plans, reference no. 41101, Drawing nos. S01 - S04, dated November 2004, prepared by MTK Consulting Engineers
3. Stormwater Drainage & Sediment Control Plan, reference no. 4/81, Drawing no. H-STW Rev A, prepared by ITM Design Pty Ltd
4. Landscape Plan prepared by Robyn Askew dated 24 September 2004, and endorsement dated 26 September 2004
5. Sydney Water approval dated 3 December 2004
6. Council approved vehicular access profile dated 12 November 2004

Certificate

I certify that the work if completed in accordance with these plans and specifications will comply with the requirements of S81A(6) of the Environmental Planning and Assessment Act 1979.

Signed
 9 DEC 2004

**Date of endorsement
Certificate No.**

2004/405

Certifying Authority

 Name of Accredited Certifier
Accreditation No.
Accreditation Authority

 Contact No.
Address

 Stephen Pinn
PO040
Dept of Infrastructure, Planning & Natural Resources
(NSW Accreditation Scheme)
(02) 9999 0003
13/90 Mona Vale Road, Mona Vale NSW 2103

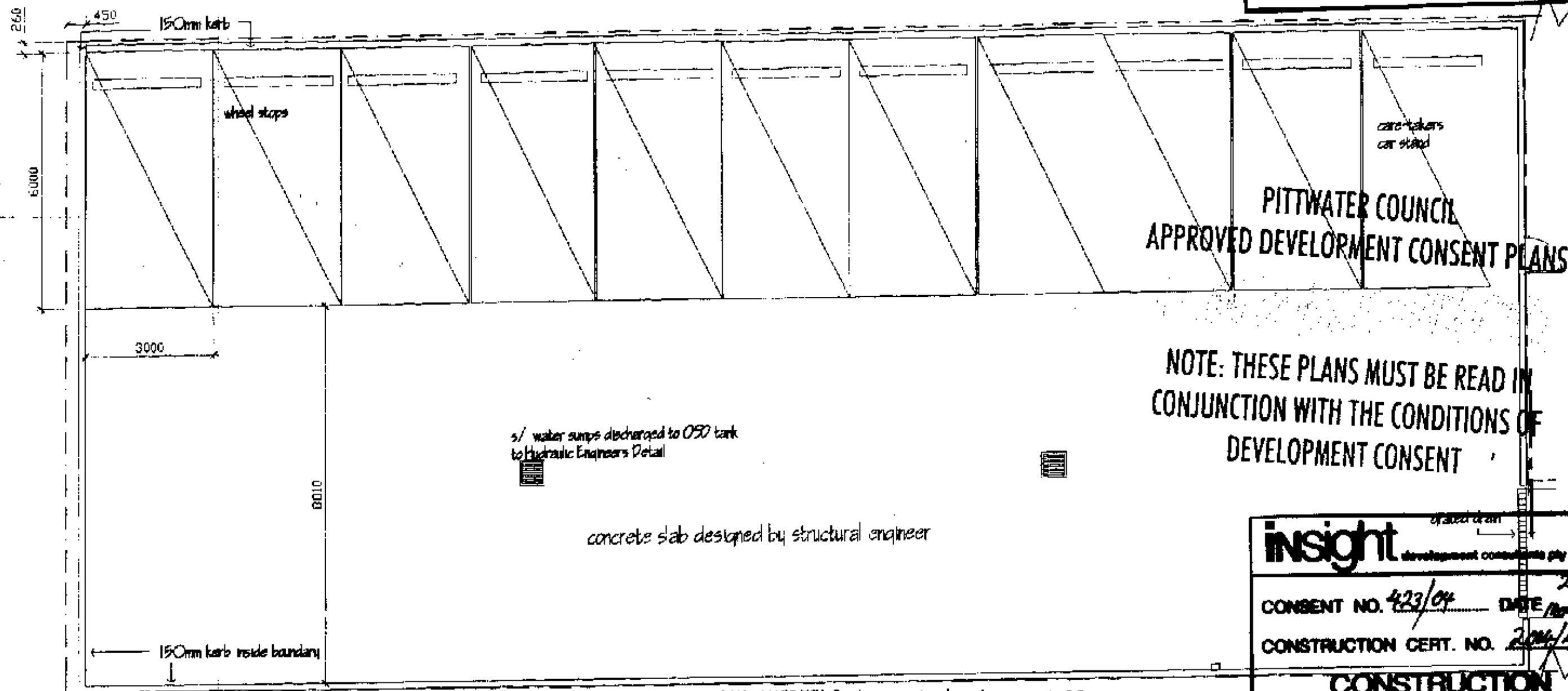
Development Consent

 Development Application No.
Date of Determination

 NO 423/04
2 September 2004 (modified 20 October 2004)

BCA Classification

10b & 1a



PART SITE PLAN OF REAR CARPARK for boat & trailer storage 1:100

insight development consultants pty ltd

2/1/2004

CONSENT NO. 423/04 DATE 20/10/2004

CONSTRUCTION CERT. NO. 2004/405

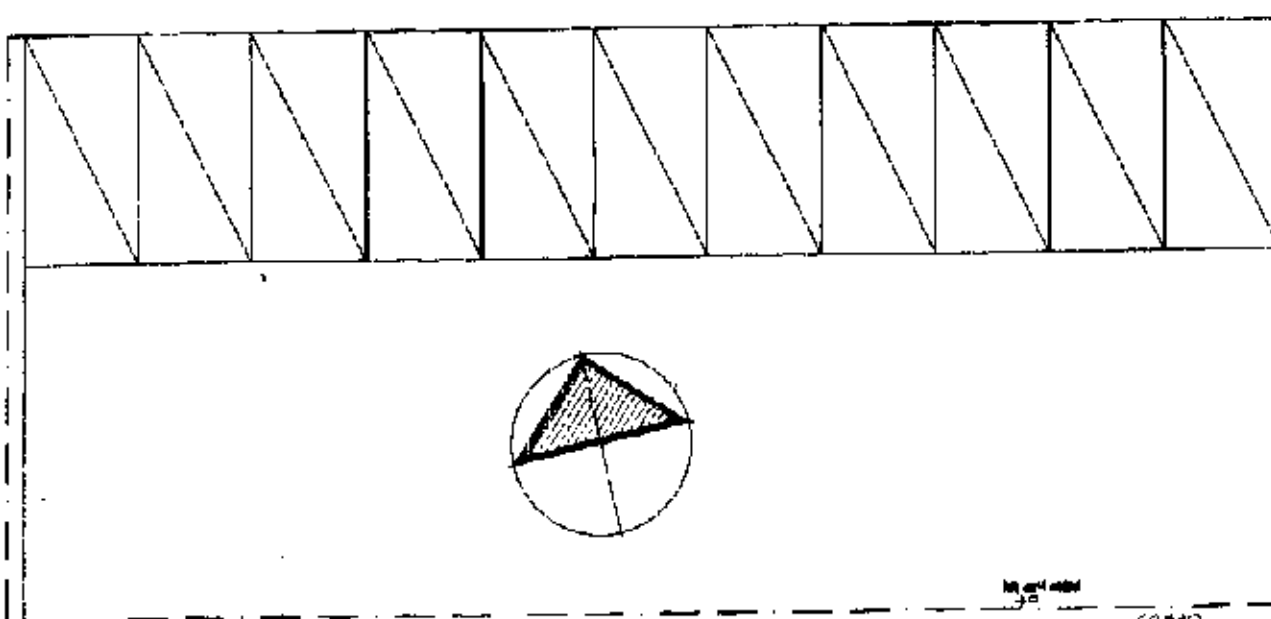
CONSTRUCTION CERTIFICATE PLANS

3 DEC 2004

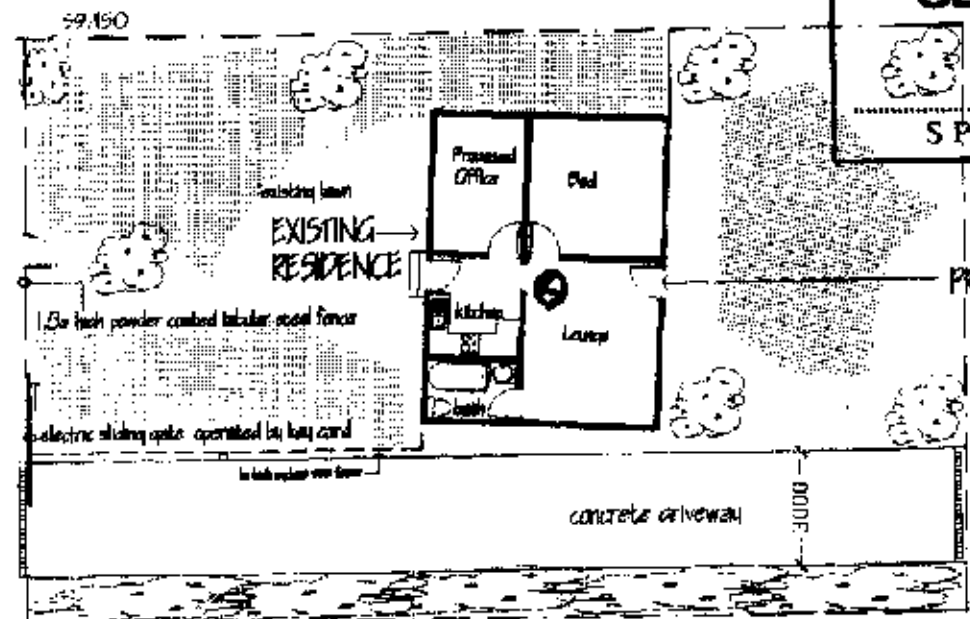
S Pinn Accreditation No. P00 40

Snake Alarm

PROPOSED CARE TAKERS RESIDENCE



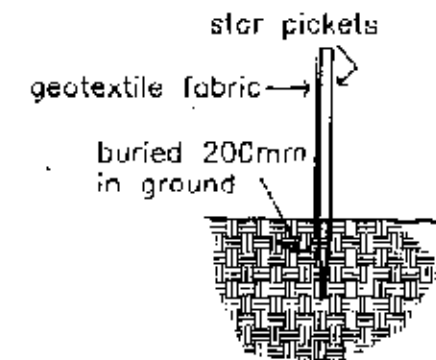
SITE PLAN scale 1:200



PREMISES No 16A Lot 16 in DP 12204 PONDEROSA PDE WARREWOOD
 PROPOSED BOAT & TRAILER STORAGE & USE OF EXISTING RESIDENCE FOR CARETAKER 31/5/2004
 Details prepared by Peter Formosa 94519450 DWG 920A

PITTWATER COUNCIL
APPROVED DEVELOPMENT CONSENT PLANS

Front Boundary



SILT & SEDIMENT FENCE

NOTE: THESE PLANS MUST BE READ IN CONJUNCTION WITH THE CONDITIONS OF DEVELOPMENT CONSENT

UNMADE FOOTPATH

17.24

Rear Boundary

natural ground levels to AHD in accordance with Mudge Property Services Surveyors plan dated 29/03/04

19.40

17.99

17.84

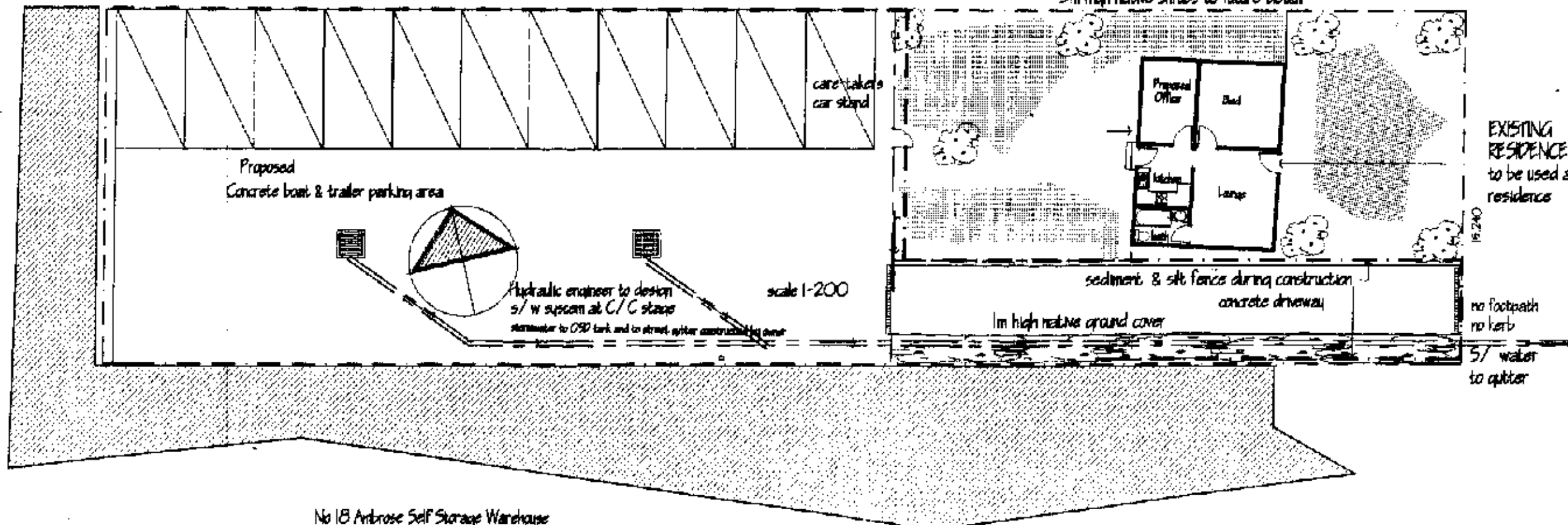
17.58

Longitudinal driveway section 1-200 scale
East - west Axis

2 x storey residence

59.450

3m high native shrubs to future detail



No 18 Ambrose Self Storage Warehouse
approx 6m high precast concrete wall panels



PITTWATER COUNCIL

Unit 9/5 Vuko Place, Warriewood NSW 2102
Telephone 9970 1111

Date: 12-Nov-04
Receipt No: 155336
Amount: \$165.00

Name: Vaughan Milligan
Postal Address: 47 Beaconsfield Street
Newport 2106

APPROVED ACCESS DRIVEWAY PROFILE AT:

16A Ponderosa Parade, Warriewood

The future vehicular access profile will be as per the enclosed plan **NH**.

WORK REQUIRED:

Construct: Vehicular access slab 3.6m long x 3.5m wide at gutter crossing to 3.5m wide at the boundary.

Type of Construction: Domestic

VEHICULAR ACCESS

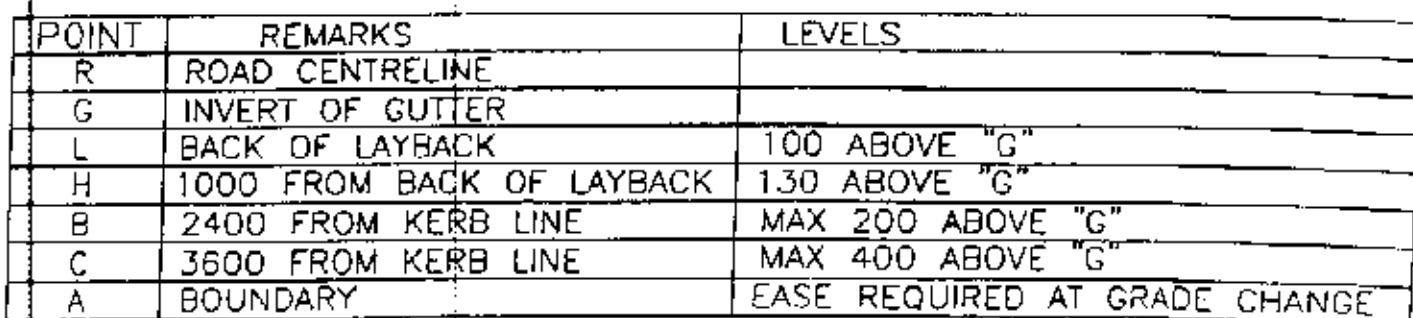
- (a) All work within the road reserve (including excavation) in connection with the above, is to be carried out by authorised contractors only.
- (b) Quotations for the work specified above should be obtained from any of the contractors on the list and should be for the whole of the work stated.
- (c) Construction of vehicular access will be strictly in accordance with the profile supplied and where the drive within the property is to be constructed first, it shall be the responsibility of the owner to have the work carried out in such a manner as to provide a smooth join and continuity of grading.

Please Note: Council will only permit an absolute maximum gradient of 25% (1 in 4) measured at any point on the driveway and that an ease may be required for access into the car stand area, carport or garage. Refer to relevant attached profile.

Sigi Melderis
ASSETS / RESTORATIONS OFFICER

**COUNCIL
COPY**

NORMAL (N)



Driveway covers to be laid on a 100mm concrete base.



NORMAL TO HIGH

NH-1

201. 14. 14. 4. 5. 11

COUNCIL COPY

SYDNEY WATER APPROVED

1. Position of structure in relation to Sydney Water's assets is satisfactory.
2. Connections to Sydney Water sewer/drainage services may only be made following the issue of a permit to a licensed plumber/drainage worker.
3. It is the owner's responsibility to ensure that all proposed fittings will drain to Sydney Water's sewer.
4. Any Plumbing and/or Drainage Work to be carried out in accordance with the Sydney Water Act 1994, AS 3500 and the NSW Plumbing Code of Practice.
5. Gullies, Inspection Shafts and Boundary Markers shall not be placed under any Roof, Balcony, Verandah, Floor or other cover unless otherwise approved by Sydney Water.
6. Property No. 3432975

Reece, Mona Vale
Quick Check Agent on behalf of
SYDNEY WATER

Per: Reece 3/12/04

ROBYN ASKEW LANDSCAPES

Design and Consulting

ABN 79 611 536 750

26th September 2004

Dear Sir/Madam,

**PREMISES: 16A PONDEROSA PARADE WARRIEWOOD
DEVELOPMENT APPLICATION NO: N0423/04**

The landscape plan submitted for the above property drawn by Robyn Askew and dated 24th September 2004 complies with conditions B45, B45a & B48 of the development consent.

The proposed plantings comply with the provisions of Council's Development Control Plan No. 23 Landscape and Vegetation Management.

Yours Sincerely

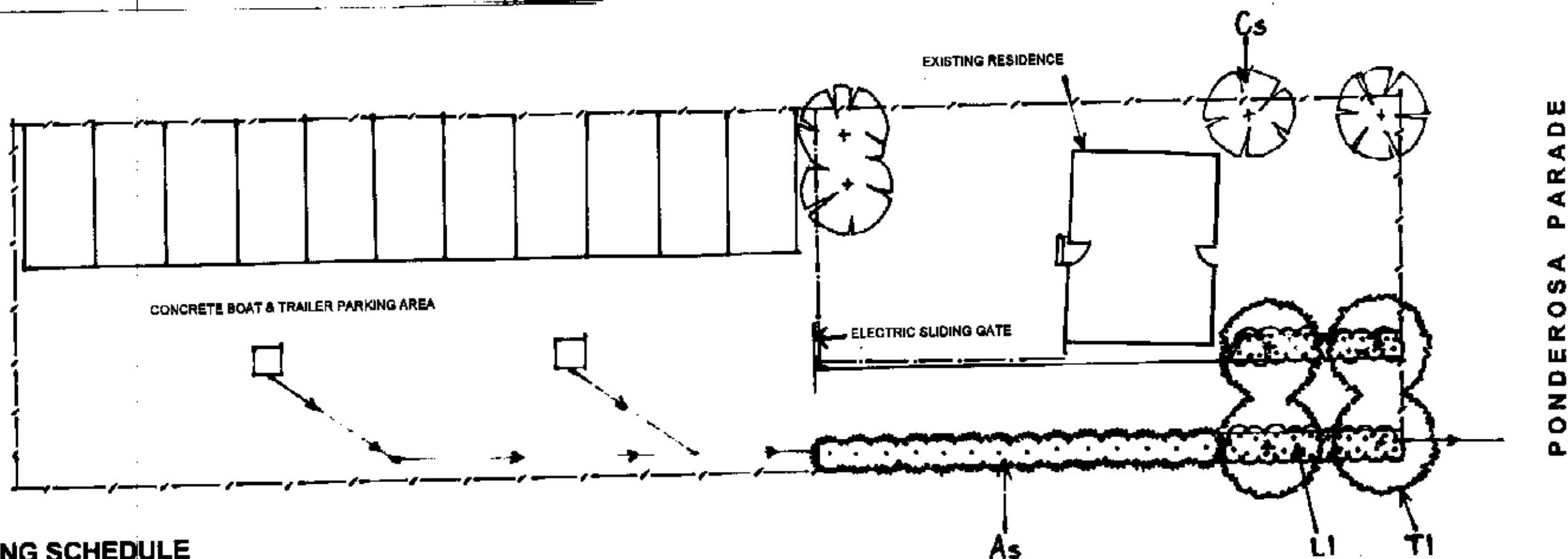


Robyn Askew

Assoc. Dip. App. Science (Landscape)

16 Walworth Avenue, Newport NSW 2106
Phone (02) 9997 6883 Mobile 0419 205 710
Email: ingra@tpg.com.au

**COUNCIL
COPY**



PLANTING SCHEDULE

Sym	Botanical Name	Common Name	No.	Size	Maturity Height
As	Acmena smithii "Hot Flush"	Lilly Pilly	14	15 lit.	3 metres
Cs	Callistemon salignus	Willow Bottlebrush	4	15 lit.	6 metres
LI	Lomandra longifolia	Lomandra	35	5 lit.	0.5 metre
TI	Tristainiopsis laurina	Water Gum	4	15 lit.	6-8 metres

LANDSCAPE CONSTRUCTION NOTES

Preparation of Garden Beds

The garden beds shall be cultivated to a depth of 300mm and a composted manure mix incorporated into the existing soil. Water garden beds well prior to planting.

Planting

Dig plant holes twice as deep and wide as the pot size. Remove plant from pot and install plant at proposed ground levels. Water installed plants thoroughly. Fertilise with Osmocote Native Plant Fertiliser after watering.

Mulching

Cover all garden beds with a 150mm layer of leaf mulch or straw.

Irrigation

A drip irrigation system shall be installed to all garden beds to the manufacturers specifications.

Planting Maintenance

The owner/occupier shall carry out and fully implement the maintenance and establishment for a period of 12 months on completion of the specified landscape works. Throughout the maintenance period continue to carry out recurrent works of the maintenance nature as specified elsewhere in this specification, including but not limited to watering, mowing, weeding, fertilizing, pest and disease control, plant replacements and the like as follows:

Watering:	As required to maintain the best possible conditions and growth rates of plant materials. Regularly check that the irrigation system is functioning adequately.
Replacements:	Immediately replace plants which die or fail to thrive or are damaged or stolen with plants of the same species and of similar size and quantity unless otherwise specified.
Mulched Surfaces:	Maintain in a clean and tidy condition and reinstate the mulch as necessary.
Pruning:	The plants shall be regularly checked and removal of dead wood carried out if necessary. Branches interfering with vehicular access shall be pruned back to the nearest branch juncture.
Pests and Diseases:	The plants shall be regularly checked and treated for any pests and diseases as required.
Soil Testing:	Soil testing may be required if plants are not obtaining good growth rates.

**COUNCIL
COPY**



PROPOSED BOAT & TRAILER STORAGE

AT: 16A PONDEROSA PARADE WARRIEWOOD

LANDSCAPE PLAN

SCALE: 1:200

DATE: 24th September 2004

DESIGN & DRAWN BY: ROBYN ASKEW
Assoc. Diploma Applied Science (Landscape)

TELEPHONE: (02) 9997 6883
MOBILE: 0419 205 710

GENERAL NOTES:

GENERAL

- G1. The drawings are to be read together with all Architects drawings and specifications.
- G2. Dimensions shall not be obtained by scaling from the drawings. All setting out dimensions shall be verified and discrepancies shall be referred to the Engineer prior to commencement of work.
- G3. Care is required during construction so that structural elements are not overstressed and that the works and excavations required therefore are kept stable at all times.
- G4. Design, materials and workmanship are to be in accordance with current S.A.A. standards and statutory authority regulations except where varied by these documents.
- G5. Design live loads for floors are as follows:- Generally = 1.5 kPa.
Balcony = 3.0 kPa.

FOOTINGS

- F1. Footings to be constructed and back filled as soon as possible following excavation to avoid softening by rain or drying out by exposure.
- F2. Footings must bear 250 mm (minimum) into natural ground clear of organic material.
- F3. If rock or variable bearing strata is encountered during excavation of the footings, all footings/piers are to be excavated to similar material. The Engineer is to be contacted for approval or review.
- F4. Footings to be cast in approved material having an allowable capacity as follows.
- Sand Foundations:**
- SA1. Required bearing capacity 100 kPa.
SA2. Trenches must be cleaned of all debris and hand compacted prior to placement of reinforcement.
- Clay Foundations:**
- CL1. Required bearing capacity 150 kPa.
CL2. Trenches must be cleaned of all debris. Soft spots must be cut out and filled as per compacted fill notes, prior to placement of reinforcement.
- Shale Foundations:**
- SH1. Required bearing capacity 400 kPa.
SH2. Excavation for footings into shale must be cast or capped with plain concrete on the same day as excavation.
- Sandstone Foundations:**
- SS1. Required bearing capacity 850 kPa.
SS2. Scrape weathered surface to remove cleaved sandstone under footings.

COMPACTED FILL

- CF1. Clear organic material and topsoil under proposed slabs/footings.
- CF2. Filling shall be granular material compacted in not more than 200 mm layers to a minimum dry density ratio (AS 1289/E4.2 1982) of 98 percent. A Geotechnical Engineer must verify the compaction.
- CF3. During clearing and excavation for slabs and footings cut out soft spots and fill as above.

STEEL

- S1. All steel work to be grade 300 steel. Hollow sections to be grade 250 or 350 as appropriate. Design, fabrication and erection to be in accordance with AS 4100.
- S2. Steel work shall have one of the following grades of corrosion protection:-
- Thoroughly cleaned wire brushing, followed by two coats of zinc phosphate primer equivalent to Dulux Lusaprim applied by hand using brushes to achieve a total dry film thickness of 70 microns
 - Preparation Blast clean to a minimum standard Class 2.5 in accordance with AS 1627 Part 4.
Primer 2-pack epoxy phosphate at dft 75 microns (Dulux Dureport P14).
Barrier Coat 2-pack epoxy micasious iron oxide, dft 100 microns
Finish Coat 2-pack epoxy high gloss acrylic to dft 75 microns (e.g. Dulux Acronthane I F) in an approved colour.
 - Hot dipped galvanized to AS 4680
Where galvanized coating is broken on site make good Interlac 52 Primer, two pack Interlac 420 and top coat with Interlac 990 by International Paints and apply the following surface coating:

Galmat Kettle Etch Primer, one coat 10 microns DFT
Galmat Kettle Steel Primer, 1 to 2 coats 25 microns DFT
Galmat Cold Gal, 2 coats 30 microns DFT
Galmat Roof Paint, two coats 30 microns DFT

ELEMENT	SURFACE TREATMENT
INTERNAL ELEMENTS	'A'
EXTERNAL ELEMENTS AND ELEMENTS WITHIN EITHER SKIN OF EXTERNAL WALLS	'C'

- S3. All bolts to be grade 4.6/5 unless noted otherwise.
All bolts to be M16 bolts unless noted otherwise.
All bolts, nuts and washers are to be hot dip galvanized to AS 4680.
- S4. All welds to be 6 mm continuous fillet welds unless noted otherwise.
- S5. All steel and base plates are to be 10 mm thick unless noted otherwise.
- S6. Workshop drawings shall be prepared and two copies submitted to the engineer for review prior to fabrication commencement.

CONCRETE

- C1. All workmanship and materials shall be in accordance with AS 3600.
- C2. Concrete quality shall be as follows and shall be verified by tests.

ELEMENT	STRENGTH	SUMP	MAX. AGG. SIZE
FOOTINGS	20 MPa	80 mm	20 mm
SLAB ON GROUND	25 MPa	80 mm	20 mm
INTERNAL SUSPENDED SLABS	32 MPa	80 mm	20 mm
EXTERNAL SUSPENDED SLABS Greater than 1 km from sea	32 MPa	80 mm	20 mm
EXTERNAL SUSPENDED SLABS Less than 1 km from sea	40 MPa	80 mm	20 mm
BLOCK INFILL	20 MPa	230 mm	10 mm

- C3. Clear concrete cover to reinforcement shall be as follows unless otherwise shown:-

ELEMENT	EXPOSURE CLASSIFICATION TO AS 3600	CLEAR COVER
FOOTINGS	N.A.	65 mm
SLABS - INTERNAL	A1	25 mm
SLABS - EXTERNAL Greater than 1 km from sea	B1	40 mm
SLABS - EXTERNAL Less than 1 km from sea	B2	45 mm
BEAMS & COLUMNS - INTERNAL	A1	30 mm
BEAMS & COLUMNS - EXTERNAL	B2	45 mm

- C4. Sizes of concrete elements do not include thickness of applied finishes.
- C5. Construction joints where not shown shall be to the approval of the engineer.
- C6. Beam depths are written first and include slab thickness, if any.
- C7. No holes or classes other than those shown on the structural drawings shall be made in concrete elements without the prior approval of the engineer.
- C8. Reinforcement is represented diagrammatically it is not necessarily shown in true projection.
- C9. Splices in reinforcement are not to be located in positions of maximum moment, any lap other than that shown shall be subject to the approval of the engineer. Where the lap length is not shown it shall be sufficient to develop the full strength of the reinforcement.
- C10. Welding of reinforcement shall not be permitted unless shown on the structural drawings.
- C11. Pipes or conduits shall not be placed within the concrete cover to reinforcement without the approval of the engineer.
- C12. All reinforcing bars shall comply with AS 1302. All fabric shall comply with AS 1303 and AS 1304 and shall be supplied in full sheets.

C13. Reinforcement symbols:

- S - Grade 230S Deformed bar
C - Grade 410C Cold worked deformed bar
Y - Grade 400Y Deformed bar
R - Grade 230R Plain bar
F - Grade 460F Welded plain wire fabric
RF - Grade 500RF Welded ribbed wire fabric
The number immediately following these symbols is the number of millimeters in the bar diameter.

- C14. Fabric reinforcement to be lapped 225 minimum at the ends and sides unless noted otherwise.
- C15. All reinforcement shall be firmly supported on plastic chairs spaced at a maximum of 900 and 800 centres both ways under rod and fabric reinforcement respectively. Rods shall be tied at alternate intersections.
- C16. Formwork must be cleaned of all debris prior to casting of concrete.
- C17. Minimum stripping times for form work shall be as recommended in AS 1509 or as directed by the engineer.
- C18. The finished concrete shall be a dense homogeneous mass, completely filling the form work, thoroughly embedding the reinforcement and free of air pockets. All concrete elements including slabs on ground and footings shall be compacted with mechanical vibrators.
- C19. Curing of all concrete is to be achieved by keeping surfaces continuously wet for a period of 3 days, followed by prevention of loss of moisture for seven days followed by a gradual drying out. Approved sprayed on curing compounds may be used where no floor finishes are proposed. Polythene sheeting or wet hessian may be used if protected from wind and traffic.
- C20. Shrinkage reducing admixtures such as 'Eclipse' or approved equivalent, if specified, must be added to mix prior to pour.
- C21. Water reducing agents, if specified, must be added to mix prior to pour. No extra water to be added.
- C22. Where vertical slab/beam surfaces are formed against a masonry (or other) wall, provide 10 mm (Ableflex) or styrene separation material.

BRICKWORK

- BR1. Brickwork is to be constructed with mortar in the ratio 1:1.6, Cement:Lime:Sand and to be adequately cured prior to being loaded. Sand is to be clean with no clay content. Masonry to be constructed to AS 3700.
- BR2. Two layers of approved greased metal based slip material shall be used over all load bearing walls that support concrete slabs and placed on smooth brickwork or trowelled mortar finish. Non load-bearing walls shall have 10 mm compressible material and tie to the slab soffit.
- BR3. No brickwork or blockwork shall be constructed on suspended slabs until all propping has been removed from the underside of the slab and the concrete has the specified 28 day cylinder strength verified by tests.
- BR4. Control joints to be placed at a maximum of 8 m centres.
- BR5. Exposure grade bricks to be used below damp proof course.
- BR6. Separation control joint material between slabs and brick walls shall be: 10 mm Spandex External UNO.
Bitumastic fibreboard Internal UNO.
- BR7. Provide 316 stainless steel wall ties below DPC to AS 3700. Ensure the following minimum standards are complied with:
Within 1 Km of breaking surf or 100m of still water provide stainless steel wall ties above DPC to AS 3700.
In areas of heavy industrial pollution provide stainless steel wall ties above DPC to AS 3700.
All other areas provide galvanized wall ties above DPC to AS 3700.

BLOCKWORK

- BL1. Concrete blocks shall have a minimum compressive strength of 15 MPa and conform to AS 1500. Mortar is to be 1:1/2:3, Cement:Lime:Sand. Masonry to be constructed to AS 3700.
- BL2. Where cores of hollow blocks are to be filled, properly compacted concrete with 10 mm aggregate and 230 mm slump shall be used. Clean out openings must be utilized for all cores.
- BL3. Location of actual starters is critical to suit block cores, allow 55 mm cover from the outside of blockwork. All reinforcement lap lengths to conform to AS 3600.
- BL4. Control joints to be placed at a maximum of 8 m centres.
- BL5. Separation control joint material between slabs and blockwork walls shall be: 10 mm Spandex External UNO.

- BL6. Retaining walls or any reinforced and concrete core filled block walls to be of Double 'U' Block Construction.
Bitumastic fibreboard Internal UNO.
- BL8. Retaining walls or any reinforced and concrete core filled block walls to be of Double 'U' Block Construction.

TIMBER

- T1. All timber design and construction to be to AS 1720. AS 1684 is relevant to domestic construction in sheltered locations. All Oregon to be grade F7 unless noted otherwise. All hardwood to be minimum grade F14. Exposed timber to be CCA treated radiata pine (to AS 1604) redried after full impregnation, or hardwood durability class 1 or 2.
- T2. All joists to have blocking over support bearers and at maximum 3m centres.
- T3. Roof trusses to be designed by the manufacturer to AS 1720. Pre camber to be an amount equal to dead load deflection u.n.c. Three copies of shop details to be submitted for review prior to commencing construction.
- T4. All holes for bolts to be exact size. Washers to be used under all heads and nuts to be at least 2.6 times the bolt diameter. Bolts to be M16 grade 4.8 unless noted otherwise.
- T5. Provide timber lintel over door openings of similar size to floor joists where required for spans up to 1800 mm.
- T6. Treat all exposed cut ends with Xi Clear by Proform or approved equivalent.

INSPECTIONS BY ENGINEER

- 24 HOURS NOTICE IS REQUIRED BEFORE ANY SITE INSPECTION
- Bearing strata of all footings prior to concrete pour.
 - Any reinforcement prior to concrete pour.
 - Timber and Steel framing prior to cladding.
 - Steel lintels after installation.

WARNING

PLEASE NOTE: The stamping of this plan by Insight Development Consultants Pty Ltd does not relieve the Applicants responsibility to obtain approval from Sydney Water or other utilities prior to the commencement of any works.

Dial Before You Dig 1100

INSIGHT DEVELOPMENT CONSULTANTS PTY LTD

Structural Details C.C. No. 2004/405

PLEASE NOTE: The stamping of this plan by Insight Development Consultants Pty Ltd does not relieve the Structural Engineers of their responsibility to ensure the structural adequacy of this project.

NOTES:

ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK

COUNCIL COPY

Date:	Rev:	Amendment:
NOV 2004	M.K.	F.P.
Job No:	Drawing No:	Rev:
41101	S01	-

A3

DOCUMENT CERTIFICATION

Date: 11/11/2004

Michael Kelett

(For MK Consulting)

I am a qualified Structural/Civil Engineer.
I hold the following qualifications:
B.E.(CIVIL), MIEAust, C.P.Eng.
Institute of Engineers Membership No. 842185
I hereby state that this drawing is in compliance with the conditions of the development consent, the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.

MTK Consulting
Structural, Civil, Stormwater
ABN 58 608 576 84-1
PO Box 703
DEE WHY NSW 2099
Ph (02) 8666 9822 Fax (02) 9679 1817
e-mail mtk@mtkconsulting.com.au

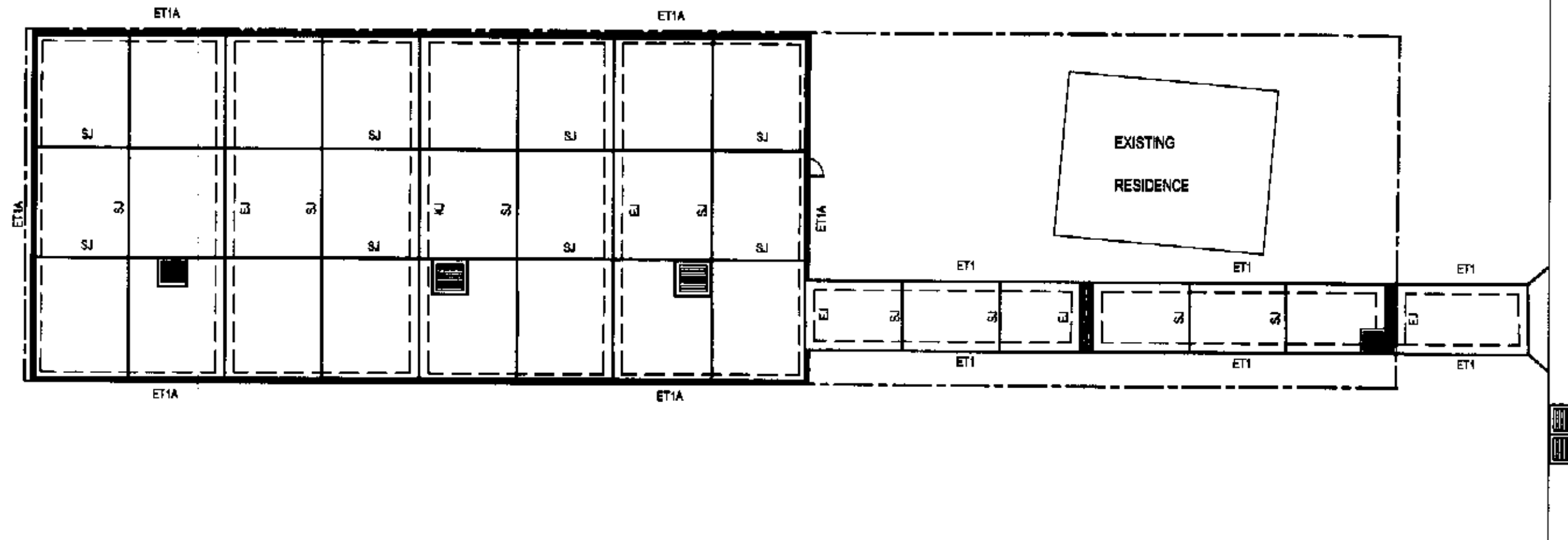
Project:

PROPOSED WORKS
at 16a PONDEROSA PARADE
WARRIEWOOD

Drawing Title:

GENERAL NOTES

The copyright of this drawing remains with MTK Consulting.



DRIVEWAY & PARKING SLAB PLAN

SCALE = 1:200

PROVIDE 140mm SLAB WITH F92 MESH TOP ONO
 BACKFILLING AROUND PITS TO BE COMPACTED AS PER NOTES
 REFER TO DRAWING S03 AND S04 FOR DETAILS
 PITS, HOBS LOCATIONS, LEVELS AND FALLS TO ARCHITECTURAL AND STORMWATER DOCUMENTATION.
 ADVISE ENGINEER IMMEDIATELY FOR INSPECTION WHERE GROUND CONDITIONS VARY TO DETAILS.

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: S01.

A3

DOCUMENT CERTIFICATION

Date: 5/11/2004

Michael Kelett

(For MTK Consulting)

I am a qualified Structural/Civil Engineer.
 I hold the following qualifications:
 B.E.(Civil), MIEAust. C.P.Eng
 Institute of Engineers Membership No. 642185
 I hereby state that this drawing is in compliance
 with the conditions of the development consent,
 the provisions of the Building Code of Australia
 and/or relevant Australian/Industry Standards.

MTK Consulting
 Structural, Civil, Stormwater

ABN 58 605 578 841
 PO Box 703
 DEE WHY NSW 2090
 Ph: (02) 9899 8522 Fax: (02) 9879 1017
 e-mail: mtk@mtkconsulting.com.au

Project:

PROPOSED WORKS
 at: 16a PONDEROSA PARADE
 WARRIEWOOD

Drawing Title:

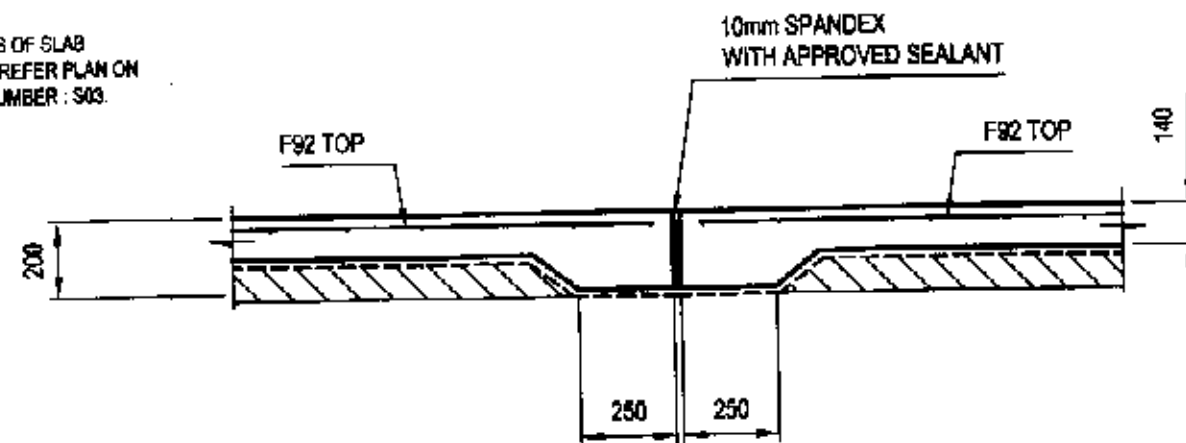
SLAB & DRIVEWAY PLAN

The copyright of this drawing remains with MTK Consulting.

Date:	Rev:	Amendment:
NOV 2004	M.K.	F.P.
Job No:	Drawing No:	Rev:
41101	S02	-

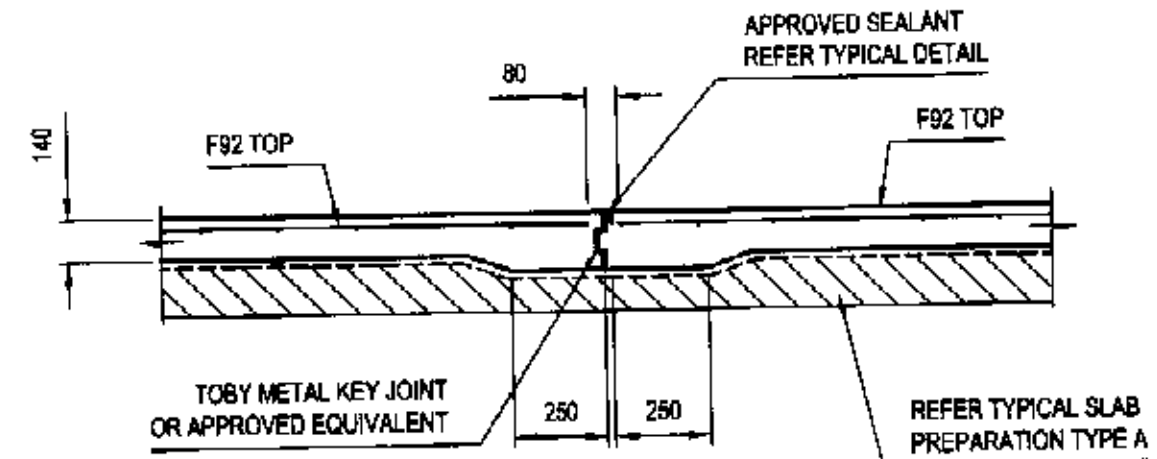
NOTE:

FOR DETAILS OF SLAB
THICKNESS REFER PLAN ON
DRAWING NUMBER: S03.



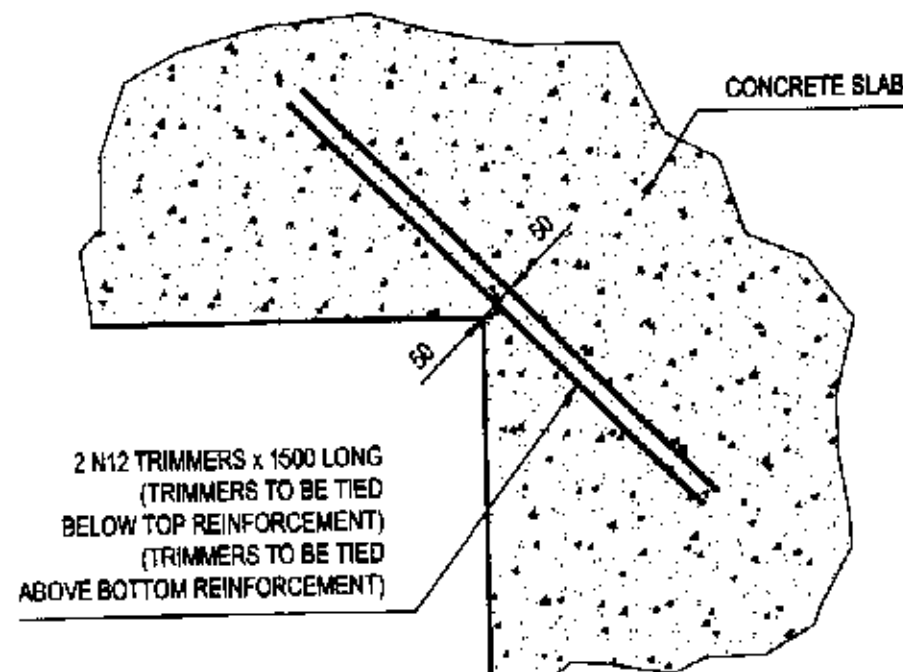
**EXPANSION JOINT DETAIL
DENOTED E.J. ON PLAN**

SCALE = 1 : 20



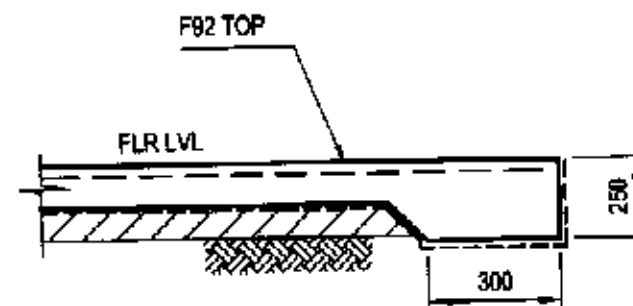
**KEYED JOINT DETAIL
DENOTED K.J. ON PLAN**

SCALE = 1 : 20



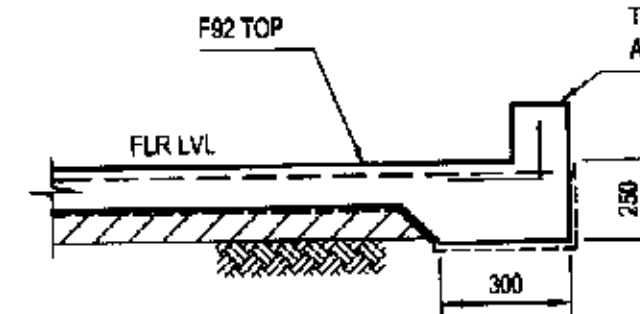
TYPICAL TRIMMER DETAIL AROUND PITS

SCALE = 1 : 20



TYPE 'ET1' BEAM

SCALE = 1:20



TYPE 'ET1A' BEAM

SCALE = 1:20

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: S01.

A3

DOCUMENT CERTIFICATION

Date: 5/11/2004

Michael Kelett
(For MTK Consulting)

I am a qualified Structural/Civil Engineer.
I hold the following qualifications:
B.E.(Civil), MIEAust, C.P.Eng
Institute of Engineers Membership No. 642135
I hereby state that this drawing is in compliance
with the conditions of the development consent,
the provisions of the Building Code of Australia
and/or relevant Australian Industry Standards.

MTK Consulting
Structural, Civil, Stormwater
ABN 58 505 578 841
PO BOX 703
DEE WHY NSW 2089
Ph: (02) 8588 8822 Fax: (02) 9079 1617
e-mail: info@mtkconsulting.com.au

Project:

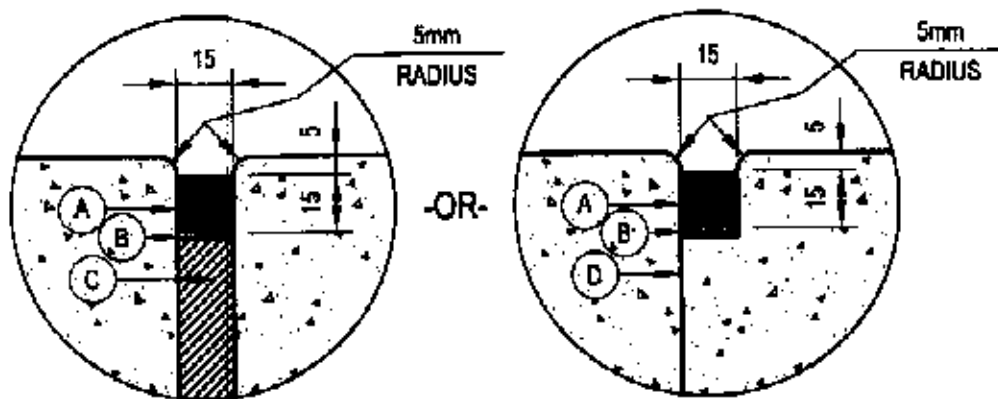
PROPOSED WORKS
at: 16a PONDEROSA PARADE
WARRIEWOOD

Drawing Title:

FOOTING DETAILS
SHEET ONE

The copyright of this drawing remains with MTK Consulting.

Date:	Rev:	Amendment:
Date:	Design:	Drawn:
NOV 2004	M.K.	F.P.
Job No:	Drawing No:	Rev:
41101	S03	-



- (A) THIOFLEX 600 POURING OR GUN GRADE SEALANT BY FOSROC OR APPROVED EQUIVALENT.
- (B) POLYETHYLENE TAPE BOND BREAKER
- (C) FLEXIBLE FOAM OR SELF EXPANDING CORK REFER DETAILS
- (D) KEYED JOINT OR SAW CUT JOINT

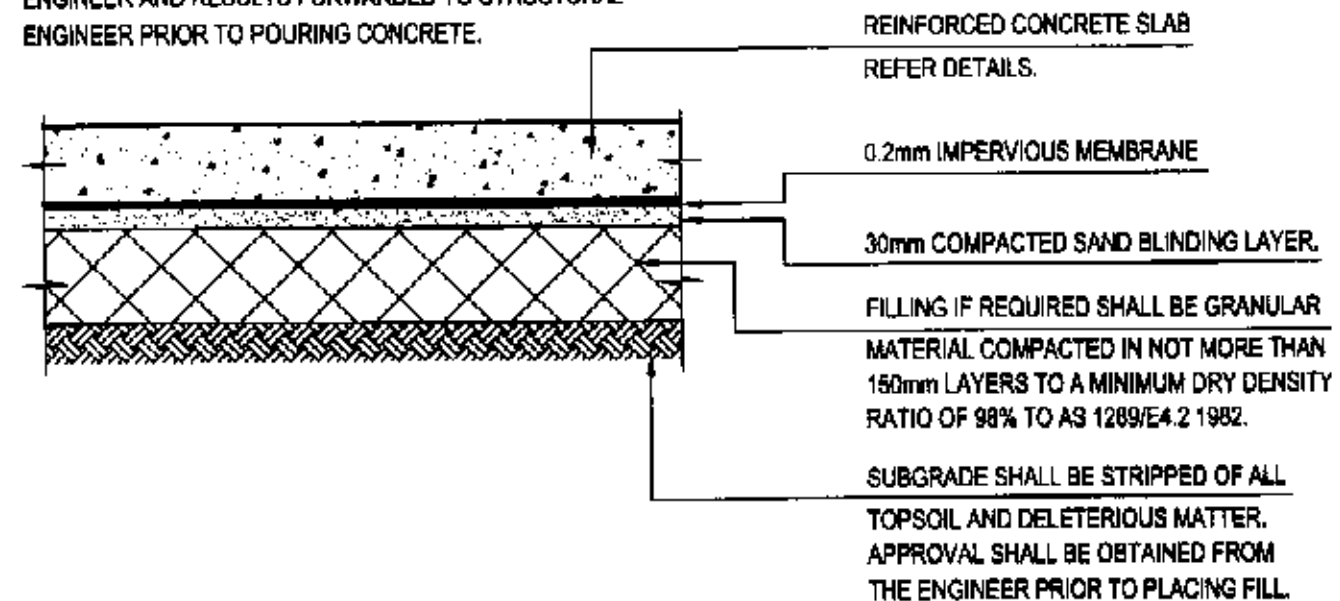
NOTE :

THIOFLEX 600 POURING GRADE IS SUITABLE ONLY FOR HORIZONTAL JOINTS WITH SOUND BACKING. FOR INCLINED OR VERTICAL JOINTS THIOFLEX 600 GUN GRADE SHOULD BE USED. BOTH GRADES OF THIOFLEX 600 SHALL BE USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.

TYPICAL JOINT SEALANT DETAILS

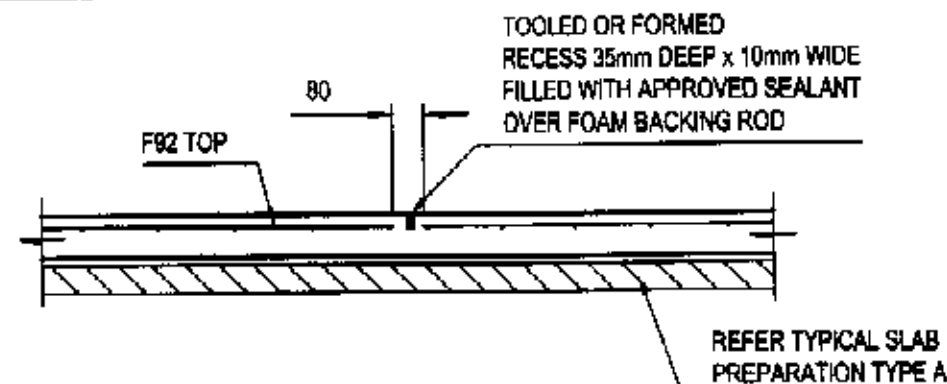
NOTE :

SAND BLINDING, SUB-BASE, FILLING AND SUB GRADE TO BE MECHANICALLY COMPACTED TO A DRY DENSITY RATIO OF NOT LESS THAN 98% MAXIMUM DRY DENSITY TO A.S. 1289/E4.2 1982. ALL AREAS TO BE TESTED BY GEOTECHNICAL ENGINEER AND RESULTS FORWARDED TO STRUCTURAL ENGINEER PRIOR TO POURING CONCRETE.



TYPICAL SLAB PREPARATION TYPE A SLAB ON GRADE

N.T.S.



TOOLED JOINT DETAIL DENOTED S.J. ON PLAN

SCALE = 1 : 20

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: S01.

A3

DOCUMENT CERTIFICATION

Date: 5/11/2004

Michael Kalett
(For MK Consulting)

I am a qualified Structural/Civil Engineer.
I hold the following qualifications:
B.E.(Civil), MIEAust, C.P.Eng
Institute of Engineers Membership No. 642165
I hereby state that this drawing is in compliance with the conditions of the development consent, the provisions of the Building Code of Australia and/or relevant Australian Industry Standards.

MTK Consulting
Structural, Civil, Stormwater
ABN 58 608 576 841
PO Box: 703
DEE WATY NSW 2099
Ph: (02) 9589 8322 Fax: (02) 9579 1017
e-mail: mtk@mtkconsulting.com.au

Project:

PROPOSED WORKS
at 16a PONDEROSA PARADE
WARRIEWOOD

Drawing Title:

FOOTING DETAILS
SHEET TWO

The copyright of this drawing remains with MK Consulting.

Date	Rev	Amendment
NOV 2004		
Design:	Drawn:	
M.K.	F.P.	
Job No:	Drawing No:	Rev:
41101	S04	-

**STORMWATER
DRAINAGE
SEDIMENTATION
CONTROL
CERTIFICATION**

THIS IS TO CONFIRM THAT THE STORMWATER
DRAINAGE DESIGN IS IN ACCORDANCE WITH
THE PRINCIPLES SET DOWN IN THE AUSTRALIAN
RAINFALL AND RUNOFF GUIDELINES AS PUBLISHED
BY THE INSTITUTION OF ENGINEERS, AS 3800
PITTSBURGH COUNCIL'S STORMWATER
REQUIREMENTS AND RELEVANT CONDITIONS OF
THE DA (819, 829, 839A)

SIGNED: 
MARKUS LACHELE
HYDRAULIC ENGINEER AHSQA
DIRECTOR (in design) Pty Ltd
DATE: 15 OCT 2004

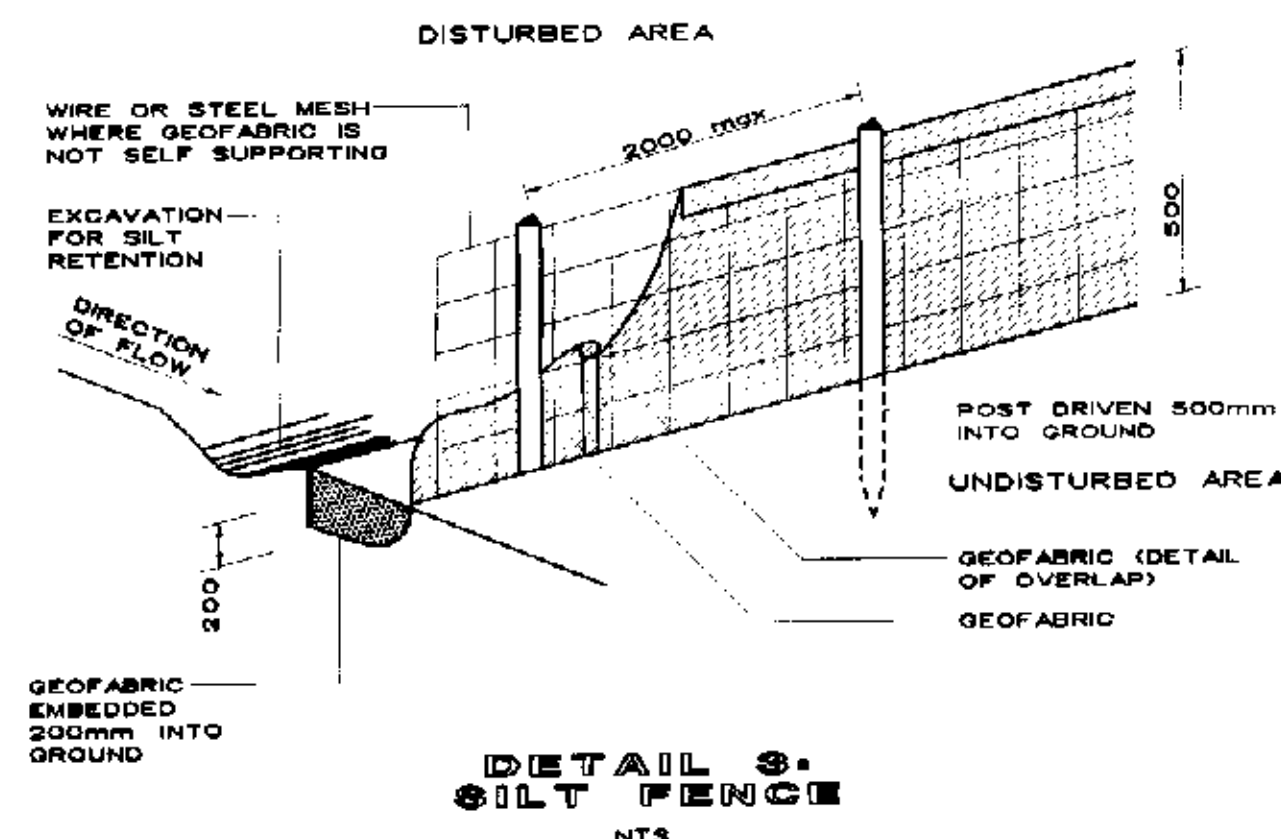
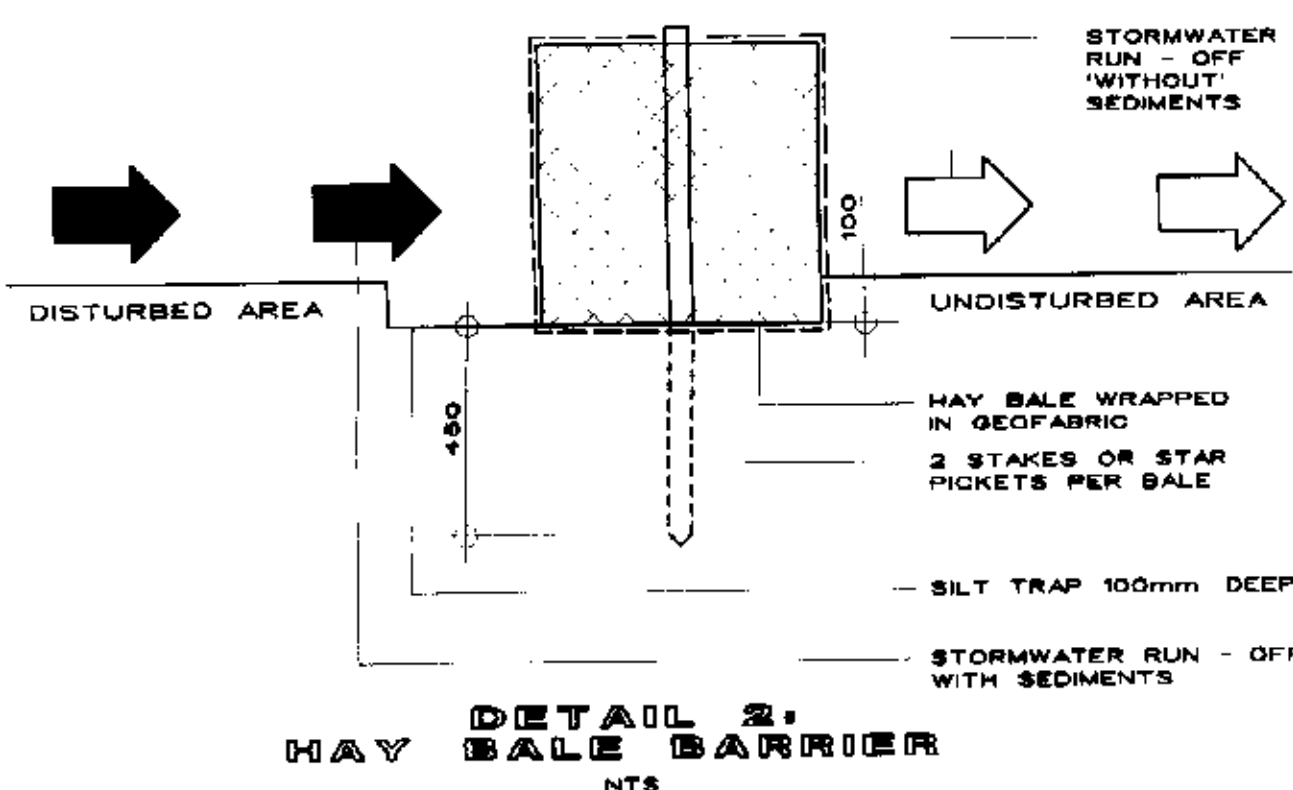
EXISTING BUILDING
(PART OF SEDIMENTATION
CONTROL MEASUREMENTS
DURING CONSTRUCTION)

ABOVE GROUND DETENTION SYSTEM
- TOTAL AREA = 512m²
- AVERAGE WATER DEPTH = 0.05m
- CAPACITY = 512m² x 0.05m = 25.6m³

EXISTING BUILDING
(PART OF SEDIMENTATION
CONTROL MEASUREMENTS
DURING CONSTRUCTION)

STORMWATER DRAINAGE & SEDIMENTATION CONTROL

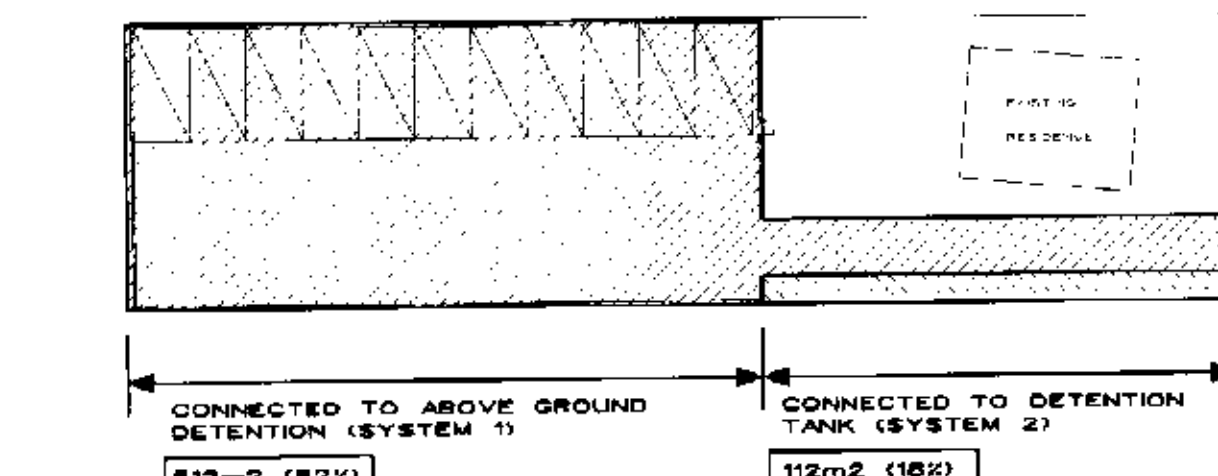
1:200



SYMBOL	CATCHMENT	IMPERVIOUS AREA (m ²)	PERVIOUS AREA (m ²)	PERCENTAGE (%)
	CONCRETE DRIVEWAY	48	-	7.7
	LANDSCAPED AREAS	-	578	92.3
TOTAL		524	100	

STORMWATER CATCHMENT CALCULATIONS (PRE DEVELOPED)

1:400



SYMBOL	CATCHMENT	IMPERVIOUS AREA (m ²)	PERVIOUS AREA (m ²)	PERCENTAGE (%)
	ROOF & PAVED AREAS	592	-	94.9
	LANDSCAPED AREAS	-	32	5.1
TOTAL		624	100	

STORMWATER CATCHMENT CALCULATIONS (POST DEVELOPED)

1:400

REV	DESCRIPTION	DATE	DISCIPLINE	COMPANY	DRAWING No	ARCHITECT
A	ISSUE FOR CONSTRUCTION CERTIFICATE	15.10.04	HYD	FORMOSA	920A	PETER FORMOSA
REV	DESCRIPTION	DATE	DISCIPLINE	COMPANY	DRAWING No	ARCHITECT

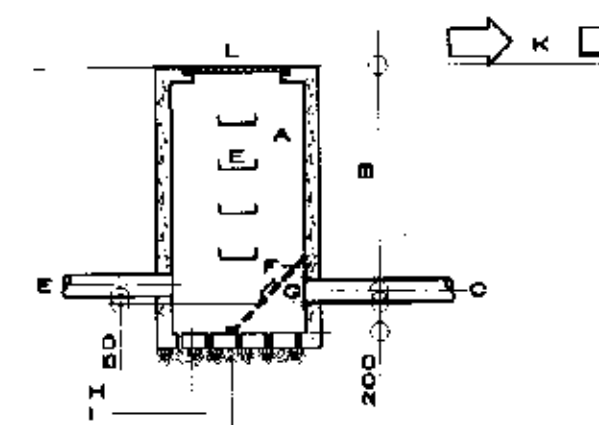
ARCHITECT
PETER FORMOSA

HANDLE—

ORIFICE PLATE BEHIND
TRASH SCREEN TO PROTECT THE ORIFICE
& DOWNSTREAM DRAINAGE SYSTEM
MATERIAL: STAINLESS STEEL OR GALVANIZED
MESH SCREEN (MAXIMUM RH 3030 OR
EQUIVALENT)
SIZE: MIN 50 TIMES THE ORIFICE AREA
PLACEMENT: SCREEN MUST BE PLACED SO THAT THE
LONG AXIS OF THE OVAL SHAPED HOLES
ARE HORIZONTAL WITH THE PROTRUDING
LIP ANGLE UPWARDS AND
FACING DOWNSTREAM

DETAIL 2: REMOVABLE TRASH SCREEN

NTS



ITEM	DESCRIPTION	ABOVE GROUND DETENTION (SYSTEM 1)	DETENTION TANK (SYSTEM 2)
A	CONTROL PIT / DETENTION TANK	800 x 800	1200 x 1200
B	MAX. WATER HEIGHT ABOVE Q OF ORIFICE PLATE	875	1300
C	OUTLET PIPE		
D	STEP IRONS (REQUIRED IF PIT IS DEEPER THAN 1,200)	NO	YES
E	INLET PIPE		
F	TRASH SCREEN	REFER TO DETAIL 2	
G	ORIFICE PLATE	REFER TO DETAIL 1	
H	SILT TRAP		
I	WEEP HOLES 20 DIA	8 100mm CENTRE	
J	GRAVEL UNDER WEEP HOLES	150 mm DEEP	
K	SAFETY OVERLAND FLOWPATH		
L	SURCHARGE / ACCESS GRATE	800 x 800	

DIAGRAMATIC SECTION 1-1 THROUGH DETENTION TANK / DETENTION TANK CONTROL PIT

NTS

STORMWATER GENERAL NOTES

ALL IN ACCORDANCE WITH PITTSBURGH COUNCIL'S STORMWATER REQUIREMENTS (DCP 21 / 85 WATER MANAGEMENT)

PIPEWORK DESIGN

ALL PIPEWORK IS SIZED AND DESIGNED TO HANDLE A 1100 YEAR EVENT RAINFALL

CALCULATIONS OF FLOW RATES

Q = A x C x I
Q = 3800
Q = PEAK DISCHARGE RATE IN l/s
A = CATCHMENT AREA IN km²
C = RUN OFF CO-EFFICIENT (Fig 14.13 OF ARR)
I = RAINFALL INTENSITY IN mm/h

RAINFALL INTENSITY

- 201.5mm/h (1:20 YEAR EVENT / DURATION 5 min)
- 287.7mm/h (1:100 YEAR EVENT / DURATION 5 min)

DETENTION CALCULATIONS

STORAGE REQUIREMENT

DA CONDITION B19:
CALCULATIONS IN ACCORDANCE WITH COUNCIL'S POLICY AND GUIDELINES FOR ON SITE STORMWATER DETENTION (FEB 1998)
THIS POLICY HAS BEEN REPLACED WITH AN UPDATED VERSION (DATED 1 FEB 2004), AS ADVISED BY STEVE PINN FROM INSIGHT DEVELOPMENTS (PRIVATE CERTIFIED)
AMENDED STORMWATER POLICY TO BE USED

IN ACCORDANCE WITH PITTSBURGH COUNCIL'S STORMWATER REQUIREMENTS (DCP 21 / 85.3):
12 000 litres (12.0m³)
TO BE DETAINED FOR DEVELOPMENTS WITH NEW HARD SURFACE AREAS BETWEEN 501 TO 800 m²

ABOVE GROUND STORAGE (SYSTEM 1)
TOTAL 512m² OF SURFACE AREAS ARE CONNECTED TO THE ABOVE GROUND DETENTION SYSTEM (82%)
STORAGE REQUIRED: 12.0m³ x 82% = 10.0m³
+ 10% FOR GROUND IRREGULARITIES = 11.0m³

BELOW GROUND STORAGE (SYSTEM 2)
TOTAL 112m² OF SURFACE AREA ARE CONNECTED TO THE DETENTION TANK (18%)
STORAGE REQUIRED: 12.0m³ x 18% = 2.2m³

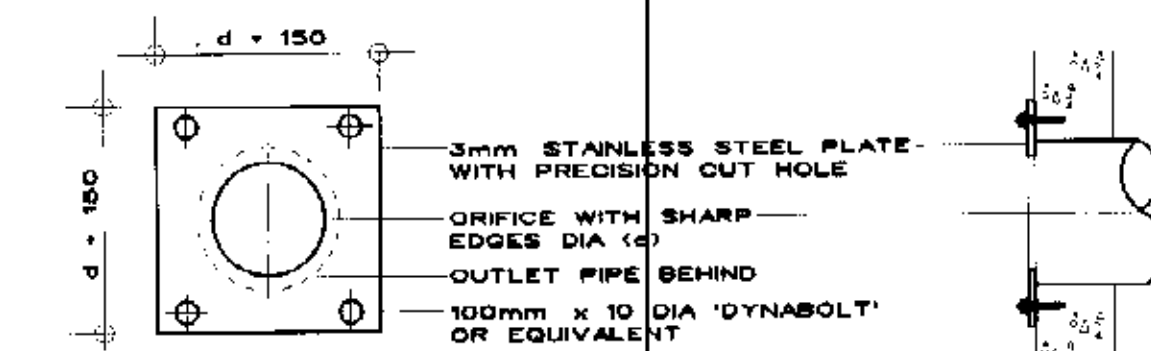
DISCHARGE REQUIREMENT

DA CONDITION B19:
CALCULATIONS IN ACCORDANCE WITH COUNCIL'S POLICY AND GUIDELINES FOR ON SITE STORMWATER DETENTION (FEB 1998)
THIS POLICY HAS BEEN REPLACED WITH AN UPDATED VERSION (DATED 1 FEB 2004), AS ADVISED BY STEVE PINN FROM INSIGHT DEVELOPMENTS (PRIVATE CERTIFIED)
AMENDED STORMWATER POLICY TO BE USED

IN ACCORDANCE WITH PITTSBURGH COUNCIL'S STORMWATER REQUIREMENTS (DCP 21 / 85.3):
22.0 l/s
IS THE PERMISSIBLE DISCHARGE RATE FOR DEVELOPMENTS WITH NEW HARD SURFACE AREAS BETWEEN 501 TO 800 m²

ABOVE GROUND STORAGE (SYSTEM 1)
TOTAL 512m² OF SURFACE AREAS ARE CONNECTED TO THE ABOVE GROUND DETENTION SYSTEM (82%)
PERMISSIBLE DISCHARGE RATE: 22.0 l/s x 82% = 18.0 l/s / sec

BELOW GROUND STORAGE (SYSTEM 2)
TOTAL 112m² OF SURFACE AREA ARE CONNECTED TO THE DETENTION TANK (18%)
PERMISSIBLE DISCHARGE RATE: 22.0 l/s x 18% = 4.0 l/s / sec



DA CONDITION B19:
CALCULATIONS IN ACCORDANCE WITH COUNCIL'S POLICY AND GUIDELINES FOR ON SITE STORMWATER DETENTION (FEB 1998)
THIS POLICY HAS BEEN REPLACED WITH AN UPDATED VERSION (DATED 1 FEB 2004), AS ADVISED BY STEVE PINN FROM INSIGHT DEVELOPMENTS (PRIVATE CERTIFIED)
AMENDED STORMWATER POLICY TO BE USED

IN ACCORDANCE WITH PITTSBURGH COUNCIL'S STORMWATER REQUIREMENTS (DCP 21 / 85.3):
ORIFICE PLATE FOR ABOVE GROUND DETENTION SYSTEM 1: 102mm
ORIFICE PLATE FOR DETENTION TANK SYSTEM 2: 41mm

DETAIL 1: ORIFICE PLATE

NTS

**COUNCIL
COPY**

DISCIPLINE	COMPANY	DRAWING No	ARCHITECT
ARCH	FORMOSA	920A	PETER FORMOSA
STRUCT			
MECH			
ELEC			
DATE	15.10.04		

CLIENT
MICHAEL AMBROSE

PROJECT
168 PONDEROSA
PARADE
WARRIEWOOD

DRAWING TITLE
STORMWATER
DRAINAGE
&
SEDIMENT CONTROL

SCALE
AS SHOWN

DISCIPLINE
HYD

DRAWING No
H-STW

REVISION
A

itmdesign
consulting hydraulic engineers
6/ 1-3 adala street, warriewood new 2102
po box 1438 mona vale new 1650
tel (02) 9997 1866 fax (02) 9997 3266
email: itmb@itmb.net.au