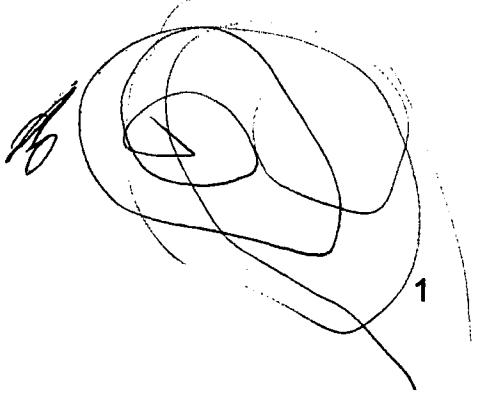
ON - SITE WASTE WATER REPORT

DATE COMPILED	31 sty March 2008
PREPARED FOR	Carolyn Atkin
SITE ADDRESS	259a Anakiwa Road, Anakiwa
PREPARED BY	Ron Findlater
COMPANY	Findlater Construction Ltd
ADDRESS	32 Timandra Place, Blenheim
PHONE	03 579 2284
FAX	03 579 2285
EMAIL	ron@findlaterconstruction.co.nz

REFERENCES	***BC NUMBER***	
	FC JOB NUMBER	
	REPORT NUMBER	54



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1.0 APPLICANT DETAILS

1.1 Name
Carolyn Atkin

1.2 Postal Address
259a Anakiwa Road, Anakiwa, RD, Picton

1.3 Phone & Email
Home 574 2885
Work Nil
Mobile Nil
Email carolyn.a@cler.net.nz

1.4 Nature of Applicant* (* i.e. Owner, Lessee, Purchaser, Developer)
Owner

1.5 Property Owners Name(s)
Carolyn Atkin

2.0 SITE ADDRESS & INFORMATION (Desk top study)

2.0 Address
259a Anakiwa Road, Anakiwa

2.1 Lot Number
5

2.2 DP Number
4617

2.3 Property Number
250036

2.4 Total Property Area 2155 ***M2*** ***Hectares***

2.5 Map References
N/A

2.6 Annual Rainfall 700 ***mm***

3.0 ON-SITE ASSESSMENT

3.1 Date Of Site Visit
29 - 03 - 08

3.2 Weather Conditions
Overcast, drizzle and calm

3.3 Site Clearances

Separation Distance From	Treatment Plant M	Disposal Field M
Boundaries	>30	>30
Surface Water	>30	>30
Water Courses	>30	>30
Trees	>5	>1
Well, bores	Nil	Nil
Embankments/Ret. Walls	>10	>10
Buildings	>3	>5

3.4 Flooding Potential
Nil

3.5 Possible Run-on Seepage
Minor, will not effect system

3.6 Are Surface Water Interception Drains Required* (* If yes show on site plan)
No

3.7 Site Stability, Is Expert Assessment Necessary* (* If yes attach report)
No

3.8 Predominant Wind Direction
North west

3.9 Evapo - Transpiration Potential
Good

4.0 Ground Cover Above Proposed Waste Water Land Application Area
Grass

4.1 General Site Landform Element
Lower Slope

4.2 Slope Aspect
North facing, 10'

4.3 Are Surface Rocks Visible
A few

4.4 Availability of Reserve Land
Yes

4.5 Land Disposal Area Ground Water Depth
Summer >2.0 m
Winter >2.0 m

4.6 Does Constant Head Permeability Testing(k_{sat}) Been Undertaken*
No *(* If yes attach report)*

4.7 Site Constraints
Clay soils require a conservative approach to disposal area design.

4.9 Visual Assessment of Land Application Area
Sloping lawn area behind house which faces towards the north. The area is not shaded and has a few scrubs planted in it.

5.0 SOIL LOGS

5.1 Test Pit 1 (TP1)

Lower Depth MM	Moisture Condition	Colour (Moist)	Field Texture	Coarse Fragments %	Consistency	Structure	Soil Category
10	Dry	Brown Yell.	Clay Loam	20 - 50	-	Moderate	4 - 5
650	Dry	Yellow	Clay	20 - 50	-	Strong	5

5.2 Test Pit 1 (TP2)

Lower Depth MM	Moisture Condition	Colour (Moist)	Field Texture	Coarse Fragments %	Consistency	Structure	Soil Category
10	Dry	Brown Yell.	Clay Loam	20 - 50	-	Moderate	4 - 5
700	Dry	Yellow	Clay	20 - 50	-	Strong	5

5.3 Test Pit 1 (TP3)

Lower Depth MM	Moisture Condition	Colour (Moist)	Field Texture	Coarse Fragments %	Consistency	Structure	Soil Category
10	Dry	Brown Yell.	Clay Loam	20 - 50	-	Moderate	4 - 5
650	Dry	Yellow	Clay	20 - 50	-	Strong	5

6.0 WASTE WATER DESIGN CALCULATIONS

6.1 Number Of People System Is To Be Designed For

Number of :

Bedrooms	3 x	2 (Persons Per Room)	=	6
Offices	0 x	2 (Persons Per Room)	=	0
Other	0 x	2 (Persons Per Room)	=	0
		Design Occupancy		6 People

Comments -

2 bedrms upstairs
1 bedrm downstairs

6.2 Intended Potable Water Supply

Okiwa Park Water Supply Incorporated

6.3 Portable Water Usage (litres per person per day)

No Water Reduction Fixtures 180 Litres Per day

6.4 Soil Category For Calculations (From Soil Logs)

5 Category

6.5 Secondary System Calculations

Chosen DIR (Design Irrigation Rate) = 20 / Week

DIR ÷ 7 = mm/day

20 ÷ 7 = 2.9 mm/day

$$= \frac{Q}{mm/day}$$

$$= \frac{6 \times 180}{2.86}$$

= 378 Lineal metres of dropline required

Q = Daily Influent Flow Rate In Litres/Day

7.0 RECOMMENDATIONS

7.1 Designers Experience in Area

Have designed and installed various systems in the surrounding area.

7.2 Description Of Proposed System

I recommend installing a Oasis Clearwater 2000 as per our attached drawings.

7.3 Drip line

Make	Plastro
Type	Hydro P.C. N.D. (16/40)
Emitter Spacing	600mm
Flow Rate	2.35 l/h

7.4 Drip line Layout

Spacing Between Lines	1.0 Metre
Length of Drip line	378 Metres
Depth to be Buried	150 mm
Method of installation	Mole Plough

All drip line to be laid and set out in a grid pattern as per Plastro manuals

The area above the drip line should be kept free of :

Vehicle movements and parking
Planting of anything other than grasses and shallow rooted plants
Grazing of heavy animals, e.g. Cattle etc

7.5 System Maintenance Requirements

The Marlborough District Council requires that the owner of any advanced wastewater treatment system enters into and retains a service contract with the system supplier, or with a suitably qualified maintenance contractor. Records of this maintenance needs to be forwarded to the Marlborough District Council after each service.

As Oasis Clearwater's Agent we can provide this service at six monthly intervals.

7.6 Care Of Effluent Disposal Ground Area

The area above the effluent disposal trenches or bed should be kept free of :

a. Vehicle traffic and the parking of vehicles
b. Planting of anything other than shallow rooted plants or grasses
c. Grazing of heavy animals, e.g. Cattle, horses etc

8.0 AFFECTS ON SURROUNDING ENVIRONMENT

8.1 As this system has been designed in accordance with the Marlborough District Councils guide lines and AS / NZS 1547:2000 there should be no detrimental affects on the surrounding environment.

9.0 INSTALLATION NOTES FOR ELECTRICIAN , ARCHITECT, DRAINLAYER AND OWNER

9.1 *Electrical*

A single phase cable is required to be run from the nearest power supply, which is is normally the house to the tank. This supply should have its own circuit breaker. Also a cable is required to be run from the alarm panel to the tank. The alarm is 12 volt and fits a normal electrical flush/wall box. This alarm is both audible and visual, it is usually located in the house laundry, garage or near the interior electrical switchboard. The alarm and full electrical instructions come with the tank.

Normal electrical cable requirements are :

12 volt alarm	1.5 TPS Cable
240 volt tank supply	2.5 TPS Cable

The tank comes as standard with a 240 volt exterior isolating switch. Also a 12 volt transformer, for the alarms, is part of the tank electrical wiring.

9.2 *House Designer and Drainlayer*

It is important to keep the drains as shallow as practical so that the invert level at the tank inlet is no greater than 650mm. If the invert level is deeper, the tank access points will require extending to stop surface water entering the tank.
This means some thought needs to be given to the drainage layout when the drainage layout is being designed, with reference to site ground levels.

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**MB3A/248**
Land Registration District	**Marlborough**
Date Issued	03 February 1976

Prior References
MB3A/12

Estate	Fee Simple
Area	2155 square metres more or less
Legal Description	Lot 5 Deposited Plan 4617

Original Proprietors
David Roderick Kelsey

Interests

15417 Transfer creating the following easements (for the term of the LIP MB14/109)

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Water	LIP MB14/109	Pink DP 1484	Lot 5 Deposited Plan 4617 - herein	

81067.4 Easement Certificate specifying the following easements - 14.10.1975 at 12.00 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 1 Deposited Plan 4298 - CT MB3A/9	ROW DP 4298	Lot 5 Deposited Plan 4617 - herein	

The easement specified in Easement Certificate 81067.4 when created will be subject to Section 37(1)(a) Counties Amendment Act 1961

82695 Easement Certificate specifying the following easements - 23.3.1976 at 10.01 am

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 5 Deposited Plan 4617 - herein	C DP 4617	Lot 3 Deposited Plan 4617	
Right of way	Lot 5 Deposited Plan 4617 - herein	C DP 4617	Lot 1 Deposited Plan 4617 - CT MB3A/245	
Right of way	Lot 5 Deposited Plan 4617 - herein	C DP 4617	Lot 4 Deposited Plan 4617	
Right of way	Lot 5 Deposited Plan 4617 - herein	C DP 4617	Lot 7 Deposited Plan 4617	
Right of way	Lot 5 Deposited Plan 4617 - herein	C DP 4617	Lot 8 Deposited Plan 4617	
Right of way	Lot 5 Deposited Plan 4617 - herein	C DP 4617	Lot 9 Deposited Plan 4617	
Right of way	Lot 5 Deposited Plan 4617 - herein	C DP 4617	Lot 10 Deposited Plan 4617	
Convey & drain water	Lot 4 Deposited Plan 4617 - CT MB3A/247	F DP 4617	Lot 5 Deposited Plan 4617 - herein	
Convey & drain water	Lot 5 Deposited Plan 4617 - herein	G DP 4617	Lot 6 Deposited Plan 4617	

Identifier	MB3A/248		
Telephone & electric power connections	Lot 4 Deposited Plan 4617	F DP 4617	Lot 5 Deposited Plan 4617 - herein
Telephone & electric power connections	Lot 5 Deposited Plan 4617 - herein	G DP 4617	Lot 1 Deposited Plan 4617
Telephone & electric power connections	Lot 5 Deposited Plan 4617 - herein	G DP 4617	Lot 3 Deposited Plan 4617 - CT MB3A/246
Telephone & electric power connections	Lot 5 Deposited Plan 4617 - herein	G DP 4617	Lot 4 Deposited Plan 4617
Telephone & electric power connections	Lot 5 Deposited Plan 4617 - herein	G DP 4617	Lot 6 Deposited Plan 4617
Telephone & electric power connections	Lot 5 Deposited Plan 4617 - herein	G DP 4617	Lot 7 Deposited Plan 4617
Telephone & electric power connections	Lot 5 Deposited Plan 4617 - herein	G DP 4617	Lot 8 Deposited Plan 4617
Telephone & electric power connections	Lot 5 Deposited Plan 4617 - herein	G DP 4617	Lot 9 Deposited Plan 4617
Telephone & electric power connections	Lot 5 Deposited Plan 4617 - herein	G DP 4617	Lot 10 Deposited Plan 4617

The rights of way specified in Easement Certificate 82695 are subject to Section 37(1)(a) Counties Amendment Act 1961

216415.1 Transfer creating the following easements in gross - 19.2.2001 at 9.45 am

Type	Servient Tenement	Easement Area	Grantee	Statutory Restriction
Convey water	Lot 5 Deposited Plan 4617 - herein	E DP 10917	The Marlborough District Council	

6937743.1 Transfer to Carolyn Jean Atkin - 6.7.2006 at 2:28 pm

References
Prior C/T 3A/12

Transfer No. -
N/C. Order No. 82143

REGISTER

Land and Deeds 69

3A/248

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 3rd day of February one thousand nine hundred and seventysix under the seal of the District Land Registrar of the Land Registration District of Marlborough

WITNESSETH that LAWRENCE HARRY NATHAN of Broughtons Bay, Kenepuru Sound, Retired and SYLVIA JANE NATHAN his wife are

seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 2155 square metres more or less situated in Block VI Linkwater Survey District being Lot 5 on Deposited Plan 4617.

DISTRICT LAND REGISTRAR MARLBOROUGH

Assistant Land Registrar

Appurtenant hereto are water and incidental rights over part of LIP 14/109 (for the term of the LIP) coloured pink on DP. 1484 created by Transfer 15417.

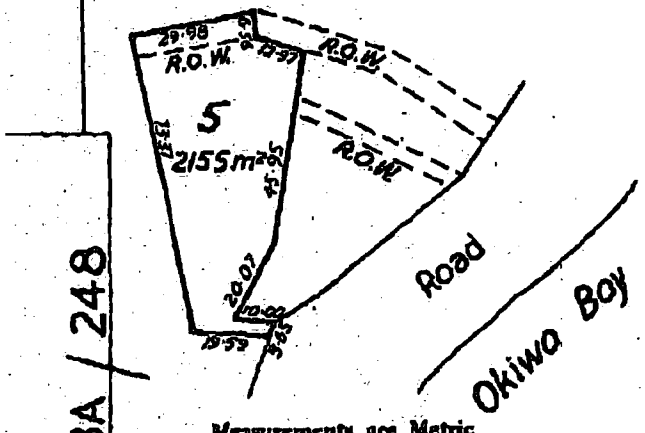
A.L.R.

81067.4 Easement Certificate - easements to be created pursuant to Section 90A Land Transfer Act, 1952.

NATURE	SERVIENT shown on DP.4298	DOMINANT Lots on DP. 4617
Right of Way	Pt.Lot 1 DP.4298 shown 'ROW'(3A/9)	5 (Herein)

-14.10.1975 at 12.00o'c. (Subject when created to Section 37 (1)(a) Counties Amendment Act,1961).

A.L.R.



Measurements are Metric

Subject to Section 37 (1)(a) Counties Amendment Act, 1961.

A.L.R.

82695 Easement Certificate pursuant to Section 90A Land Transfer Act, 1952.
Tenements: Plan 4617

Nature	Servient	Dominant
Right of Way	Pt.Lot 5 'C'	Lots 1 (3A/245) 3 & 4 Lots 7-10 (3A/250-255)
R.O.W.	Pt.Lot 6 'D' (3A/249)	Lot 5
Right to convey & drain water	Pt.Lot 4 'F' (3A/247)	Lot 5
" "	Pt.Lot 5 'G'	Lot 6
Telephone & Electric Power connections	Pt.Lot 4 'F'	Lot 5
" " "	Pt.Lot 5 'G'	Lots 1,3 (3A/246) 4 & 7-10

-23.3.1976 at 10.01o'c. (Subject to Section 37(1)(a) Counties Amendment Act, 1961).

A.L.R.

~~Subject to Section 37(1)(c) Counties Amendment Act, 1961~~
Entered in Error

A.L.R.

117660 Transfer to Creekside Farm Limited at Blenheim.-25.1.1984 at 11.28o'c

A.L.R.

3A/248

OVER

3A/248

The Right of Way specified in Easement Certificate 82695 over the part Lot 6 DP 4617 (3A/249) marked D on DP 4617 has merged by unity of seisin.-17.5.1991 at 2.08o'c
See Application 157751

A.L.R.

159198 Transfer to Graham Bruce Bedford of Picton, Retired Farmer and Joan Alice Hannah Bedford his wife.-14.8.1991 at 11.23o'c

for A.L.R.

190412 Transfer to Peter Jonathan Churchill, Businessman and Robyn Stewart Mitchell, Businesswoman, both of Tirinoana.-18.4.1997 at 9.55o'c

A.L.R..

192301.1 Transfer to David Roderick Kelsey 11.8.1997 at 1.30

for DLR.

Subject to a right to convey water in gross over the part herein marked E DP 10917 to The Marlborough District Council created by Transfer 216415.1 - 19.2.2001 at 9.45

for RGL..

Locality Map Print

↑ Location of test pits. (P1 P2 P3)

N W E S

MARLBOROUGH DISTRICT COUNCIL

Approximate scale only.
A4 Landscape template.
Date: 16-3-2008 15:48:28

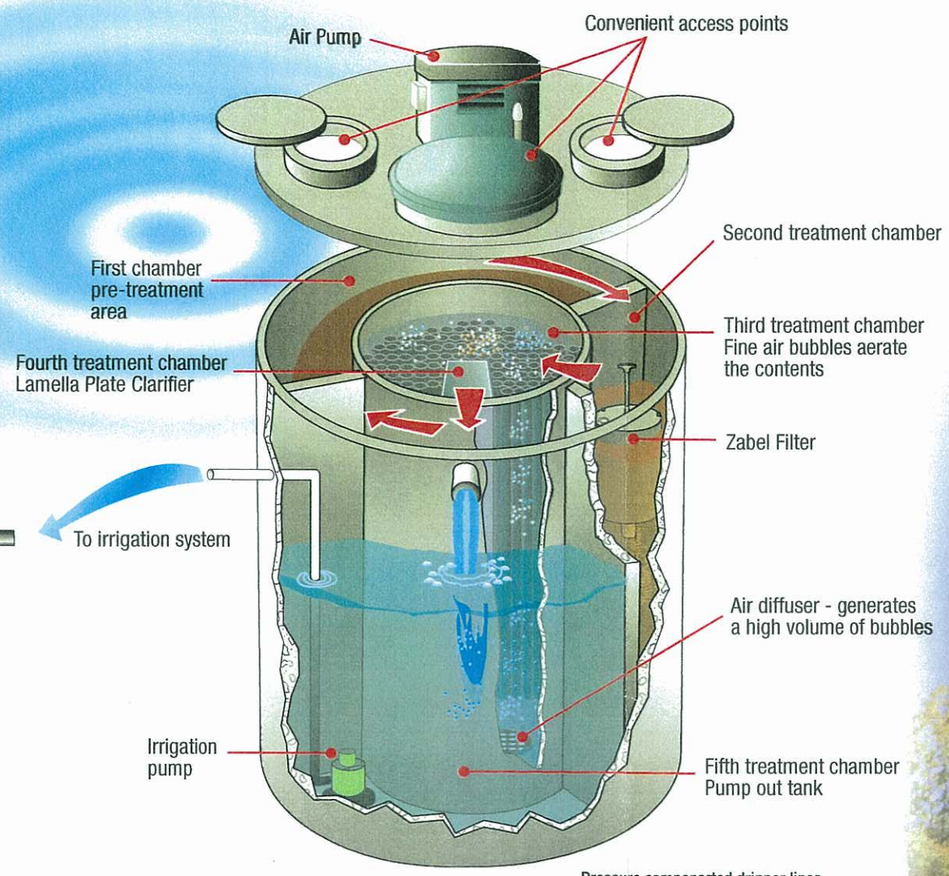
Building in the country?
Then you'll need

THE OASIS CLEARWATER
Series 2000

AERATED WASTEWATER TREATMENT SYSTEM

Designed for living with this world... because it's the only world we have

Developed in New Zealand for New Zealand conditions, the Clearwater Series 2000 quickly and efficiently turns all your household waste water into high quality irrigation water, saving your valuable water supply for more appropriate uses



Engineered to perfection!

Why is the Clearwater Series 2000 Technology so effective?

The Clearwater Series 2000 system is not a septic tank! It is an aerated waste water treatment system comprising **five** stages of treatment. Liquid flows through the system by hydraulic disbursement.

Waste water first enters a **pretreatment, settlement chamber**. It then flows into a **secondary settlement chamber.**

From here it passes via a **revolutionary ZABEL A300 high performance filter**, where further biological and mechanical filtration occurs, into the **central aeration chamber.**

In the central aeration chamber, **thousands of tiny air bubbles** are created by our exclusive Series 2000 fine air diffuser assembly, **constantly mixing the contents and providing essential oxygen** for the aerobic digestion and cleansing process.

The process continues as the water is introduced to our **unique Clarifier unit** prior to flowing into the pump out chamber.

The system is complete with a high quality system malfunction alarm.

Why consider an OASIS SERIES 2000 treatment system?

- *Oasis Series 2000 System treats effluent to a level unobtainable by septic systems.*
- *Oasis Series 2000 System produces a high quality output -Ideal in areas with high water tables, poor soil conditions and where the environment is at risk.*
- *The Oasis Series 2000 System is highly energy and maintenance efficient. Overall costs are less than other on site systems.*
- *The Oasis Series 2000 System is an established, proven technology backed by a New Zealand company with over 15 years experience in waste water treatment plants.*
- *We install every aspect of the plant, including the irrigation system.*

We're here to help...

Oasis Clearwater Systems and our Distributors are dedicated to helping you solve your on-site waste water problems.

We are firmly committed to manufacture the highest quality products to ensure the protection of our environment.

Our systems are designed to Internationally recognised performance standards.

Pressure compensated dripper lines ensures an even delivery of moisture along entire irrigation length.

With the high quality of the Clearwater Series 2000 end product, several discharge options are available - Including grasslands, shrubs and trees.

OASIS CLEAR WATER 2000

Advantages of the Oasis Series 2000 System

Home owners

- *Protects water quality and enhances owners' quality of life.*
- *Saves water, money and protects our environment.*
- *Low operating and maintenance costs.*
- *Durable precast concrete, no plastic or fibreglass.*

Councils and Developers

- *Highly reliability, low maintenance systems.*
- *Reduced operating costs.*
- *Increased public health protection.*

Engineers

- *Proven design and Engineering.*
- *Reliable performance, reduced costs.*
- *Systems for domestic and commercial applications.*
- *Ideal for failed system renovation.*

Contractors and Installers

- *One chamber - one hole - one connection.*
- *Low maintenance, full range of spares available.*
- *On going manufacturer backup.*

Technical specifications

• *Primary Pre-treatment chamber*	*3500 litres*
• *Secondary Pre-treatment chamber*	*750 litres*
• *Aeration and Lamella Plate Clarfier chamber*	*2150 litres*
• *Pumpwell*	*1050 litres*
• *Total operating capacity*	*7450 litres*
• *Total holding capacity*	*9400 litres*
• *Control panel - Audio and visual alarm*	
• *Purifying aerator*	*80 Watts*
• *Tank construction - All concrete*	

Tank Dimensions

• *Height*	*2500 mm*
• *Diameter*	*2500 mm*
• *Weight*	*6.5 Tonnes*
• *10 Person – 2000 Litres per day capacity*	

Consistent with our policy of product improvement, we reserve the right to alter specifications without notice.

Certifications

N.Z TP 58 APPROVAL - 3rd Edition
AUS/NZS 1547.2000 - On Site Domestic Waste Water
AUS/NZS 1546 s 1: 1998 - Septic Tank Manufacture

Our company and our capabilities

Oasis Clearwater Environmental Systems has been pioneering onsite wastewater treatment since 1990. Our team of qualified professionals have many years of combined experience designing and developing innovative technology and systems to meet demanding standards for waste water treatment.

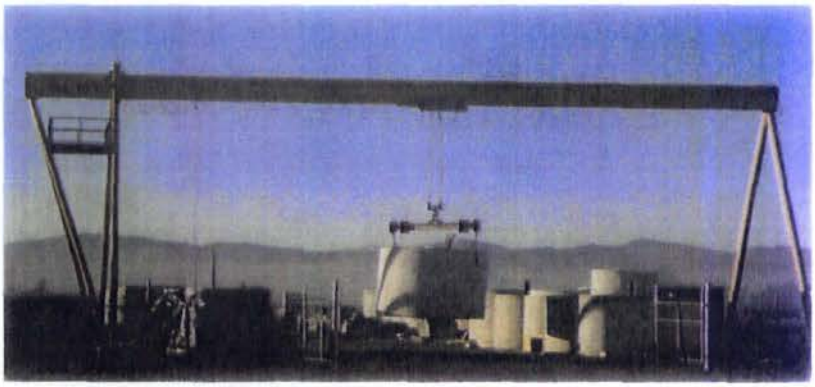
We have also established close working relationships with several leading international authorities and manufacturers of similar equipment to complement our knowledge.

We offer a full range of services including

Design and construction.
Liaison with local and regional councils.
Upgrading of existing systems.
Maintenance programmes.
Domestic and commercial applications.

Committed to quality

To ensure constant quality, our products are manufactured, assembled and fitted out at our own concrete product manufacturing plant.



Oasis Clearwater
ENVIRONMENTAL SYSTEMS
WASTE WATER TREATMENT ENGINEERS • PRECAST CONCRETE PRODUCTION

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Website: www.oasisclearwater.co.nz

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