COVENTRY CITY COUNCIL

ENVIRONMENTAL PROTECTION ACT 1990, SECTIONS 8(8), 12

NOTICE OF REVOCATION

90

To: Covrad Heat Transfer Ltd
Sir Henry Parkes Road
Canley
COVENTRY
CV5 6BN

Coventry City Council ("the Council"), in exercise of the powers conferred on it by section 8(8), 12 of the Environmental Protection Act ("the Act"), hereby gives you notice as follows:

1. The authorisation reference 090 is hereby revoked with effect from 2nd September 2003.

Signed on behalf of Coventry City Council

[redacted]

Head of Environmental Health
The officer appointed for that purpose

Date: 5th August 2003

G/wp/epa/st/authrevoke

CERTIFICATE OF SERVICE BY POST

(Magistrates Courts Rules 1986) Rule 55(2)

I [redacted] a Clerical Assistant employed by Coventry City Council, hereby certify that I served Company Secretary with a true copy of this notice by the first class delivery service posted by me at the Post Office situated at 21 Hertford Street Coventry at 6 ~~am/pm~~ on 7 August 2003 and addressed to Conrad Heat 5-5 Henry Park Road being his/her last known residence/the company's registered office/place of business

Dated the 7 August day of 2003

Signed: [redacted]

ENVIRONMENTAL PROTECTION ACT 1990 section 11(8)

NOTICE OF [VARIATION]
CONDITIONS OF AUTHORISATION

To **The Company Secretary**

Of **Covrad Heat Transfer Ltd, Sir Henry Parkes Road**
Canley, Coventry, CV6 5BN

With reference to your application for the variation of the conditions attached to the authorisation, granted to you by **Coventry City Council** on the 19th day of **July 1996** under the reference number **090** in respect of the premises known as

Covrad Heat Transfer Ltd, Sir Henry Parkes Road, Canley, Coventry, CV6 5BN

The Council on the 20th day of February 2001 decided that the conditions of the authorisation should be varied as follows*:

1. In clause 1.3 the words "numbered 3" shall be deleted and replaced by the words "numbered 4".

2. In clause 1.4 the words "numbered 3" shall be deleted and replaced by the words "numbered 4".

3. After clause 1.4 insert new clause 1.4.1 "The degreasing and cleaning of metal components using alkaline cleaning agent 'Armaclens FS'".

(PLEASE SEE ATTACHED)

The date on which the variation is to take effect are †

1. Immediately
2. Immediately
3. Immediately

continued overleaf

Delete any words in square brackets which do not apply

* Specify the variation(s) to the authorisation.

† Specify the effective dates for each variation.

~~[YOU ARE REQUIRED, within a period of ____ from the date of service on you of this Notice, to notify the Council of the action (if any) which you propose to take to ensure that the process is carried on in accordance with the authorisation as varied by this Notice.]~~

Dated 11 FEB 2002

(Signed).....[redacted]

Designation).....Environmental Health Officer

the Officer appointed for this purpose)

Address for all communications:

Environmental Services Directorate
Broadgate House
Broadgate
COVENTRY
CV1 1NH

CERTIFICATE OF SERVICE

I, [redacted] being employed as an ENVIRONMENTAL HEALTH OFFICER in the City Development Directorate of Coventry City Council hereby certify that the Notice of which this is a copy was served/delivered by me to COVRAD HEAT TRANSFER LIMITED of SIR HENRY PARKES ROAD, Coventry on 12 FEB 2002

Signed [redacted]

Delete any words in square brackets which do not apply

NOTE

You have a right of appeal against this Notice to the Planning Inspectorate. If you wish to appeal you must do so in writing within a period of [~~six months beginning with the date of the Council's decision~~]† [two months beginning with the date of this Notice]. You must set out the grounds for your appeal and send to the Planning Inspectorate a copy of this Notice, together with copies of all relevant documents and correspondence. You should also indicate whether you wish the appeal to be dealt with at a hearing or on the basis of written representations. A copy of your Notice of Appeal must also be sent to the Council.

** "Substantial change" is defined in Section 10(7) of the Environmental Protection Act 1990 as "a substantial change in the substances released from the process or in the amount or any other characteristic of any substance so released"; and the Secretary of State may give directions to enforcing authorities as to what does or does not constitute a substantial change in relation to processes generally, any description of process or any particular process.

† In the case of a refusal of an application under Section 11.

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 VARIATION OF CONDITIONS of Authorisation

under section 11 [(3)(b)] [(4)(b)] [(5)] [(6)] of the Environmental Protection Act 1990 *(Cross out any words in square brackets which do not apply.)*

To(1) COVENTRY CITY Council

1 Name and address (2) *(in the case of a registered Company, name, number and registered office)*
CONRAD HEAT TRANSFER LTD
SIR HENRY PARKES ROAD
CANLEY, COVENTRY
Tel.No. 02476 675544

2 Name and address of premises where process is or will be carried on *(not applicable to mobile processes)*
AS ABOVE
Tel.No. 02476 675544

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 this notification
AS ABOVE

Contact name R HOLMES / A. PARTRIDGE Tel.No. 02476 675544

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

TITLE	Reference No.
STOCKS BRIGHT DIP LAYOUT	HTL 030

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.

6 Describe the proposed change(s) to the prescribed process (3) *(use a continuation sheet if necessary)*

① ADDITION OF AN ALKALI SCRUBBER TO THE EXTRACTION SYSTEM FROM THE BRIGHT DIPPING PLANT

② INCLUSION OF A CHEMICAL CLEAN + WATER RINSE STAGE IN THE BRIGHT DIP PROCESS.

7 When was the plant first installed?

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

FIRST INSTALLED PRIOR TO 1960

MODIFIED - TANKS + EXTRACTION SYSTEM REPLACED AUGUST 1998.

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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 proposed change.

NOx FUME EMITTED FROM THE ACID DIP STAGE WILL BE ABATED BY THE PROPOSED CHANGES.

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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. *(use a continuation sheet if necessary and attach drawings of plant and equipment, where appropriate)*

NOx FUME GIVEN OFF AS A RESULT OF BRIGHT DIPPING BRASS PRODUCTS WILL BE DRAWN INTO THE EXTRACTION DUCT AND THEN INTO THE ALKALI SCRUBBER. IN THE SCRUBBER PLENUM, AN ALKALINE MIST WILL BE SPRAYED INTO THE EXTRACT AIR TO NEUTRALISE AND RENDER HARMLESS THE FUME THE PH VALUE OF THE SCRUBBER LIQUOR WILL BE MONITORED TO DETERMINE THE POINT AT WHICH A CHANGE OF SOLUTION IS NECESSARY.

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

SUBJECT TO STACK MONITORING.

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

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

STACK MONITORING OF NOx EMISSIONS BY ENVIRONMENTAL CONSULTANTS POST INTRODUCTION OF THE CHANGE, THEN ANNUALLY. (PROTOCOL SUBMITTED)

WEEKLY OLFACTORY + VISUAL CHECK OF STACKS FROM PROCESS BOUNDARY + ROOF.

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

NO CHANGE

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

(1) CONTINUOUS MONITORING OF PH VALVE OF SCRUBBER LIQUOR WITH ALARMS TO WARN WHEN LIQUOR EXCEEDS LIMITS
(2) WEEKLY CHECKS OF OLFACTORY + VISUAL + AIRFLOW
(3) CONTROL OF PIT VALVE OF SCRUBBER LIQUOR
(4) ANNUAL INDEPENDANT CHECKS BY ENVIRONMENTAL CONSULTANTS

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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.(3)

BATNEEC PRINCIPLES WILL BE APPLIED TO FUTURE ENVIRONMENTAL IMPROVEMENT PROJECTS

PREVENTIVE MAINTENANCE INSPECTIONS AND CHECKS WILL BE CARRIED OUT TO DETERMINE COMPLIANCE WITH GUIDANCE LIMITS

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

ONGOING INVESTIGATIONS INTO PROCESS FEED WHICH FEED THE BRIGHT DIP SYSTEM TO PREVENT INTERSTATE ANNEALING OF TANKS AND THEREFORE REDUCE THE NEED FOR DIPPING.

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17 (Where appropriate) set out any changes in any information already supplied to the Council and give any other additional information which you would like to be taken into account by the local authority in considering your proposed change. *(use a continuation sheet if necessary)*

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.

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.

[Further to the Council's Notice of Determination dated 19]
I apply to the Council to vary the conditions of the authorisation granted to me by the Council on the 19 , under reference as follows(5) *(use a continuation sheet if necessary)*

INTRODUCE IN SECTION 1

THE DEGREASING AND CLEANING OF METAL COMPONENTS USING ALKALINE CLEANING AGENT "ARMACLENS FS"

INTRODUCE IN SECTION 2

ALL EMISSIONS TO AIR FROM THE NITRIC ACID EXTRACTION SYSTEM SHALL BE NEUTRALISED USING AN ALKALINE FUME SCRUBBER.

I enclose the fee of £ (6).

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

Signature [redacted]

Official title ENVIRONMENTAL ENGINEERING MANAGER

Date 21-12-00

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

Tel.No.

NOTES

1 This is the local authority in whose area the prescribed process is or 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 is operating or will operate the process, **not** an agent who may be completing the application on the operator's behalf.

3 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.

4 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.

5. Set out the variations which you wish the Council to make.

6 Please enquire of the Council as to the correct fee payable.

ENVIRONMENTAL PROTECTION ACT 1990 section 10

NOTICE OF VARIATION OF AUTHORISATION

City of Coventry

To **Covrad Heat Transfer Ltd**

Of **Sir Henry Parkes Road, Canley, Coventry, CV6 5BN**

The **Coventry City Council**
(the Authority) has decided that the authorisation to carry out a prescribed process, namely:

Surface treatment of metals

at the premises known as **Covrad Heat Transfer Limited, Sir Henry Parkes Road, Canley, Coventry, CV6 5BN**

granted to you by the Council on the **19th** day of **July 1996** under the reference number **090** should be varied in the following manner*

1. In clause 1.2, 1.3, 1.4, 1.5, 1.6, 1.7 and 1.8 the words "Armatone CD" shall be replaced with the words "Armatone CB".

2. In clause 2.1 after the words "mist and fume" shall be added the words "All emissions to air should be free from droplets in excess of 20 μm aerodynamic diameter".

3. After clause 2.2 shall be inserted the following paragraph:

   "All pollutant concentrations should be expressed at reference conditions 273k, 101.3kPa, without correction for water vapour content".

4. After clause 2.3 shall be inserted the following paragraph:

   "2.4 The concentration of pollutants in any emission to the air expressed as a one hour mean emission concentration should not exceed the following
   oxides of nitrogen (expressed as nitrogen dioxide equivalent) 400 mg/m^3"

(PLEASE SEE ATTACHED)

The date(s) on which the variation(s) are to take effect are†

1.	Immediately	4.	Immediately
2.	Immediately	5.	Immediately
3.	Immediately	6.	Immediately

continued overleaf

Delete any words in square brackets which do not apply

* Specify the variation(s) to the authorisation.

† Specify the effective dates for each variation.

YOU ARE REQUIRED, within a period of **28 days** from the date of service on you of this Notice, to notify the Authority of the action (if any) which you propose to take to ensure that the process is carried on in accordance with the authorisation as varied by this Notice.

Dated

11 December 1998

(Signed) [redacted]

(Designation) DIRECTOR OF HOUSING AND ENVIRONMENTAL SERVICES
(the Officer appointed for this purpose)

Address for all communications:

Housing and Environmental Services Directorate
Broadgate House
Broadgate
COVENTRY
CV1 1NH

Delete any words in square brackets which do not apply

NOTE

You have a right of appeal against this Notice to the Secretary of State for [the Environment] [Wales]. If you wish to appeal you must do so in writing within a period of two months beginning with the date of this Notice. You must set out the grounds for your appeal and send to the Secretary of State a copy of this Notice, together with copies of all relevant documents and correspondence. You should also indicate whether you wish the appeal to be dealt with at a hearing or on the basis of written representations. A copy of your Notice of Appeal must also be sent to the Council.

** "Substantial change" is defined in Section 10(7) of the Environmental Protection Act 1990 as "a substantial change in the substances released from the process or in the amount or any other characteristic of any substance so released"; and the Secretary of State may give directions to enforcing authorities as to what does or does not constitute a substantial change in relation to processes generally, any description of process or any particular process.

5. After the clause 2.4 shall be inserted the following paragraph:

"2.5 The introduction of dilution air to achieve the emission concentration limits in this Authorisation should not be permitted".

6. Clause 7.1 shall be deleted.

epa/covradvar2

CERTIFICATE OF SERVICE BY HAND

I, ..[redacted]............. being employed as a Environmental Health Technician.. in the Housing and Envronmental Services Directorate of Coventry City Council hereby certify that the Notice of which this is a copy was served/delivered by me to .Rick Spear............ of Council Meat Transfer, Sir Henry Parkes Road......., Coventry, on 11 December 19.98.......

Signed [redacted]

COVRAD HEAT TRANSFER LTD

ENVIRONMENTAL PROTECTION ACT 1990, SECTION 6

IMPROVEMENT SCHEDULE

CONTENTS

1. Introduction

The following report describes the bright dip process for metal finishing as used at Covrad Heat Transfer Ltd. and outlines the improvements made to date and the changes required to minimise both air-borne and water-borne contamination.

The bright dip process is a long established metal finishing technique for removing surface contamination from brass and copper components. The process is widely used for preparing products as diverse as plumbing fittings and jewellery.

At Covrad Heat Transfer Ltd. The process is used to remove press lubricants, oxide films and wax or grease deposits from deep drawn brass tank bodies and copper pipes. The cleaning operations are necessary to ensure that the solder joints used in the construction of our products have optimum strength and integrity

2. Process description

Components to be cleaned are immersed into firstly a vat of used nitric acid then a vat of clean nitric acid which contains surfactants to improve the metal condition. The chemicals are used at a nominal strength of 40%. At this strength a vigorous pickling action takes place on the brass and copper. The action would typically take 30 seconds to achieve acceptable results.

After the components are removed from the acid they are rinsed twice and dried before being passed to the radiator assembly stages.

The process produces both water-borne and air-borne bye products. Some nitrous oxide is formed as the acid attacks the metal surfaces. This is extracted to atmosphere via a extraction duct at the rear of the plant. Rinse water gradually becomes contaminated with acidic waste due to 'drag out' entering the rinse stages on the surface of components. The rinse water and spent acid is passed to an effluent plant for disposal.

3. Effluent Treatment

Acidic waste water becomes loaded with metal salts as rinsing takes place. This is treated by adding a metered quantity of caustic soda liquor in a treatment pit until a pH level of around 9.2 is reached. At this point the treated waste is pumped into settlement tanks. At this pH level salts of copper and zinc form a precipitate which falls to the base of the tanks. The resulting clarified liquor is passed for further settlement, filtration and finally to the foul sewer.

Discharges from the effluent plant are authorised and monitored by Severn Trent Water Authority.

4. Process Improvements

Many Trials have been carried out with alternative lubricants and cleaning processes which are less aggressive. To date no other process has been able to contend with the worst contamination. For this reason our efforts to date have been concentrated on reducing the use of the process.

Appendix 1 shows the usage of Armatone CB acid based on receipts through 1997. At the time our authorisation was granted the annual usage was based on 13000 litres. The 1997 level of 8880 litres base on receipts, represents a reduction of greater than 31% in the used of bright dipping acid.

The company is currently evaluating an alternative pre-treatment for removing some of the grease and wax deposits, thereby minimising the future use of dipping acid. The overall quantity of acid used is unlikely to be significantly reduced however.

Other planned improvements include the re-use of water discharged from the effluent plant as part of the rinse water supply. A reduction of up to 30% in the water consumption is envisaged.

Appendix 1

BRIGHT DIP ACID RECEIPTS

MONTH	1997
	QTY
JANUARY	0
FEBRUARY	1200
MARCH	1600
APRIL	0
MAY	800
JUNE	1600
JULY	0
AUGUST	800
SEPTEMBER	400
OCTOBER	1200
NOVEMBER	1200
DECEMBER	0
	8800

Your reference :
Our reference :
Please ask for :
Direct Dialling No :
Date :

City of Coventry

HOUSING AND ENVIRONMENTAL SERVICES DIRECTORATE
Director Howard T. Farrand
Providing Housing, Environmental and Client Agency Services
Michael J. Green
City Environment Officer
Broadgate House
Broadgate
Coventry. CV1 1NH
Telephone : 01203 83 1832/34
Telecom Gold Mailbox : 76 : END042
Fax : 01203 83 1831

THE ENVIRONMENTAL PROTECTION ACT 1990

The Environmental Protection (Prescribed Processes and Substances) Regulations 1991, SI 472.

The Environmental Protection (Application, Appeals and Registers) Regulations 1991, SI 507.

Authorisation No: 090
Application Received: 1st March 1996

Notice is hereby given that under the Environmental Protection Act 1990 Coventry City Council (hereafter called the Authority) gives authorisation to:

Covrad Heat Transfer Ltd
Sir Henry Parkes Road
Canley
Coventry
CV6 5BN

Register in England No: 714170

For the surface treatment of metals as described on page 2 at:

Covrad Heat Transfer Ltd
Sir Henry Parkes Road
Canley
Coventry
CV6 5BN

Subject to the conditions specified on the attached pages, Nos 1 to 4, and within the process boundary as indicated on Plan No. 2.

Signed [redacted] Dated 19th day of July 1996
City Environment Officer

1. DESCRIPTION OF PROCESS

1.1 This authorisation is for the bright dipping of metal process, as described in the Environmental Protection (Prescribed Processes and Substances) Regulations 1991, SI472, Section 6.5 Part B paragraph (a) within the process boundaries outlined in red on the attached Plan numbered 2 and specifically relates to the processes outlined below.

1.2 The delivery and storage of the Bright Dip Acid, Armatone CD in 25 litre containers, in the chemical storage area as shown on Plan numbered 2.

1.3 The transfer of fresh Bright Dip Acid, Armatone CD manually by pouring into dipping tank C as shown on Plan numbered 3.

1.4 The transfer of spent Bright Dip Acid, Armatone CD after 24 hours use into dipping tank A as shown on Plan numbered 3.

1.5 The immersion of metal components in the spent Bright Dip Acid, Armatone CD in dipping tank A for up to 1 minute followed by a cold water rinse.

1.6 The immersion of metal components in the fresh Bright Dip Acid, Armatone CD in dipping tank C for up to 1 minute followed by a cold and hot water rinse.

1.7 The transfer of waste Bright Dip Acid, Armatone CD to the chemical dump tank as shown on Plan numbered 3 using a chemical transfer pump.

1.8 The neutralisation of the waste Bright Dip Acid, Armatone CD using sodium hydroxide.

1.9 Any change to the above description must not take place without prior consent from this authority.

2. EMISSION LIMITS AND CONTROLS

2.1 All emissions to air from the nitric acid extraction unit other than steam or water vapour shall be colourless and free from persistent mist and fume.

2.2 All emissions to air shall be free from offensive odour outside the process boundary, as perceived by the Local Authority Inspector.

3. MONITORING SAMPLING AND MEASUREMENT OF EMISSIONS

3.1 A visual and olfactory assessment of emissions shall be carried out at least once a day from positions where accessible around the process boundary.

3.2 The results of monitoring to comply with Clause 3.1 shall be recorded in a log book. This shall include the date, time and wind direction, the name of the observer and an assessment of the emissions, in addition to the position of the observer if odour is detected. This log book shall be retained, on site, for a minimum of four years.

3.3 Any adverse results from the monitoring required in 3.1 shall be followed up immediately by the investigation of the cause of the emission and any corrective action taken, with this also being recorded in the log book.

4. OPERATIONAL PRACTICE

4.1 Dipping of metal components in the nitric acid tanks shall only take place while the extraction unit is in operation and in proper working order.

4.2 Emissions from the tanks containing nitric acid shall be contained and vented via the hood extraction system.

5. CHIMNEYS, VENTS AND PROCESS EXHAUSTS

5.1 The height of the final discharge point shall be 3m above the roof ridge.

5.2 The stack from the nitric acid tanks shall not be fitted with any restrictions at the final opening and shall discharge vertically.

6. GENERAL OPERATIONS

6.1 Any mechanical malfunction or spillage of material shall be attended to and remedied as soon as possible. Any incident likely to give rise to atmospheric emissions shall be noted in detail in the process log book as described in 3.2.

6.2 Any incidents likely to give rise to emissions which may have any impact on neighbouring residents shall be reported immediately to this Authority.

6.3 A copy of this authorisation shall be displayed so it can be conveniently read by persons having duties which are or maybe affected by this authorisation.

6.4 The operator shall supply, to this Authority, on demand and without charge, a copy of all or part of the monitoring records kept in accordance with this authorisation.

7. UPGRADING OF THE PROCESS

7.1 No later than twelve months from the date of this authorisation, a programme for upgrading the process shall be submitted to this Authority. The upgrading programme shall have regard to the Secretary of State's Guidance:

Processes for the surface treatment of metals PG4/1(95)

SUPPLEMENTARY NOTES

THESE NOTES ARE NOT PART OF THE AUTHORISATION

1. Your attention is drawn to your obligation under Section 7(2) of the Environmental Protection Act 1990 to ensure that the best available techniques, not entailing excessive cost (BATNEEC) for:

   A) preventing the release of prescribed substances into the air or where that is not practicable by such means, for reducing the release into the air of such substances to the minimum and for rendering harmless any such substances that are so released

   and

   B) for rendering harmless any other substances which might cause harm if released into the air.

2. The authority for contact purposes should be taken to mean the head of the Environmental Protection Section, Tel 831810 during office hours, 832222 outside office hours.

ISS	MODIFICATION

① Chemical Dump Tank

② Component Stillages

③ Buffer Storage (Acid)

④ Extraction Unit

⑤ Extraction Flue

⑥ Effluent Plant

⑦ Drainage to Effluent Pit

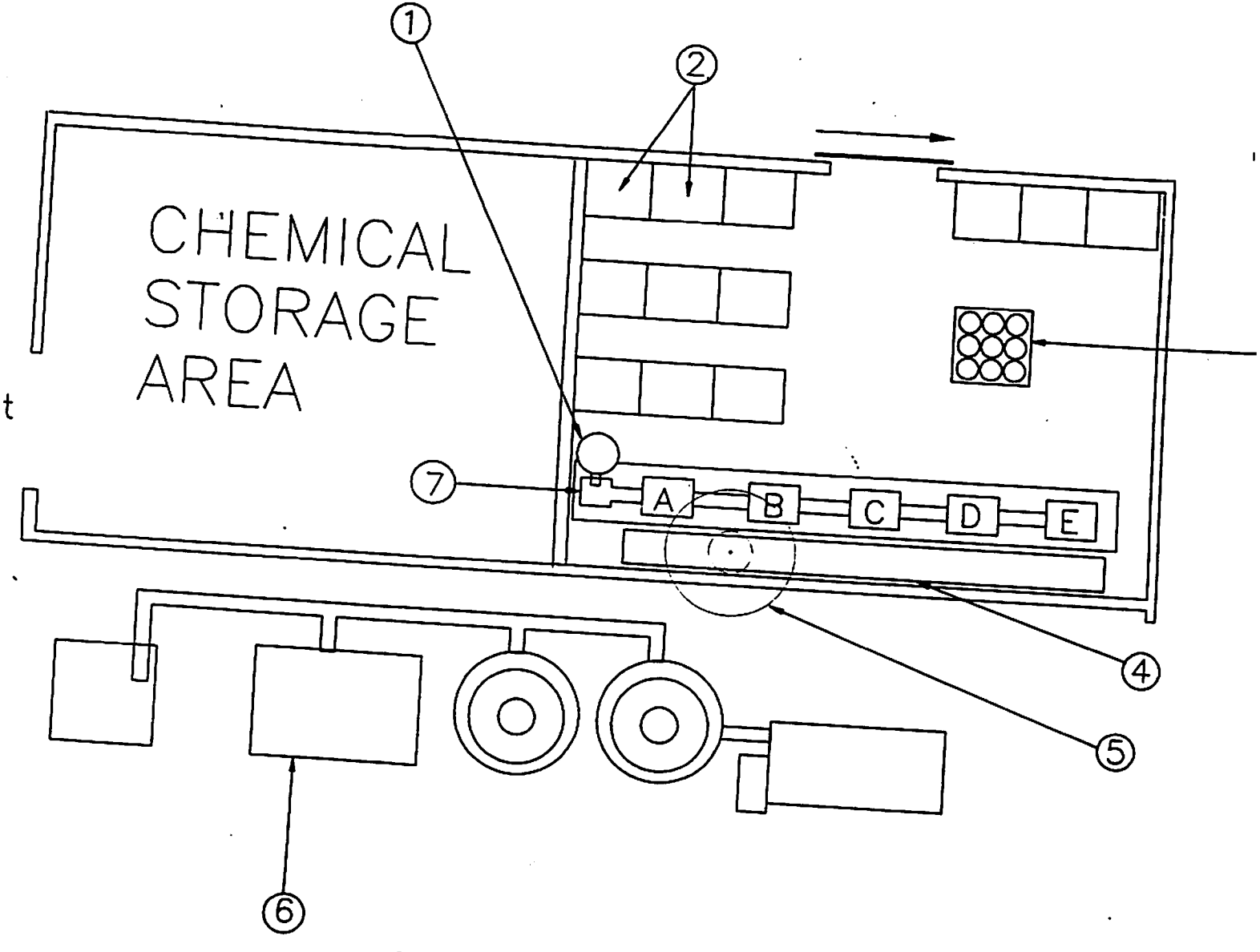
A) Spent Bright Dip Acid

B) Cold Water Rinse

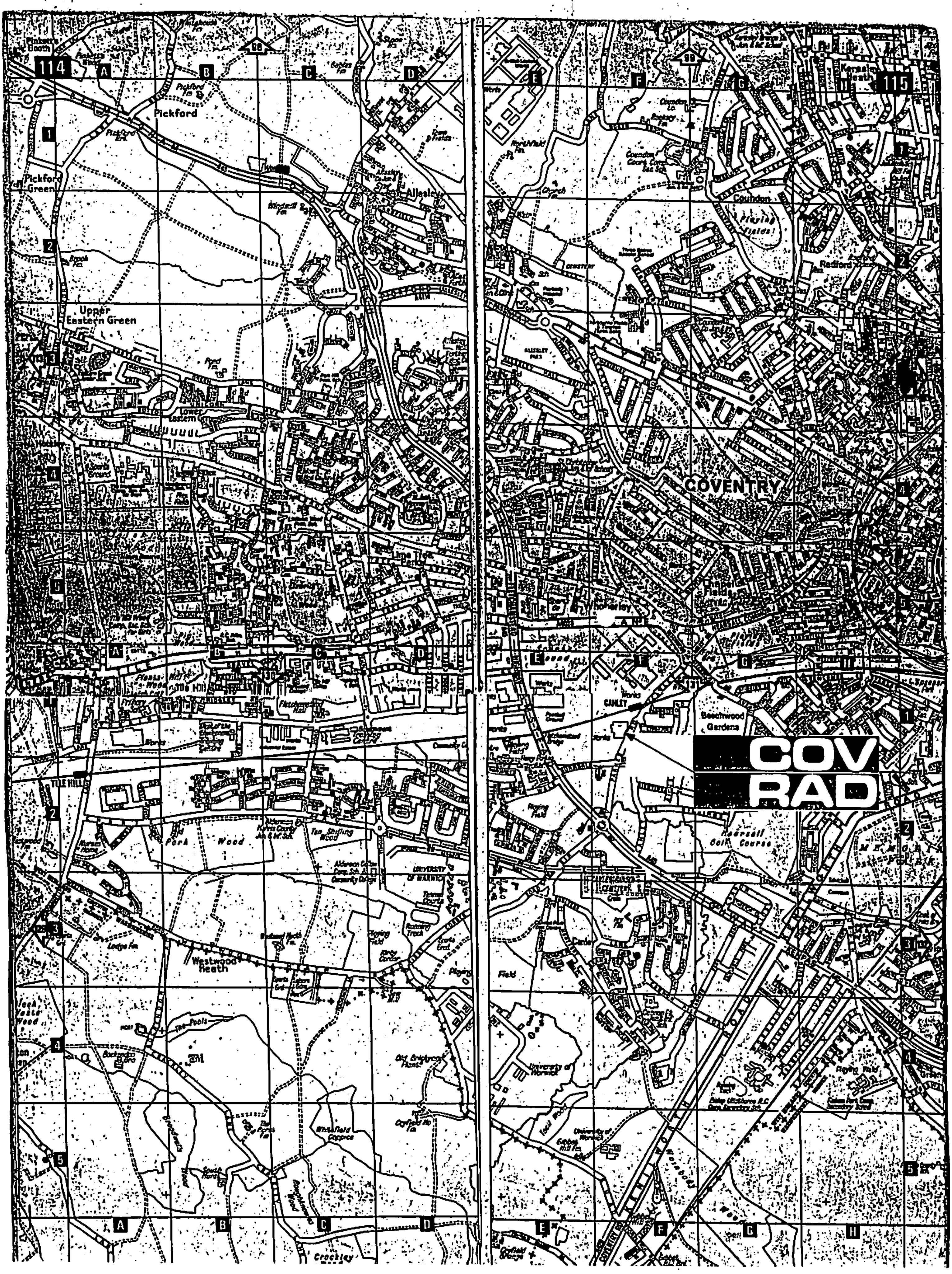
C) Fresh Bright Dip Acid

D) Cold Water Rinse

E) Hot Water Rinse



TOLERANCES TO HTE/CTS/M/091	FINISH		TITLE BRIGHT DIP AREA LAYOUT
MATERIAL	WEIGHT		
COV COVRAD HEAT TRANSFER SIR HENRY PARKES ROAD	COPYRIGHT	DATE 28/11/94	DRAWN SHEET No ISSUE


114
115
Pickford
Pickford Green
Upper Eastern Green
Allesley
Coundon
Radford
COVENTRY
Canley
Beechwood Gardens
COV RAD
Westwood Heath
Crackley
Tile Hill

3. Immerse components into cold water rinse tank for no less than 30 seconds.

4. Immerse components into "fresh" Armatone CB for up to 1 minute.

5. Remove and drain acid.

6. Immerse components into cold water rinse tank for no less than 30 seconds.

7. Immerse components into hot water rinse tank for not less than 2 minutes.

8. Remove and blow dry components using compressed air.

9. load into stillage.

Maintenance

1. Spent Armatone CB is to be transfered to the chemical dump tank after 24 hours of use.

2. Sludge, scale and remaining acid residues are to be transfered to the chemical dump tank.

3. Acid used as "fresh" Armatone CB is to be transfered to the tank for "spent" Armatone CB after 24 hours of use.

4. Sludge, scale and remaining acid residues are to be transfered to the chemical dump tank.

5. "Fresh" Armatone CB is to be used to fill tank no. 3 to the required level.

6. Hot water (tank no 5) is to be drained, washed out and replenished with fresh water once per week or when a pH value of less than 5 is indicated.

Process Controls

Acidity of rinse water is automatically monitored.

Process chemicals to be monitored in accordance with quality procedure QP-30

REV	DATE	DETAIL	REV	DATE	DETAIL
A	12-9-92	ISSUED ERD17989	C	23-12-93	REVISED ERD18643
B	7-5-93	PP004 WAS PL004 ERD18146			

Approved for Issue [redacted]

(5)

ARMACK PRODUCT INFORMATION

ARMATONE "CB"
Bright Dipping Acid

INTRODUCTION.

ARMATONE "CB" has been formulated as a **Bright Dipping Acid** for Brass and Copper alloys, being suitable for use both on manual and/or automatic plant. It has many advantages over commonly used processes such as Aquafortis or strong chromate solutions.

The process, has a slower, more even action than Aquafortis; does not generate the same amount of heat or fumes, and therefore removes less metal. These factors when added up result in significantly less acid being consumed, sometimes by a factor of 50%.

ARMATONE "CB" also eliminates other costly problems associated with Aquafortis such as Copper Sulphate crystal formation and Lead Sulphate pink stains. The specific gravity of **ARMATONE "CB"** is lower than Aquafortis, thus 'drag out' is much lower and effluent costs reduced dramatically. On a direct comparison against the Aquafortis type processes, the effluent treatment cost of **ARMATONE "CB"** is in the order of 40-50% lower. Against the Chromate types, the saving can be in the order of 100 to 150% lower.

PRODUCT USE.

ARMATONE "CB" can be used for a variety of production requirements, such as;-

1. Graphite removal and final finishing of hot stamped Brass and/or Copper components.
2. As a pre-electroplate process on Brass and Copper components, thereby eliminating or reducing polishing costs.
3. As a final finish process on decorative Brass and Copper components; in most cases in this category, **ARMATONE "CB"** would be followed by Chromate Passivation or lacquering.
4. As a means of surface finish improvement on Aluminium stampings. On some alloys, the use of an alkaline precleaning process is beneficial.

Immersion times vary from 15 - 30 seconds and the process operates at maximum efficiency at temperatures in the order of 25 - 30 degrees C. Overloading the acid bath, thereby increasing the temperature, will cause a progressively increased rate of metal removal and will shorten the life of the acid.

RECOMMENDED EQUIPMENT.

Plastic or Stainless Steel (EN58J - EN58B) tanks.
Stainless Steel Heaters (where required).
Stainless Steel Cooling Coils (where required).
Polypropylene or Stainless Steel dipping baskets.
Fume scrubbing and effluent treatment is recommended.

Continued overleaf.

UNIT 6 (NEWBOULD WORKS) LYE VALLEY INDUSTRIAL ESTATE, BROMLEY STREET, LYE
WEST MIDLANDS DY9 8JA TEL: LYE (0384).897531 FAX: 0384 892448
Registered in England No. 1236728

(4)

COV RAD	HEAT TRANSFER DIVISION PROCESS PLAN	PP-004 Page 1 of 2

BRIGHT DIPPING

Equipment

Polypropylene chemical tanks
Polyprolylene water tanks fitted with conductivity sensors.
Galvanised hot water tank fitted with immersion heater.
compressed air line and blow gun.
Stainless steel or polypropylene dipping basket
Component hangers
Fume extractor
Chemical transfer pump
Indicator papers

Safety equipment

Safety visor
Rubber boots
Rubber apron
Rubber gloves
Overalls

Process Chemicals

Armatone CB bright dipping acid

Process Conditions

Use at room temperature
acidity of hot water tank must not fall below 5pH.
temperature of hot water tank to be thermostatically controlled to between 60-65°.

Procedure

1. Load components to be treated into basket or onto hanger.
   Immerse into "spent" Armatone CB solution for up-to 1 minute.

2. Remove and drain acid.

REV	DATE	DETAIL	REV	DATE	DETAIL
A	12-9-92	ISSUED ERD17989	C	23-12-93	REVISED ERD18643
B	7-5-93	PP004 WAS PL004 ERD18146			
	Approved for Issue				

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HEAT TRANSFER

COVRAD

COVRAD HEAT TRANSFER LIMITED
SIR HENRY PARKES ROAD,
CANLEY, COVENTRY CV5 6BN.
ENGLAND
TEL: (01203) 675544. TELEX: 31549
FAX: (01203) 676029

YOUR REF: EH/EP/BAM

OUR REF: CCCBDIP.01

Ms S Bodycote
Coventry City Council
Environment Office
Broadgate House
Broadgate
Coventry
CV1 1NH

13 February 1996

Dear Ms Bodycote

APPLICATION FOR AUTHORISATION UNDER SECTION 6 OF THE ENVIRONMENTAL PROTECTION ACT 1990

Please find enclosed in this application a cheque for £990.00 and the following information:

1. A map showing the location of the premises where the process is carried out in relation to Coventry City Centre.
2. A diagram of the premises showing the location of the Bright Dip area within the factory.
3. A layout diagram of the Bright Dip area showing equipment, drainage, extraction etc.
4. A copy of Covrad Heat Transfer's Process Plan for Bright Dipping of components.
5. A safety data sheet for the Bright Dip Acid.
6. A description of the transportation of materials within the site boundary.
7. The handling of waste products from the Bright Dip Process.
8. Type and frequency of inspections to plant involved in the process.

If you require any further information please do not hesitate to contact me.

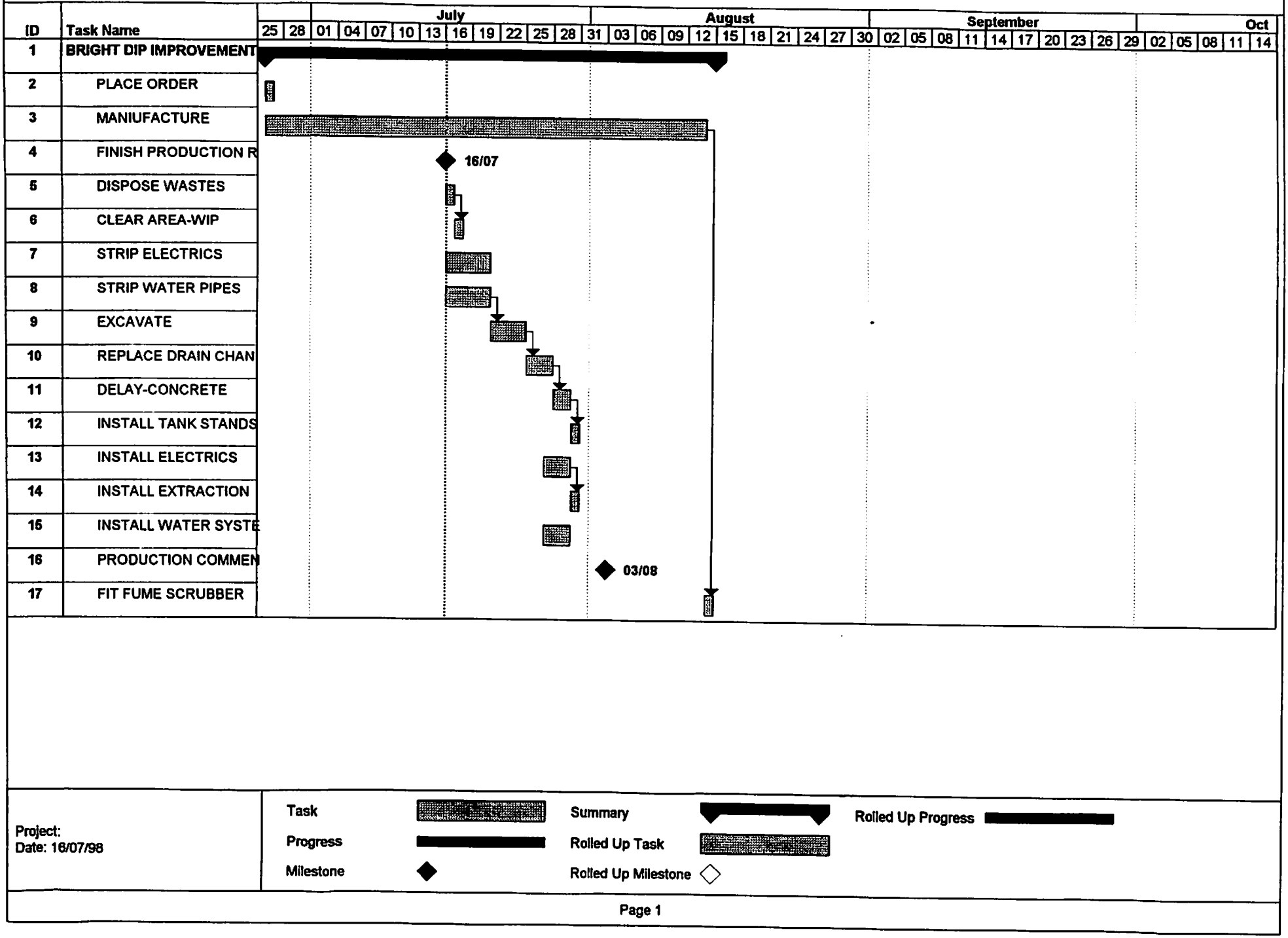
Yours sincerely

[redacted]

J M Blaze
Manufacturing Engineer

AMPS

BRIGHT DIP IMPROVEMENT



Project:
Date: 16/07/98

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress