

HILLS SHIRE COUNCIL

STREET: FAIRWAY DRIVE

LOT(S) LOT. 12✓
POR(S)

SEC.

DP, 247442 ✓

REMARKS: V. BEEBY

ARCHIVES 126

FILE NO:		DEPT: P	
STREET NO.	HOUSE OR ALLOCATED NO. NO. 23	SUB. LOT NO.	
2527	5124-413✓		
RELATED FILE NO: / / /			
RELATED LEGAL DOCUMENT NO.			

[illegible]

FILE NOTE

I Advised Mrs Beeby that further to her application being considered by Council, it is requested that she lodge a formal development application with the appropriate fees, and plans.

Mrs Beeby advised me that she will forward her application, when her block is cleared, enabling her to site the proposed development.

J Andrews.

19-6-80

No application forthcoming - no further action required.

RWS. 6/8/80.

N.F.
LOT 12
DP 247442

2 copies

OR contact Mrs Beeby.
767-528.

The Shire Clerk,
Baulkham Hills Shire Council,
Old Northern Road,
Castle Hill. 2154

41 Carlingford Road,
Epping. 2121
12th June, 1980.

TELEPHONE 86 1696

✓ A	DIST. 1	TP 2	3	4
FILE		P2527/5124-413		
006515		12 JUN. 80		
NAME		BEEBY V.		
BAULKHAM HILLS COUNCIL				

Dear Sir,

Re: Lot 12 Fairway Drive, Kellyville

I have just completed purchase of the above five acre block for use in conjunction with my existing Nursery business, and as a residence.

Application is now made to Council for permission to use this land (classified as "Rural") as a growing on and holding area for various types of nursery stock.

It is advised that the nursery will not be open to either the public or to resellers and therefore there will be no direct selling from the property at all, and the land itself will be suitably landscaped and planted with screening trees and shrubs. In other words, the nursery operation will be "low key".

As I am most anxious to proceed, it would be very much appreciated if you would please treat this application as a matter of urgency.

Thanking you in anticipation.

Yours faithfully,

Veta Beeby

(Mrs.) V. Beeby

NB D/A Fees plans etc.
required.



File Note.

Rang Mrs Beeby and requested:

- Development application
- Plans
- Fees

A Andrews

18-6-80.

Baulkham Hills Shire Council

No. 61434

BUILDING APPLICATION

LOCAL GOVERNMENT ACT, ORDINANCE 70

PLEASE READ THESE INSTRUCTIONS CAREFULLY

All questions relevant to particular applications MUST be answered. Plans, specifications, and applications MUST comply with the requirements listed in "Instructions to Applicants" printed on Page 3 of this form. Failure to do this will render this application INVALID. It will NOT be further considered by the Council until all necessary information has been provided.

Buildings other than dwelling houses and associated out buildings — addendum sheet to be completed.

PLEASE PRINT ALL ANSWERS AND ALSO COMPLETE PAGES 2 & 3.

Particulars are as follows:

LOT OR PORTION 12 STREET NO. (23) STREET OR ROAD Fairway Drive LOCALITY KELLYVILLE
FRONTAGE 105 DEPTH 180 AREA 2 1026 ha (2.03 ha)
NAME OF OWNER VETA Beeby NAME OF BUILDER A.W.B.T. PTY LIMITED
ADDRESS OF OWNER Lot 12 Fairway Dr ADDRESS OF BUILDER 56 Britannia Rd
Kellyville 41 CARLINGFORD DR EPPING VIC CASTLE HILL 2154
PHONE NO. OF OWNER 7675 28 Post Code PHONE NO. OF BUILDER 634-2801 Post Code
CLASS OF BUILDING Dwelling CONTRACT PRICE \$ 110,000
(Here state dwelling, shop, shop and dwelling, garage, additions, alterations as the case may be).
FLOOR AREA OF BUILDING (OR ADDITIONS ETC.) 273 SQUARE METRES.
DETAILS OF EXISTING BUILDINGS ON LAND NONE

FOR OFFICE USE ONLY

	Amount	Receipt	Date	Off	C'shr		Date	Initials	Remarks
Building Fee: <u>KA</u>	330.00	5169	20/3/81	B/S		Ownership Checked:	20/3/81	MD	✓
Bld. Sanitary Fee: <u>S.T.</u>	27.00	✓		✓		Subdivision Checked:	"	MD	2474452
Road Opening Fee:	500	✓		✓		Assessment No.:	"	MD	6124 41300 15
Roads Deposit:	5500	5170		✓		Easement Checked:	"	MD	✓
Owner/Builder Permit:						Record Card:	20/3/81	MD	
Bld. Lic. Bd. Insurance:	80.00	✓		✓		Permit Issued:	24-3-81	MD	
						Govt. Stat. Map No.:	421		

Planning Consent Granted. Date 20/3/81 Init. MD

Non-Urban 1(a) under 100
118

Application Approved. Date 24/3/81 Init. RAG

Building Line: 10m

17. SURFACE AND SUBSOIL DRAINAGE

18. FILLING NOT TO EXCEED 1m ABOVE NATURAL GROUND LEVEL AT ANY POINT.

19. EXCAVATION AND/OR FILLING TO BE RETAINED AND DRAINED TO COUNCIL'S SATISFACTION PRIOR TO OCCUPATION OF THE DWELLING.

20. Structural Engineer's details of floor slabs to be submitted to local government for approval. To be submitted together with a Certificate from a structural Engineer that the slab design is adequate for the above conditions. (to be filled after inspection)

21. ALL TIMBERS TO COMPLY WITH LIGHT TIMBER GRADING CODE AS 1584

22. Septic tank application to be submitted and approved by Council prior to installation of house drainage.

DISPOSITION OF PLANS.

Call

Phone ✓ B.

Post

1. HAS APPROVAL IN PRINCIPLE BEEN OBTAINED? (if so, state file number)	NO
2. MATERIAL AND TYPE OF FOOTINGS (i.e. brick, reinforced concrete, pier and beam)	Concrete
3. FLOORING (is a concrete raft slab proposed?)	Concrete
4. EXTERNAL WALLS (i.e. brick, brick veneer, weatherboard, asbestos cement)	Brick Veneer
5. ROOFING MATERIAL	Tiles
6. NEW OR SECOND HAND MATERIALS If second hand give details	New
7. ANY EXCAVATION PROPOSED? If so give details	Cut & Fill .5 m
8. ANY RETAINING WALLS (including walls to be backfilled) PROPOSED? If so give details	NO
9. ANY SEEPAGE DRAINS PROPOSED If so give details	NO
10. ANY DRAINAGE OR OTHER EASEMENT ON SITE? If so give details	NO
11. DISPOSAL OF HOUSEHOLD WASTE WATER If any encroachment on existing services give details of re-location	Sewer Septic tank Sullage pits
12. DISPOSAL OF ROOF WATER	To street gutter To rubble pit
13. ANY FENCING PROPOSED (Give details of materials, height and position)	NO

Clarens Kusel
 Signature of Applicant
 Date 19-3-81
 State if Owner, Builder, Registered Architect or Structural Engineer
 Amended Plans Submitted ... / ... / ...
 Contract Price \$

Address of Applicant 56 Britannia Rd
 Castle Hill
 6342801 Telephone No.
Clarens Kusel
 Signature of original Applicant

INSTRUCTIONS TO APPLICANTS

Before commencing the construction of ANY building (including sheds and outhouses), or before commencing additions or alterations of a structural nature, a building application must be lodged with Council and approval obtained. A building application shall be made by the builder or owner or his architect or structural engineer.

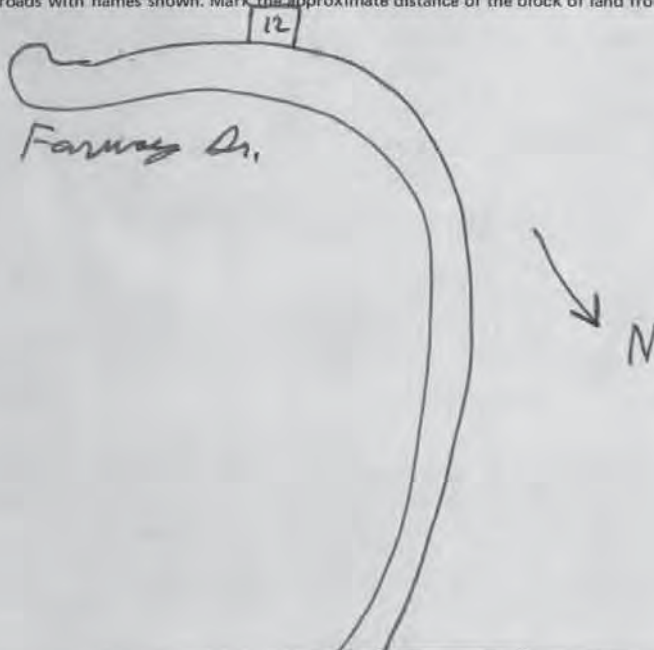
2. The person making application for the approval of plans and specifications of a building shall lodge therewith a fee calculated according to the scale set out in Ordinance 70.
3. For the purpose of calculating fees the contract price shall mean
 - (a) the contract price or
 - (b) where there is no contract the cost of the proposed building as determined by Council.

NOTE: "Contract" means legally drawn up and stamped contract.

4. Application forms, plans and specifications are to be written and drawn to scale legibly in ink, but recognised methods of plan reproduction and typewriting will be accepted. Plans should show a block plan, floor plan of each level and all elevations of the building. Approved scales are Working Drawings 1:100; 1:50; 1:200; Block plans 1:200; 1:500; 1:1000. One copy of the plans and specifications is retained as Council's permanent record. After the application has been considered the second copy will be returned to the applicant, and if the applicant has received approval this will be indicated thereon.
5. The whole of the Shire is affected by the provisions of the Shire of Baulkham Hills Planning Scheme Ordinance and it is necessary to satisfy planning requirements before building approval is given.
6. The installation of a septic tank is required for all new dwellings where a permanent water supply is available and an application complete with plans of the tank and drainage layout must be lodged with the Building Application, unless the MWS & D Board sewer is available or will be available within 5 years.
7. A footpath level application and fee is required, together with a deposit as assessed by the Shire Engineer against damage to roads, footpaths, etc.
8. Building lines have been determined in respect of new buildings. Applicants are advised to ascertain the details applicable before completing plans and specifications of proposed building.
9. Council is required to site the owner/builder's permit (where required), or where a licensed builder is to construct the work, that insurance premium as required by the Builders' Licensing Act has been paid; such premium may be paid to Council.

LOCALITY SKETCH

Draw a sketch in the space hereunder, showing the block of land referred to in this application, the street or road to which it has frontage, and at least two intersecting streets or roads with names shown. Mark the approximate distance of the block of land from one of the intersecting roads: show direction of north.



BUILDING INSPECTORS' REPORTS

	DATE	INITIALS	REMARKS	MET.
B.S.S. commenced				
Pier Holes	20/5/81	Bh	Mostly to stake - eng to certify. ^{Revised} ST	
Trenches & Steel	11/6/81	Bh	Satisfactory	
	2/7/81	Bh	Slab satisfactory to eng details	
Foundation Walls			Bldg on site completing 2 small items.	
Dampcourse				
Frame	7/7/81	M	No 6 Rebar	
	10/9/81	Bh	Satisfactory.	
S.T. Approved	11/9/81	Bh	To Owner.	
Drainage layout				
S.T. Inspection	4.2.82	A	As per approval	
Drainage Inspection	4.2.82	A		
Completion	22.3.82	A	No access/Keys no fit	
	31.3.82	A	Job complete.	
Notify Engineer	31.3.82	A	Notified SL 31-3-82	
Disc B.S.S.			Discontinued	
Certify to Council	31.3.82	A	Council Meeting SL 31-3-82.	
Commence Garbage			Commenced	
317A			File No.	
Certificate of Classification			Classification No. Certificate No. Issued	

OSA

SEPTIC TANK PROGRESS SHEET

OWNER V + Ta Beeby

B/A 61434 S/T 17073

Lot 105 STREET

Lot 12 (23) Fairway Drive

Hold for foundations

Letter to Owner

Site Inspected 10/9/81

Conditions

Submit Plans to H.C. -

Kellyville
Trenches to be
constructed parallel to the
contour of the land.

Plans Returned from H.C. -

Recommended for Approval:

11/9/81

Site Disposal

Pump

Tanker: W.C., Bathroom, K.S., Laundry.

B.H.S.C. Condition 1,2,3,4.

Health Commission Condition No:

Approved S.H.I. -

Returned to Owner

AMENDED:

Plans to H.C.

Plans returned from H.C.

Recommended for Approval:

Site Disposal

Pump

Tanker: W.C. Bathroom, K.S., Laundry.

B.H.S.C. Condition 1,2,3,4.

Health Commission Condition No:

Approved S.H.I.

Returned to Owner

Inspector's Notes:-

Site Layout to Drainer.

★
TELEPHONES:
634-2200 (7 LINES)
EXTENSIONS TO
ALL DEPARTMENTS

ALL COMMUNICATIONS
TO BE ADDRESSED TO
THE SHIRE CLERK.
P.O. BOX 78,
CASTLE HILL, 2154



BA.62434 FILE NO.

BL/cbM999
IN YOUR REPLY

Council Chambers
CASTLE HILL,
N.S.W.

11th September, 1981

Mr. V. Beeby,
41 Carlingford Road,
EPPING, N.S.W. 2121

Dear Sir,

Installation of Septic Tank - 17073
Premises at Lot 12 Fairway Dr. Kellyville

Referring to the application submitted by you, I now advise that the Council has approved of the installation of the above septic tank subject to the undermentioned conditions.

// I return herewith, for your information, one copy of the plans and specifications with a notation of Council's approval endorsed thereon. If applicable, the approved plans should be forwarded on to the builder for his action.

Yours faithfully,

DAVID J.B. MERCER,
SHIRE CLERK.

Encl.

CONDITIONS:

1. Council must be notified 24 hours before inspection covers of tank are sealed and house drains and absorption trenches back filled.
2. Notification of completion is necessary prior to use.
3. Position of septic tank and trenches to be determined on site by Council's Health Inspection in company with drainer.
4. Educt vent pipe to be carried not less than 5.48 m above ground level and 1.8 m above eaves level.
5. Trenches to be constructed parallel to the contour of the land.

INSTRUCTIONS TO APPLICANT

Please write firmly. Do not write on back of form.

See other instructions on back of form.

APPLICATION TO INSTAL SEPTIC TANK

Ordinance No. 44, Local Government Act, 1919

The Town/Shire Clerk,
Municipality or Shire of BAULKHAM HILLSAPP. No.
RIDING/WARD
ASS No.

Sir,

I/We, the undersigned, hereby make application for the approval of Council to the plans and specifications of a proposed septic tank and hereby agree to comply with all the requirements and conditions written and printed herein and any supplementary conditions that may be stated on the plans and specifications upon their return.

FULL PARTICULARS ARE ESSENTIAL

Municipality or Shire of BAULKHAM HILLSLot No. 12

Sec. No.

D.P. No. 247442 House Name/No.Frontage 105Street FARWAY DRLocality KELLYVILLEDepth 180Full Name of Owner VELA BEELY

(Block Letters)

Installation Firm D WATT

(Block Letters)

Address 41 Carlingford Rd.

Address

Epping 2121 Phone 76 75 28Phone 654 9114Premises DWELLING

(State whether dwelling, shops, flats, factory, etc.)

W.C. Flush 4.5 litresSeptic Tank 1600 litresFittings to be connected: W.C. and SINK, L.D., BATH,

Collection Well No. 1 litres

3 SHOWERS 3 VANITY

Collection Well No. 2 litres

Number of Persons 6Source of water supply CITYSignature of Owner Vela BeelyDate 19-3-81Forwarded for Approval Vela BeelyTo the Regional Director/
Health Commission of N.S.W.

Region/Health District

Town/Shire Clerk.

OFFICE USE ONLY (Health Commission of N.S.W.)

Approval of the installation to deal with _____ wastes for
_____ persons is recommended.

Council is requested to ensure that the proposed installation is completed in accordance with the requirements
numbered _____ and printed on sheet dated _____ attached hereto or
written thereon.

Approval of the installation is not recommended owing to:

Plans are returned herewith.

Delegate of the Health Commission of N.S.W.

Town/Shire Clerk,
Council Chambers

Per _____

Date _____

IMPORTANT: DO NOT DETACH

ORIGINAL

APPLICATION TO INSTAL SEPTIC TANK

Ordinance No. 44, Local Government Act, 1919

The Town/Shire Clerk,
Municipality or Shire of

BAULKHAM HILLS

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FULL PARTICULARS ARE ESSENTIAL

Municipality or Shire of

BAULKHAM HILLS

Lot No. 12

Sec. No.

D.P. No. 247442 House Name/No.

Frontage 105

Street FAIRWAY DR

Locality KELLYVILLE

Depth 180

Full Name of Owner

VETA Beely

Installation Firm

D WATT

Address

41 Carlingford Rd.
Epping 2121

Address

(Block Letters)

Phone

76 75 28

Phone

6549114

Premises

DWELLING

W.C. Flush

4.5

litres

Septic Tank

1600

litres

Fittings to be connected

W.C. and SINK, L.D. BATH,

Collection Well No. 1

litres

Collection Well No. 2

litres

Number of Persons

6

Source of water supply

CITY

Signature of Owner

Veta Beely

Date

19-3-81

Forwarded for Approval

Veta Beely

To the Regional Director/
Health Commission of N.S.W.

Region/Health District

Town/Shire Clerk.

OFFICE USE ONLY (Health Commission of N.S.W.)

Approval of the installation to deal with

wastes for

persons is recommended.

Council is requested to ensure that the proposed installation is completed in accordance with the requirements numbered and printed on sheet dated attached hereto or written thereon.

Approval of the installation is not recommended owing to:

Health Inspector.

Date of Inspection

Inspected by

Date

IMPORTANT: DO NOT DETACH

DUPLICATE

APPLICATION TO INSTAL SEPTIC TANK

Ordinance No. 44, Local Government Act, 1919

The Town/Shire Clerk,
Municipality or Shire of

BAULKHAM HILLS

APP. No.
RIDING/WARD
ASS No.

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FULL PARTICULARS ARE ESSENTIAL

Municipality or Shire of

BAULKHAM HILLS

Lot No.

12

Sec. No.

D.P. No.

247412

House Name/No.

Frontage

105

Street

FAIRWAY DR

Locality

EXETER KELLYVILLE

Depth

180

Full Name of Owner

Veta Beely

Installation Firm

D. WATT

(Block Letters)

(Block Letters)

Address

411 Canterbury

Address

Epping 2121

Phone

76 75 28

Phone

654 9114

Premises

DWELLING

W.C. Flush

litres

Septic Tank

1600

litres

Fittings to be connected

W.C. and

SINK, D. BATH

Collection Well No. 1

litres

Collection Well No. 2

litres

Number of Persons

6

Source of water supply

City

Signature of Owner

Veta Beely

Date

11/9 3-51

Fee

Receipt No.

Date

OFFICE USE ONLY

Amount \$	27.00
Paid on	20/3/81
Receipt No.	5169
Cashier	

PLEASE DO NOT WRITE ON BACK OF THIS FORM

INSTRUCTIONS TO APPLICANT

Submit form in triplicate.

Submit all plans in triplicate with owner's name, and address of site on each copy.

SEPTIC TANK PLANS

- (a) Precast concrete — submit manufacturer's plans.
- (b) Construct in situ — submit plans to a scale of 1:100, showing plan, and vertical section.

BLOCK PLANS

- 1. Draw to scale of 1:200 or larger.
- 2. Show the following:
 - (a) Distance of buildings from all boundaries.
 - (b) Position of all sanitary fittings and drainage lines.
 - (c) Position of septic tank and absorption trenches and/or collection well.
 - (d) Position of all sullage trenches.

NOTE

- 1. PROVIDE AN ACCURATE LOCALITY SKETCH SHOWING NEAREST CROSS STREETS.
- 2. Identify the site by a signboard.
- 3. Provide a test hole of about 200mm in diameter and 900mm deep in the proposed disposal area, and cover to prevent accidents.

Failure to carry out these instructions will lead to the rejection of this application.

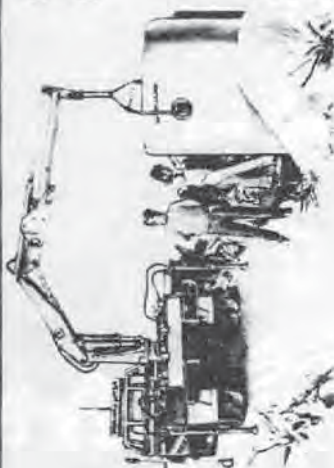
TRIPPLICATE

EVERHARD SEPTIC TANKS & HOLDING WELLS

**Direct-into-hole
Delivery**

● EVERHARD MOBILE CRANES

The safest, easiest way to install a septic tank. Mobile Crane trucks fitted with 4 wheel drive and hydraulic slewing cranes with stabilisers to negotiate awkward or hilly sites. Yes! Everhard can deliver your septic tank direct into hole safely and speedily.

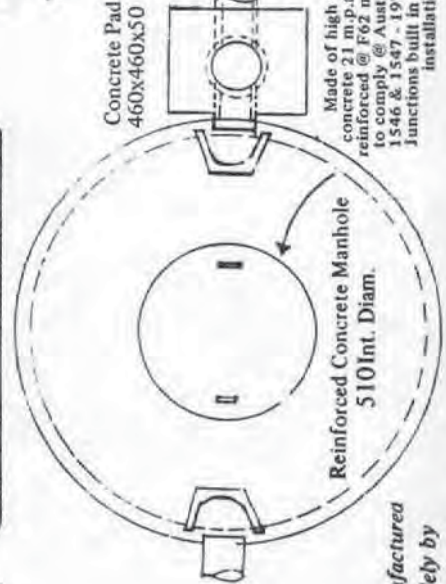
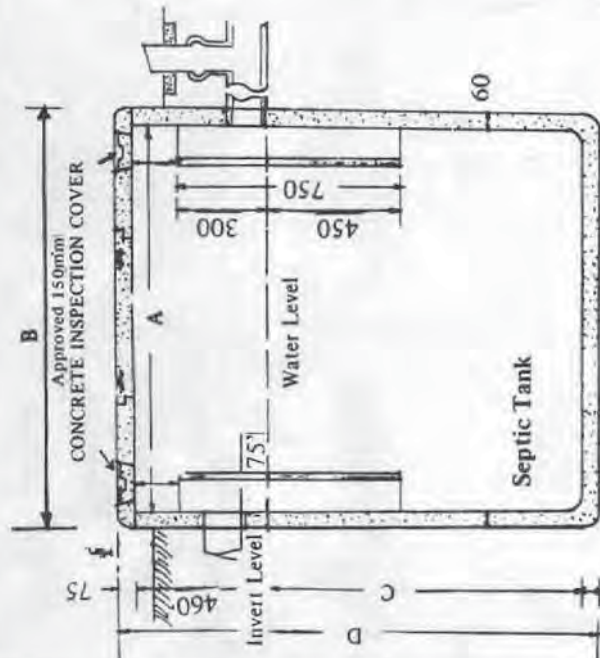
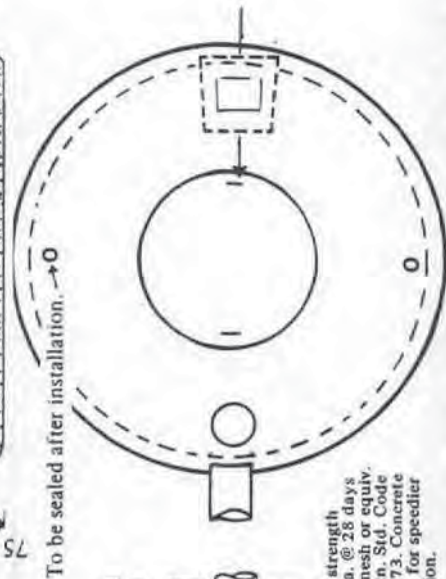
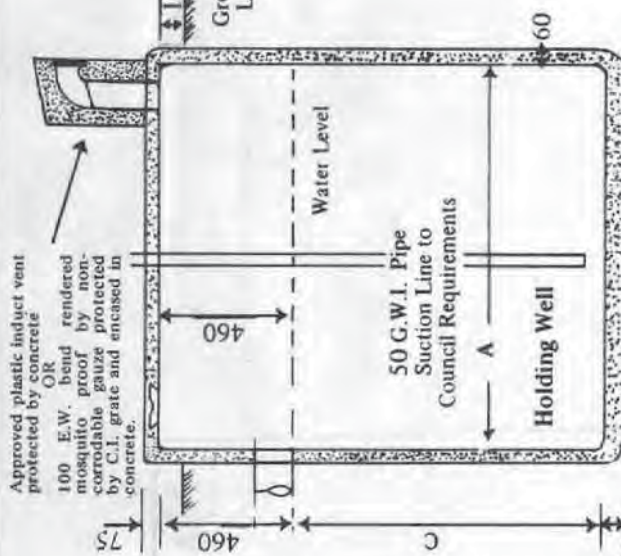


Name *BERRY*

Lot *LOT 12*

Street *FAIRWAY DR*

Locality *RELYANCE*



Manufactured
Solely by

EVERHARD INDUSTRIES (N.S.W.) PTY. LTD.

VICTORIA STREET, SMITHFIELD, SYDNEY

PH. 604-5955

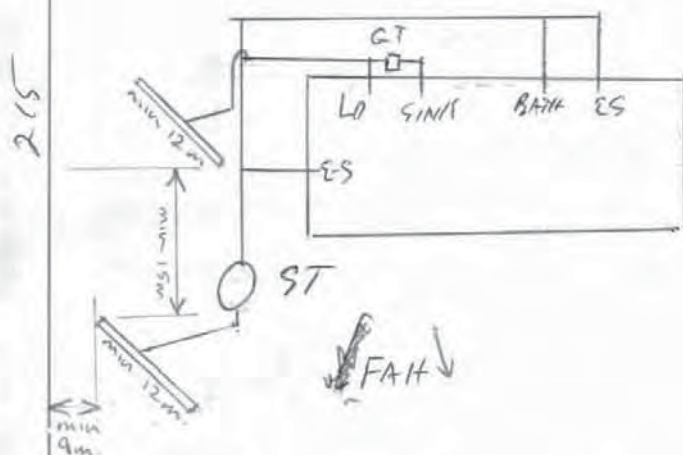
Capacity Tanks Litres	A Internal Diameter mm	B External Diameter mm	C Water Depth mm	D O'all Height Incl. Lid mm
1350	1370	1490	950	1550
1600	1370	1490	1120	1720
2050	1590	1700	1070	1680
Holding Wells:				
1600	1370	1490	1120	1720
2300	1680	1800	1070	1680
3200	1830	1950	1300	1900
3650	1830	1950	1400	2000
4500	2020	2140	1400	1990

NEW *EVERGLAS PLASTIC TRENCH (SQUARE LINE PROFILE) FOR SPEEDIER TRENCH INSTALLATION NOW AVAILABLE IN DEPTHS OF 230mm AND 410mm AND LENGTHS OF 1500mm.

* Regd. Trade Mark

BAULKHAM HILLS COUNCIL
REGISTER No. 61434

2 Ha
SHIRE OF BAULKHAM HILLS
SEPTIC TANK APPROVAL No. 17073
APPROVED subject to the provisions of Ordinances Nos. 44 and 48 and to the requirements specified in Council's Attached Letter.



20/1/82 80

.6
The internal plumbing and drainage shall be in accordance with the by-laws of the Metropolitan Water Sewerage and Drainage Board.
A Certificate to this effect shall be obtained from the Board and submitted to Council before occupancy of the building will be permitted.

Let 12

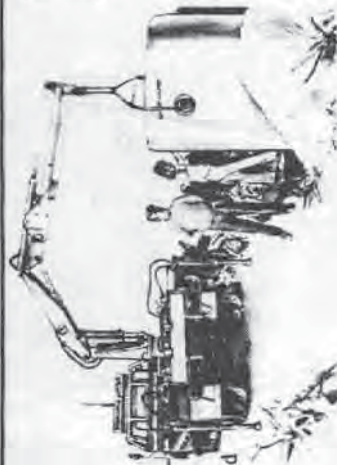
POSITION OF SEPTIC TANK AND TRENCHES TO BE DETERMINED ON SITE
BY COUNCIL'S HEALTH INSPECTOR IN COMPANY WITH DRAINER

105
FAIRWAY DR

EVERHARD SEPTIC TANKS & HOLDING WELLS

**direct-into-hole
delivery**

● EVERHARD MOBILE CRANES



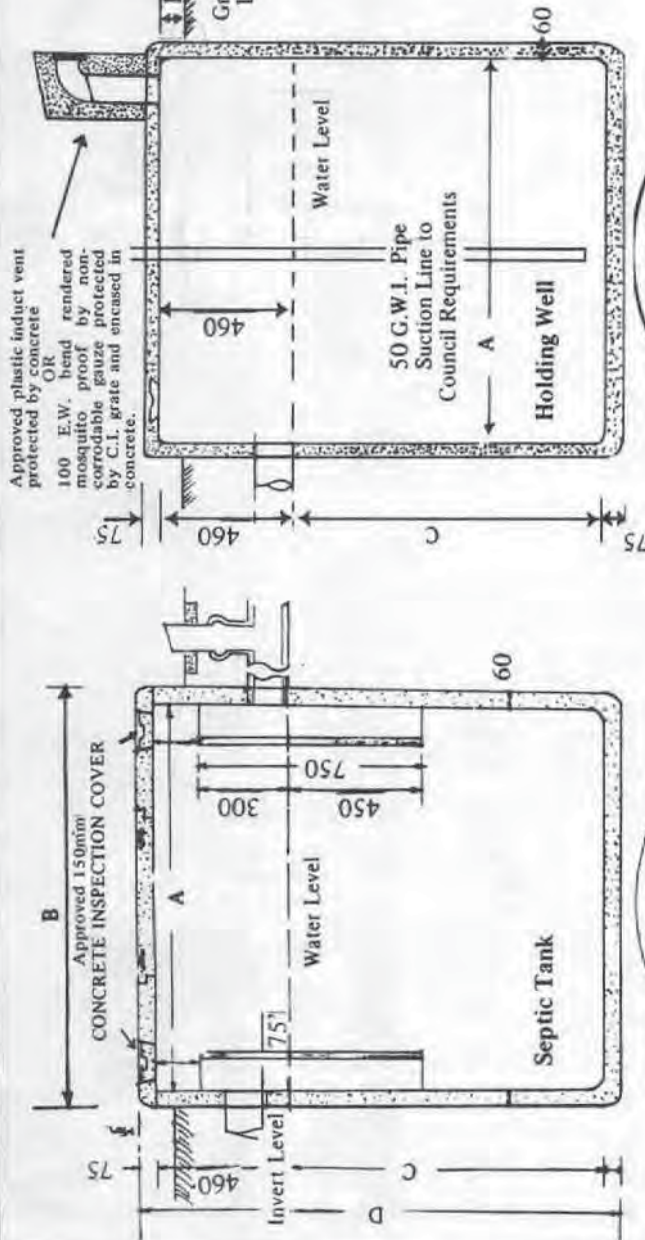
The safest easiest way to install a septic tank. Mobile Crane trucks fitted with 4 wheel drive and hydraulic slewing cranes with stabilisers to negotiate awkward or hilly sites. Yes! Everhard can deliver your septic tank direct into hole safely and speedily.

Name *BEEBY*

Lot *12*

Street *FAIRWAY DR.*

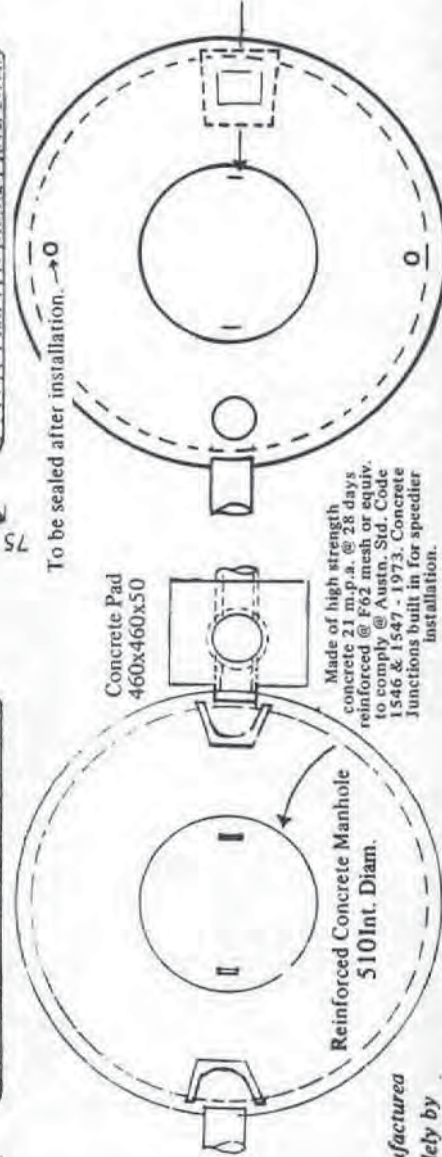
Locality *KELLYVILLE*



Capacity Tanks Litres	A Internal Diameter mm	B External Diameter mm	C Water Depth mm	D O'all Height Incl. Lid mm
1350	1370	1490	950	1550
1600	1370	1490	1120	1720
2050	1590	1700	1070	1680
Holding Wells:				
1600	1370	1490	1120	1720
2300	1680	1800	1070	1680
3200	1830	1950	1300	1900
3650	1830	1950	1400	2000
4500	2020	2140	1400	1990

NEW *EVERGLAS PLASTIC TRENCH (SQUARE LINE PROFILE) FOR SPEEDIER TRENCH INSTALLATION NOW AVAILABLE IN DEPTHS OF 230mm AND 410mm AND LENGTHS OF 1500mm.

* Regd. Trade Mark



Made of high strength concrete 21 m.p.a. @ 28 days reinforced @ F62 mesh or equiv. to comply @ Austr. Std. Code 1546 & 1547 - 1973. Concrete Junctions built in for speedier installation.

Reinforced Concrete Manhole 510 Int. Diam.

Manufactured Solely by

EVERHARD INDUSTRIES (N.S.W.) PTY. LTD. PH. 604-5955

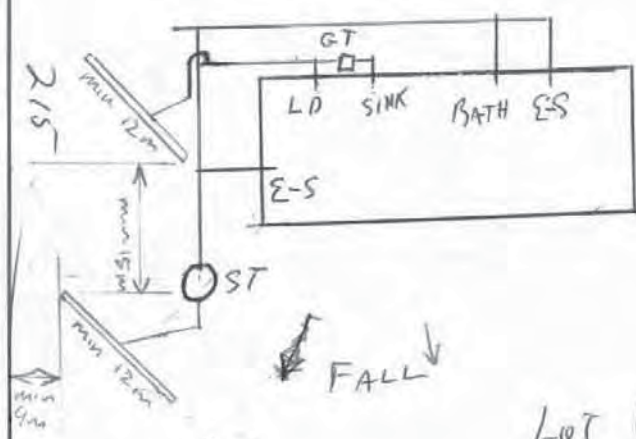
VICTORIA STREET, SMITHFIELD, SYDNEY

105

BAULKHAM HILLS SHIRE COUNCIL
REGISTER NO. 61434

SHIRE OF BAULKHAM HILLS
SEPTIC TANK APPROVAL No. 17073
APPROVED subject to the provisions of Ordinances
Nos. 44 and 48 and to the requirements specified
in Council's Attached Letter.

2 HA



1031

POSITION OF SEPTIC TANK AND TRENCHES TO BE DETERMINED ON SITE
BY COUNCIL'S HEALTH INSPECTOR IN COMPANY WITH DRAINER

The internal plumbing and drainage shall be in accordance with the
by-laws of the Metropolitan Water Sewerage and Drainage Board and
a Certificate to this effect shall be obtained from the Board and
submitted to Council before occupancy of the building will be permitted.

105

FAIRWAY DR.

N.C. M.C.
3013.

BAULKHAM HILLS SHIRE COUNCIL

OWNER: *BESSY*

BUILDER *AUST.*

LOT: *12* STREET: *Fairway Dr.*

BUILDING PERMIT NO: *61434*

INSPECTION REQUESTED:

*FOUND
IT!*

- ~~PIER HOLES~~
- ~~TRENCHES & STEEL~~
- ~~STEEL FOR SLAB~~
- ~~STEEL FOR POOL~~
- ~~FENCE FOR POOL~~
- ~~DAMP COURSE~~
- ~~FRAME~~
- ~~ROOF WATER DRAINAGE~~
- FINAL
- ~~SEPTIC TANK LAYOUT~~
- ~~BACKFILL TRENCHES~~

WHEN READY: *Now*
MESSAGE TAKEN BY: *[Signature]*
DATE *30/3.*
TIME:

BAULKHAM HILLS SHIRE COUNCIL

INSPECTOR'S MEMO

24th March, 1982.

To: The Manager,
A.W.B.T. Pty. Ltd.,
56 Britannia Road,
CASTLE HILL, 2154.

Referring to Lot No. 12 Street Fairway Drive
Locality Kellyville
Building Application No. 61434
Owner V & T.A. Beeby.

Inspection on 22/3/82. revealed that the following
item/s require attention:-

1. Provide access for final inspection of dwelling.
Construction keys held by Council do not fit locks installed.

You are hereby accordingly advised that in the event of a Certificate of Compliance application being submitted to Council pursuant to Section 317A of the Local Government Act, it will be necessary for the satisfactory completion of the abovementioned items, prior to the application being considered by the Council.

Please notify Council for re-inspection on completion of work.

Signed: M. Randall. Inspector
per: KL

This memo, is used as a convenient means of advising requirements so as to minimise delay and to avoid the necessity of serving statutory notices. Any further relevant information may be had by contacting the above Inspector between 9 & 10 a.m. Monday to Friday, Telephone 634.2200.

BAULKHAM HILLS SHIRE COUNCIL

NOTICE OF INSPECTION BEFORE OCCUPATION

The Shire Clerk.

Building Permit No. 61434

Sir,

(1) I wish to advise that the

Dwelling

(State class of building, e.g., dwelling)

at Lot 12

Street, FAIRWAY DR

will be

ready for inspection before occupation or use on 17-3-1982

(2) Please refund Roads Deposit paid with the above application.

Yours faithfully,

Signature

C. Knapp

Owner/Builder

Date

17-3-82

NOTE.—Before permitting any person to use or occupy uncompleted building, and forthwith upon completion of any unoccupied building, the person by or in consequence of whose order the building is being erected shall give notice in writing to the Council. Neglect to carry out this provision will render such person liable to penalty under the provisions of Ordinance 71 of Local Govt. Act, 1919.

NOTIFICATION FOR INSPECTION

BAULKHAM HILLS SHIRE COUNCIL.

OWNER: *Beeby.*

ADDRESS: LOT NO. *12*

BUILDER:

RETURN PHONE NO.

INSPECTION REQUESTED BY: *D. Watt*

PIER HOLES

TRENCHES & STEEL

STEEL FOR SLAB

FENCE FOR POOL

DAMP COURSE LEVEL

FRAME

STORMWATER DRAINAGE

SURFACE/SUBSOIL

SEPTIC TANK LAYOUT

SEPTIC TANK INSPECTION/BACKFILL

FINAL

B/A

61434

STREET: *Fairway*

MESSAGE TAKEN BY: *MX*

DATE: *4/2/82*

TIME:

After 11.00 TODAY

OK

NOTIFICATION FOR INSPECTION

BAULKHAM HILLS SHIRE COUNCIL.

OWNER:

Beelby

ADDRESS: LOT NO.

61434

B/A

BUILDER:

Kurseed

STREET:

Fairway Dr

RETURN PHONE NO.

INSPECTION REQUESTED BY:

Munday 10.30 Am

PIER HOLES

TRENCHES & STEEL

STEEL FOR SLAB

FENCE FOR POOL

DAMP COURSE LEVEL

FRAME

STORMWATER DRAINAGE

SURFACE/SUBSOIL

SEPTIC TANK LAYOUT

SEPTIC TANK INSPECTION/BACKFILL

FINAL

MESSAGE TAKEN BY:

Bh

DATE:

15/1/82

TIME:

9.20

Demin water

Bh

BAULKHAM HILLS SHIRE COUNCIL

OWNER: *Beeby* LOT: STREET: *Fairway Dr*

BUILDER *ABR BT*

BUILDING PERMIT NO: *61434*

INSPECTION REQUESTED:

PIER HOLES
TRENCHES & STEEL
STEEL FOR SLAB
STEEL FOR POOL
FENCE FOR POOL
DAMP COURSE
FRAME
ROOF WATER DRAINAGE
FINAL
SEPTIC TANK LAYOUT
BACKFILL TRENCHES

WHEN READY: *MB*

MESSAGE TAKEN BY: *Bh*

DATE *4/9*

TIME: *8-30*

Revised 9/9/81

NIF-4-9-81

BAULKHAM HILLS SHIRE COUNCIL

BUILDER'S INSPECTION NOTICE

The Shire Clerk.

Building Permit No. 61434.

Sir,

I wish to advise, in connection with the building under construction at Lot 12 Street FAIRWAY DR., that the following work will be completed and ready for inspection on 9-9-1981.

BRICK & BRICK/VENEER BUILDINGS

- ~~1. Trenches and reinforcing before footings are poured.~~
- ~~2. When foundations reach dampcourse level and before trenches are filled in.~~
3. When brickwork is complete and roof timbers are pitched.
- ~~4. Drains before covering in lines.~~

Strike out items not required.

TIMBER-FRAMED BUILDINGS

1. Upon completion of brickwork foundation.
2. When full framework is completed.
3. Drains before covering in lines.

~~PATIOS AND CONCRETE FLOORS~~

- ~~1. Steel in position.~~

Yours faithfully,

Signature

Builder/Owner

Date

3-9-81

BAULKHAM HILLS SHIRE COUNCIL

BUILDER'S INSPECTION NOTICE

The Shire Clerk.

Building Permit No. 61434

Sir,

I wish to advise, in connection with the building under construction at Lot 12 Street AKWAY DRIVE, that the following work will be completed and ready for inspection on 10-6-1981.

BRICK & BRICK/VENEER BUILDINGS

1. Trenches and reinforcing before footings are poured.
2. When foundations reach dampcourse level and before trenches are filled in.
3. When brickwork is complete and roof timbers are pitched.
4. Drains before covering in lines.

Strike out items not required.

TIMBER-FRAMED BUILDINGS

1. Upon completion of brickwork foundation.
2. When full framework is completed.
3. Drains before covering in lines.

PATIOS AND CONCRETE FLOORS

1. Steel in position.

Yours faithfully,

Signature

Builder/Owner

Date

NOTE - 48 hours' notice in writing for inspection must be given for the above item of work.

W. G. SCOTT, A.S.T.C.

CONSULTING ENGINEER
TELEPHONE: 634.1993
634.5093

REF.: K741

P.O. BOX 137
CASTLE HILL, 2154
N.S.W., AUSTRALIA

22 OLOLA AVENUE
CASTLE HILL, 2154

20th May, 1981.

The Shire Clerk,
Baulkham Shire Council,
Council Chambers,
CASTLE HILL. N.S.W. 2154

Dear Sir,

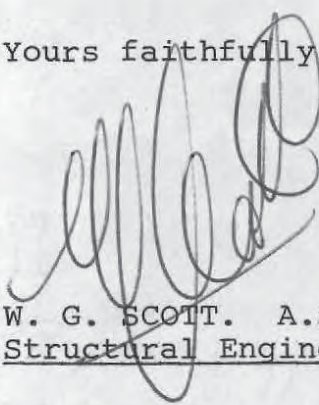
Re Proposed Residence for Mrs. Bee By,
Lot 12, Fairway Drive, Kellyville.
Builder: A. W. B. T. Pty. Ltd.

I have inspected the pier holes to the strip footings for
the abovementioned proposal.

All of the pier holes were positioned correctly and bearing
on strata having similar bearing intensities and will promote
stability to the structure.

Yours faithfully,

BA # 61434


W. G. SCOTT. A.S.T.C.
Structural Engineer.

JAG

W. G. SCOTT, A.S.T.C.

CONSULTING ENGINEER
TELEPHONE: 634.1993
634.5093

REF.:
K837

P.O. BOX 137
CASTLE HILL, 2154
N.S.W., AUSTRALIA

22 OLOLA AVENUE
CASTLE HILL, 2154

19th June, 1981.

The Shire Clerk,
Baulkham Hills Shire Council,
Council Chambers,
CASTLE HILL. N.S.W. 2154

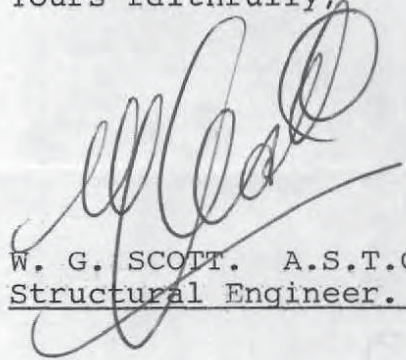
Dear Sir,

Re Proposed Residence for Mrs. Beeby,
Lot 12, Fairway Drive, Kellyville.
Builder: A. W. B. T. Pty. Ltd.

I have inspected the strip footing trenches and reinforcing steel for the abovementioned proposal.

Further to this, I do hereby certify that all details were in accordance with the relevant codes and will promote stability to the structure.

Yours faithfully,


W. G. SCOTT. A.S.T.C.
Structural Engineer.

BA# 61434

JAG

BAULKHAM HILLS SHIRE COUNCIL

INSPECTOR'S MEMO

9th July, 1981.

To: The Manager,
A.W.B.T. Pty. Ltd.,
56 Britannia Road,
CASTLE HILL 2154.

Referring to Lot No. 12 Street Fairway Drive.

Locality Kellyville.

Building Application No. 61434.

Owner Mrs V. Beeby.

Inspection on 8th July, 1981 revealed that the following
item/s require attention:-

- 1) Submission of Structural Engineer's Certificate regarding the adequacy of the bored piers prior to concrete being poured.

You are hereby accordingly advised that in the event of a Certificate of Compliance application being submitted to Council pursuant to Section 317A of the Local Government Act, it will be necessary for the satisfactory completion of the abovementioned items, prior to the application being considered by the Council.

Please notify Council for re-inspection on completion of work.

Signed: B.W. Linton. Inspector

per: 

This memo, is used as a convenient means of advising requirements so as to minimise delay and to avoid the necessity of serving statutory notices. Any further relevant information may be had by contacting the above Inspector between 9 & 10 a.m. Monday to Friday, Telephone 634.2200.

BAULKHAM HILLS SHIRE COUNCIL

OWNER

BUILDER

BUILDING PERMIT NO:

INSPECTION REQUESTED:

LOT:

STREET:

AWBT

61434

Fairway Dr

PIER HOLES

TRENCHES & HOLES

STEEL FOR SLAB

STEEL FOR POOL

FENCE FOR POOL

DAMP COURSE

FRAME

ROOF WATER DRAINAGE

FINAL

SEPTIC TANK LAYOUT

BACKFILL TRENCHES

WHEN READY:

MESSAGE TAKEN BY:

DATE:

TIME:

Now

Bh

8/7

9-40.

pm to day.

BAULKHAM HILLS SHIRE COUNCIL

OWNER: *Beeby*

BUILDER:

BUILDING PERMIT NO:

INSPECTION REQUESTED:

LOT: *12* STREET: *Fairway Dr*

61434

PIER HOLES

TRENCHES & STEEL

STEEL FOR SLAB

STEEL FOR POOL

DAMP COURSE

FRAME

ROOF WATER DRAINAGE

FINAL

SEPTIC TANK LAYOUT

BACKFILL TRENCHES

WHEN READY:

MESSAGE TAKEN BY: *Naw Bh*

DATE: *20/5.*

TIME: *9-15*

12-1-2

W. G. SCOTT, A.S.T.C.
CONSULTING ENGINEER
TELEPHONE: 634.1993
634.5093

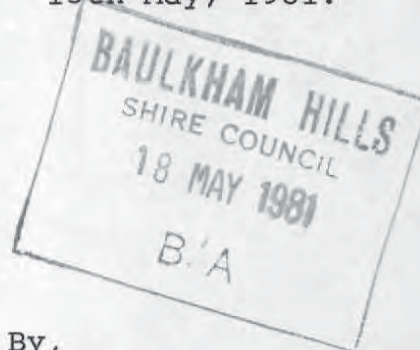
REF.: K708

P.O. BOX 137
CASTLE HILL, 2154
N.S.W., AUSTRALIA

22 OLOLA AVENUE
CASTLE HILL, 2154

15th May, 1981.

The Shire Clerk,
Baulkham Hills Shire Council,
Council Chambers,
CASTLE HILL. N.S.W. 2154

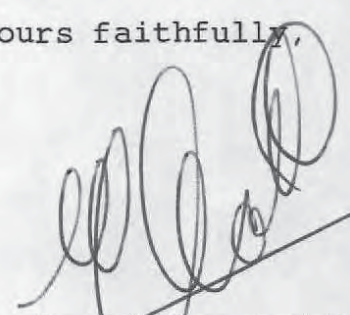


Dear Sir,

Re Proposed Residence for Mrs. Bee By,
Lot 12, Fairway Drive, Kellyville.
Builder: A. W. B. T. Pty. Ltd.

I do hereby certify that the concrete floor slab and footing details shown on Drawing No. A2-2155/81 will promote structural stability of the proposed residence, and further, that the said details are in accordance with Australian Standard AS1480-1974, "Concrete Structures Code," including current amendments.

Yours faithfully,

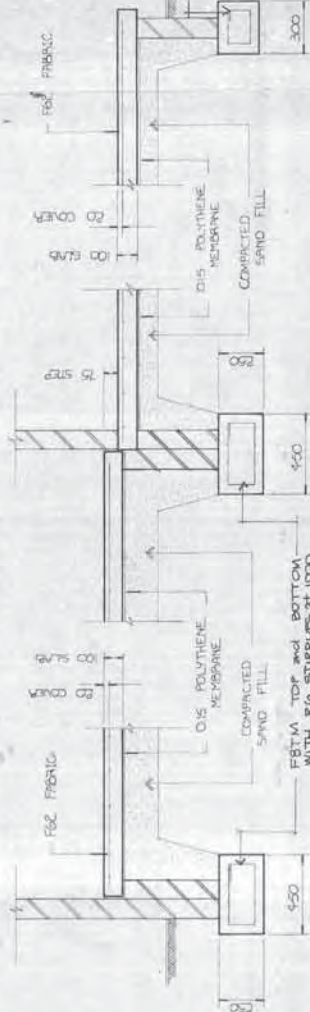

W. G. SCOTT. A.S.T.C.
Structural Engineer.

JAG

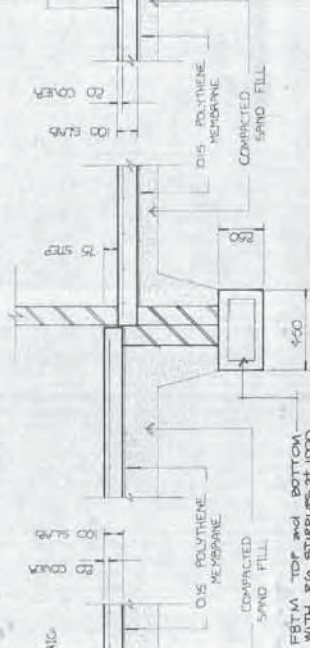
BA # 61434

NOTE:- ALL STRIP FOOTING REINFORCEMENT IS TO BE #6 TRENCH MESH WITH #6 STRIPS @ 1000 CTS

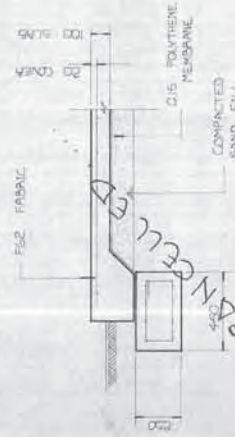
MIN ALLOWABLE DEBRIS IS TO BE 25 MM



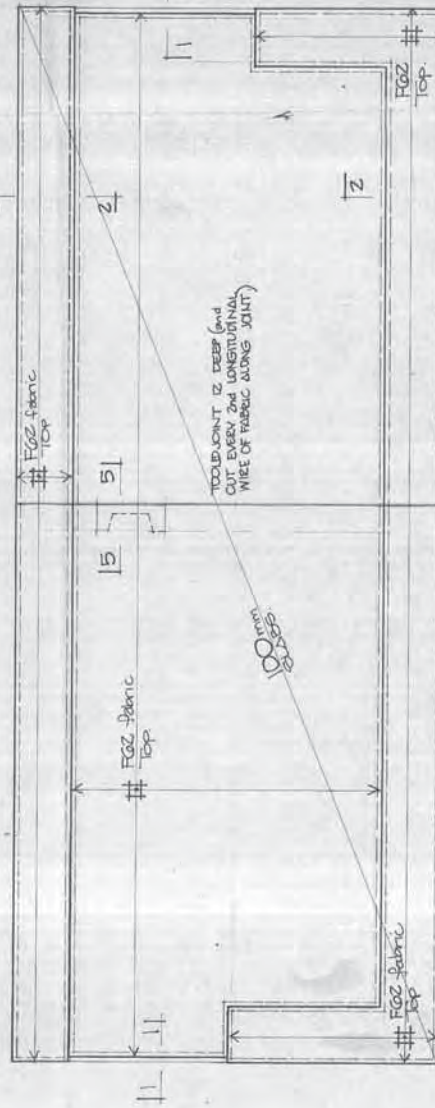
SECTION 1



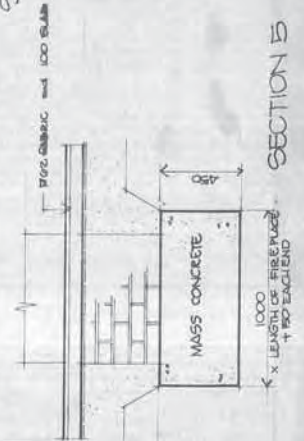
SECTION 2



SECTION 3



SLAB LAYOUT



SECTION 15

1. This drawing is not to be scaled.
2. Dimensions are to be checked on site by the builder.
3. Conduits, pipes, etc. are not to be placed in cover concrete.
4. All concrete is to be in accordance with AS1480 current edition and amendments.
5. No excess water is to be added to the concrete without prior approval by the engineer.
6. All reinforcement is to be accurately placed in positions shown on the drawing. The reinforcement is to be adequately supported to give the specified cover before concrete is poured.
7. Concrete design strength f'c is 20 MPa.
8. Unless otherwise shown on drawing all reinforcement laps are to be as follows:
9. Reinforcement symbols:

End Lap
Square Fabric 225
Bars 600

Side Lap
Square Fabric 225
Bars 600

Reinforcement symbols:
C - Cold worked deformed bars having 2.40 proof stress of 410 MPa.

R - Structural grade round bars.
The number following the symbol is the number of millimetres in the bar diameter.

Reinforcing fabric is to be in accordance with AS 1480-1972.
Concrete slump not to exceed 80 mm.

REGISTERED
REGISTER No. 61434
18 MAY 1981

SECTION 4

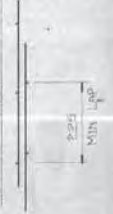
W. G. SCOTT A.S.T.C.
CONSULTING ENGINEER
22 OLOLA AVENUE CASTLE HILL N.S.W. 534-1993. 634-5093

CONCRETE FLOOR SLAB

PROPOSED RESIDENCE -
MRS BEE BY
LOT 12 FAIRWAY DRIVE,
KELLYVILLE NEW SOUTH WALES

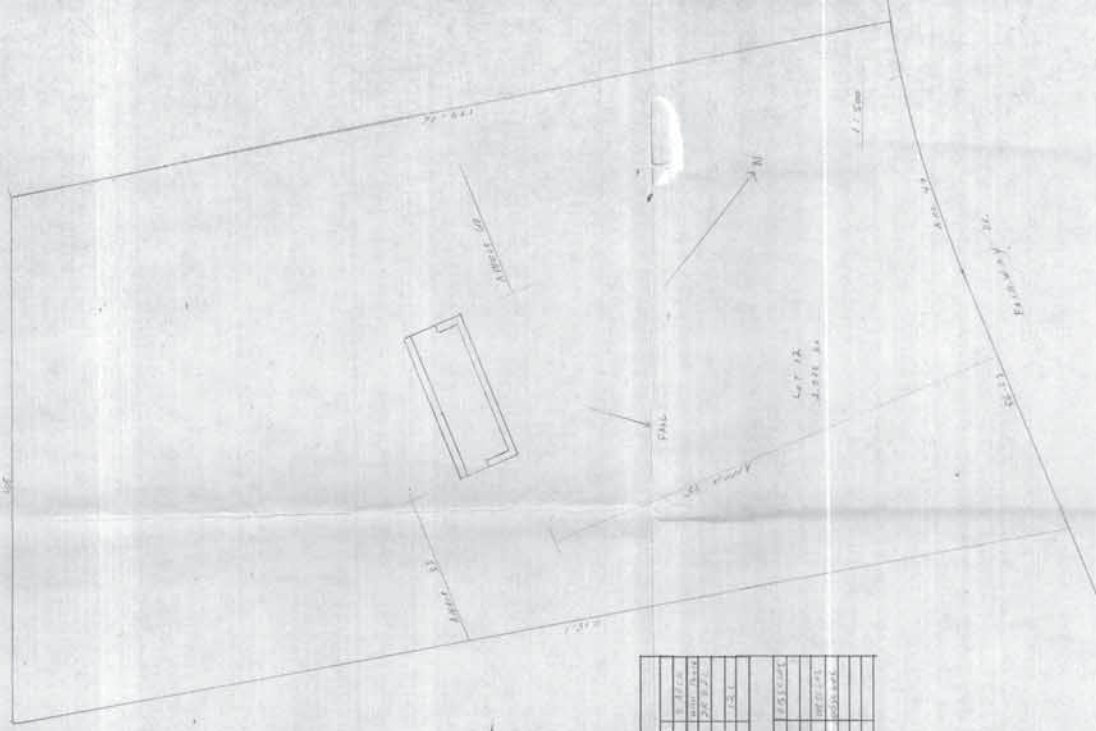
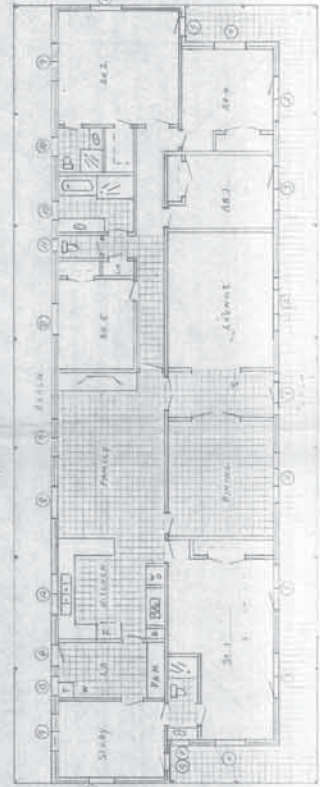
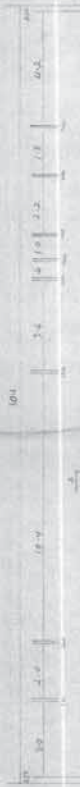
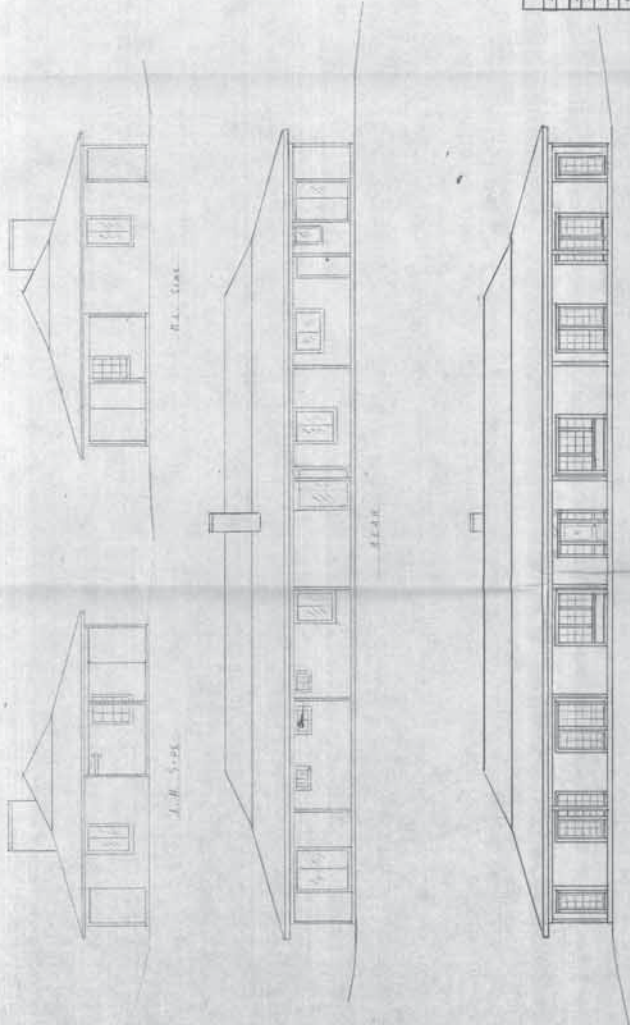
BUILDER	ANVT	PTY	LIMITED
SCALE	1:20	1:100	
DRAWN	SCURRY	14 MAY '81	
TRACED			
CHECKED			

MESH LAP DETAIL

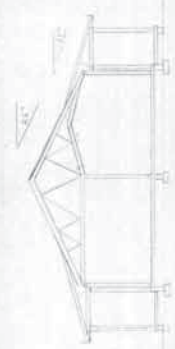


A2 2155 / 81.

61434-33-1



Floor Plan		Ground Floor		Upper Floor	
Room	Area	Room	Area	Room	Area
1	10.0	1	10.0	1	10.0
2	10.0	2	10.0	2	10.0
3	10.0	3	10.0	3	10.0
4	10.0	4	10.0	4	10.0
5	10.0	5	10.0	5	10.0
6	10.0	6	10.0	6	10.0
7	10.0	7	10.0	7	10.0
8	10.0	8	10.0	8	10.0
9	10.0	9	10.0	9	10.0
10	10.0	10	10.0	10	10.0
11	10.0	11	10.0	11	10.0
12	10.0	12	10.0	12	10.0
13	10.0	13	10.0	13	10.0
14	10.0	14	10.0	14	10.0
15	10.0	15	10.0	15	10.0
16	10.0	16	10.0	16	10.0
17	10.0	17	10.0	17	10.0
18	10.0	18	10.0	18	10.0
19	10.0	19	10.0	19	10.0
20	10.0	20	10.0	20	10.0



1	10.0	10.0	10.0
2	10.0	10.0	10.0
3	10.0	10.0	10.0
4	10.0	10.0	10.0
5	10.0	10.0	10.0
6	10.0	10.0	10.0
7	10.0	10.0	10.0
8	10.0	10.0	10.0
9	10.0	10.0	10.0
10	10.0	10.0	10.0
11	10.0	10.0	10.0
12	10.0	10.0	10.0
13	10.0	10.0	10.0
14	10.0	10.0	10.0
15	10.0	10.0	10.0
16	10.0	10.0	10.0
17	10.0	10.0	10.0
18	10.0	10.0	10.0
19	10.0	10.0	10.0
20	10.0	10.0	10.0

Section 149 Certificates

THE HILLS SHIRE COUNCIL

3 Columbia Court, Baulkham Hills NSW 2153
PO Box 7064, Baulkham Hills BC NSW 2153

Telephone +612 9843 0555
Facsimile +612 9843 0409

DX 9966 Norwest

Email council@thehills.nsw.gov.au
www.thehills.nsw.gov.au

ABN No. 25 034 494 656

PLANNING CERTIFICATE UNDER SECTION 149 (2) & (5)
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 AS AMENDED.

Certificate Number: **56050**
Reference: E28861K:60946
Issue Date: 28 October 2015
Receipt No: 5010397
Fee Paid: \$ 133.00

ADDRESS: 21 Fairway Drive, KELLYVILLE NSW 2155
DESCRIPTION: Lot 11 DP 247442

The land is zoned:
Zone R2 Low Density Residential
Zone RE1 Public Recreation

The following prescribed matters apply to the land to which this certificate relates:

The Environmental Planning and Assessment Amendment Act 1997 commenced operation on 1 July 1998. As a consequence of this Act, the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment Regulation 2000.

THIS CERTIFICATE IS DIRECTED TO THE FOLLOWING MATTERS
PRESCRIBED UNDER SECTION 149 (2) OF THE ABOVE ACT.

1. Names of relevant planning instruments and DCPs

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

(A) **Local Environmental Plans**

The Hills Local Environmental Plan 2012, as amended, applies to all land in the Shire unless otherwise stated in this certificate.

State Environmental Planning Policies

SEPP No.19 - Bushland In Urban Areas
 SEPP No.21 - Caravan Parks
 SEPP No.30 - Intensive Agriculture
 SEPP No.33 - Hazardous And Offensive Development
 SEPP No.50 - Canal Estate Development
 SEPP No.55 - Remediation Of Land
 SEPP No.62 - Sustainable Aquaculture
 SEPP No.64 - Advertising And Signage
 SEPP No.65 - Design Quality Of Residential Flat Development
 SEPP No.70 - Affordable Housing (Revised Schemes)
 SEPP (Building Sustainability Index: Basix) 2004
 SEPP (Major Development) 2005
 SEPP (Mining, Petroleum Production And Extractive Industries) 2007
 SEPP (Miscellaneous Consent Provisions) 2007
 SEPP (Infrastructure) 2007
 SEPP (Exempt and Complying Development Codes) 2008
 SEPP (Affordable Rental Housing) 2009
 SEPP (State and Regional Development) 2011

Sydney Regional Environmental Plan No. 9 Extractive Industries (No.2) - Amendment No.1

Sydney Regional Environmental Plan No. 20 Hawkesbury – Nepean River (No.2 – 1997)

The following SEPP's may apply to the land. Please refer to '**Land to which Policy applies**' for each individual SEPP.

SEPP (Housing For Seniors Or People With A Disability) 2004
 SEPP No.32 – Urban Consolidation (Redevelopment of Urban Land)

- (2) The name of each **proposed environmental planning instrument** that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

(A) **Proposed Local Environmental Plans**

No Proposed Local Environmental Plans apply to this land.

(B) **Proposed State Environmental Planning Policies**

Draft State Environmental Planning Policy (Competition).

- (3) The name of each development control plan that applies to the carrying out of development on the land.

The Hills Development Control Plan 2012

Note: the land is within The Hills Development Control Plan 2012 Part D map sheet. Refer Council's website www.thehills.nsw.gov.au to view the map sheet.

- (4) In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.

2. Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP).

- (A) The Hills Local Environmental Plan 2012 applies to the land unless otherwise stated in this certificate and identifies the land to be:

**Zone R2 Low Density Residential
Zone RE1 Public Recreation**

- (B) The purposes for which the instrument provides that development may be carried out within the zone without development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Exempt Development

- (C) The purposes for which the instrument provides that development may not be carried out within the zone except with development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Complying Development

- (D) The purposes for which the instrument provides that development is prohibited in the zone:

Refer Attachment 2(B)

- (E) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed?

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

- (F) Whether the land includes or comprises critical habitat?

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

- (G) Whether the land is in a conservation area (however described)?

The Hills Local Environmental Plan 2012?

NO

Any Other Planning Proposal?

NO

- (H) Whether an item of environmental heritage (however described) is situated on the land?

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

2A. Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

- (a) Part 3 of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (the 2006 SEPP)*, or
 - (b) a Precinct Plan (within the meaning of the 2006 SEPP), or
 - (c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the ACT.
- (A) State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan) applies to the land unless otherwise stated in this certificate and identifies the land to be:

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan) does not apply.

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan) applies to the land unless otherwise stated in this certificate and identifies the land to be:

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan) does not apply.

Note: This precinct plan applies to land within the Box Hill Precinct or Box Hill Industrial Precinct.

- (B) The purposes for which the instrument provides that development may be carried out within the zone without development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Exempt Development.

- (C) The purposes for which the instrument provides that development may not be carried out within the zone except with development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Complying Development

- (D) The purposes for which the instrument provides that development is prohibited in the zone:

Refer Attachment 2(B)

- (E) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

Any amendments to State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

Any amendments to State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (F) Whether the land includes or comprises critical habitat?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (G) Whether the land is in a conservation area (however described)?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (H) Whether an item of environmental heritage (however described) is situated on the land?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

3. Complying Development

- (1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.
- (2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.
- (3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

General Housing Code and Rural Housing Code

Complying development under the General Housing Code and Rural Housing Code **may not** be carried out on the land **unless** the development is carried out on any part of the lot that is not affected by the following specific land exemption/s:

The land is reserved for a public purpose in the environmental planning instrument. Refer to the Land Zoning Map of the applicable instrument.

Housing Alterations Code and General Development Code

Complying Development under the Housing Alterations Code and General Development Code **may be** carried out on the land.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code **may not** be carried out on the land **unless** the development is carried out on any part of the lot that is not affected by the following specific land exemption/s:

The land is reserved for a public purpose in the environmental planning instrument. Refer to the Land Zoning Map of the applicable instrument.

Commercial and Industrial Alterations, Subdivision, Demolition and Fire Safety Codes

Complying Development under the Commercial and Industrial Alterations, Subdivision, Demolition and Fire Safety Codes **may be** carried out on the land.

Note: Where reference is made to an applicable map, this information can be sourced from the following websites:

The Hills Local Environmental Plan 2012 - www.thehills.nsw.gov.au
State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct) or (Appendix 11 The Hills Growth Centre Precincts Plan) - www.planning.nsw.gov.au

4. Coastal protection

Whether or not the land is affected by the operation of Section 38 or 39 of the *Coastal Protection Act 1979*, but only to the extent that the council has been so notified by the Department of Services, Technology and Administration?

NO

4A. Certain information relating to beaches and coasts

- (1) In relation to a coastal council - whether an order has been made under Part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

NO

- (2) In relation to a coastal council:

(a) whether the council has been notified under section 55X of the Coastal Protection Act 1979 that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

(b) if works have been so placed – whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

NO

(3) (Repealed)

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

Whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

NO

Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

5. Mine subsidence

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961?

NO

6. Road widening and road realignment

Whether or not the land is affected by any road widening or road realignment under -

(A) Division 2 of Part 3 of the Roads Act 1993; or

NO

(B) any environmental planning instrument; or

NO

(C) any resolution of council?

a) The Hills Development Control Plan 2012?

YES

The Hills Development Control Plan 2012 identifies the land as being affected by a proposed road or road widening. Refer Part 1(3) of this certificate for the applicable map sheet.

b) Any other resolution of council?

NO

7. Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:

- (a) adopted by council, or
- (b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council,

that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding)?

Council's policies on hazard risk restrictions are as follows:

(i) Landslip

a) By The Hills Local Environmental Plan 2012 zoning?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

b) By The Hills Local Environmental Plan 2012 local provision?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

c) By The Hills Development Control Plan 2012 provision?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

(ii) Bushfire

YES

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by bushfire. That question is answered in Section 11 of this certificate.

Council has adopted the NSW Rural Fire Service Guidelines entitled 'Planning for Bushfire Protection 2006'. Development subject to bushfire risk will be required to address the requirements in these guidelines and can be downloaded off the RFS web site www.rfs.nsw.gov.au

The Development Control Plan may also contain provisions for development on Bushfire Prone Land and Bushfire Hazard Management. Refer Part 1(3) of this certificate for the applicable Development Control Plan.

(iii) Tidal inundation

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by tidal inundation.

(iv) Subsidence

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by subsidence.

(v) Acid sulphate soils

NO

(vi) Land contamination

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by contamination or potential contamination.

(vii) Any other risk

NO

7A. Flood related development controls information

- (1)** Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls?

NO

Please note this is a statement of flood related development controls and is NOT a statement on whether or not the property is subject to flooding.

- (2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls?

NO

Please note this is a statement of flood related development controls and is NOT a statement on whether or not the property is subject to flooding.

- (3) Words and expressions in this clause have the same meanings as in the standard instrument set out in the Standard Instrument (Local Environmental Plans) Order 2006.

8. Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act.

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

State Environmental Planning Policy?

NO

Proposed State Environmental Planning Policy?

NO

9. Contributions plans

The name of each contributions plan applying to the land:

12 - BALMORAL RD EAST PRCT

9A. Biodiversity Certified Land

Whether the land is biodiversity certified land within the meaning of Part 7AA of the Threatened Species Conservation Act 1995?

NO

10. Biobanking Agreements

Whether the land is land to which a biobanking agreement under part 7A of the Threatened Species Conservation Act 1995 relates, (but only if the council has been notified of the existence of the agreement by the Director-General of the Department of Environment, Climate Change and Water)?

NO

11. Bush fire prone land

Has the land been identified as bush fire prone land?

NO

12. Property vegetation plans

Has the council been notified that a property vegetation plan under the Native Vegetation Act 2003 applies to this land?

NO

13. Orders under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on this land (but only if the council has been notified of the order)?

NO

14. Directions under Part 3A

Whether there is a direction by the Minister in force under section 75P (2)(c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect?

NO

15. Site compatibility certificates and conditions for seniors housing

(a) Whether there is a current site compatibility certificate (seniors housing) of which council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land?

NO

(b) Whether there are any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land?

NO

16. Site compatibility certificates for infrastructure

Whether there is a valid site compatibility certificate (infrastructure), of which the council is aware, in respect of proposed development on the land?

NO

17. Site compatibility certificates and conditions for affordable rental housing

(1) Whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land?

NO

(2) Whether there are any terms of a kind referred to in clause 17(1) or 38(1) of *State Environmental Planning Policy (Affordable Rental Housing) 2009* that have been imposed as a condition of consent to a development application in respect of the land?

NO

18. Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

NO DEVELOPMENT PLAN APPLIES

(2) The date of any subdivision order that applies to the land.

NO SUBDIVISION ORDER APPLIES

(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

19. Site verification certificates

Whether there is a current site verification certificate, of which the council is aware, in respect of the land?

NO

Note. A site verification certificate sets out the Director-General's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land - see Division 3 of Part 4AA of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

Note. The following matters are prescribed by section 59 (2) of the *Contaminated Land Management Act 1997* as additional matters to be specified in a planning certificate:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

NO

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

NO

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act – if it is the subject of such an approved proposal at the date when the certificate is issued,

NO

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of the Act – if it is subject to such an order at the date when the certificate is issued,

NO

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of the Act – if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

NO

Note: Whether Council has been provided with a copy of any exemption under section 23 or authorisation by the Co-ordinator General under section 24 of the Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009?

NO

**THIS PART IS DIRECTED TO THE FOLLOWING MATTERS
PRESCRIBED UNDER SECTION 149 (5) OF THE ABOVE ACT**

NOTE: "When information pursuant to Section 149 (5) is requested the council is under no obligation to furnish any of the information supplied herein pursuant to that Section. Council draws your attention to Section 149 (6), which states that a council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate."

- A.** Whether there are any provisions applying to the land that control the management of trees and bushland?

YES

Clause 5.9 and 5.9AA of The Hills Local Environmental Plan 2012 and Part C Section 3 of The Hills Development Control Plan 2011 contain provisions for the control and management of actions in respect of trees and bushland.

- B.** Does the land contain a foreshore area as identified on The Hills Local Environmental Plan 2012 Foreshore Building Line map?

NO

- C.** Under the Protection of the Environment Operations Act 1997, is the property subject to a listing on the public register maintained by council with respect to an environmental notice or civil proceedings in the Land and Environment Court, or a prosecution under this Act?

NO

- D.** Is the land affected by any special provisions of Sydney Regional Environmental Plan No 9 – Extractive Industry (No 2 – 1995)?

NO

- E.** Is the land affected by a restricted development area as identified under The Hills Development Control Plan 2012?

NO

- F.** Is the land within an area where a Special Infrastructure Contribution, as determined by the Minister for Planning and Infrastructure, applies?

YES

The land is within the Special Infrastructure Contribution – Western Sydney Growth Areas under the *Environmental Planning and Assessment Act 1979*.

Refer to the Department of Planning and Infrastructure for further information
www.planning.nsw.gov.au

- G.** Is the land in the vicinity of a heritage item or heritage conservation area as described in The Hills Local Environmental Plan 2012 **OR** State Environmental Planning Policy (Sydney Region Growth Centres) 2006?

NO

- H.** Whether Council has adopted a Voluntary Planning Agreement within the meaning of S93F of the Environmental Planning and Assessment Act, 1979, as amended, in relation to the land?

NO

- I.** Is the land within or adjacent to the North West Rail Link as identified on the maps prepared by Transport NSW?

NO

- J.** Is the land within or adjacent to the Parramatta to Epping Rail Link as identified on the maps prepared by Transport NSW?

NO

- K.** Does the land contain a proposed road as identified within a Development Control Plan under State Environmental Planning Policy (Sydney Region Growth Centres) 2006?

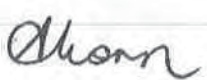
NO

- L.** Has Council been notified by NSW Land and Property Information that the land is affected by a plan of proposed acquisition for railway purposes (North West Rail Link)?

NO

THE HILLS SHIRE COUNCIL

DAVE WALKER
GENERAL MANAGER


Per:

PLEASE NOTE: COUNCIL RETAINS THE ELECTRONIC ORIGINAL OF THIS CERTIFICATE. WHERE THIS CERTIFICATE REFERS TO INFORMATION DISPLAYED ON COUNCIL'S WEBSITE OR TO ANY EXTERNAL WEBSITE, IT REFERS TO INFORMATION DISPLAYED ON THE WEBSITE ON THE DATE THIS CERTIFICATE IS ISSUED.

ATTACHMENT 2(B)**Zone RE1 Public Recreation****1 Objectives of zone**

- To enable land to be used for public open space or recreational purposes.
- To provide a range of recreational settings and activities and compatible land uses.
- To protect and enhance the natural environment for recreational purposes.

2 Permitted without consent

Environmental protection works.

3 Permitted with consent

Boat launching ramps; Building identification signs; Business identification signs; Car parks; Child care centres; Community facilities; Emergency service facilities; Environmental facilities; Information and education facilities; Jetties; Kiosks; Markets; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Respite day care centres; Restaurants or cafés; Roads; Take away food and drink premises; Water recreation structures.

4 Prohibited

Any development not specified in item 2 or 3.

NOTE: This land use table should be read in conjunction with the Dictionary at the end of The Hills LEP 2012 which defines words and expressions for the purpose of the plan.

Appendix B: Borehole Logs



BOREHOLE LOG

Borehole No.
1
1/1

Client:TKD ARCHITECTS

Project:PROPOSED BUILDING

Location:21-23 FAIRWAY DRIVE, KELLYVILLE, NSW

Job No. 28861ZH

Date: 2&5-11-15

Method: SPIRAL AUGER
JK300

Logged/Checked by: M.T./A.J.H.

R.L. Surface: ≈ 75.1m

Datum: AHD

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DB	DS									
DRY ON COMPLETION & AFTER 5 HRS					N = 21 6,9,12	0			FILL: Clayey silt topsoil, low plasticity, brown, with fine grained ironstone and shale gravel, roots and root fibres, trace of ash and timber fragments.	MC<PL			GRASS COVER
								CH	SILTY CLAY: high plasticity, red brown and light grey mottled brown, trace of root fibres, fine grained ironstone gravel and ash.	MC<PL	H	>600	RESIDUAL
						1			SHALE: dark brown and red brown.	DW	M-H		MODERATE 'TC' BIT RESISTANCE WITH HIGH BANDS
						2		as above, but grey and dark brown.					
					3					M		LOW TO MODERATE RESISTANCE	
					4								
						5			END OF BOREHOLE AT 4.5m				
						6							
						7							

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BOREHOLE LOG

Borehole No.
2
1/1

Client:TKD ARCHITECTS

Project:PROPOSED BUILDING

Location:21-23 FAIRWAY DRIVE, KELLYVILLE, NSW

Job No. 28861ZH

Date: 2-11-15

Method: SPIRAL AUGER
JK300

Logged/Checked by: M.T./A.J.H.

R.L. Surface: ≈ 72.7m

Datum: AHD

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DB	DS									
DRY ON COMPLETION & AFTER 4.5 HRS					N = 21 8,12,9	0			FILL: Clayey silt topsoil, low plasticity, brown, with fine grained ironstone and shale gravel, roots and root fibres, trace of ash.	MC<PL			GRASS COVER
							CH		SILTY CLAY: high plasticity, light grey and orange brown, trace of root fibres, fine grained ironstone gravel and ash.	MC<PL	H	>600 >600 >600	RESIDUAL
						1		-	SHALE: grey and red brown, with H strength bands.	DW	L-M		LOW TO MODERATE 'TC' BIT RESISTANCE WITH HIGH BANDS LOW RESISTANCE WITH MODERATE BANDS
						3			SHALE: dark grey and grey.	SW	M-H		MODERATE RESISTANCE
						4							
						5			END OF BOREHOLE AT 4.5m				
						6							
						7							

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BOREHOLE LOG

Borehole No.
3
1/1

Client: TKD ARCHITECTS												
Project: PROPOSED BUILDING												
Location: 21-23 FAIRWAY DRIVE, KELLYVILLE, NSW												
Job No. 28861ZH Method: SPIRAL AUGER JK300 R.L. Surface: ≈ 70.8m												
Date: 2-11-15 Logged/Checked by: M.T./A.J.H. Datum: AHD												
Groundwater Record	SAMPLES			Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	US	DS									
DRY ON COMPLETION & AFTER 4 HRS					0		CH	FILL: Clayey silt topsoil, low plasticity, brown, with fine grained ironstone gravel, fine to medium grained igneous gravel, roots and root fibres, trace of ash.	MC<PL			GRASS COVER
				N = 17 7,8,9	1			SILTY CLAY: high plasticity, light grey, red brown and orange brown, with fine grained ironstone gravel, trace of root fibres and ash.	MC<PL	H	>600 >600 >600	RESIDUAL
				N > 3 13,3/10mm REFUSAL	2		-	SHALE: dark grey and dark brown.	DW	L-M		LOW TO MODERATE 'TC' BIT RESISTANCE
					4				SW	M--H		MODERATE RESISTANCE
					5			END OF BOREHOLE AT 4.5m				
					6							
					7							



BOREHOLE LOG

Client:TKD ARCHITECTS

Project:PROPOSED BUILDING

Location:21-23 FAIRWAY DRIVE, KELLYVILLE, NSW

Job No. 28861ZH

Date: 2-11-15

Method: SPIRAL AUGER
JK300

Logged/Checked by: M.T./A.J.H.

R.L. Surface: ≈ 79.1m

Datum: AHD

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DB	DS									
DRY ON COMPLETION & AFTER 5.5 HRS						0			FILL; Clayey silt topsoil, low plasticity, brown, with roots and root fibres, fine grained ironstone gravel, trace of ash.	MC<PL			GRASS COVER
								CH	SILTY CLAY: high plasticity, red brown and light grey, with fine grained ironstone gravel, trace of root fibres and ash.	MC<PL	(H)		RESIDUAL
					N > 26 12,26/ 130mm REFUSAL	1		-	SHALE: dark grey and dark brown.	DW	M-H		MODERATE 'TC' BIT RESISTANCE
											M		LOW TO MODERATE RESISTANCE
						2							
						3							
						4							
						5			END OF BOREHOLE AT 4.5m				
						6							
						7							

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BOREHOLE LOG

Borehole No.
5
1/1

Client: TKD ARCHITECTS												
Project: PROPOSED BUILDING												
Location: 21-23 FAIRWAY DRIVE, KELLYVILLE, NSW												
Job No. 28861ZH Method: SPIRAL AUGER JK300 R.L. Surface: ≈ 74.8m												
Date: 2-11-15 Logged/Checked by: M.T./A.J.H. Datum: AHD												
Groundwater Record	SAMPLES			Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DS									
DRY ON COMPLETION				N = 21 5,9,12	0			FILL: Clayey silt topsoil, low plasticity, brown, with roots and root fibres, trace of fine grained ironstone gravel and ash.	MC<PL			GRASS COVER
							CH	SILTY CLAY: high plasticity, light grey mottled light orange and brown.	MC<PL	H	>600 >600 >600	RESIDUAL
					1		-	SHALE: dark grey and dark brown, with H strength iron indurated bands.	DW	M		MODERATE 'TC' BIT RESISTANCE
					2							
					3			END OF BOREHOLE AT 2.3m				'TC; BIT REFUSAL
					4							
					5							
					6							
					7							



BOREHOLE LOG

Borehole No.
6
1/1

Client:TKD ARCHITECTS

Project:PROPOSED BUILDING

Location:21-23 FAIRWAY DRIVE, KELLYVILLE, NSW

Job No. 28861ZH

Date: 2&5-11-15

Method: SPIRAL AUGER
JK300

Logged/Checked by: M.T./A.J.H.

R.L. Surface: ≈ 71.2m

Datum: AHD

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DB	DS									
DRY ON COMPLETION & AFTER 1 HR						0			FILL: Clayey silt topsoil, low plasticity, brown, with roots root fibres, with fine grained ironstone gravel, trace of ash.	MC<PL			GRASS COVER
					N = 27 6,10,17	1		CH	SILTY CLAY: high plasticity, light grey mottled light orange and red brown, with fine grained ironstone gravel, trace of root fibres and ash.	MC<PL	H	>600 >600 >600	RESIDUAL
					N > 19 5,9,10/ 50mm							420 >600	
					REFUSAL	2		-	SHALE: dark grey and brown.	DW	L-M		LOW TO MODERATE 'TC' BIT RESISTANCE
						3							
						4					M-H		MODERATE RESISTANCE
						5			END OF BOREHOLE AT 4.5m				
						6							
						7							

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Borehole No.
7
1/1

BOREHOLE LOG

Client:TKD ARCHITECTS

Project:PROPOSED BUILDING

Location:21-23 FAIRWAY DRIVE, KELLYVILLE, NSW

Job No. 28861ZH

Date: 3-11-15

Method: SPIRAL AUGER
JK300

Logged/Checked by: M.T./A.J.H.

R.L. Surface: ≈ 77.6m

Datum: AHD

Groundwater Record	SAMPLES			Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DS									
DRY ON COMPLETION					0			FILL: Clayey silt topsoil, low plasticity, brown, with roots root fibres, trace of fine grained ironstone gravel and ash.	MC<PL			GRASS COVER
							CH	SILTY CLAY: high plasticity, orange brown, trace of roots, fine grained ironstone gravel and ash.	MC<PL	(H)		RESIDUAL
				N = SPT 13/70mm REFUSAL	1			SHALE: dark grey and brown.	DW	H		MODERATE 'TC' BIT RESISTANCE
					2					M		LOW RESISTANCE WITH MODERATE BANDS
					3							
					4							
					5			END OF BOREHOLE AT 4.5m		M-H		MODERATE TO HIGH RESISTANCE
					6							
					7							

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BOREHOLE LOG

Borehole No.
8
1/1

Client:TKD ARCHITECTS

Project:PROPOSED BUILDING

Location:21-23 FAIRWAY DRIVE, KELLYVILLE, NSW

Job No. 28861ZH

Date: 2-11-15

Method: SPIRAL AUGER
JK300

Logged/Checked by: M.T./A.J.H.

R.L. Surface: ≈ 72.2m

Datum: AHD

Groundwater Record	SAMPLES			Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DS									
DRY ON COMPLETION					0			FILL: Clayey silt topsoil, low to medium plasticity, brown, with roots and root fibres, trace of fine grained ironstone gravel and ash,	MC≈PL			GRASS COVER
				N = 7 3,3,4	1		CH	SILTY CLAY: high plasticity, orange brown, trace of root fibres, fine grained ironstone gravel and ash.	MC≈PL	VSt	220 350 350	RESIDUAL
				N = 26 5,11,15	2			as above, but light grey, light orange and red brown.		H	460 450 490	
					3		-	SHALE: dark brown and dark grey.	DW	L-M		MODERATE 'TC' BIT RESISTANCE
					4					M-H		MODERATE TO HIGH RESISTANCE
					5					H		HIGH RESISTANCE
					6			END OF BOREHOLE AT 4.5m				
					7							

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Borehole No.

9

1/1

BOREHOLE LOG

Client:TKD ARCHITECTS

Project:PROPOSED BUILDING

Location:21-23 FAIRWAY DRIVE, KELLYVILLE, NSW

Job No. 28861ZH

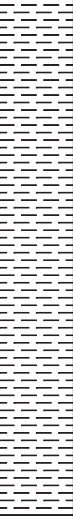
Date: 3-11-15

Method: SPIRAL AUGER
JK300

Logged/Checked by: M.T./A.J.H.

R.L. Surface: ≈ 70.3m

Datum: AHD

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	D8	DS									
DRY ON COMPLETION						0			FILL: Clayey silt topsoil, low plasticity, brown, with roots and root fibres, trace of ash.	MC≈PL			GRASS COVER
					N = 10 5,4,6	1		CH	SILTY CLAY: high plasticity, red brown and light grey, trace of root fibres, coarse grained ironstone gravel, ash and XW shale bands.	MC≈PL	VSt-H	320 360 >600	RESIDUAL BANDS OF VERY LOW 'TC' BIT RESISTANCE
					N > 5 11,5/50mm REFUSAL	2		-	SHALE: dark grey and grey brown.	DW	L-M M-H		LOW TO MODERATE RESISTANCE MODERATE TO HIGH RESISTANCE
						3					H		HIGH RESISTANCE
						4							
						5			END OF BOREHOLE AT 4.5m				
						6							
						7							

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Borehole No.
10
1/1

BOREHOLE LOG

Client:TKD ARCHITECTS

Project:PROPOSED BUILDING

Location:21-23 FAIRWAY DRIVE, KELLYVILLE, NSW

Job No. 28861ZH

Date: 3-11-15

Method: SPIRAL AUGER
JK300

Logged/Checked by: M.T./A.J.H.

R.L. Surface: ≈ 75.2m

Datum: AHD

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	D8	DS									
DRY ON COMPLETION						0			FILL: Clayey silt topsoil, low plasticity, brown, with roots and root fibres, trace of fine grained ironstone gravel and ash,	MC≈PL			GRASS COVER
					N = 11 5,5,6	1		CH	SILTY CLAY: high plasticity, light grey mottled orange brown, with fine grained ironstone gravel and ash.	MC≈PL	H	430 450 500	RESIDUAL
					N = SPT 16/50mm	2			as above, with ironstone gravel bands.	DW	M		LOW TO MODERATE 'TC' BIT RESISTANCE
						3			SHALE: dark grey and grey, trace of iron induration.				
						4					M-H		MODERATE RESISTANCE
						5			END OF BOREHOLE AT 4.3m				'TC' BIT REFUSAL
						6							
						7							

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BOREHOLE LOG

Borehole No.
11
1/1

Client: TKD ARCHITECTS												
Project: PROPOSED BUILDING												
Location: 21-23 FAIRWAY DRIVE, KELLYVILLE, NSW												
Job No. 28861ZH Method: SPIRAL AUGER JK300 R.L. Surface: ≈ 70.7m												
Date: 3-11-15 Logged/Checked by: M.T./A.J.H. Datum: AHD												
Groundwater Record	SAMPLES			Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DS									
DRY ON COMPLETION					0			FILL: Clayey silt topsoil, low plasticity, brown, with roots and root fibres, trace of fine grained ironstone gravel and ash.	MC≈PL			GRASS COVER
				N = 10 5,4,6	1		CH	SILTY CLAY: high plasticity, brown, light grey and red brown, trace of roots, fine grained ironstone gravel and ash.	MC≈PL	H	520 550 >600	RESIDUAL
				N = 26 5,8,18	2		-	SHALE: dark grey, red brown and grey brown.	DW	L-M	420 500 >600	LOW TO MODERATE 'TC' BIT RESISTANCE
					3					H		HIGH RESISTANCE
					4			END OF BOREHOLE AT 3.6m				'TC' BIT REFUSAL
					5							
					6							
					7							



BOREHOLE LOG

Borehole No.
12
1/1

Client:TKD ARCHITECTS

Project:PROPOSED BUILDING

Location:21-23 FAIRWAY DRIVE, KELLYVILLE, NSW

Job No. 28861ZH

Date: 3&5-11-15

Method: SPIRAL AUGER
JK300

Logged/Checked by: M.T./A.J.H.

R.L. Surface: ≈ 66.9m

Datum: AHD

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DB	DS									
DRY ON COMPLETION						0			FILL: Clayey silt topsoil, low to medium plasticity, brown, with roots and root fibres, trace of ash and fine grained ironstone gravel.	MC≈PL			GRASS COVER
					N = 27 10,14,13	1		CL	SILTY CLAY: low to medium plasticity, orange brown, with fine grained ironstone gravel, trace of roots and ash,	MC≈PL	(H)		RESIDUAL SLIGHT ORGANIC ODOUR
					N = SPT 10/50mm REFUSAL	2		-	SHALE: dark grey and brown.	DW	L-M		LOW TO MODERATE 'TC' BIT RESISTANCE
											M-H		MODERATE RESISTANCE
												H	HIGH RESISTANCE
						4							
						5			END OF BOREHOLE AT 4.5m				
						6							
						7							

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Appendix C: Laboratory Report/s & COC Documents



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Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

136920

Client:

Environmental Investigation Services

PO Box 976

North Ryde BC

NSW 1670

Attention: Jake Cashman

Sample log in details:

Your Reference:

E28861K, Kellyville

No. of samples:

26 Soils

Date samples received / completed instructions received

04/11/15

/ 04/11/15

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

11/11/15

/

10/11/15

Date of Preliminary Report:

Not Issued

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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:


Jacinta Hurst
Laboratory Manager

Envirolab Reference: 136920

Revision No: R 00



vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-1 BH1 0.0-0.2 3/11/2015 Soil	136920-3 BH2 0.0-0.3 3/11/2015 Soil	136920-5 BH3 0.0-0.2 3/11/2015 Soil	136920-6 BH3 1.55-1.65 3/11/2015 Soil	136920-7 BH4 0.2-0.3 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	06/11/2015	06/11/2015	06/11/2015	06/11/2015	06/11/2015
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	100	98	99	105	100

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-9 BH5 0.0-0.2 3/11/2015 Soil	136920-10 BH5 0.7-0.95 3/11/2015 Soil	136920-11 BH6 0.0-0.2 3/11/2015 Soil	136920-13 BH7 0.0-0.3 3/11/2015 Soil	136920-15 BH8 0.0-0.3 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	06/11/2015	06/11/2015	06/11/2015	06/11/2015	06/11/2015
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	85	88	99	90

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-17 BH9 0.0-0.3 3/11/2015 Soil	136920-19 BH10 0.0-0.3 3/11/2015 Soil	136920-20 BH10 1.5-1.55 3/11/2015 Soil	136920-21 BH11 0.0-0.3 3/11/2015 Soil	136920-22 BH11 0.5-0.95 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	06/11/2015	06/11/2015	06/11/2015	06/11/2015	06/11/2015
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	95	100	94	100

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-23 BH12 0.0-0.3 3/11/2015 Soil	136920-25 DUPM1 - 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015
Date analysed	-	06/11/2015	06/11/2015
TRHC ₆ - C ₉	mg/kg	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	99	99

svTRH (C10-C40) in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-1 BH1 0.0-0.2 3/11/2015 Soil	136920-3 BH2 0.0-0.3 3/11/2015 Soil	136920-5 BH3 0.0-0.2 3/11/2015 Soil	136920-6 BH3 1.55-1.65 3/11/2015 Soil	136920-7 BH4 0.2-0.3 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	83	85	86	82	84

svTRH (C10-C40) in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-9 BH5 0.0-0.2 3/11/2015 Soil	136920-10 BH5 0.7-0.95 3/11/2015 Soil	136920-11 BH6 0.0-0.2 3/11/2015 Soil	136920-13 BH7 0.0-0.3 3/11/2015 Soil	136920-15 BH8 0.0-0.3 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	87	83	85	85	86

svTRH (C10-C40) in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-17 BH9 0.0-0.3 3/11/2015 Soil	136920-19 BH10 0.0-0.3 3/11/2015 Soil	136920-20 BH10 1.5-1.55 3/11/2015 Soil	136920-21 BH11 0.0-0.3 3/11/2015 Soil	136920-22 BH11 0.5-0.95 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	85	86	83	86	83

svTRH (C10-C40) in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-23 BH12 0.0-0.3 3/11/2015 Soil	136920-25 DUPM1 - 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100
Surrogate o-Terphenyl	%	83	84

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-1 BH1 0.0-0.2 3/11/2015 Soil	136920-3 BH2 0.0-0.3 3/11/2015 Soil	136920-5 BH3 0.0-0.2 3/11/2015 Soil	136920-6 BH3 1.55-1.65 3/11/2015 Soil	136920-7 BH4 0.2-0.3 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	06/11/2015	06/11/2015	06/11/2015	06/11/2015	06/11/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	103	102	102	99	97

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-9 BH5 0.0-0.2 3/11/2015 Soil	136920-10 BH5 0.7-0.95 3/11/2015 Soil	136920-11 BH6 0.0-0.2 3/11/2015 Soil	136920-13 BH7 0.0-0.3 3/11/2015 Soil	136920-15 BH8 0.0-0.3 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	06/11/2015	06/11/2015	06/11/2015	06/11/2015	06/11/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	108	103	98	104	98

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-17 BH9 0.0-0.3 3/11/2015 Soil	136920-19 BH10 0.0-0.3 3/11/2015 Soil	136920-20 BH10 1.5-1.55 3/11/2015 Soil	136920-21 BH11 0.0-0.3 3/11/2015 Soil	136920-22 BH11 0.5-0.95 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	06/11/2015	06/11/2015	06/11/2015	06/11/2015	06/11/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	104	99	102	101	99

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-23 BH12 0.0-0.3 3/11/2015 Soil	136920-25 DUPM1 - 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015
Date analysed	-	06/11/2015	06/11/2015
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j,k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	110	101

Organochlorine Pesticides in soil						
Our Reference:	UNITS	136920-1	136920-3	136920-5	136920-6	136920-7
Your Reference	-----	BH1	BH2	BH3	BH3	BH4
Depth	-----	0.0-0.2	0.0-0.3	0.0-0.2	1.55-1.65	0.2-0.3
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	107	103	104	107	104

Organochlorine Pesticides in soil						
Our Reference:	UNITS	136920-9	136920-10	136920-11	136920-13	136920-15
Your Reference	-----	BH5	BH5	BH6	BH7	BH8
Depth	-----	0.0-0.2	0.7-0.95	0.0-0.2	0.0-0.3	0.0-0.3
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	108	104	106	100	104

Organochlorine Pesticides in soil						
Our Reference:	UNITS	136920-17	136920-19	136920-20	136920-21	136920-22
Your Reference	-----	BH9	BH10	BH10	BH11	BH11
Depth	-----	0.0-0.3	0.0-0.3	1.5-1.55	0.0-0.3	0.5-0.95
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	102	101	104	101	103

Organochlorine Pesticides in soil			
Our Reference:	UNITS	136920-23	136920-25
Your Reference	-----	BH12	DUPM1
Depth	-----	0.0-0.3	-
Date Sampled		3/11/2015	3/11/2015
Type of sample		Soil	Soil
Date extracted	-	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015
HCb	mg/kg	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Surrogate TCMX	%	99	102

Organophosphorus Pesticides						
Our Reference:	UNITS	136920-1	136920-3	136920-5	136920-6	136920-7
Your Reference	-----	BH1	BH2	BH3	BH3	BH4
Depth	-----	0.0-0.2	0.0-0.3	0.0-0.2	1.55-1.65	0.2-0.3
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	107	103	104	107	104

Organophosphorus Pesticides						
Our Reference:	UNITS	136920-9	136920-10	136920-11	136920-13	136920-15
Your Reference	-----	BH5	BH5	BH6	BH7	BH8
Depth	-----	0.0-0.2	0.7-0.95	0.0-0.2	0.0-0.3	0.0-0.3
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	108	104	106	100	104

Organophosphorus Pesticides						
Our Reference:	UNITS	136920-17	136920-19	136920-20	136920-21	136920-22
Your Reference	-----	BH9	BH10	BH10	BH11	BH11
Depth	-----	0.0-0.3	0.0-0.3	1.5-1.55	0.0-0.3	0.5-0.95
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	102	101	104	101	103

Organophosphorus Pesticides			
Our Reference:	UNITS	136920-23	136920-25
Your Reference	-----	BH12	DUPM1
Depth	-----	0.0-0.3	-
Date Sampled		3/11/2015	3/11/2015
Type of sample		Soil	Soil
Date extracted	-	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Surrogate TCMX	%	99	102

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-1 BH1 0.0-0.2 3/11/2015 Soil	136920-3 BH2 0.0-0.3 3/11/2015 Soil	136920-5 BH3 0.0-0.2 3/11/2015 Soil	136920-6 BH3 1.55-1.65 3/11/2015 Soil	136920-7 BH4 0.2-0.3 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	107	103	104	107	104

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-9 BH5 0.0-0.2 3/11/2015 Soil	136920-10 BH5 0.7-0.95 3/11/2015 Soil	136920-11 BH6 0.0-0.2 3/11/2015 Soil	136920-13 BH7 0.0-0.3 3/11/2015 Soil	136920-15 BH8 0.0-0.3 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	108	104	106	100	104

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	136920-17 BH9 0.0-0.3 3/11/2015 Soil	136920-19 BH10 0.0-0.3 3/11/2015 Soil	136920-20 BH10 1.5-1.55 3/11/2015 Soil	136920-21 BH11 0.0-0.3 3/11/2015 Soil	136920-22 BH11 0.5-0.95 3/11/2015 Soil
Date extracted	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	102	101	104	101	103

PCBs in Soil	UNITS	136920-23	136920-25
Our Reference:	-----	BH12	DUPM1
Your Reference	-----	0.0-0.3	-
Depth		3/11/2015	3/11/2015
Date Sampled		Soil	Soil
Type of sample			
Date extracted	-	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	99	102

Acid Extractable metals in soil						
Our Reference:	UNITS	136920-1	136920-3	136920-5	136920-6	136920-7
Your Reference	-----	BH1	BH2	BH3	BH3	BH4
Depth	-----	0.0-0.2	0.0-0.3	0.0-0.2	1.55-1.65	0.2-0.3
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
Arsenic	mg/kg	5	5	6	<4	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	14	13	15	5	13
Copper	mg/kg	17	26	19	28	16
Lead	mg/kg	24	23	20	19	35
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	6	9	4	6
Zinc	mg/kg	22	39	34	31	25

Acid Extractable metals in soil						
Our Reference:	UNITS	136920-9	136920-10	136920-11	136920-13	136920-15
Your Reference	-----	BH5	BH5	BH6	BH7	BH8
Depth	-----	0.0-0.2	0.7-0.95	0.0-0.2	0.0-0.3	0.0-0.3
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
Arsenic	mg/kg	6	<4	16	8	12
Cadmium	mg/kg	<0.4	<0.4	0.5	<0.4	0.5
Chromium	mg/kg	19	9	19	12	24
Copper	mg/kg	19	40	21	36	28
Lead	mg/kg	35	24	25	19	32
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	5	12	9	11
Zinc	mg/kg	33	28	45	45	50

Acid Extractable metals in soil						
Our Reference:	UNITS	136920-17	136920-19	136920-20	136920-21	136920-22
Your Reference	-----	BH9	BH10	BH10	BH11	BH11
Depth	-----	0.0-0.3	0.0-0.3	1.5-1.55	0.0-0.3	0.5-0.95
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/11/2015	04/11/2015	04/11/2015	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015
Arsenic	mg/kg	9	7	<4	8	4
Cadmium	mg/kg	0.6	0.4	<0.4	0.5	<0.4
Chromium	mg/kg	24	19	6	22	13
Copper	mg/kg	20	20	40	22	30
Lead	mg/kg	23	35	28	25	21
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	10	10	12	6
Zinc	mg/kg	40	45	65	62	42

Acid Extractable metals in soil			
Our Reference:	UNITS	136920-23	136920-25
Your Reference	-----	BH12	DUPM1
Depth	-----	0.0-0.3	-
Date Sampled		3/11/2015	3/11/2015
Type of sample		Soil	Soil
Date prepared	-	04/11/2015	04/11/2015
Date analysed	-	05/11/2015	05/11/2015
Arsenic	mg/kg	8	4
Cadmium	mg/kg	0.5	<0.4
Chromium	mg/kg	22	13
Copper	mg/kg	15	29
Lead	mg/kg	28	23
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	8	6
Zinc	mg/kg	32	39

Moisture						
Our Reference:	UNITS	136920-1	136920-3	136920-5	136920-6	136920-7
Your Reference	-----	BH1	BH2	BH3	BH3	BH4
Depth	-----	0.0-0.2	0.0-0.3	0.0-0.2	1.55-1.65	0.2-0.3
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	4/11/2015	4/11/2015	4/11/2015	4/11/2015	4/11/2015
Date analysed	-	5/11/2015	5/11/2015	5/11/2015	5/11/2015	5/11/2015
Moisture	%	8.6	9.2	11	12	11

Moisture						
Our Reference:	UNITS	136920-9	136920-10	136920-11	136920-13	136920-15
Your Reference	-----	BH5	BH5	BH6	BH7	BH8
Depth	-----	0.0-0.2	0.7-0.95	0.0-0.2	0.0-0.3	0.0-0.3
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	4/11/2015	4/11/2015	4/11/2015	4/11/2015	4/11/2015
Date analysed	-	5/11/2015	5/11/2015	5/11/2015	5/11/2015	5/11/2015
Moisture	%	20	16	18	15	29

Moisture						
Our Reference:	UNITS	136920-17	136920-19	136920-20	136920-21	136920-22
Your Reference	-----	BH9	BH10	BH10	BH11	BH11
Depth	-----	0.0-0.3	0.0-0.3	1.5-1.55	0.0-0.3	0.5-0.95
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	4/11/2015	4/11/2015	4/11/2015	4/11/2015	4/11/2015
Date analysed	-	5/11/2015	5/11/2015	5/11/2015	5/11/2015	5/11/2015
Moisture	%	21	22	9.6	20	19

Moisture			
Our Reference:	UNITS	136920-23	136920-25
Your Reference	-----	BH12	DUPM1
Depth	-----	0.0-0.3	-
Date Sampled		3/11/2015	3/11/2015
Type of sample		Soil	Soil
Date prepared	-	4/11/2015	4/11/2015
Date analysed	-	5/11/2015	5/11/2015
Moisture	%	13	10

Asbestos ID - soils						
Our Reference:	UNITS	136920-1	136920-3	136920-5	136920-7	136920-9
Your Reference	-----	BH1	BH2	BH3	BH4	BH5
Depth	-----	0.0-0.2	0.0-0.3	0.0-0.2	0.2-0.3	0.0-0.2
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	9/11/2015	9/11/2015	9/11/2015	9/11/2015	9/11/2015
Sample mass tested	g	Approx. 45g	Approx. 45g	Approx. 35g	Approx. 25g	Approx. 40g
Sample Description	-	Brown clay soils	Brown clay soils	Brown clay soils	Brown clay soils	Brown clay soils
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference:	UNITS	136920-11	136920-13	136920-15	136920-17	136920-19
Your Reference	-----	BH6	BH7	BH8	BH9	BH10
Depth	-----	0.0-0.2	0.0-0.3	0.0-0.3	0.0-0.3	0.0-0.3
Date Sampled		3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	9/11/2015	9/11/2015	9/11/2015	9/11/2015	9/11/2015
Sample mass tested	g	Approx. 40g	Approx. 45g	Approx. 30g	Approx. 30g	Approx. 30g
Sample Description	-	Brown clay soils	Brown clay soils	Brown clay soils	Brown clay soils	Brown clay soils
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils			
Our Reference:	UNITS	136920-21	136920-23
Your Reference	-----	BH11	BH12
Depth	-----	0.0-0.3	0.0-0.3
Date Sampled		3/11/2015	3/11/2015
Type of sample		Soil	Soil
Date analysed	-	9/11/2015	9/11/2015
Sample mass tested	g	Approx. 35g	Approx. 35g
Sample Description	-	Brown clay soils	Brown clay soils
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
		Organic fibres detected	Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

Client Reference: E28861K, Kellyville

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			04/11/2015	136920-1	04/11/2015 04/11/2015	LCS-8	04/11/2015
Date analysed	-			06/11/2015	136920-1	06/11/2015 06/11/2015	LCS-8	06/11/2015
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	136920-1	<25 <25	LCS-8	114%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	136920-1	<25 <25	LCS-8	114%
Benzene	mg/kg	0.2	Org-016	<0.2	136920-1	<0.2 <0.2	LCS-8	110%
Toluene	mg/kg	0.5	Org-016	<0.5	136920-1	<0.5 <0.5	LCS-8	114%
Ethylbenzene	mg/kg	1	Org-016	<1	136920-1	<1 <1	LCS-8	114%
m+p-xylene	mg/kg	2	Org-016	<2	136920-1	<2 <2	LCS-8	116%
o-Xylene	mg/kg	1	Org-016	<1	136920-1	<1 <1	LCS-8	119%
naphthalene	mg/kg	1	Org-014	<1	136920-1	<1 <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	102	136920-1	100 99 RPD: 1	LCS-8	102%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			04/11/2015	136920-1	04/11/2015 04/11/2015	LCS-8	04/11/2015
Date analysed	-			05/11/2015	136920-1	05/11/2015 05/11/2015	LCS-8	05/11/2015
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	136920-1	<50 <50	LCS-8	106%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	136920-1	<100 <100	LCS-8	96%
TRHC ₂₈ - C ₃₆	mg/kg	100	Org-003	<100	136920-1	100 110 RPD: 10	LCS-8	84%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	136920-1	<50 <50	LCS-8	106%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	136920-1	100 110 RPD: 10	LCS-8	96%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	136920-1	<100 <100	LCS-8	84%
Surrogate o-Terphenyl	%		Org-003	82	136920-1	83 86 RPD: 4	LCS-8	109%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			05/11/2015	136920-1	04/11/2015 04/11/2015	LCS-8	04/11/2015
Date analysed	-			06/11/2015	136920-1	06/11/2015 06/11/2015	LCS-8	06/11/2015
Naphthalene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	LCS-8	103%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	LCS-8	109%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	LCS-8	104%
Anthracene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	LCS-8	100%
Pyrene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	LCS-8	106%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	LCS-8	109%
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	136920-1	<0.2 <0.2	[NR]	[NR]

Client Reference: E28861K, Kellyville

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	136920-1	<0.05 <0.05	LCS-8	99%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	104	136920-1	103 102 RPD: 1	LCS-8	109%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	-			04/11/2015	136920-1	04/11/2015 04/11/2015	LCS-8	04/11/2015
Date analysed	-			05/11/2015	136920-1	05/11/2015 05/11/2015	LCS-8	05/11/2015
HCB	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	108%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	93%
Heptachlor	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	94%
delta-BHC	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	97%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	93%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	94%
Dieldrin	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	124%
Endrin	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	113%
pp-DDD	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	104%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	LCS-8	103%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-005	107	136920-1	107 108 RPD: 1	LCS-8	112%

Client Reference: E28861K, Kellyville

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organophosphorus Pesticides						Base II Duplicate II %RPD		
Date extracted	-			04/11/2015	136920-1	04/11/2015 04/11/2015	LCS-8	04/11/2015
Date analysed	-			05/11/2015	136920-1	05/11/2015 05/11/2015	LCS-8	05/11/2015
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	LCS-8	99%
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	LCS-8	100%
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Diazinon	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	LCS-8	111%
Dimethoate	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Ethion	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	LCS-8	107%
Fenitrothion	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	LCS-8	127%
Malathion	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	LCS-8	110%
Parathion	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	LCS-8	122%
Ronnel	mg/kg	0.1	Org-008	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-008	107	136920-1	107 108 RPD: 1	LCS-8	112%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			04/11/2015	136920-1	04/11/2015 04/11/2015	LCS-8	04/11/2015
Date analysed	-			05/11/2015	136920-1	05/11/2015 05/11/2015	LCS-8	05/11/2015
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	136920-1	<0.1 <0.1	LCS-8	123%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	136920-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		Org-006	107	136920-1	107 108 RPD: 1	LCS-8	105%

Client Reference: E28861K, Kellyville

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base Duplicate %RPD		
Date prepared	-			04/11/2015	136920-1	04/11/2015 04/11/2015	LCS-2	04/11/2015
Date analysed	-			05/11/2015	136920-1	05/11/2015 05/11/2015	LCS-2	05/11/2015
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	136920-1	5 6 RPD: 18	LCS-2	111%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	136920-1	<0.4 <0.4	LCS-2	106%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	136920-1	14 15 RPD: 7	LCS-2	105%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	136920-1	17 17 RPD: 0	LCS-2	107%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	136920-1	24 25 RPD: 4	LCS-2	100%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	136920-1	<0.1 <0.1	LCS-2	86%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	136920-1	6 7 RPD: 15	LCS-2	102%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	136920-1	22 22 RPD: 0	LCS-2	106%
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#		Duplicate Base + Duplicate + %RPD		Spike Sm#	Spike % Recovery	
Date extracted	-	136920-15		04/11/2015 04/11/2015		136920-3	04/11/2015	
Date analysed	-	136920-15		06/11/2015 06/11/2015		136920-3	06/11/2015	
TRHC ₆ - C ₉	mg/kg	136920-15		<25 <25		136920-3	98%	
TRHC ₆ - C ₁₀	mg/kg	136920-15		<25 <25		136920-3	98%	
Benzene	mg/kg	136920-15		<0.2 <0.2		136920-3	94%	
Toluene	mg/kg	136920-15		<0.5 <0.5		136920-3	97%	
Ethylbenzene	mg/kg	136920-15		<1 <1		136920-3	98%	
m+p-xylene	mg/kg	136920-15		<2 <2		136920-3	100%	
o-Xylene	mg/kg	136920-15		<1 <1		136920-3	103%	
naphthalene	mg/kg	136920-15		<1 <1		[NR]	[NR]	
Surrogate aaa-Trifluorotoluene	%	136920-15		90 92 RPD: 2		136920-3	95%	

Client Reference: E28861K, Kellyville

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	136920-15	04/11/2015 04/11/2015	136920-3	04/11/2015
Date analysed	-	136920-15	05/11/2015 05/11/2015	136920-3	05/11/2015
TRHC ₁₀ - C ₁₄	mg/kg	136920-15	<50 <50	136920-3	99%
TRHC ₁₅ - C ₂₃	mg/kg	136920-15	<100 <100	136920-3	87%
TRHC ₂₃ - C ₃₆	mg/kg	136920-15	<100 <100	136920-3	#
TRH>C ₁₀ -C ₁₆	mg/kg	136920-15	<50 <50	136920-3	99%
TRH>C ₁₆ -C ₃₄	mg/kg	136920-15	<100 <100	136920-3	87%
TRH>C ₃₄ -C ₄₀	mg/kg	136920-15	<100 <100	136920-3	#
Surrogate o-Terphenyl	%	136920-15	86 87 RPD: 1	136920-3	114%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	136920-15	04/11/2015 04/11/2015	136920-3	04/11/2015
Date analysed	-	136920-15	06/11/2015 06/11/2015	136920-3	06/11/2015
Naphthalene	mg/kg	136920-15	<0.1 <0.1	136920-3	96%
Acenaphthylene	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	136920-15	<0.1 <0.1	136920-3	104%
Phenanthrene	mg/kg	136920-15	<0.1 <0.1	136920-3	97%
Anthracene	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	136920-15	<0.1 <0.1	136920-3	94%
Pyrene	mg/kg	136920-15	<0.1 <0.1	136920-3	100%
Benzo(a)anthracene	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Chrysene	mg/kg	136920-15	<0.1 <0.1	136920-3	102%
Benzo(b,j,k)fluoranthene	mg/kg	136920-15	<0.2 <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	136920-15	<0.05 <0.05	136920-3	84%
Indeno(1,2,3-c,d)pyrene	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	136920-15	98 101 RPD: 3	136920-3	104%

Client Reference: E28861K, Kellyville

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	136920-15	04/11/2015 04/11/2015	136920-3	04/11/2015
Date analysed	-	136920-15	05/11/2015 05/11/2015	136920-3	05/11/2015
HCB	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
alpha-BHC	mg/kg	136920-15	<0.1 <0.1	136920-3	107%
gamma-BHC	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
beta-BHC	mg/kg	136920-15	<0.1 <0.1	136920-3	91%
Heptachlor	mg/kg	136920-15	<0.1 <0.1	136920-3	90%
delta-BHC	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Aldrin	mg/kg	136920-15	<0.1 <0.1	136920-3	96%
Heptachlor Epoxide	mg/kg	136920-15	<0.1 <0.1	136920-3	90%
gamma-Chlordane	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Endosulfan I	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
pp-DDE	mg/kg	136920-15	<0.1 <0.1	136920-3	91%
Dieldrin	mg/kg	136920-15	<0.1 <0.1	136920-3	120%
Endrin	mg/kg	136920-15	<0.1 <0.1	136920-3	108%
pp-DDD	mg/kg	136920-15	<0.1 <0.1	136920-3	101%
Endosulfan II	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
pp-DDT	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	136920-15	<0.1 <0.1	136920-3	102%
Methoxychlor	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Surrogate TCMX	%	136920-15	104 101 RPD: 3	136920-3	105%

Client Reference: E28861K, Kellyville

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	136920-15	04/11/2015 04/11/2015	136920-3	04/11/2015
Date analysed	-	136920-15	05/11/2015 05/11/2015	136920-3	05/11/2015
Azinphos-methyl (Guthion)	mg/kg	136920-15	<0.1 <0.1	136920-3	111%
Bromophos-ethyl	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Chlorpyriphos	mg/kg	136920-15	<0.1 <0.1	136920-3	112%
Chlorpyriphos-methyl	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Diazinon	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Dichlorvos	mg/kg	136920-15	<0.1 <0.1	136920-3	93%
Dimethoate	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Ethion	mg/kg	136920-15	<0.1 <0.1	136920-3	111%
Fenitrothion	mg/kg	136920-15	<0.1 <0.1	136920-3	130%
Malathion	mg/kg	136920-15	<0.1 <0.1	136920-3	120%
Parathion	mg/kg	136920-15	<0.1 <0.1	136920-3	127%
Ronnel	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Surrogate TCMX	%	136920-15	104 101 RPD: 3	136920-3	105%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	136920-15	04/11/2015 04/11/2015	136920-3	04/11/2015
Date analysed	-	136920-15	05/11/2015 05/11/2015	136920-3	05/11/2015
Aroclor 1016	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Aroclor 1221	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Aroclor 1232	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Aroclor 1242	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Aroclor 1248	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Aroclor 1254	mg/kg	136920-15	<0.1 <0.1	136920-3	118%
Aroclor 1260	mg/kg	136920-15	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%	136920-15	104 101 RPD: 3	136920-3	105%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	136920-15	04/11/2015 04/11/2015	136920-3	04/11/2015
Date analysed	-	136920-15	05/11/2015 05/11/2015	136920-3	05/11/2015
Arsenic	mg/kg	136920-15	12 10 RPD: 18	136920-3	85%
Cadmium	mg/kg	136920-15	0.5 0.5 RPD: 0	136920-3	89%
Chromium	mg/kg	136920-15	24 25 RPD: 4	136920-3	88%
Copper	mg/kg	136920-15	28 27 RPD: 4	136920-3	98%
Lead	mg/kg	136920-15	32 31 RPD: 3	136920-3	80%
Mercury	mg/kg	136920-15	<0.1 <0.1	136920-3	89%
Nickel	mg/kg	136920-15	11 11 RPD: 0	136920-3	85%
Zinc	mg/kg	136920-15	50 49 RPD: 2	136920-3	82%

Report Comments:

TRH_S(semi vol):# Percent recovery is not possible to report due to interference from analytes (other than those being tested) in the sample/s.

Asbestos: Excessive sample volumes were provided for asbestos analysis. A portion of the supplied samples were sub-sampled according to Envirolab procedures. We cannot guarantee that these sub-samples are indicative of the entire sample. Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.

Note: Samples requested for asbestos testing were sub-sampled from bags provided by the client.

Asbestos ID was analysed by Approved Identifier:	Paul Ching
Asbestos ID was authorised by Approved Signatory:	Paul Ching

INS: Insufficient sample for this test
NR: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

SAMPLE AND CHAIN OF CUSTODY FORM

TO: ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	EIS Job Number: E28861K Date Results Required: STANDARD Page: 1 of 2	FROM: ENVIRONMENTAL INVESTIGATION SERVICES REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Jake Cashman	
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Location: Kellyville		Sample Preserved in Esky on Ice														
Sampler: JDC		Tests Required														
Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 6a								
3/11/12	1	BH1	0-0.2	G. A	0	Soil		X								
	2	↓	0.85-0.95													
	3	BH2	0-0.3					X								
	4	↓	0.85-0.95													
	5	BH3	0-0.2		1.5			X								
	6	↓	1.55-1.65		0		X									
	7	BH4	0.2-0.3					X								
	8	↓	0.5-0.6													
	9	BH5	0-0.2		0.2			X								
	10	↓	0.7-0.95		0		X									
	11	BH6	0-0.2					X								
	12	↓	1.75-1.85													
	13	BH7	0-0.3					X								
	14	↓	1.5-1.57													
	15	BH8	0-0.3					X								
	16	↓	0.85-0.95													
	17	BH9	0-0.3					X								
	18	↓	0.5-0.95													
	19	BH10	0-0.3		2.1			X								
	20	↓	1.5-1.55		0		X									
	21	BH11	0-0.3		0.1			X								
	22	↓	0.5-0.95		0		X									
	23	BH12	0-0.3					X								
	24	↓	0.5-0.95													
	25	DUPM1	-		G	-	-	X								

Remarks (comments/detection limits required):		Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag	
Relinquished By: Jake Cashman	Date: 4/11/15	Time:	Received By: PT Date: 4/11/15

THE

TO: ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen		EIS Job Number: E28861K Date Results Required: STANDARD Page: 2 of 2		FROM: ENVIRONMENTAL INVESTIGATION SERVICES REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Jake Cashman															
Location: Kellyville		Sample Preserved in Esky on Ice																	
Sampler: JDC		Tests Required																	
Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 6a											
2/11/12	26	DUPM2	—	G, A	—	—													
Remarks (comments/detection limits required):							Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag 136920												
Relinquished By:				Date:			Time:			Received By:			Date:						
										PT			4/11/15						

Appendix D: Report Explanatory Notes

STANDARD SAMPLING PROCEDURE

These protocols specify the basic procedures to be used when sampling soils or groundwater for environmental site assessments undertaken by EIS.

The purpose of these protocols is to provide standard methods for: sampling, decontamination procedures for sampling equipment, sample preservation, sample storage and sample handling. Deviations from these procedures must be recorded.

Soil Sampling

- Prepare a borehole/test pit log or made a note of the sample description for stockpiles.
- Layout sampling equipment on clean plastic sheeting to prevent direct contact with ground surface. The work area should be at a distance from the drill rig/excavator such that the machine can operate in a safe manner.
- Ensure all sampling equipment has been decontaminated prior to use.
- Remove any surface debris from the immediate area of the sampling location.
- Collect samples and place in glass jar with a Teflon seal. This should be undertaken as quickly as possible to prevent the loss of any volatiles. If possible, fill the glass jars completely.
- Collect samples for asbestos analysis and place in a zip-lock plastic bag.
- Label the sampling containers with the EIS job number, sample location (eg. BH1), sampling depth interval and date. If more than one sample container is used, this should also be indicated (eg. 2 = Sample jar 1 of 2 jars).
- Photoionisation detector (PID) screening of volatile organic compounds (VOCs) should be undertaken on samples using the soil sample headspace method. Headspace measurements are taken following equilibration of the headspace gasses in partly filled zip-lock plastic bags. PID headspace data is recorded on the borehole/test pit log and the chain of custody forms.
- Record the lithology of the sample and sample depth on the borehole/test pit log generally in accordance with AS1726-1993²².
- Store the sample in a sample container cooled with ice or chill packs. On completion of the sampling the sample container should be delivered to the lab immediately or stored in the refrigerator prior to delivery to the lab. All samples are preserved in accordance with the standards outlined in the report.
- Check for the presence of groundwater after completion of each borehole using an electronic dip metre or water whistle. Boreholes should be left open until the end of fieldwork. All groundwater levels in the boreholes should be rechecked on the completion of the fieldwork.
- Backfill the boreholes/test pits with the excavation cuttings or clean sand prior to leaving the site.

Decontamination Procedures for Soil Sampling Equipment

- All sampling equipment should be decontaminated between every sampling location. This excludes single use PVC tubing used for push tubes etc. Equipment and materials required for the decontamination include:
 - Phosphate free detergent (Decon 90);
 - Potable water;
 - Stiff brushes; and
 - Plastic sheets.

²² Standards Australia, (1993), *Geotechnical Site Investigations*. (AS1726-1993)

- Ensure the decontamination materials are clean prior to proceeding with the decontamination.
- Fill both buckets with clean potable water and add phosphate free detergent to one bucket.
- In the bucket containing the detergent, scrub the sampling equipment until all the material attached to the equipment has been removed.
- Rinse sampling equipment in the bucket containing potable water.
- Place cleaned equipment on clean plastic sheets.

If all materials are not removed by this procedure, high-pressure water cleaning is recommended. If any equipment is not completely decontaminated by both these processes, then the equipment should not be used until it has been thoroughly cleaned.

Groundwater Sampling

Groundwater samples are more sensitive to contamination than soil samples and therefore adherence to this protocol is particularly important to obtain reliable, reproducible results. The recommendations detailed in AS/NZS 5667.1:1998 are considered to form a minimum standard.

The basis of this protocol is to maintain the security of the borehole and obtain accurate and representative groundwater samples. The following procedure should be used for collection of groundwater samples from previously installed groundwater monitoring wells.

- After monitoring well installation, at least three bore volumes should be pumped from the monitoring wells (well development) to remove any water introduced during the drilling process and/or the water that is disturbed during installation of the monitoring well. This should be completed prior to purging and sampling.
- Groundwater monitoring wells should then be left to recharge for at least three days before purging and sampling. Prior to purging or sampling, the condition of each well should be observed and any anomalies recorded on the field data sheets. The following information should be noted: the condition of the well, noting any signs of damage, tampering or complete destruction; the condition and operation of the well lock; the condition of the protective casing and the cement footing (raised or cracked); and, the presence of water between protective casing and well.
- Take the groundwater level from the collar of the piezometer/monitoring well using an electronic dip meter. The collar level should be taken (if required) during the site visit using a dumpy level and staff.
- Purging and sampling of piezometers/monitoring wells is done on the same site visit when using micro-purge (or other low flow) techniques.
- Layout and organize all equipment associated with groundwater sampling in a location where they will not interfere with the sampling procedure and will not pose a risk of contaminating samples. Equipment generally required includes:
 - Micropore filtration system or Stericup single-use filters (for heavy metals samples);
 - Filter paper for Micropore filtration system; Bucket with volume increments;
 - Sample containers: teflon bottles with 1 ml nitric acid, 75mL glass vials with 1 mL hydrochloric acid, 1 L amber glass bottles;
 - Bucket with volume increments;
 - Flow cell;
 - pH/EC/Eh/T meters;
 - Plastic drums used for transportation of purged water;
 - Esky and ice;
 - Nitrile gloves;
 - Distilled water (for cleaning);
 - Electronic dip meter;

- Low flow pump pack and associated tubing; and
- Groundwater sampling forms.
- If single-use stericup filtration is not used, clean the Micropore filtration system thoroughly with distilled water prior to use and between each sample. Filter paper should be changed between samples. 0.45um filter paper should be placed below the glass fibre filter paper in the filtration system.
- Ensure all non-disposable sampling equipment is decontaminated or that new disposable equipment is available prior to any work commencing at a new location. The procedure for decontamination of groundwater equipment is outlined at the end of this section.
- Disposable gloves should be used whenever samples are taken to protect the sampler and to assist in avoidance of contamination.
- Groundwater samples are obtained from the monitoring wells using low flow/micro-purge sampling equipment to reduce the disturbance of the water column and loss of volatiles.
- During pumping to purge the well, the pH, temperature, conductivity, dissolved oxygen, redox potential and groundwater levels are monitored (where possible) using calibrated field instruments to assess the development of steady state conditions. Steady state conditions are generally considered to have been achieved when the difference in the pH measurements was less than 0.2 units and the difference in conductivity was less than 10%.
- All measurements are recorded on specific data sheets.
- Once steady state conditions are considered to have been achieved, groundwater samples are obtained directly from the pump tubing and placed in appropriate glass bottles, BTEX vials or plastic bottles.
- All samples are preserved in accordance with water sampling requirements detailed in the NEPM 2013 and placed in an insulated container with ice. Groundwater samples are preserved by immediate storage in an insulated sample container with ice as outlined in the report text.
- Record the sample on the appropriate log in accordance with AS1726:1993. At the end of each water sampling complete a chain of custody form.

Decontamination Procedures for Groundwater Sampling Equipment

- All equipment associated with the groundwater sampling procedure (other than single-use items) should be decontaminated between every sampling location.
- The following equipment and materials are required for the decontamination procedure:
 - Phosphate free detergent;
 - Potable water;
 - Distilled water; and
 - Plastic Sheets or bulk bags (plastic bags).
- Fill one bucket with clean potable water and phosphate free detergent, and one bucket with distilled water.
- Flush potable water and detergent through pump head. Wash sampling equipment and pump head using brushes in the bucket containing detergent until all materials attached to the equipment are removed.
- Flush pump head with distilled water.
- Change water and detergent solution after each sampling location.
- Rinse sampling equipment in the bucket containing distilled water.
- Place cleaned equipment on clean plastic sheets.
- If all materials are not removed by this procedure that equipment should not be used until it has been thoroughly cleaned

QA/QC DEFINITIONS

The QA/QC terms used in this report are defined below. The definitions are in accordance with US EPA publication SW-846, entitled *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (1994²³) methods and those described in *Environmental Sampling and Analysis, A Practical Guide*, (H. Keith 1991²⁴).

Practical Quantitation Limit (PQL), Limit of Reporting (LOR) & Estimated Quantitation Limit (EQL)

These terms all refer to the concentration above which results can be expressed with a minimum 95% confidence level. The laboratory reporting limits are generally set at ten times the standard deviation for the Method Detection limit (MDL) for each specific analyte. For the purposes of this report the LOR, PQL, and EQL are considered to be equivalent.

When assessing laboratory data it should be borne in mind that values at or near the PQL have two important limitations.

"The uncertainty of the measurement value can approach, and even equal, the reported value. Secondly, confirmation of the analytes reported is virtually impossible unless identification uses highly selective methods. These issues diminish when reliably measurable amounts of analytes are present. Accordingly, legal and regulatory actions should be limited to data at or above the reliable detection limit" Keith 1991.

Precision

The degree to which data generated from repeated measurements differ from one another due to random errors. Precision is measured using the standard deviation or Relative Percent Difference (RPD). Acceptable targets for precision in this report will be less than 50% RPD for concentrations greater than ten times the PQL, less than 75% RPD for concentrations between five and ten times the PQL and less than 100% RPD for concentrations that are less than five times the PQL.

Accuracy

Accuracy is a measure of the agreement between an experimental result and the true value of the parameter being measured. The assessment of accuracy for an analysis can be achieved through the analysis of known reference materials or assessed by the analysis of surrogates, field blanks, trip spikes and matrix spikes.

The proximity of an averaged result to the true value, where all random errors have been statistically removed. Accuracy is measured by percent recovery. Acceptable limits for accuracy generally lie between 70% to 130% recoveries. Certain laboratory methods may allow for values that lie outside these limits.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is primarily dependent upon the design and implementation of the sampling program. Representativeness of the data is partially ensured by the avoidance of contamination, adherence to sample handling and analysis protocols and use of proper chain-of-custody and documentation procedures.

²³ US EPA, (1994), *SW-846: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. (US EPA SW-846)

²⁴ Keith., H, (1991), *Environmental Sampling and Analysis, A Practical Guide*.

Completeness

Completeness is a measure of the number of valid measurements in a data set compared to the total number of measurements made and overall performance against DQIs. The following information is assessed for completeness:

- Chain-of-custody forms; Sample receipt form;
- All sample results reported; All blank data reported;
- All laboratory duplicate and RPDs calculated;
- All surrogate spike data reported;
- All matrix spike and lab control spike (LCS) data reported and RPDs calculated;
- Spike recovery acceptable limits reported; and
- NATA stamp on reports.

Comparability

Comparability is the evaluation of the similarity of conditions (eg. sample depth, sample homogeneity) under which separate sets of data are produced. Data comparability checks include a bias assessment that may arise from the following sources:

- Collection and analysis of samples by different personnel; Use of different techniques;
- Collection and analysis by the same personnel using the same methods but at different times; and
- Spatial and temporal changes (due to environmental dynamics).

Blanks

The purpose of laboratory and field blanks is to check for artifacts and interferences that may arise during sampling and analysis.

Matrix Spikes

Samples are spiked with laboratory grade standards to detect interactive effects between the sample matrix and the analytes being measured. Matrix Spikes are reported as a percent recovery and are prepared for 1 in every 20 samples. Sample batches that contain less than 20 samples may be reported with a Matrix Spike from another batch. The percent recovery is calculated using the formula below. Acceptable recovery limits are 70% to 130%.

$$\frac{(\text{Spike Sample Result} - \text{Sample Result}) \times 100}{\text{Concentration of Spike Added}}$$

Surrogate Spikes

Samples are spiked with a known concentration of compounds that are chemically related to the analyte being investigated but unlikely to be detected in the environment. The purpose of the Surrogate Spikes is to check the accuracy of the analytical technique. Surrogate Spikes are reported as percent recovery.

Duplicates

Laboratory duplicates measure precision, expressed as Relative Percent Difference. Duplicates are prepared from a single field sample and analysed as two separate extraction procedures in the laboratory. The RPD is calculated using the formula where D1 is the sample concentration and D2 is the duplicate sample concentration:

$$\frac{(D1 - D2) \times 100}{\{(D1 + D2)/2\}}$$