

APPENDICES

121 - LOCAL PRECEDENT TYPOLOGY STUDY

131 - ENVIRONMENTAL IMPACT ASSESSMENT CHECK LIST

136 - AIR POLLUTION CERTIFICATE

137 - MEDICAL REFEREE APPOINTMENT



Figure 131: Benoni Crematorium

CREMATORIUM DETAILS

Crematorium Name : Benoni Crematorium
 Location : Within cemetery grounds
 Construction Date : 2001
 Crematorium Ownership : Local Metropolitan Council - Eukuruleni
 First Utilized : Never utilized, first cremation planned for beginning of March 2003
 Cost of Cremation Today : R500,00

ARCHITECTURE

Description : Face-brick, pitched tiled roof with steel pipe chimneys
 Planning : Rectangular
 Entrance Viewing Room : Yes
 Chapel Location : In front of the cremation room
 Chapel Layout : Christian bench row seating
 Cremator Lobby Type : Lobby hatch
 Mortuary : Yes, 2 bodies
 Stores : 3
 Offices : 2
 Urns Placement : Face-brick remembrance walls

CREMATORS

Cremator Manufacturer : American
 Cremator Energy Source : Gas – 4500L tank
 Quantity of Cremators : 2
 Maximum Cremators : 4
 Total Cremations / day : Expected 12

AUTHORS OPINIONS

Utilized to Full Potential : No, building standing empty due to Council red-tape
 Meets Health Standards : Designed to latest requirements
 Meets Air Pollution Stds. : Designed to latest requirements

Note worthy Features : Utilitarian, Landscaped Environment, Human scale to structure

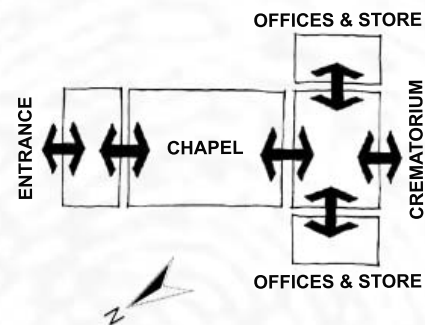


Figure 132: Analytical Sketch



Figure 133: Braamfontein Crematorium

CREMATORIUM DETAILS

Crematorium Name : Braamfontein Crematorium
 Location : Within cemetery grounds
 Construction Date : 1935
 Crematorium Ownership : Local Metropolitan Council - Johannesburg
 First Utilized : Unknown
 Cost of Cremation Today : R400,00

ARCHITECTURE

Description : Stone walls, pitched tiled roof with church bell tower, steel chimneys
 Planning : Rectangular
 Entrance Viewing Room : Yes
 Chapel Location : Between Viewing room and the cremation room
 Chapel Layout : Christian bench type row seating
 Cremator Lobby Type : Lobby hatch
 Mortuary : None
 Stores : 1
 Offices : 1
 Urns Placement : Face-brick remembrance walls & basement Mausoleum

CREMATORS

Cremator Manufacturer : American
 Cremator Energy Source : Gas – piped by municipality
 Quantity of Cremators : 4
 Maximum Cremators : 4
 Total Cremations / day : 24

AUTHORS OPINIONS

Utilized to Full Potential : No, currently under renovation, re-opening April 2003
 Meets Health Standards : Unknown, currently under renovation
 Meets Air Pollution Stds. : Unknown, currently under renovation

Note worthy Features : Basement Mausoleum, stone building construction, Landscaped Environment, Human scale to structure

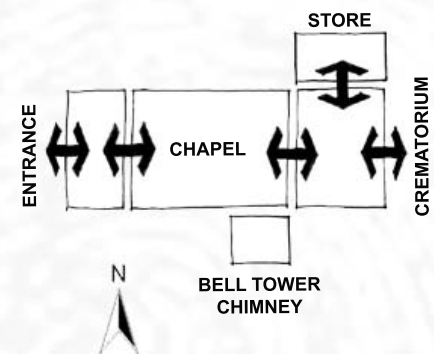


Figure 134: Analytical Sketch



Figure 135: Brakpan Crematorium

CREMATORIUM DETAILS

Crematorium Name : Brakpan Crematorium
 Location : Within cemetery grounds
 Construction Date : +- 1940's
 Crematorium Ownership : Private – Doves Funeral Services
 First Utilized : Unknown
 Cost of Cremation Today : R592,80

ARCHITECTURE

Description : Face-brick, pitched tiled roof with church bell tower type chimney
 Planning : Rectangular
 Entrance Viewing Room : No
 Chapel Location : In front of the cremation room
 Chapel Layout : Christian bench row seating
 Cremator Lobby Type : Lobby hatch
 Mortuary : None
 Stores : 1
 Offices : None
 Urns Placement : Face-brick remembrance walls

CREMATORS

Cremator Manufacturer : American
 Cremator Energy Source : Gas – 2500L tank
 Quantity of Cremators : 1
 Maximum Cremators : 1
 Total Cremations / day : 4

AUTHORS OPINIONS

Utilized to Full Potential : No, chapel never used
 Meets Health Standards : No, cremation room dirty, with ash on the floor
 Meets Air Pollution Stds. : No, smoke visible from chimney

Note worthy Features : Historical Structure, Human scale structure, Utilitarian

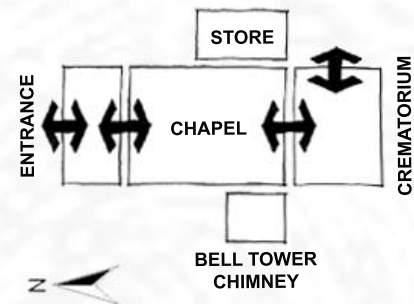


Figure 136: Analytical Sketch



Figure 137: Brixton Crematorium

CREMATORIUM DETAILS

Crematorium Name : Brixton Crematorium
 Location : Within cemetery grounds
 Construction Date : Original built in 1918, current crematorium unknown
 Crematorium Ownership : Private – Doves Funeral Services
 First Utilized : Unknown
 Cost of Cremation Today : Unknown

ARCHITECTURE

Description : Face-brick, pitched steel roof with brick bell tower type chimney
 Planning : Rectangular
 Entrance Viewing Room : No
 Chapel Location : In front of the cremation room
 Chapel Layout : Perimeter seating
 Cremator Lobby Type : Lobby hatch
 Mortuary : None
 Stores : 2
 Offices : 2
 Urns Placement : None

CREMATORS

Cremator Manufacturer : American
 Cremator Energy Source : Gas – cylinder tanks
 Quantity of Cremators : 2
 Maximum Cremators : 2
 Total Cremations / day : 12

AUTHORS OPINIONS

Utilized to Full Potential : Yes
 Meets Health Standards : Yes
 Meets Air Pollution Stds. : Yes

Note worthy Features : Utilitarian, Link to historical structure, Human scale to structure

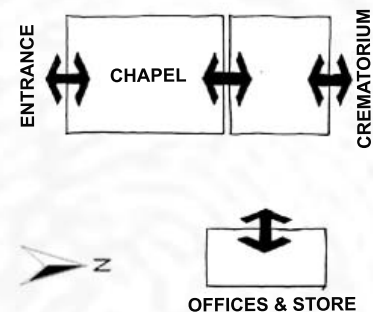


Figure 138: Analytical Sketch



Figure 139: Fourways Crematorium

CREMATORIUM DETAILS

Crematorium Name : Fourways Crematorium
Location : Within cemetery grounds
Construction Date : 2001
Crematorium Ownership : Private – Fourways Memorial Park
First Utilized : Unknown
Cost of Cremation Today : R500.00

ARCHITECTURE

Description : plaster and paint steel roof with a single steel chimney
Planning : Rectangular
Entrance Viewing Room : Yes
Chapel Location : No chapel
Chapel Layout : None
Cremator Lobby Type : No hatch, access through door way
Mortuary : None
Stores : 2
Offices : 2
Urns Placement : Memorial gardens

CREMATORS

Cremator Manufacturer : South African
Cremator Energy Source : Diesel – 2000L tank
Quantity of Cremators : 1
Maximum Cremators : 2
Total Cremations / day : 6

AUTHORS OPINIONS

Utilized to Full Potential : Yes
Meets Health Standards : 50%, ash on floor
Meets Air Pollution Stds. : Unknown

Note worthy Features : Utilitarian

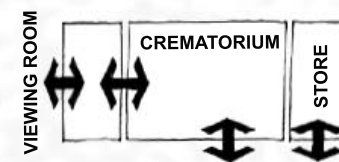


Figure 140: Analytical Sketch



CREMATORIUM DETAILS

Crematorium Name : Kempton Park Crematorium
 Location : Within cemetery grounds
 Construction Date : 1996
 Crematorium Ownership : Private – AVBOB Funeral Services
 First Utilized : June 1997
 Cost of Cremation Today : R349.00 – R931.00

Figure 141: Kempton Park Crematorium

ARCHITECTURE

Description : Face-brick, mono pitched steel roof with steel pipe chimneys
 Planning : Rectangular
 Entrance Viewing Room : Yes
 Chapel Location : In separate building adjacent to crematorium
 Chapel Layout : Christian bench row seating
 Cremator Lobby Type : Lobby hatch
 Mortuary : Yes, 15 bodies
 Stores : 3
 Offices : 2
 Urns Placement : Face-brick remembrance walls

CREMATORS

Cremator Manufacturer : American
 Cremator Energy Source : Gas – 4500L tank
 Quantity of Cremators : 2
 Maximum Cremators : 2
 Total Cremations / day : Expected 16

AUTHORS OPINIONS

Utilized to Full Potential : Yes
 Meets Health Standards : 50%, reasonably clean with ash on floor, strong smell in the air
 Meets Air Pollution Stds. : No, smoke visible from chimney

Note worthy Features : Utilitarian, Human scale to structure

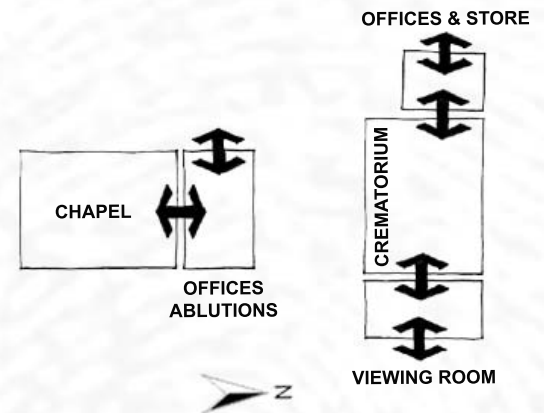


Figure 142: Analytical Sketch



Figure 143: Krugersdorp Crematorium

CREMATORIUM DETAILS

Crematorium Name : Krugersdorp Crematorium
 Location : Within cemetery grounds
 Construction Date : Unknown
 Crematorium Ownership : Private – Doves Funeral Services
 First Utilized : Unknown
 Cost of Cremation Today : R520.00

ARCHITECTURE

Description : Face-brick, pitched tiled roof with church bell tower type chimney
 Planning : Rectangular
 Entrance Viewing Room : No
 Chapel Location : In front of the cremation room
 Chapel Layout : Christian bench row seating
 Cremator Lobby Type : Lobby hatch
 Mortuary : None
 Stores : 1
 Offices : None
 Urns Placement : Face-brick remembrance walls

CREMATORS

Cremator Manufacturer : American
 Cremator Energy Source : Gas – 4500L tank
 Quantity of Cremators : 1
 Maximum Cremators : 1
 Total Cremations / day : 6

AUTHORS OPINIONS

Utilized to Full Potential : No, chapel never used
 Meets Health Standards : No, cremation room dirty, with ash on the floor
 Meets Air Pollution Stds. : No, smoke visible from chimney

Note worthy Features : Utilitarian, Historical connection

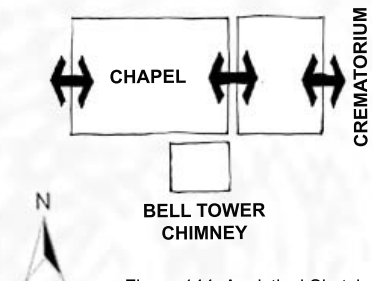


Figure 144: Analytical Sketch



CREMATORIUM DETAILS

Crematorium Name : Lenasia Crematorium
 Location : Within cemetery grounds
 Construction Date : 1985
 Crematorium Ownership : Local Metropolitan Council - Johannesburg
 First Utilized : 28 July 1985
 Cost of Cremation Today : R500.00

Figure 145: Lenasia Crematorium

ARCHITECTURE

Description : Face-brick walls, pitched tiled roof with steel chimneys
 Planning : Rectangular
 Entrance Viewing Room : No, to side of chapel
 Chapel Location : In front of the cremation room
 Chapel Layout : Benches to perimeter of chapel
 Cremator Lobby Type : Lobby hatch
 Mortuary : None
 Stores : 1
 Offices : 1
 Urns Placement : Face-brick remembrance walls

CREMATORS

Cremator Manufacturer : American
 Cremator Energy Source : Gas – 4500L tank
 Quantity of Cremators : 3
 Maximum Cremators : 4
 Total Cremations / day : 15

AUTHORS OPINIONS

Utilized to Full Potential : No, chapel seldom used
 Meets Health Standards : Yes
 Meets Air Pollution Stds. : Yes

Note worthy Features : Utilitarian, Human scale, Walled enclosure

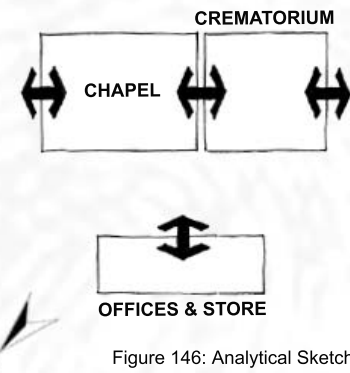


Figure 146: Analytical Sketch



Figure 147: Pretoria Crematorium

CREMATORIUM DETAILS

Crematorium Name : Pretoria Crematorium
 Location : Adjacent to cemetery grounds
 Construction Date : 1956
 Crematorium Ownership : Local Metropolitan Council - Pretoria
 First Utilized : 12 February 1957
 Cost of Cremation Today : R260.00 [resident of Tshwane], R780.00 [other]

ARCHITECTURE

Description : Face-brick walls, pitched roof tiles, concrete chimney
 Planning : Rectangular
 Entrance Viewing Room : No
 Chapel Location : In front of cremation room
 Chapel Layout : Christian bench type row seating
 Cremator Lobby Type : Drop type hatch
 Mortuary : None
 Stores : 1
 Offices : 2
 Urns Placement : Brick and stone remembrance walls

CREMATORS

Cremator Manufacturer : American
 Cremator Energy Source : Gas – 4500L tank
 Quantity of Cremators : 4
 Maximum Cremators : 4
 Total Cremations / day : 24

AUTHORS OPINIONS

Utilized to Full Potential : No, chapel not used
 Meets Health Standards : Yes
 Meets Air Pollution Stds. : Yes

Note worthy Features : Stand alone site with no grave yard, Utilitarian

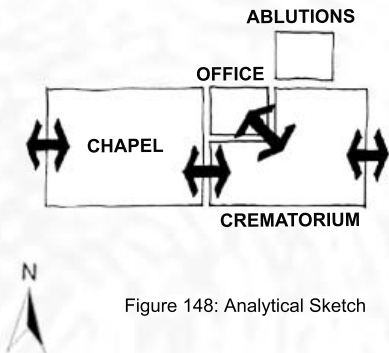


Figure 148: Analytical Sketch



CREMATORIUM DETAILS

Crematorium Name : Pretoria Hindu Crematorium
 Location : Within cemetery grounds
 Construction Date : 1944
 Crematorium Ownership : Local Metropolitan Council - Pretoria
 First Utilized : Unknown
 Cost of Cremation Today : R260.00 [resident of Tshwane], R780.00 [other]

Figure 149: Pretoria Hindu Crematorium

ARCHITECTURE

Description : Face-brick walls, brick dome roof, brick chimney
 Planning : Rectangular
 Entrance Viewing Room : No
 Chapel Location : None, covered area adjacent to cremator
 Chapel Layout : None
 Cremator Lobby Type : None, open to the air
 Mortuary : None
 Stores : 1
 Offices : 1
 Urns Placement : None

CREMATORS

Cremator Manufacturer : Unknown
 Cremator Energy Source : Wood furnace, 400kg per cremation
 Quantity of Cremators : 1
 Maximum Cremators : 1
 Total Cremations / day : 2

AUTHORS OPINIONS

Utilized to Full Potential : No
 Meets Health Standards : Unknown
 Meets Air Pollution Stds. : Unknown

Note worthy Features : In 2002 did 12 cremations only, Historical building in use, Utilitarian

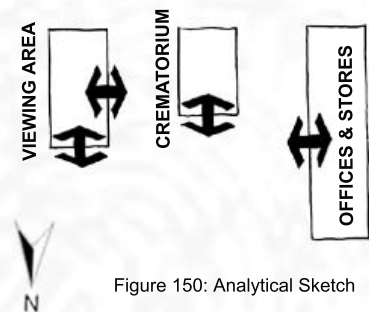


Figure 150: Analytical Sketch

1

**CHECKLIST TO ASSIST IN EVALUATION OF A SCOPING
REPORT/ ENVIRONMENTAL IMPACT ASSESSMENT
REPORT**

APPLICATION NAME: FOURWAYS MEMORIAL PARK (PTY) LTD
CREMATORIUM

REF: GAUT 00/237

DEPARTMENTAL RECOMMENDATION:

YES / NO The choice selected for each question is indicated by the use of italics, e.g.: YES

A. Does the process followed in the study agree with that approved in the Scoping plan approved by the department? The significance of deviations from the accepted plan should be commented on.

YES NO Comments:

B. Given the nature of the project, does the report include the following and is it of an acceptable standard?

1. Description of the project (Refer to Guideline Document p 22)

1.1 A description of the activity

YES NO Comments: Installation of a crematorium

1.2 A Site Plan

YES NO Comments: earmarked on an existing cemetery grounds

1.3 Schematic drawing(s) of processes and technology

YES NO Comments: Documentation with regard to the above have been submitted to the Department

1.4 Estimates of solid wastes

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YES NO Comments: Ash residue are buried at the garden of remembrance at the cemetery

1.5 Estimates of liquid effluent

YES NO Comments: N/A

1.6 Estimates of gaseous emissions

YES NO Comments: The estimates are documented on page 11. Proper testing will be done once the crematoriums are installed.

1.7 Brief discussion on treatment and disposal of waste (solid, liquid and gaseous)

YES NO Comments: N/A

1.8 Water requirements (estimated volumes, proposed source and availability)

YES NO Comments: N/A

1.9 Estimate of timeframes for construction

YES NO Comments: Within three months after approval is granted

2. Description of alternatives

2.1 Were any of the following alternatives considered in the report?

- Location Alternatives

YES NO Comments: indicated as a site selection matrix on pages 1-2 in addendum 1

- Process Alternatives

YES NO Comments:

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• "Time" Alternatives

YES NO Comments: N/A

• The No - Go option

YES NO Comments: N/A

2.2 Were the alternatives suggested by I&APs included?

YES NO Comments:

2.3 Is there any other alternative that should have been included?

YES NO Comments: N/A

3. Description of the Environment in terms of the following

3.1 Geology

YES NO Comments: N/A

3.2 Hydrology

YES NO Comments: N/A

3.3 Topography

YES NO Comments: N/A

3.4 Climatic conditions

YES NO Comments: N/A

3.5 Ecological systems (such as wetlands)

YES NO Comments: N/A

3.6 Fauna

YES NO Comments: N/A

3.7 Flora

YES NO Comments: N/A

3.8 Cultural and social features (e.g Churches, recreational facilities; etc)

YES NO Comments: An existing public cemetery

3.9 Historic and prehistoric features (e.g museums, heritage sites, etc)

YES NO Comments: N/A

3.10 Land use on site and on adjacent properties

YES NO Comments: The land is zoned as public cemetery and other as agricultural

4. Description of public participation (Refer to Guideline Document, p 24)

4.1 Is the process of public participation described

YES NO Comments:

4.2 Have all relevant authorities been identified and consulted

YES NO Comments: Documented on pages 31 & 32

4.3 Were the necessary advertising requirements adhered to

YES NO Comments:

4.4 Have adjacent land owners and tenants of adjacent properties been consulted

5

YES NO Comments: These are covered in annexure 14

4.5 Have any official organisation representing the local community been consulted

YES NO Comments: These are covered in annexure 14

4.6 Was there a public meeting

YES NO Comments: This was held on the 02/10/99

4.7 Is the minutes of the public meeting included in the document

YES NO Comments: These are logged in annexure 14

4.8 Is a list of I&APs and their comments provided?

YES NO Comments: These are listed in annexure 8

5. Environmental issues identified

5.1 Have credible methods been used to identify environmental issues?

YES NO Comments:

5.2 Does the report address all significant impacts on/by:

5.2.1 Biophysical components:

- Fauna

YES NO Comments: N/A

- Flora

YES NO Comments: N/A

- Ground Water (Quantity, Quality ,Flow patterns)

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YES NO Comments: N/A

- Surface Water (Quantity, Quality ,Flow patterns)

YES NO Comments: N/A

- Air Quality

YES NO Comments: Emission tests will be done after installation

- Soil

YES NO Comments: N/A

- Ecological systems (wetlands, rivers, etc)

YES NO Comments: N/A

- Topography

YES NO Comments: N/A

- Geology

YES NO Comments: N/A

- Climate

YES NO Comments: N/A

5.2.2 Socio-economic Components

- Noise

YES NO Comments: N/A

- Visual impacts

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YES NO Comments:

- Traffic

YES NO Comments: These are clarified as addendum 1, pages 3-4

- Safety

YES NO Comments:

- Property value

YES NO Comments: N/A

- "sense of place"

YES NO Comments: N/A

- Cultural sites (e.g churches; recreational facilities; etc)

YES NO Comments: An existing Public Cemetery

- Historical or pre-historical sites/features (e.g heritage sites; museums; etc)

YES NO Comments: N/A

5.2.3 Are there any other significant issues? ,

YES NO Comments: N/A

5.2.4 Does the document compare the location and timing of project activities with the location, sensitivity, seasonal presence and abundance of environmental components?

YES NO Comments:

5.2.5 Does the document describe the possible effects on human health

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YES NO Comments: These are only process specific in term of the Health-Safety measures of the cremator operator

5.2.6 Does the document describe the possible effects on socio-economic conditions

YES NO Comments: N/A

5.2.7 Does the document describe the possible effects on physical and cultural resources

YES NO Comments: N/A

5.2.8 Was each impact assessed in terms of the nature, extent, duration, intensity and probability of the impact? (Refer to Guideline Document, p27)

YES NO Comments:

5.2.9 Was each impact assessed in terms of significance? (Refer to Guideline Document, p28)

YES NO Comments:

5.2.10 Is the assessment of environmental issues unbiased/objective?

YES NO Comments:

5.2.11 Are relevant specialist reports available and linked to key issues? Do the recommendations of the specialist tie in with the assessed significance?

YES NO Comments: These are process specific with regard to the Technology that will be used in the proposed cremator

To summarise, does the document indicate *how, where and when* the project's activities could interact and affect environmental components?

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 YES NO Comments: N/A

6. Mitigation of Impacts

6.1 Are mitigation measures proposed for each significant impact?

 YES NO Comments:

6.2 Are proposed mitigation measures practical?

 YES NO Comments:

6.3 Can environmental issues be mitigated to a level which meets appropriate legal or administrative requirements and is in agreement with government policy?

 YES NO Comments: These are in line with guide lines by CAPCO And Health & Safety Act

6.4 Is a comparative assessment of all the alternatives provided?

 YES NO Comments: N/A

C. DEPARTMENTAL RECOMMENDATION

Based on the information in this evaluation report:

1.

1.1 Should Authorisation for this project be declined?

 YES NO Comments:

1.2 List the reasons for declining authorisation (if applicable):

2.

2.1 Should the EIA/Scoping Report be amended and resubmitted for evaluation and authorisation?

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 YES NO Comments: Additional information has been submitted and Will be attached as addendum1

2.2 List the required amendments (if applicable):

3.

3.1 Should Authorisation for this project be granted?

 YES NO Comments: The final scoping report, in addition to the addendum is comprehensive

3.2 List all conditions that must be included in the authorisation of the project

- Conditions will be drawn up once the emission tests have been undertaken
- Compliance to the Department's standards Conditions for Authorisation which are attached to the Record of Decision

Report prepared by:

Ms M. Mhlongo

Date: 27 January 2000

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DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM
REPUBLIC OF SOUTH AFRICA

ATMOSPHERIC POLLUTION
PREVENTION ACT, 1965

REGISTRATION

Certificate

CONCERNING SCHEDULED PROCESSES

FOURWAYS CREMATORIUM (PTY) LTD.

Is authorized to continue the processes listed below, with the equipment and plant as detailed in document number 2414 on the premises known as Holdings 11 and 18, Witkoppen 194 IQ.

1. WASTE INCINERATION PROCESSES (PROCESS No. 39 OF SECOND SCHEDULE)


CHIEF AIR POLLUTION CONTROL OFFICER

Certificate Number 2414

Date 7th August 2000



DEPARTMENT
OF HEALTH

ENQUIRIES: DR F G BENSON
TEL: 355 - 3839/40
FAX: 355 - 3499
E-MAIL: frewb@gpg.gov.za
21 July, 2000

REF. 13/1/3/1/5

The Manager
Fourways Memorial Park
P.O.Box 467
Postnet X033
Rivonia
2120

**APPOINTMENT MEDICAL REFEREE AND DEPUTY MEDICAL REFEREES:
FOURWAYS**

The previous correspondence concerning the above matter has reference.

As executing authority of the provincial functions of the Crematorium Ordinance, Ordinance No. 18 of 1965, I hereby give approval for the appointment of:

1. **Dr Jillian Cecilia Moreland**, of 40 Royce St, Bryanston, Sandton and with the professional qualifications M.B.B Ch, as **Medical Referee**.
2. **Dr Clive Ntemi Mhlongo** of 784 Gateside Ave, Dainfern and with the professional qualifications M.B. Ch.B (Natal) 1988, as **Deputy Medical Referee** and
3. **Dr E H Levendig** of 21 Pine road, Kengies, Randburg and with the professional qualifications M. B. Bch (Wits) 1981, as **Deputy Medical referee**.

These appointments are effective from 24 July 2000, in terms of the provisions of Regulation 9 of Administration's Notice No. 1156 of 1965. It is valid for 5 years in line with the terms of the authorization for the crematorium, given by the Department of Agriculture Conversation and Environment.

A handwritten signature in black ink, appearing to read 'G. Ramokgopa'.

DR G M RAMOKGOPA
MEC: HEALTH DEPARTMENT