Redland Readymix Limited
Great North Road
Little Paxton, St. Neots
Huntingdon, Cambs PE19 4BQ
Telephone: 0480 407444
Telex: 32801
Fax: 0480 407437

Redland
READYMIX

SJW/KMR
25th February 1992

Huntingdonshire District Council
Pathfinder House
St. Mary's Street
Huntingdon
Cambs.
PE18 6TN.

For the attention of Mr. Allan

Dear Sir,

ENVIRONMENTAL PROTECTION ACT 1990. APPLICATION FOR AUTHORISATION AT STUKELEY MEADOWS, HUNTINGDON, CAMBS.

Further to your letter dated 19th February 1992, please find 4 copies of the completed application together with the required fee of £800.

We trust the information supplied is acceptable but in the event of any queries do not hesitate to contact the writer.

Yours faithfully,

S.J. WAITE
Development Manager

THE QUALITY SCHEME FOR READY MIXED CONCRETE
Certified Category 2 Product Conformity

Administrative and Head Office: Bradgate House, Groby, Leicester LE6 0FA.
A member of British Aggregate Construction Materials Industries
Registered Office: Redland House, Reigate, Surrey.
Registered in England No. 615154

Redland Readymix Limited
Great North Road
Little Paxton, St. Neots
Huntingdon, Cambs PE19 4BQ
Telephone: 0480 407444
Telex: 32801
Fax: 0480 407437

ENVIRONMENTAL PROTECTION ACT 1990 - PART 1
APPLICATION FOR AUTHORISATION OF BLOCK 2
PROCESS ON REDLAND READYMIX DEPOT AT
STUKELEY MEADOWS, HUNTINGDON, CAMBS.

Administrative and Head Office: Bradgate House, Groby,
Leicester LE6 0FA.
A member of British Aggregate Construction Materials
Industries
Registered Office: Redland House, Reigate, Surrey.
Registered in England No. 615154

ENVIRONMENTAL PROTECTION ACT 1990, Part I
The Environmental Protection (Prescribed Processes and Substances) Regulations 1991
The Environmental Protection (Applications, Appeals and Registers) Regulations 1991

See Notes on pages 3 and 4 before completing this form.

APPLICATION FOR AUTHORISATION to carry out prescribed process
under section 6 of the Environmental Protection Act 1990

To(1) HUNTINGDONSHIRE DISTRICT Council

1 Name and address of applicant (2) *(in the case of a registered Company, name, number and registered office)*
Redland Readymix Ltd
Redland House
Reigate
Surrey Reg No. 615154 Tel.No. 073 7242488

2 Name and address of premises where process is or will be carried on *(not applicable to mobile processes)*
Redland Readymix Ltd
Stukeley Meadows
Huntingdon, Cambs. Tel.No. 0480 450900

3 In the case of mobile plant, name and address of the principal place of business

N/A

Tel.No.

4 Address for correspondence relating to the application
Redland Readymix Ltd
Gt North Road, Little Paxton,
St. Neots, Cambs. PE19 4BQ.

Moved to: BRADGATE HOUSE, GROBY, LEICESTER LE6 0FA

0530 242151
FAX — 243513

Contact name Mr. S.J. Waite Tel.No. ~~0480 407444~~

5 List of maps or plans enclosed with the application showing the location of the premises where the process is or will be carried on.

TITLE	Reference No.
SCHEMATIC FLOW CHART	Page 3
SITE LOCATION PLAN	Page 12
BLOCK LOCATION PLAN	Page 13

Where the process is or will be carried on on only part of the premises whose address is given at 2 above, *describe which part of the premises and list the plan(s) which identif(y)(ies) this part or these parts.*

N/A

6 Describe the prescribed process (3) *(use a continuation sheet if necessary)*

SEE APPLICATION

Copyright form. Cat. No. EPA 6 Printed by SHAW & SONS LTD., 21 Bourne Park, Bourne Rd., Crayford, Kent DA1 4BZ LLE 13199

7 When was the plant first installed? 1988

Please also give the details and dates of any major modifications or improvements which have been carried out.

NONE

---

8 List the prescribed substances (and any other substances which might cause harm) used in connection with or which might be released into the air resulting from the prescribed process.(4)

SEE APPLICATION

---

9 Describe the techniques to be used for preventing releases into the air of substances listed above, for reducing such substances to a minimum and for rendering harmless any such substances that are released.(5) ***(use a continuation sheet if necessary and attach drawings of plant and equipment, where appropriate)***

SEE APPLICATION

---

10 Give details of the source, nature and amount of current and/or anticipated emissions to air from the process. ***(use a continuation sheet if necessary)***

SEE APPLICATION

---

11 Give the assessment of the likely environmental consequences of the emissions to air. ***(use a continuation sheet if necessary)***

SEE APPLICATION

---

12 What monitoring is or will be carried out of emissions to air?

SEE APPLICATION

13 What monitoring will be carried out of the environmental consequences of emissions to air?

SEE APPLICATION

---

14 How will you monitor the techniques described in the answer to question 9?

SEE APPLICATION

---

15 State how you will ensure that the objectives listed in section 7(2) of the Environmental Protection Act 1990 will be achieved and how the condition implied by section 7(4) of the Act will be complied with.(6)

SEE APPLICATION

---

16 If you have any proposals for improvements which might prevent or reduce emissions, please give details. *(use a continuation sheet if necessary)*

SEE APPLICATION

---

17 Give any other additional information which you would like to be taken into account by the local authority in considering your application.

WE HAVE RECEIVED NO COMPLAINTS REGARDING OUR OPERATION OF THE CONCRETE PLANT DURING THE 3½ YEARS OF OCCUPANCY.

Official guidance on the best available techniques not entailing excessive cost is published by the Department of the Environment in the process guidance notes for specific industries, copies of which are available from HMSO or can be ordered from certain bookshops. YOU ARE ADVISED TO CONSULT THE PROCESS GUIDANCE NOTE FOR YOUR INDUSTRY BEFORE COMPLETING THIS FORM. YOU MIGHT ALSO FIND IT USEFUL TO READ THE GENERAL GUIDANCE NOTE GG3.(7)

If you require any further information or assistance in completing this form, please contact your local Council at the address shown below.

Please complete the final section of this form on page 4 overleaf.

I enclose the fee of £ 800:00 (8).
Cheques should be made payable to:

I HEREBY CERTIFY that all the information contained in this application is correct to the best of my knowledge and belief [and that I am authorised to sign on behalf of the Company].

Signature .....

Official title DEVELOPMENT MANAGER

Date 25th February 1992.

Please complete and return this form together with FOUR copies of each of the plans listed in the reply to question 5 and the required fee to:

Tel.No.

NOTES

1 This is the local authority in whose area the prescribed process will be carried on, or in the case of mobile plant, the local authority in whose area the applicant has his principal place of business.

2 Please state the person/Company who is operating or will operate the process, **not** an agent who may be completing the application on the operator's behalf.

3 A list of prescribed processes for local authority control is given in **Appendix A**, which accompanies this form. Further advice can be obtained if necessary from the local authority.

4 A list of prescribed substances for release into the air is given in **Appendix B**, which accompanies this form. "Harm" includes offence to the senses or harm to property.

5 Please list fully all pollution control measures for all stages of the process, from the receipt of raw materials to the despatch of wastes and finished products, including, for example, the height and location of any stacks or vents; the abatement technology; process control and operational data; arrangements for maintenance; the extent of supervision; the relevant qualifications and experience of the workforce; staff training; and contingency plans for breakdowns and emergencies.

All calculations should be shown, particularly for the chimney height(s). Justification for the selection of a particular abatement option should be given.

6 Section 7(2) and 7(4) of the Environmental Protection Act 1990 requires every operator of a prescribed process to use the best available techniques not entailing excessive cost for -

(i) preventing the release of prescribed substances, or where that is not practicable, for reducing the release of such substances to a minimum and rendering them harmless; and
(ii) rendering harmless any other substances which might be released.

7 Much of the information contained in the application form will be included in a register which the local authority is required to keep for public examination in accordance with section 20 of the Environmental Protection Act 1990 and the Environmental Protection (Applications, Appeals and Registers) Regulations 1991. Sections 21 and 22 provide for certain information (affecting national security, or commercial confidentiality) to be excluded from the register. Such information should be clearly identified in this application form.

8 £800 in the case of initial applications.
£530 in the case of applications for a substantial change.
£530 in the case of processes transferred from previous HMIP control.
£100 for small waste oil burners.

CONTENTS

AUTHORISATION OF SCHEDULED PROCESSES

BLOCK 2 PROCESS

Cement and Lime Manufacture and Associated Processes

Blending, packing, loading of cement undertaken separately from cement making.

Plant address : Redland Readymix Ltd
Stukeley Meadows
Huntingdon
Cambs.

1. INTRODUCTION

1.1. Redland Readymix operate 35 plants within England to produce readymixed concrete for delivery in truck mixers or collection on site. The plant at HUNTINGDON forms part of the Company's CENTRAL Region.

1.1.2 Readymixed concrete is formed by homogeneously mixing sand, gravel, cement, water and admixtures. This mixing is generally accomplished in one of two ways :-

Wet Batch - The materials are discharged into an integral plant mixer which deposits the mixed concrete into the truck mixer barrel.

Dry Batch - The materials are discharged separately into the truck mixer barrel and the mixing takes place by the helical screw within the rotating barrel.

Wet and dry batch plants allow both methods to be utilised by allowing the mixer to traverse.

Variation in the material quantities results in the wide range of concrete mixes available. The use of different admixtures can further enhance the performance of these concrete mixes.

1.1.3 **The plant at HUNTINGDON is WET batch and located on an industrial estate well away from any residential area.**

1.2 GENERAL OPERATING PROCEDURE (See Fig 1)

Generally the procedure for manufacturing ready mixed concrete is as follows :-

a) Ensure storage hoppers, silos and tanks are reasonably full to enable a reservoir of material to be on hand at any one time.

b) Select mix required and enter into computer for automatic operation or refer to batch book for manual operation. The plant at HUNTINGDON has computer control.

c) Discharge required amount of gravel from storage hopper to the aggregate weigh hopper. After weighing to within prescribed tolerances deliver to either plant mixer or truck mixer barrel via a conveyor.

d) Repeat for sand.

e) Repeat for cement utilising the separate weigh hopper and discharge to the appropriate mixer by either direct gravity discharge or sealed screw conveyor. (A more detailed description of the cement process follows later).

f) Water is added at various stages in the procedure by either pumping through a water meter or by gravity discharge from a weighed tank.

g) Admixtures are also added at various stages by either pumping into the water pipe (whilst water is being discharged) or pumping direct into the relevant mixer through a small weigh hopper.

h) Once mixed the plant operator and truck mixer driver then visually inspect the final product for slump quality before despatch to the customer.

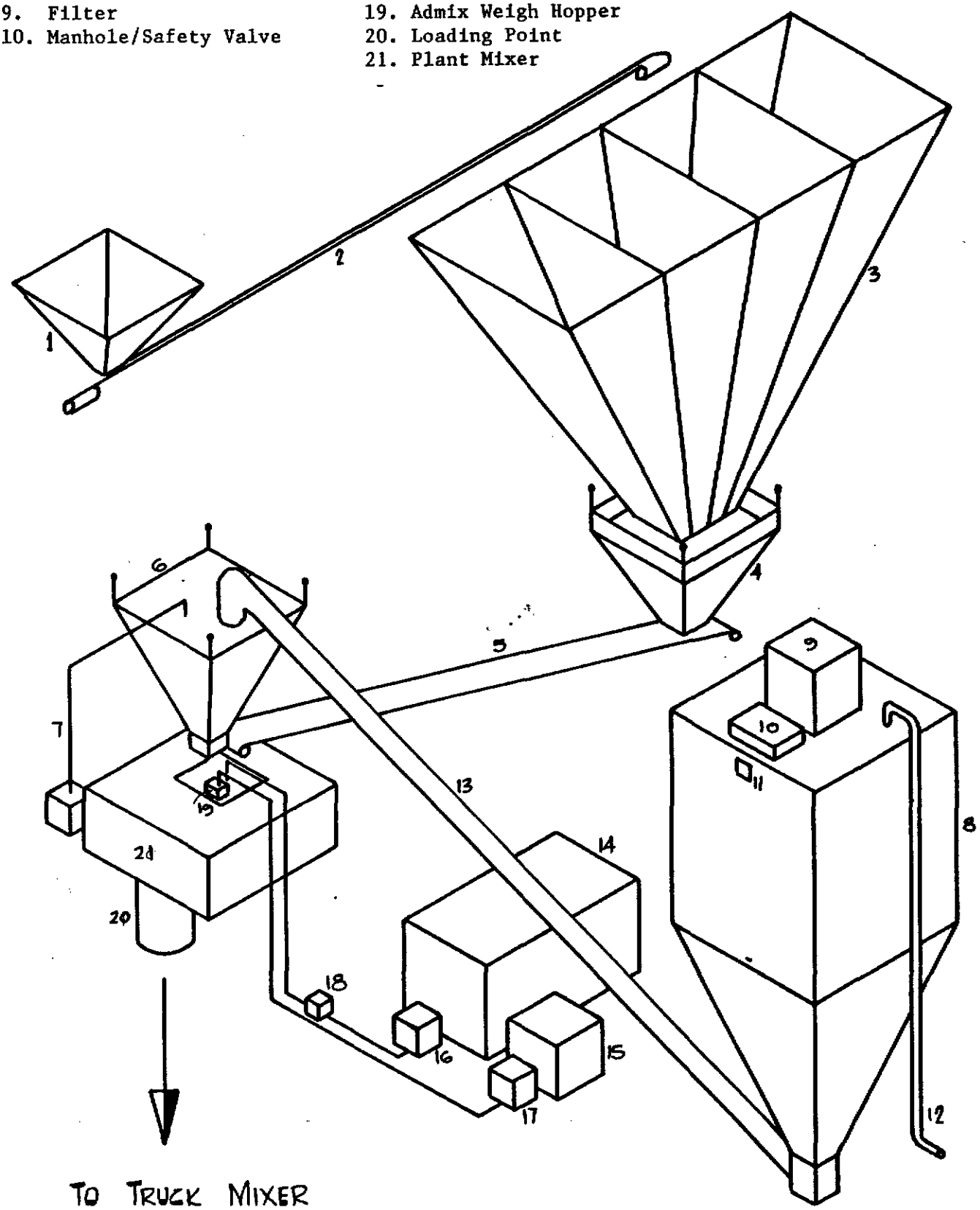
1.2.1 Sand and gravel is obtained from the company's quarries operated by Redland Aggregates Ltd.

The materials are transported (if the readymix site is not located within a quarry) via 24, 30 or 38 tonne capacity H.G.V. tippers.

1.2.2 The sand and gravel is deposited into separate ground storage bays or directly into a ground feed hopper for delivery into the storage hoppers via conveyor.

KEY

1. Feed Hopper
2. Feed Conveyor
3. Aggregate Storage
4. Aggregate Weigh Hopper
5. Batch Conveyor
6. Cement Weigh Hopper
7. Breather Pipe + Filter
8. Cement Silo
9. Filter
10. Manhole/Safety Valve
11. High Level Indicator
12. Inlet Pipe
13. Screw Conveyor
14. Water Tank
15. Admix Tank
16. Water Pump
17. Pump
18. Water Meter
19. Admix Weigh Hopper
20. Loading Point
21. Plant Mixer



SCHEMATIC DIAGRAM - WET BATCH

FIG 1

1.3 CEMENT STORAGE CAPACITIES

The depot at [redacted] utilises 3 silos which store bulk cement for use in the manufacture of ready mixed concrete.

Fig 2 outlines the maximum quantities held at any one time.

INT = INTEGRAL SILO WITHIN THE CONCRETE PLANT
AUX = AUXILLARY SILO OUTSIDE THE CONCRETE PLANT

	Int/~~Aux~~ Silo 1	Int/~~Aux~~ Silo 2	Int/~~Aux~~ Silo 3	Int/Aux Silo 4
Cement Type	O.P.C.	S.R.P.C.	G.G.B.F.S.	
Supplier*	Rugby Cement Barrington	Rugby Cement South Ferriby	Castle Cement Ketton Lincs.	
Silo Capacity (cu.mtrs)	38	38	47	
Silo Capacity (tonnes)	50	50	40	

FIG 2

*The supplier information is correct at the time of writing, however, due to competitive pricing these suppliers could change from time to time.

1.4 CEMENT LOADING PROCEDURE

Bulk cement is delivered to the depot in sealed cement tankers from the suppliers listed above in varying capacities from 16 to 25 tonnes.

1.4.1 Upon arrival at the depot the tanker driver reports to the site foreman to confirm the following :-

a) Correct cement type and volume ordered

b) Which silo is to be filled

c) How much cement is left in that silo

d) Is it safe to proceed with the filling of the cement silo

1.4.2 If it is deemed safe to proceed, the cement tanker is positioned and the tanker discharge hose is connected to the appropriate silo inlet pipe to form a sealed arrangement. The coupling of the pipe automatically starts the appropriate cement silo filter on some locations. At HUNTINGDON the filters are started automatically. The filter will operate continuously during the loading process and for a further 20 minutes afterwards. 5.

1.4.3 A valve is opened on the tanker discharge hose and the cement is blown up the silo inlet pipe by a high pressure blower at a typical pressure of 10 to 15 p.s.i. maximum.

1.4.4 Once the load is discharged, the cement tanker driver stops the blower and uncouples the discharge hose. He then reports to the site foreman that the load is completed. The delivery tickets are signed and the cement tanker leaves the premises.

1.5 CEMENT DISCHARGE PROCEDURE

1.5.1 Cement is discharged from the silo to the cement weigh hopper by either overhead gravity discharge or via sealed screw conveyor through a butterfly valve. These arrangements are totally sealed.

1.5.2 Whilst cement is being deposited into the weigh hopper the displaced air is exhausted via a breather pipe to either a separate filter or to the internal area around the weigh hopper. These arrangements cause no cement dust to escape to atmosphere.

1.5.3 Once the correct amount of cement is weighed it is then discharged to either the truck mixer or plant mixer via gravity discharge or screw conveyor, after a butterfly valve is opened.

1.6. WASTE PROCEDURE

Cementitious material is returned to the depot by either of the following means :-

a) Returned concrete that cannot be re-sold or tipped at an authorised location

b) Truck mixer drivers washing out their barrels at the end of the day.

This waste material is deposited into a truck mixer wash out system arrangement which allows the solid material to dry out and the over-flow water to be filtered, for disposal to authorised locations.

This solid waste material is left to dry out sufficiently to enable it to be loaded onto a tipper via a front end loader for disposal at

REDLAND AGGREGATES, COW LANE, GODMANCHESTER.

If overflow water is transferred off site then a trade effluent discharge licence is obtained.

1.7 LIST OF PRESCRIBED SUBSTANCES

Some of the materials listed below may not be stored on the site currently but they could be at some later date.

CEMENTS

O.P.C.	Ordinary Portland Cement
S.R.P.C.	Sulphate Resisting Portland Cement
P.B.F.	Portland Blastfurnace Cement
	Portland Pulverised Fuel Ash Cement

Used in combination with O.P.C.

G.G.B.F.S.	Ground Granulated Blastfurnace slag
P.F.A.	Pulverised Fuel Ash.

AGGREGATES

- 20mm	Natural Flint Gravel
Zone M	Sand

ADMIXTURES

Conplast 211	Plasticiser
Conplast 337	Super Plasticiser
Conplast M1	Super Plasticiser
Conplast AEA	Air Entraining Agent
Conplast AE21	Air Entraining Agent
Conplast R	Retarder
Conplast NC	Accelerator
Conplast 242	Lightweight Pumping Aid
Conplast 13	Lightweight Pumping Aid
Conplast UW	Underwater Agent
Conplast Prolopene 421	Water Proofing Agent

1.8 TECHNIQUES USED TO PREVENT RELEASES INTO THE AIR OF PRESCRIBED SUBSTANCES

1.8.1 To ensure that no cement is released during the filling process the cement tanker driver has been instructed to stay alongside the discharge point during the complete loading period.

This process could take up to 35 minutes but with the cement driver in position the process can be immediately stopped at any time for whatever reason.

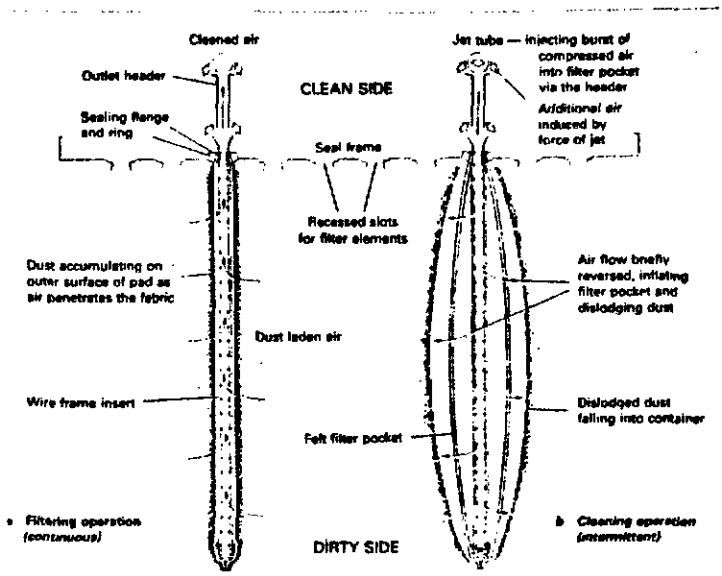
During the loading procedure the site foreman will be constantly monitoring the process to ensure there is no visual escape of dust.

1.8.2 On top of every cement silo is positioned some form of filter to retain airborne cement but to release pressurised air.

The different types of filter are explained below

i) **Reverse Air Jet Filter** ✓

The principle of this type of filter is to allow the air pressure from the blowing process to pass through the filter bags suspended over the silo. Obviously cement will build up around the filter bags to impair the efficiency but this is overcome by passing a jet of compressed air through the bags at a pre-set value to suit the cement type, during the loading process.



Section through seal frame and two filter elements, showing principle of operation

FIG. 3

ii) **Reverse Air Jet Filter with Fan Assistance**

As before except a fan is used to allow the cement into the silo a lot faster.

iii) **Static Filters**

In this system filter bags are suspended as before but no method of agitating the bags is employed therefore this system requires frequent cleaning of the filter medium.

iv) **Static Filters with Agitators**

As above but utilising a spring arrangement to ensure some form of bag movement during the loading process.

The HUNTINGDON depot utilises the following filter arrangements.

	Cement Type	Filter
Silo 1	O.P.C.	Reverse Air Jet
Silo 2	S.R.P.C.	Reverse Air Jet
Silo 3	G.G.B.F.S.	Reverse Air Jet
Silo 4		

FIG 5

1.8.3 Cement is not allowed to overfill the silo by utilisation of the following types of high level indicator.

i) **Rotating Paddle Type** ✓

This type of indicator is positioned at the highest level of cement required and the paddles are constantly rotating during working hours.

Once the cement reaches this high level it stops the paddles which activates an audible klaxon and starts a light flashing on the silo. These audio-visual warnings enable the tanker driver who is positioned alongside the discharge point to immediately stop the blowing process.

ii) **Probe Type**

Exactly as above except that the indication is provided by a sensitive probe suspended above the silo.

The depot at HUNTINGDON utilises the paddle high level indicator.

NOTE: Should the high level indicator or filter fail for any reason there must be some form of release for the pressurised air, therefore a blow off valve is positioned on the silo top and set to operate at a pressure slightly above the blow in pressure. The seating of the blow off valve is manually checked at the start of each day.

1.8.4 Redland Readymix adopt good housekeeping policies by having a written procedure for the batching of ready mixed concrete. This ensures that all of our plant operators are trained to know exactly what they are doing and for what reason, with particular emphasis on start up, shut down and abnormal conditions.

1.8.5 Cladding of Loading Point on three sides ensures that any small release will not become airborne on dry batch plants. This eliminates the need for extraction equipment.

1.8.6 A warning sign is placed at the cement inlet pipes telling the tanker driver not to exceed 15 p.s.i. blowing pressure.

1.8.7 The only possible chances of depositing cement to the atmosphere are through the following means :-

a) blow off valve

b) cement weigh hopper breather pipe

c) entry into the truck mixer on dry batch operation

Whilst item a) is unavoidable the other items are or will be overcome (where necessary) as follows :-

b) The usual procedure is to let the displaced cement/air escape to the surrounding area from the weigh hopper via a breather pipe. Redland Readymix will couple this essential breather pipe to a small filter arrangement if it is found that cement is entering the environment above the visibility threshold. The system does not normally cause concern.

c) As the materials are ribbon fed into the truck mixer barrel on dry batch operations there is occasionally a small escape of cement due to the displacement of air. This small release will be contained if it is found to be over the visibility threshold. On wet batch operations there is no possibility of cement dust entering the atmosphere as all materials are fully mixed before discharge.

Under normal operating conditions Redland Readymix would not expect to exceed the visibility threshold for cement dust at any one time. To overcome equipment failure Redland Readymix keep a stock of essential spares and consumables.

Should a prescribed substance be released due to a system failure, then Redland Readymix would undertake the following procedure :-

i) Site Foreman would stop the release as soon as he was made aware, by whatever practical means.

ii) Any local release would then be immediately collected using a vacuum cleaner type arrangement thus rendering it harmless.

iii) Any release that affected our neighbours would be rendered harmless at either Redland or Cement Company's expense depending upon the point of release.

1.9 PROPOSALS FOR MONITORING ANY RELEASE OF PRESCRIBED SUBSTANCES

1.9.1 Any releases will be recorded in a log book using the format shown overleaf.

This system will enable us to keep a permanent record which can only lead to defective units being replaced earlier.

The log book will be retained for a minimum period of 4 years and will be available for inspection by the Local Authority.

CEMENT DUST RELEASE RECORD

Date of Release.....Time of Release.....

Approximate Quantity (tonnes).....Cement Type.....

Weather Conditions.....

Cause of Release.....

.....

.....

.....

Damage Caused.....

.....

Remedy/Action Taken.....

.....

.....

.....

.....

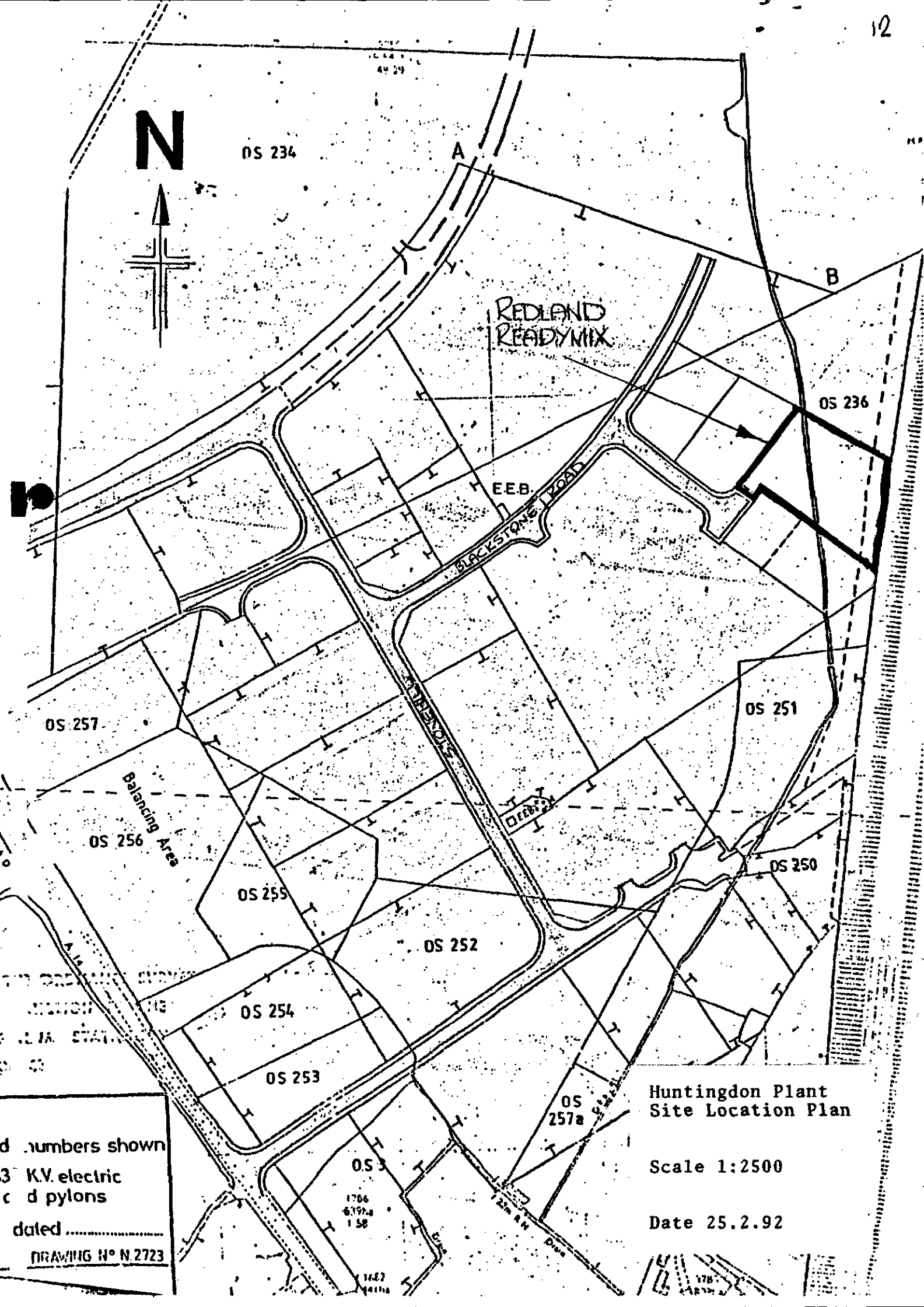
Signed.....Job Title.....

Complaints Received.....

.....

.....

.....


N
OS 234
A
B
REDLAND READYMIX
OS 236
E.E.B.
BLACKSTONE ROAD
OS 257
OS 251
Balancing Area
OS 256
OS 255
OS 252
OS 250
OS 254
OS 253
OS 257a
d numbers shown
3 K.V. electric
c d pylons
dated .....
DRAWING N° N.2723
Huntingdon Plant
Site Location Plan
Scale 1:2500
Date 25.2.92