Department of Environmental Affairs and Development Planning
Rondine Isaacs
Directorate: Development Management, Region 1
Rondine.Isaacs@westerncape.gov.za | Tel: 021 483 4098

REFERENCE: 16/3/3/1/A8/49/3039/22
NEAS REFERENCE: WCP/EIA/0001128/2022
DATE OF ISSUE: 24 January 2023

The Board of Directors
SA Metals Group (Pty) Ltd.
P.O. Box 373
EPPING INDUSTRIA
7475

Attention: Mr. Peter Lumley

E-mail: Peter@sasteelworks.co.za

Dear Sir

APPLICATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) ("NEMA") AND THE ENVIRONMENTAL IMPACT ASSESSMENT ("EIA") REGULATIONS, 2014 (AS AMENDED): PROPOSED EXPANSION OF THE EXISTING METAL RECYCLING PLANT ON ERVEN 101707 AND 116841, EPPING INDUSTRIA.

1. With reference to the above application, the competent authority hereby notifies you of its decision to **grant** Environmental Authorisation, attached herewith, together with the reasons for the decision.

2. In terms of Regulation 4 of the EIA Regulations, 2014 (as amended), you are instructed to ensure, within 14 days of the date of the Environmental Authorisation, that all registered interested and affected parties are provided with access to and reasons for the decision, and that all registered interested and affected parties are notified of their right to appeal.

3. Your attention is drawn to Chapter 2 of the Appeal Regulations, 2014 (as amended), which prescribes the procedure to be followed in the event of appeals being lodged. This procedure is summarised in the attached Environmental Authorisation.

Yours faithfully

Zaahir Toefy
Digitally signed by Zaahir Toefy
Date: 2023.01.24 09:41:17 +02'00'

MR. ZAAHIR TOEFY
DIRECTOR: DEVELOPMENT MANAGEMENT (REGION 1)
DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

CC: (1) Ms. Kirstin Otten (Mills and Otten Environmental Consultants (Pty) Ltd.) E-mail: kirstin@millsandotten.co.za
(2) Ms. Maurietta Stewart (City of Cape Town) E-mail: Maurietta.Stewart@capetown.gov.za

Western Cape Government

Department of Environmental Affairs and Development Planning
Rondine Isaacs
Directorate: Development Management, Region 1
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REFERENCE: 16/3/3/1/A8/49/3039/22
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DATE OF ISSUE: 24 January 2023

ENVIRONMENTAL AUTHORISATION

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) ("NEMA") AND THE ENVIRONMENTAL IMPACT ASSESSMENT ("EIA") REGULATIONS, 2014 (AS AMENDED): PROPOSED EXPANSION OF THE EXISTING METAL RECYCLING PLANT ON ERVEN 101707 AND 116841, EPPING INDUSTRIA .

With reference to your application for the abovementioned, find below the outcome with respect to this application.

DECISION

By virtue of the powers conferred on it by the NEMA and the EIA Regulations, 2014 (as amended), the competent authority herewith grants Environmental Authorisation to the applicant to undertake the list of activities specified in Section B below with respect to the preferred alternative as included in the Basic Assessment Report ("BAR") dated September 2022.

The granting of this Environmental Authorisation (hereinafter referred to as the "Environmental Authorisation") is subject to compliance with the conditions set out in Section E below.

A. DETAILS OF THE HOLDER OF THIS ENVIRONMENTAL AUTHORISATION

SA Metals Group (Pty) Ltd.
c/o Mr. Peter Lumley
P.O. Box 373
EPPING INDUSTRIA
7475

Tel.: (021) 380 5800
E-mail: Peter@sasteelworks.co.za

The abovementioned applicant is the holder of this Environmental Authorisation and is hereinafter referred to as "the holder".

B. LIST OF ACTIVITIES AUTHORISED

Listed Activity	Activity/Project Description
Listing Notice 1 of the EIA Regulations, 2014 (as amended): **Activity 34:** "*The expansion of existing facilities or infrastructure for any process or activity where such expansion will result in the need for a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the release of emissions, effluent or pollution, excluding -* *(i) where the facility, infrastructure, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies;* *(ii) the expansion of existing facilities or infrastructure for the treatment of effluent, wastewater, polluted water or sewage where the capacity will be increased by less than 15 000 cubic metres per day; or* *(iii) the expansion is directly related to aquaculture facilities or infrastructure where the wastewater discharge capacity will be increased by 50 cubic meters or less per day*".	The proposed expansion of the existing facility to include a secondary aluminium plant, will require a variation of the existing Atmospheric Emissions License.

The abovementioned list is hereinafter referred to as "the listed activity".

The holder is herein authorised to undertake the following related to the listed activity:

The proposed development entails the expansion of the existing metal recycling plant on Erven 101707 and 116841, Epping Industria. The proposed development will include the following:

- Aluminium melting and casting equipment;
- A hydrocarbon combustion furnace using fuel oil;
- A 70m^3 aboveground fuel oil storage tank; and
- A baghouse which will be located adjacent to the aluminium shed to the east of the building.

The proposed aluminium plant will be housed in an existing building on Erf No. 116841. To improve combustion efficiency of the fuel oil and reduce oxidation, the heat generated by the combustion of fuel oil will be applied indirectly to melt the aluminium. Residual heat from exhaust gasses will be used to pre-heat fuel oil and incoming combustion air, further improving efficiency of the system. Exhaust gas extracted from the melting and casting process will be passed through the baghouse before being released to the atmosphere. An existing storage building of 1300m^2 in size will be expanded to 1700m^2 and will be used to house the aluminium plant.

The proposed development footprint, including associated infrastructure, will be approximately 1700m^2 in size. The existing Atmospheric Emissions License caps the copper processing rate to 7440 tons/year. The processing rate will be increased to 16 500 tons/year.

C. LOCATION AND SITE DESCRIPTION

The listed activity will be undertaken on Erven 101707 and 116841, Epping Industria.

The SG 21-digit codes are:
Erf No. 101707: C01600070010170700000
Erf No. 116841: C01600070011684100000

Co-ordinates:
Latitude: 33° 55' 48.93" S
Longitude: 18° 32' 56.41" E

Refer to Annexure 1: Locality Plan and Annexure 2: Site Plan.

hereinafter referred to as "the site".

D. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

Mills and Otten Environmental Consultants
c/o Ms. Kirstin Otten
P.O. Box 84344
GREENSIDE
2034

Fax: (086) 554 6573
E-mail: kirstin@millsandotten.co.za

E. CONDITIONS OF AUTHORISATION

Scope of authorisation

1. The holder is authorised to undertake the listed activity specified in Section B above in accordance with and restricted to the preferred alternative, described in the BAR dated September 2022 on the site as described in Section C above.

2. Authorisation of the activity is subject to compliance with the conditions set out in this Environmental Authorisation. The holder must ensure compliance with the conditions by any person acting on his/her behalf, including an agent, sub-contractor, employee or any person rendering a service to the holder.

3. The holder must commence with, and conclude, the listed activity within the stipulated validity period which this Environmental Authorisation is granted for, or this Environmental Authorisation shall lapse and a new application for Environmental Authorisation must be submitted to the competent authority.

This Environmental Authorisation is granted for–

(a) A period of five (**5**) years, from the date of issue, during which period the holder must commence with the authorised listed activity; and

(b) A period of five (**5**) years, from the date the holder commenced with an authorised listed activity, during which period the authorised listed activity must be concluded.

4. The activity that has been authorised may only be carried out at the site described in Section C above in terms of the approved Environmental Management Programme ("EMPr").

5. Any changes to, or deviations from the scope of the description set out in Section B and Condition 2 above must be accepted or approved, in writing, by the competent authority before such changes or deviations may be implemented. In assessing whether to grant such acceptance/approval or not, the competent authority may request such information to evaluate the significance and impacts of such changes or deviations, and it may be necessary for the holder to apply for further authorisation in terms of the applicable legislation.

Notification of authorisation and right to appeal

6. The holder of the authorisation must in writing, within 14 (fourteen) calendar days of the date of this decision –

6.1 notify all registered interested and affected parties ("I&APs") of –

6.1.1 the outcome of the application;
6.1.2 the reasons for the decision;
6.1.3 the date of the decision; and
6.1.4 the date of issue of the decision;

6.2 draw the attention of all registered I&APs to the fact that an appeal may be lodged against the decision in terms of the National Appeal Regulations, 2014 (as amended);

6.3 draw the attention of all registered I&APs to the manner in which they may access the decision; and

6.4 provide the registered I&APs with:

6.4.1 the name of the holder (entity) of this Environmental Authorisation,
6.4.2 name of the responsible person for this Environmental Authorisation,
6.4.3 postal address of the holder,
6.4.4 telephonic and fax details of the holder,
6.4.5 e-mail address, if any;
6.4.6 the contact details (postal and/or physical address, contact number, facsimile and e-mail address) of the decision-maker and all registered I&APs in the event that an appeal is lodged in terms of the National Appeal Regulations, 2014 (as amended).

Commencement

7. The listed activity, including site preparation, must not commence within 20 (twenty) calendar days from the date the applicant notified the registered I&APs of this decision.

8. In the event that an appeal is lodged with the Appeal Administrator, the effect of this Environmental Authorisation is suspended until such time as the appeal is decided. In the instance where an appeal is lodged the holder may not commence with the activity, including site preparation, until such time as the appeal has been finalised and the holder is authorised to do so.

Written notice to the competent authority

9. A minimum of 7 (seven) calendar days' notice, in writing, must be given to the competent authority before commencement of construction activities. Commencement for the purpose of this condition includes site preparation.
   9.1 The notice must make clear reference to the site details and EIA Reference number given above.
   9.2 The notice must also include proof of compliance with the following conditions described herein:
   Conditions: 6, 7 and 14.

Management of activity

10. The draft EMPr dated September 2022 (as compiled by Mills and Otten Environmental Consultants) and submitted as part of the application for Environmental Authorisation is hereby approved and must be implemented.

11. An application for amendment to the EMPr must be submitted to the competent authority in terms of Chapter 5 of the EIA Regulations, 2014 (as amended) if any amendments are to be made to the outcomes of the EMPr, and these may only be implemented once the amended EMPr has been authorised by the competent authority.

12. The EMPr must be included in all contract documentation for all phases of implementation.

13. A copy of the Environmental Authorisation and the EMPr must be kept at the site where the listed activity will be undertaken. Access to the site referred to in Section C above must be granted and, the Environmental Authorisation and EMPr must be produced to any authorised official representing the competent authority who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein. The Environmental Authorisation and EMPr must also be made available for inspection by any employee or agent of the applicant who works or undertakes work at the site.

Monitoring

14. The holder must appoint a suitably experienced Environment Control Officer ("ECO"), for the duration of the construction phase to ensure compliance with the provisions of the EMPr and the conditions contained in this Environmental Authorisation.

    The ECO must–
    14.1 be appointed prior to commencement of any construction activities commencing;
    14.2 ensure compliance with the EMPr and the conditions contained herein;

14.3 keep record of all activities on site; problems identified; transgressions noted, and a task schedule of tasks undertaken by the ECO;
14.4 remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed; and
14.5 provide the competent authority with copies of the ECO reports; as well as within 30 days of the project being finalised.

Environmental audit reports

15. The holder must, for the period during which the Environmental Authorisation and EMPr remain valid -
15.1 ensure that the compliance with the conditions of the Environmental Authorisation and the EMPr is audited;
15.2 submit an environmental audit report four (4) months after commencement of the construction phase to the relevant competent authority;
15.3 submit an environmental audit report six (6) months after completion of the construction phase to the relevant competent authority; and
15.4 submit an environmental audit report every five (5) years while the Environmental Authorisation remains valid.

16. The environmental audit reports must be prepared by an independent person with expertise and must address the objectives and contain all the information set out in Appendix 7 of the EIA Regulations, 2014 (as amended).

In addition to the above, the environmental audit report, must -
16.1 provide verifiable findings, in a structured and systematic manner, on–
(a) the level of compliance with the conditions of the Environmental Authorisation and the EMPr and whether this is sufficient or not; and
(b) the extent to which the avoidance, management and mitigation measures provided for in the EMPr achieve the objectives and outcomes of the EMPr and highlight whether this is sufficient or not;
16.2 identify and assess any new impacts and risks as a result of undertaking the activity;
16.3 evaluate the effectiveness of the EMPr;
16.4 identify shortcomings in the EMPr;
16.5 identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr;
16.6 indicate the date on which the construction work was commenced with and completed or in the case where the development is incomplete, the progress of the development and rehabilitation;
16.7 include a photographic record of the site applicable to the audit; and
16.8 be informed by the ECO reports.

17. The holder must, within 7 days of the submission of the environmental audit report to the competent authority, notify all potential and registered I&APs of the submission and make the report available to anyone on request and, where the holder has such a facility, be placed on a publicly accessible website.

Specific conditions

18. Surface or ground water must not be polluted due to any actions on the site. The applicable requirements with respect to relevant legislation pertaining to water must be met.

19. An integrated waste management approach, which is based on waste minimisation and incorporates reduction, recycling, re-use and disposal, where appropriate, must be employed. Any solid waste must be disposed of at a waste disposal facility licensed in terms of the applicable legislation.

20. Should any heritage remains be exposed during excavations or any actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape (in accordance with the applicable legislation). Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from Heritage Western Cape. Heritage remains include archaeological remains (including fossil bones and fossil shells); coins; indigenous and/or colonial ceramics; any articles of value or antiquity; marine shell heaps; stone artifacts and bone remains; structures and other built features; rock art and rock engravings; shipwrecks; and graves or unmarked human burials.

    A qualified archaeologist must be contracted where necessary (at the expense of the applicant and in consultation with the relevant authority) to remove any human remains in accordance with the requirements of the relevant authority.

21. The holder of the Environmental Authorisation must, at all times, ensure that the activities comply with the Noise Regulations in terms of the relevant legislation.

22. The fuel storage tank must be designed, installed and managed in accordance with the relevant South African National Standards ("SANS").

23. In the event of a product loss at the site (possibly a spillage during tanker delivery or a fuel line failure), the holder must rapidly respond in order to contain any spilled product. The holder must also ensure that no additional health risks to any of the surrounding developments result from such an incident.

24. Firefighting equipment must be present on site and adhere to the Oil Industry Standards.

25. During fuel tanker delivery, the tanker driver must be present at all times during product offloading. An emergency cut-off switch must be installed to immediately stop fuel delivery should an accident occur.

26. The storage tank must be bunded (110% of the proposed tank's capacity) to contain any possible spills and to prevent any infiltration of fuel into the ground.

General matters

1. Notwithstanding this Environmental Authorisation, the holder must comply with any other statutory requirements that may be applicable when undertaking the listed activity.

2. If the holder does not commence with the listed activity within the period referred to in Condition 3, this Environmental Authorisation shall lapse for the activity, and a new application for Environmental Authorisation must be submitted to the competent authority. If the holder wishes to extend the validity period of the Environmental Authorisation, an application for amendment in this regard must be

made to the competent authority prior to the expiry date of the Environmental Authorisation.

3. The holder must submit an application for amendment of the Environmental Authorisation to the competent authority where any detail with respect to the Environmental Authorisation must be amended, added, substituted, corrected, removed or updated. If a new holder is proposed, an application for amendment in terms of Part 1 of the EIA Regulations, 2014 (as amended) must be submitted.

   Please note that an amendment is not required if there is a change in the contact details of the holder. In this case, the competent authority must only be notified of such changes.

4. The manner and frequency for updating the EMPr is as follows:
   Amendments to the EMPr, other than those mentioned above, must be done in accordance with Regulations 35 to 37 of the EIA Regulations,2014 (as amended) or any relevant legislation that may be applicable at the time.

5. Non-compliance with a condition of this Environmental Authorisation or EMPr may render the holder liable to criminal prosecution.

F. APPEALS

Appeals must comply with the provisions contained in the National Appeal Regulations, 2014 (as amended).

1. An appellant (if the holder of the decision) must, within 20 (twenty) calendar days from the date notification of the decision was sent to the holder by the competent authority -

   1.1 Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations, 2014 (as amended) to the Appeal Administrator; and

   1.2 Submit a copy of the appeal to any registered I&APs, any Organ of State with interest in the matter and the decision-maker *i.e.*, the competent authority that issued the decision.

2. An appellant (if NOT the holder of the decision) must, within 20 (twenty) calendar days from the date the holder of the decision sent notification of the decision to the registered I&APs -
   2.1 Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations, 2014 (as amended) to the Appeal Administrator; and

   2.2 Submit a copy of the appeal to the holder of the decision, any registered I&AP, any Organ of State with interest in the matter and the decision-maker *i.e.*, the competent authority that issued the decision.

3. The holder of the decision (if not the appellant), the decision-maker that issued the decision, the registered I&AP and the Organ of State must submit their

responding statements, if any, to the appeal authority and the appellant within 20 (twenty) calendar days from the date of receipt of the appeal submission.

4. The appeal and the responding statement must be submitted to the address listed below:

By post: Attention: Mr. Marius Venter
Western Cape Ministry of Local Government, Environmental Affairs and Development Planning
Private Bag X9186
CAPE TOWN
8000

By facsimile: (021) 483 4174; or

By hand: Attention: Mr. Marius Venter (Tel: 021 483 3721)

Room 809
8th Floor Utilitas Building, 1 Dorp Street, Cape Town, 8001

Note: For purposes of electronic database management, you are also requested to submit electronic copies (Microsoft Word format) of the appeal, responding statement and any supporting documents to the Appeal Authority to the address listed above and/ or via e-mail to DEADP.Appeals@westerncape.gov.za.

5. A prescribed appeal form as well as assistance regarding the appeal processes is obtainable from Appeal Authority at: Tel. (021) 483 3721, E-mail DEADP.Appeals@westerncape.gov.za or URL http://www.westerncape.gov.za/eadp.

G. DISCLAIMER

The Western Cape Government, the Local Authority, committees or any other public authority or organisation appointed in terms of the conditions of this environmental authorisation shall not be responsible for any damages or losses suffered by the holder, developer or his/her successor in any instance where construction or operation subsequent to construction is temporarily or permanently stopped for reasons of non-compliance with the conditions as set out herein or any other subsequent document or legal action emanating from this decision.

Your interest in the future of our environment is appreciated.

Yours faithfully

Zaahir Toefy

Digitally signed by Zaahir Toefy
Date: 2023.01.24 09:41:50 +02'00'

MR. ZAAHIR TOEFY
DIRECTOR: DEVELOPMENT MANAGEMENT (REGION 1)
DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

DATE OF DECISION: 24 JANUARY 2023

CC: (1) Ms. Kirstin Otten (Mills and Otten Environmental Consultants (Pty) Ltd.) E-mail: kirstin@millsandotten.co.za
(2) Ms. Maurietta Stewart (City of Cape Town) E-mail: Maurietta.Stewart@capetown.gov.za

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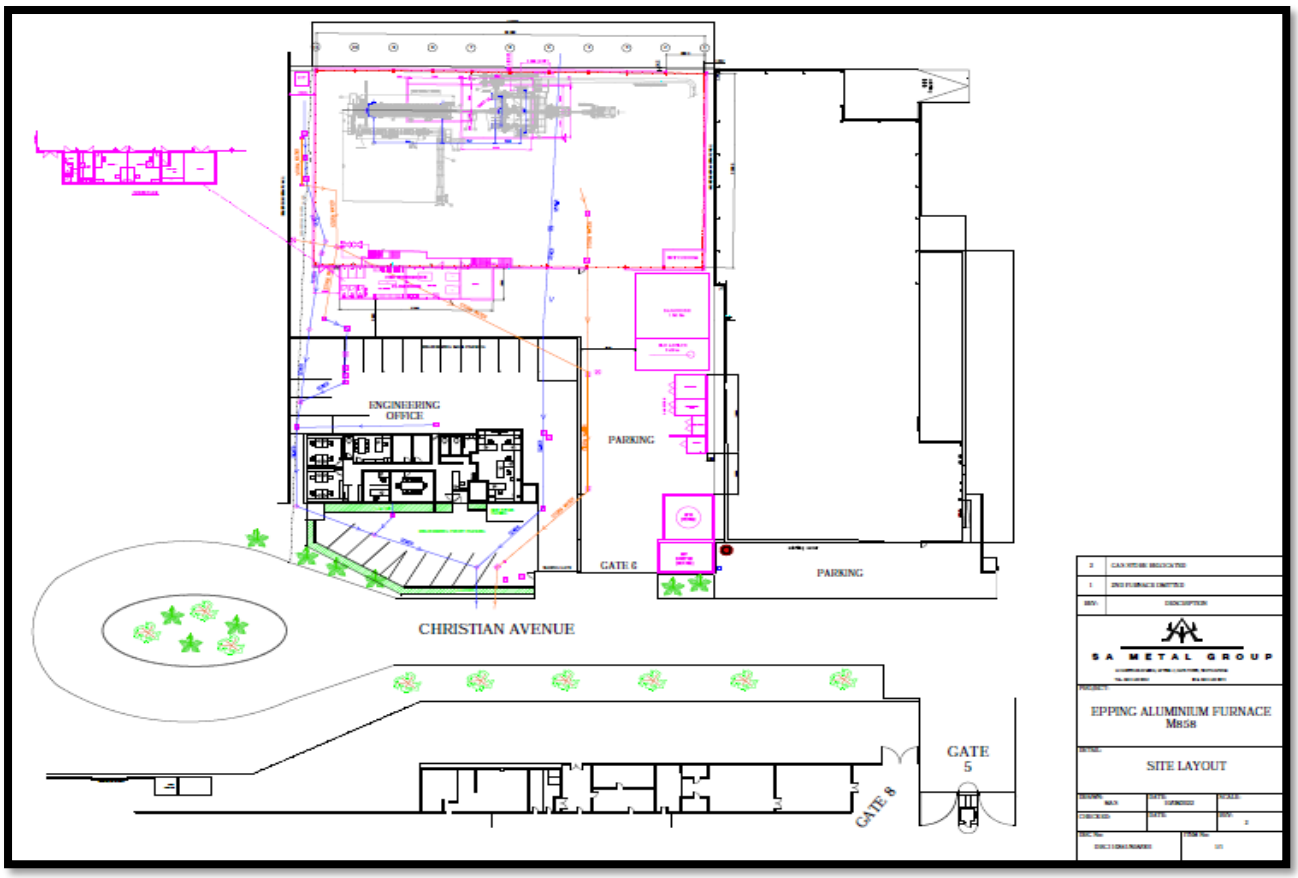
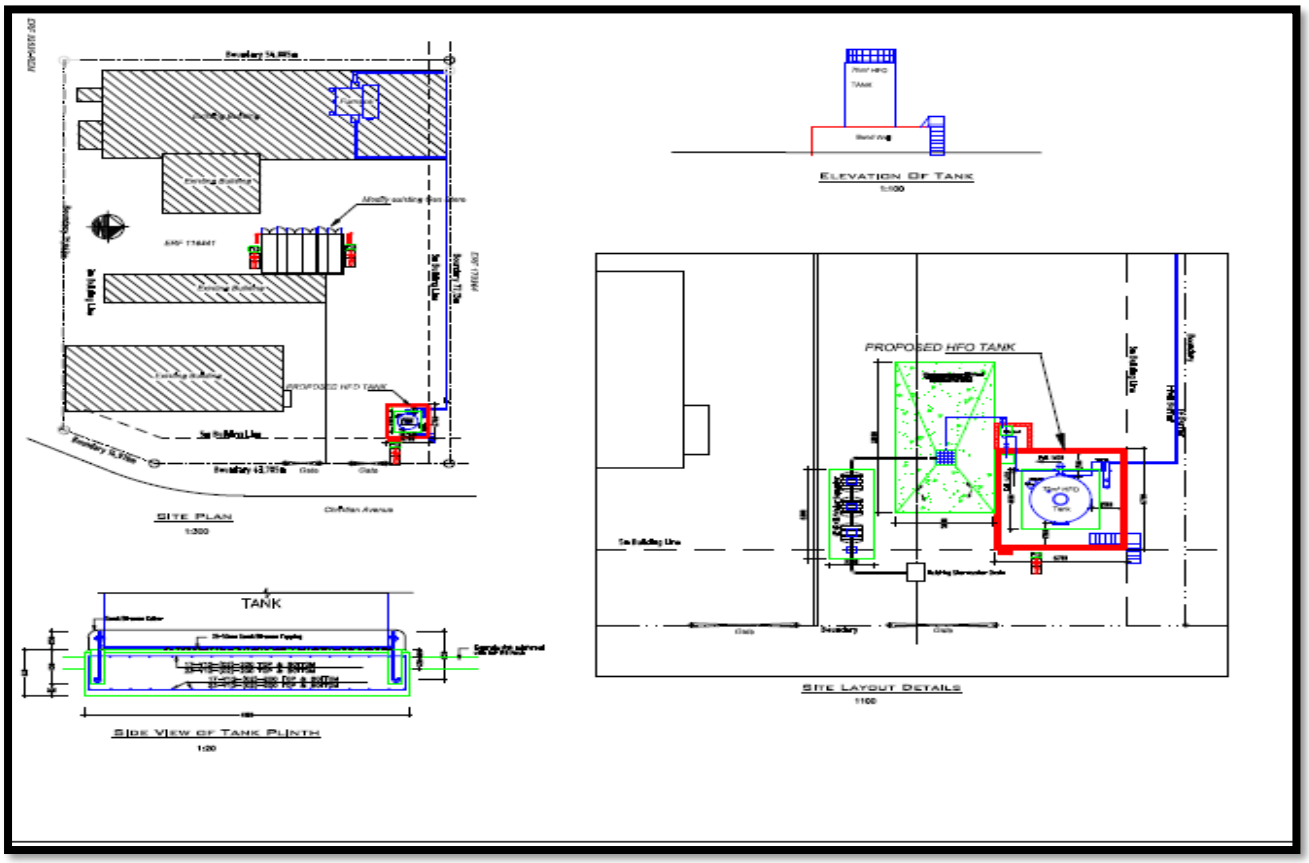
FOR OFFICIAL USE ONLY:

EIA REFERENCE NUMBER: 16/3/3/1/A8/49/3039/22
NEAS EIA REFERENCE NUMBER: WCP/EIA/0001128/2022

ANNEXURE 1: LOCALITY PLAN

ANNEXURE 2: SITE PLAN





ANNEXURE 3: REASONS FOR THE DECISION

In reaching its decision, the competent authority, *inter alia,* considered the following:

a) The information contained in the application form received by the competent authority via electronic mail correspondence on 18 July 2022; the BAR dated September 2022, as received by the competent authority via electronic mail correspondence on 23 September 2022; and the EMPr submitted together with the BAR.

b) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the NEMA.

c) The comments received from I&APs and the responses provided thereon, as included in the BAR dated September 2022.

d) No site visits were conducted. The competent authority had sufficient information before it to make an informed decision without conducting a site visit.

All information presented to the competent authority was taken into account in the consideration of the application for environmental authorisation. A summary of the issues which, according to the competent authority, were the most significant reasons for the decision is set out below.

1. Public Participation

The Public Participation Process comprised of the following:

- A notice was placed on site on 24 February 2022;
- An advertisement was placed in the "*Cape Times*" newspaper on 24 February 2022 and the "*Cape Argus*" newspaper on 20 July 2022, respectively;
- E-mails were sent on 24 and 25 February 2022 to State Departments/organs of state, the ward councillor, local municipality and adjacent landowners;
- Notification letters were hand delivered to adjacent landowners on 24 February 2022;
- E-mails were sent on 18 July 2022 to announce the availability of the draft BAR; and
- The draft BAR was made available from 18 July 2022 until 18 August 2022.

Authorities consulted

The authorities consulted included the following:

- Department of Environmental Affairs and Development Planning ("DEA&DP") Directorate: Pollution & Chemicals Management;
- DEA&DP Directorate: Waste Management;
- DEA&DP Directorate: Air Quality Management;
- Heritage Western Cape;
- City of Cape Town; and
- Department of Water and Sanitation.

The competent authority is satisfied that the Public Participation Process that was followed met the minimum legal requirements. All the comments and responses that were raised were responded to and included in the BAR.

2. Alternatives

The preferred activity alternative is to develop and operate a secondary aluminium plant. The facility will recover aluminium from scrap purchased or collected by the holder. The scrap aluminium will be melted and cast into ingots, which will be sold for end-use. By adjusting the

charging method, the processing capacity of the plant can be increased without implementing any other changes to the plant, resulting in more efficient copper processing.

An existing 1300m^2 building will be expanded to 1700m^2 which will be used to house the aluminium plant. The fuel oil storage tank will be located close to the entrance of the site due to tanker access requirements. The baghouse will either be located to the east or the north of the storage building.

The following technology alternatives were considered:

Preferred technology:
The preferred technology entails an aluminium furnace which will make use of hydrocarbon combustion technology and will apply heat indirectly. Such a furnace uses low sulphur fuel oil to heat the air to the required temperature to melt the aluminium and the hot air is applied to the aluminium. This indirect method allows for more complete combustion of the fuel oil, resulting in less emissions, as well as less oxidation of the metals during melting. It also allows for energy to be recovered by using the residual heat from the exhaust gasses to pre-heat the combustion air and fuel oil, further optimising fuel efficiency and complete combustion of the fuel oil.

Alternative technology:
In this alternative, an electrical induction furnace will be used. This alternative was discarded since electrical induction furnaces use electrical induction energy to generate the required heat to melt aluminium. An electrical induction furnace cannot accept the range of feedstock used on-site, resulting in less efficient processing of aluminium and a higher waste volume.

Preferred alternative – herewith authorised:
The preferred alternative entails the expansion of the existing metal recycling plant on Erven 101707 and 116841, Epping Industria. The proposed development will include the following:

- Aluminium melting and casting equipment;
- A hydrocarbon combustion furnace using fuel oil;
- A 70m^3 aboveground fuel oil storage tank; and
- A baghouse.

The proposed aluminium plant will be housed in an existing building on Erf No. 116841. To improve combustion efficiency of the fuel oil and reduce oxidation, the heat generated by the combustion of fuel oil will be applied indirectly to melt the aluminium. Residual heat from exhaust gasses will be used to pre-heat fuel oil and incoming combustion air, further improving efficiency of the system. Exhaust gas extracted from the melting and casting process will be passed through the baghouse before being released to the atmosphere. An existing storage building of 1300m^2 in size will be expanded to 1700m^2 and will be used to house the aluminium plant.

The proposed development footprint, including associated infrastructure, will be approximately 1700m^2 in size. The existing Atmospheric Emissions License caps the copper processing rate to 7440 tons/year. The processing rate will be increased to 16 500 tons/year.

"No-Go" Alternative:
This alternative implies that the existing metal recycling plant will not be expanded. This alternative was not deemed as preferred, since less aluminium and copper will be recycled, resulting in inefficient use of land, more waste to waste disposal facilities and an increased

dependence on raw resources. The benefits to the holder and creation of jobs would not be realised. The "no-go" alternative is therefore not warranted.

3. Impacts, assessment and mitigation measures

3.1 Activity Need and Desirability

The site is zoned General Industrial 2, which includes industry as a primary land use. The installation of a secondary aluminium plant and associated infrastructure and the increase of the copper processing rate from 7440 tons/year to 16 500 tons/year require a variation of the existing Atmospheric Emissions License. The proposed development will make use of the existing infrastructure and the existing development footprint will not be expanded.

SA Metals currently operates a secondary copper melting and casting plant. The furnace is serviced with a bag filter, which has effectively arrested particulate matter for several years. No increase in airflow through the system is anticipated, and the existing bag filter will remain an efficient and effective means of removing particulate matter from the exhaust gasses.

The copper furnace is electrically heated and by altering the method of charging the copper furnace, more copper can be processed without implementing any other changes to the plant. This will increase the energy efficiency of the plant. Copper can thus be processed at a higher rate without any other changes to the plant. No additional emissions are anticipated, since the furnace is an electrical induction furnace, and negligible sulphur dioxide and nitrogen oxide emissions are expected. By improving the efficiency of the furnace will result in the generation of more copper dross, at a rate of approximately 10 tons per month. The copper dross, along with the alumina slag, will be collected and readied for dispatch to customers.

While aluminium scrap was previously sold to third party customers, aluminium scrap will now be melted and casted at the site. The aluminium furnace will be fired by fuel oil. Exhaust gas extracted from the aluminium melting and casting process will pass through a baghouse before being released into the atmosphere. The furnace will be make use of hydrocarbon combustion technology and will apply heat indirectly to the metal. This will result in less oxidation of the metal and more efficient combustion of the fuel oil, leading to fewer emissions. Energy will also be recovered by using the residual heat from exhaust gasses to pre-heat combustion air and the fuel oil by adjusting the method of charging.

The burning of the fuel oil will produce greenhouse gasses mostly in the form of carbon dioxide. The impacts will be mitigated by filtering exhaust gasses through bag filters to reduce emissions to acceptable levels. Fuel efficient and emission reducing technologies and energy recovery, as well as regular monitoring of emissions will further reduce the impacts.

The proposed development will reduce resource dependency on raw aluminium and copper and assists dematerialised growth. The site is within an existing industrial area and will improve the utilisation of available industrial land. The proposed development will provide temporary jobs during the construction phase, as well as permanent jobs during the operational phase.

3.2 Biophysical impacts

The proposed development will be located within an existing industrial area. There is no vegetation present on the site. The biophysical impacts associated with the proposed development are expected to be of low significance, due to the transformed nature of the site.

Furthermore, potential groundwater and soil contamination will be minimised as the proposed tank will be installed in accordance with the requirements of the relevant SANS codes and the tank will be installed in bunded areas (at 110% of the proposed tank capacity).

3.3 Air quality impacts

An Atmospheric Impact Assessment Report dated 29 June 2022, and an updated Atmospheric Impact Assessment Report dated 06 September 2022 were compiled by Yellow Tree (Pty) Ltd., to assess the potential air quality impacts associated with the proposed development.

SA Metal owns Erven 116841, 173364, 101707 and 32558, as well as erven on the opposite side of Christian Avenue. However, since Christian Avenue is a public road, pollutant concentrations were evaluated at the external fence lines of Erven 116841, 173364, 101707 and 32558. The proposed aluminium plant will be housed in an existing building on Erf No. 116841. The baghouse and stack serving the aluminium plant will be located on either Erf No. 116841 or 173364.

The raw materials that will serve as the feed to the proposed aluminium plant are already received, handled, and dispatched at the site. Any fugitive emissions from the receipt, handling and dispatch of aluminium are already accounted for in baseline air quality measurements in the area. The only addition to the emissions profile of the site as a result of the proposed aluminium plant, is the emissions from the aluminium plant itself.

Similarly, the additional copper that will be processed in the copper furnace is already received, handled, and dispatched at the site. The copper furnace is able to process additional copper if the furnace is loaded in a certain manner. No other changes are proposed to the copper furnace.

The copper furnace is served by a bag filter which captures particulate matter very effectively, as evidenced by the very low particulate matter emissions that have been measured annually. No increase in airflow through the system is anticipated, and the bag filter will continue to effectively operate as previously. Since it is an electric induction furnace, negligible emissions of sulphur dioxide and nitrogen oxides are anticipated because these pollutants are mainly produced from combustion processes.

The proposed aluminium plant will consist of a furnace and casting line, which will be served by a baghouse to ensure minimal particulate matter emissions. The aluminium plant will be housed in an existing building, with the baghouse and stack located outside the building. The design production capacity of the plant will be 12 000 tons of aluminium per annum. The pollutants that have been identified as potentially having a significant effect on the environment are particulate matter, total fluorides measured as hydrogen fluoride, total volatile organic compounds, and ammonia.

Benzene is the only volatile organic compound that is regulated by the National Ambient Air Quality Standards. However, benzene is not a pollutant that is associated with secondary aluminium processes, and thus volatile organic compounds were excluded from the emissions inventory from the aluminium plant. Benzene is also not anticipated in fuel oil. Therefore, the fuel tank was not modelled as there are no emissions from the fuel tank that can reasonably be assessed against any National Ambient Air Quality Standards.

Overall, the addition of the proposed aluminium plant will not change the compliance status with the National Ambient Air Quality Standards for PM_{10}, $PM_{2.5}$, sulphur dioxide and nitrogen oxides in the area. Where the baseline air quality does not comply with the National Ambient Air Quality Standards, *i.e.*, the number of daily PM_{10} exceedances is above the allowable number of four, these non-compliances remain when the proposed activities at SA Metal are taken into account. Where ambient air quality is below the National Ambient Air Quality Standards, *i.e.*, annual PM_{10}, $PM_{2.5}$, sulphur dioxide and nitrogen oxides, these concentrations remain below the National Ambient Air Quality Standards when the proposed activities at SA Metal are considered.

Where there are no National Ambient Air Quality Standards and there is no baseline air quality information, *i.e.*, for total fluorides measured as hydrogen fluoride and ammonia, the predicted concentrations from the proposed activities are below international guidelines.

3.4 Noise impacts:

The proposed development is associated with vehicle movement to and from the site (customers selling scrap metals, trucks delivering scrap metals, fuel delivery), which will increase the ambient noise in the vicinity of the site. However, since the metals recycling plant is an existing facility located in Epping Industria, the proposed expansion is not likely to contribute to an increase in noise levels in the area.

There will be some increase in the ambient noise levels on the site during the construction phase. However, since the site is located in an industrial area, the contribution to the ambient noise level will be limited to the site and its immediate surroundings. The aluminium melter will be surrounded by SA Metals activities, therefore, noise generated during the construction and operation phases is not anticipated to impact other industrial land users in the area.

3.5 Traffic impacts:

The anticipated increase in traffic during the construction and operational phases will be concentrated along Christian Road, where access to all SA Metals' operations are located. The increase in traffic will not be significant and will be a few vehicles per day. Therefore, traffic diversions will not be required during the construction or operational phases.

3.6 Dust and visual impacts

Potential dust and visual impacts are anticipated during the construction phase. However, no significant potential dust and visual impacts are anticipated as these impacts will be mitigated by the implementation of the mitigation measures included in the EMPr.

The development will result in both negative and positive impacts.

Negative Impacts:
- Potential dust, traffic and noise impacts; and
- Potential air quality impacts.

Positive impacts:
- Reduced waste to waste disposal facilities;
- More recycled aluminium and copper will form part of the supply chain, reducing the need for raw resources;
- Increased recycling capacity;
- Employment opportunities will be created during the construction and operational phases of the development; and
- Contribution to the local economy.

National Environmental Management Act Principles

The National Environmental Management Act Principles (set out in section 2 of the NEMA, which apply to the actions of all Organs of State, serve as guidelines by reference to which any Organ of State must exercise any function when taking any decision, and which must guide the interpretation, administration and implementation of any other law concerned with the protection or management of the environment), *inter alia*, provides for:
- the effects of decisions on all aspects of the environment to be taken into account;
- the consideration, assessment and evaluation of the social, economic and environmental impacts of activities (disadvantages and benefits), and for decisions to be appropriate in the light of such consideration and assessment;
- the co-ordination and harmonisation of policies, legislation and actions relating to the environment;
- the resolving of actual or potential conflicts of interest between Organs of State through conflict resolution procedures; and
- the selection of the best practicable environmental option.

In view of the above, the NEMA principles, compliance with the conditions stipulated in this Environmental Authorisation, and compliance with the EMPr, the competent authority is satisfied that the proposed listed activity will not conflict with the general objectives of integrated environmental management stipulated in Chapter 5 of the NEMA and that any potentially detrimental environmental impacts resulting from the listed activity can be mitigated to acceptable levels.

You are reminded of your general duty of care towards the environment in terms of Section 28(1) of the NEMA which states: "*Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.*"

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