



## Gauteng Department of Agriculture and Rural Development (GDARD)

### **Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2010 (Version 1)**

List of all organs of state and State Departments where the draft report has been submitted, their full contact details and contact person

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**Kindly note that:**

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2010.
  2. This application form is current as of 2 August 2010. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
  3. **A draft Basic Assessment Report must be submitted to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken. The draft reports must be submitted to the relevant State Departments and on the same day, two CD's of draft reports must also be submitted to the Competent Authority (GDARD) with a signed proof of such submission of draft report to the relevant State Departments.**
  4. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
  5. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
  6. An incomplete report shall be rejected.
  7. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
  8. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.
  9. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
  10. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
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#### **DEPARTMENTAL DETAILS**

Gauteng Department of Agriculture and Rural Development  
Attention: Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch  
P.O. Box 8769  
Johannesburg  
2000

Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch  
18<sup>th</sup> floor Glen Cairn Building –68 Eloff Street, Diamond Building, Floor 2,  
73 Market Street, Johannesburg

Admin Unit telephone number: (011) 355 1345  
Department central telephone number: (011) 355 1900

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**BASIC ASSESSMENT REPORT [REGULATION 22(1)]**

(For official use only)

<b>File Reference Number:</b>						
<b>Application Number:</b>						
<b>Date Received:</b>						

**\* Submission to State Departments (Number 3 above)**

Has a draft report for this application been submitted to all State Departments administering a law relating to a matter likely to be affected as a result of this activity? **YES**

Is a list of State Departments referred to above been attached to this report? **YES**

**Refer to Appendix E of this report for the list of State Departments who have been sent the draft report,**

if no, state reasons for not attaching the list.

## SECTION A: ACTIVITY INFORMATION

### 1. ACTIVITY DESCRIPTION

Project title (must be the same name as per application form):

**Exxaro FerroAlloys Expansion Project**

Select the appropriate box

The application is for an upgrade of an existing development  The application is for a new development  Other, specify

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES  NO

If yes, describe the legislation and the Competent Authority administering such legislation

**National Environmental Management Air Quality Act No.39 of 2004 (NEMAQA): Atmospheric Emissions Licence (AEL) administered by City of Tshwane Metropolitan Municipality (CTMM)**

If yes, have you applied for the authorisation(s)? **The AEL application will be submitted at the time of the final Basic Assessment Report.** YES

If yes, have you received approval(s)? (attach in appropriate appendix) YES

### 2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations:

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
<b>National Environmental Management Act No. 107 of 1998 as amended.</b>	<b>National &amp; Provincial</b>	<b>27 November 1998</b>
<b>National Environmental Management Air Quality Act No.39 of 2004</b>	<b>National &amp; Provincial</b>	<b>24 February 2005</b>

<b>Government Notice R543 Environmental Impact Assessment Regulations, 2010</b>	<b>Department of Environmental Affairs</b>	<b>18 June 2010</b>
<b>Listed Activities and Minimum National Emission Standards was published on the 31st of March 2010(GN R248, March 2010)</b>	<b>Department of Environmental Affairs</b>	<b>31 March 2010</b>
<b>National Ambient Air Quality Standards (GN 1210 of 24 December 2009)</b>	<b>Department of Environmental Affairs</b>	<b>24 December 2009</b>
<b>National Ambient Air Quality standard for particulate matter with aerodynamic diameter less than 2.5 micron meters was published in June 2012 (GN R 486)</b>	<b>Department of Environmental Affairs</b>	<b>29 June 2012</b>
<b>Integrated Environmental Management Guideline Series 5 - Companion to The National Environmental Management Act (NEMA) Environmental Impact Assessment (EIA) Regulations Of 2010</b>	<b>Department of Environmental Affairs</b>	<b>2010</b>
<b>Public Participation in the Environmental Impact Assessment Process (GN 807 of 10 October 2012)</b>	<b>Department of Environmental Affairs</b>	<b>10 October 2012</b>

### 3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

**Note:** After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent. Provide a description of the alternatives considered

<b>No.</b>	<b>Alternative type, either alternative: site on property, properties, activity, design, technology, operational or other(provide details of "other")</b>	<b>Description</b>
	<b>Proposal (proposed activity)</b>	<b>The proposed project is titled the: FerroAlloys Expansion Project. FerroAlloys owns and operates an existing ferrosilicon plant which is located in the Pretoria West industrial area at Rodger Dyason Road, Pretoria West. The plant produces ferrosilicon powder, which is made by atomising molten ferrosilicon with a high-pressure stream of inert nitrogen gas. The result is a high-grade powder, used in dense medium separation for mineral extraction processes, particularly in the iron ore industry. The product</b>

		<p>demand is currently exceeding the plant supply capacity. Exxaro FerroAlloys intends to expand the current facility to allow for an increase their ferrosilicon production from 8 100 tons to 13 000 tons per annum. The ferrosilicon plant expansion will be within the existing ferrosilicon plant site on Portions 86 and 124 of the farm Pretoria Town and Townlands 351 JR, Pretoria West.</p> <p>The FerroAlloys Expansion Project will involve minor expansions and additions to the ferrosilicon production infrastructure within the existing warehouse and footprint. The processes used at the existing plant will also be employed for the expansion. As the production at the plant will increase, the atmospheric emissions may increase and thus the environmental assessment process is required to assess the potential environmental and social impacts.</p> <p>The current site has an Atmospheric Pollution Prevention Act (Act 45 of 1965) (APPA) registration certificate which is currently being converted to an Atmospheric Emissions Licence (AEL); this licence will need to be amended to include the increase in ferrosilicon production from 8 100 tons per annum to 13 000 tons per annum.</p> <p>The plant also has an existing Environmental Authorisation, which will now need to be replaced with a new authorisation.</p>
1	<b>No-go alternative</b>	<p>The no-go alternative will involve no changes to the existing ferrosilicon plant. The production capacity of the existing plant will not be increased. The infrastructure and equipment at the existing plant will not change.</p> <p>The emissions to the atmosphere will not change. Without an increase in production there is a possibility that scrap metal, which is beneficiated for the production of ferrosilicon, would need to be disposed of at dump sites.</p> <p>The customers who purchase the ferrosilicon will</p>

		<p>not be able to buy more ferrosilicon from FerroAlloys and will have to purchase the product elsewhere.</p> <p>The no-go alternative will not require any amendment to the existing environmental authorisation or the AEL.</p>
2		<b>No second alternative has been considered.</b>

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

<b>Locality alternatives</b>	<p><b>No locality alternatives have been assessed as part of the Basic Assessment (BA) process. The proposed expansion will be located adjacent to the existing ferrosilicon plant within the existing warehouse and much of the existing infrastructure will be expanded and utilised in the expanded ferrosilicon plant. Choosing an alternate location will require:</b></p> <ul style="list-style-type: none"> <li>• A large amount of additional infrastructure.</li> <li>• Additional transport of ferrosilicon and would thus be more expensive.</li> <li>• It would also require identification of a new site for the FerroAlloys Expansion Project and therefore disturbance and impacts on a new, possibly undisturbed area</li> </ul> <p>It is not feasible to evaluate another locality in detail. Thus, the only alternative is the no-go alternative.</p>
<b>Process alternatives</b>	<p>The processes that will be used for the FerroAlloys Expansion Project will be the same as the processes currently employed at the existing ferrosilicon plant.</p> <p>The current processes are successful and efficient and considering alternative methods would not be feasible. Thus the only alternative is the no-go alternative.</p>

**NOTE: The numbering in the above table must be consistently applied throughout the application report and process**

**4. PHYSICAL SIZE OF THE ACTIVITY**

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

Proposed activity **(This is the same size as the**

**Size of the activity:**  

<b>14 513 m<sup>2</sup></b>
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**footprint of the existing plant which will not change.)**

**Alternatives:**

Alternative 1 (if any)

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**The no-go alternative will not have an alternative site, since the proposed expanded infrastructure needs to be constructed within the existing plant footprint.**

Alternative 2 (if any)

**No second alternative considered.**

Ha/ m<sup>2</sup>

or, for linear activities: **N/A**

Proposed activity

**Alternatives:**

Alternative 1 (if any)

Alternative 2 (if any)

Length of the activity:

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k/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

Proposed activity

**Size of the site/servitude:**

**The activity will take place on portions 86 & 124 of farm 351 JR. Thus the total size of the site (these 2 portions) is: 758 090 m<sup>2</sup>, though the footprint of the activity is 14 513 m<sup>2</sup>**

**Alternatives:**

Alternative 1 (if any)

**No sites or servitudes are applicable for the no-go alternative.**

Alternative 2 (if any)

**No second alternative considered.**

Ha/m<sup>2</sup>

**5. SITE ACCESS**

**Proposal**

Does ready access to the site exist, or is access directly from an existing road?

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

	NO
m	

<b>The existing access road off Roger Dyason Road will be used</b>
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Include the position of the access road on the site plan.

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## Alternative 1

Does ready access to the site exist, or is access directly from an existing road?

**No access roads are applicable for the no-go alternative.**

m

If NO, what is the distance over which a new access road will be built  
Describe the type of access road planned:

**No access roads are applicable for the no-go alternative.**

Include the position of the access road on the site plan.

## Alternative 2

Does ready access to the site exist, or is access directly from an existing road?

**N/A, no second alternative considered.**

m

If NO, what is the distance over which a new access road will be built  
Describe the type of access road planned:

**No second alternative considered.**

Include the position of the access road on the site plan.

## PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated

**NO DUPLICATES. As the only alternative under consideration is the no-go alternative, sections 6 to 8 are not applicable as there is no information to present in these sections regarding the no-go alternative.**

Number of times

(only complete when applicable)

## 6. SITE OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document. The site or route plans must indicate the following:

- the scale of the plan, which must be at least a scale of 1:2000 (scale can not be larger than 1:2000 i.e. scale can not be 1:2500 but could where applicable be 1:1500)
- the property boundaries and numbers of all the properties within 50m of the site;
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- the exact position of each element of the application as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, septic tanks, storm water infrastructure and telecommunication infrastructure;
- walls and fencing including details of the height and construction material;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites including (but not limited thereto):
  - Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- for gentle slopes the 1m contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- the positions from where photographs of the site were taken.

- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the 32m position from the bank to be clearly indicated)

**Refer to Appendix A for the site plans for the proposed activity.**

## **7. SITE PHOTOGRAPHS**

Colour photographs from the center of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix. It should be supplemented with additional photographs of relevant features on the site, where applicable. **Refer to Appendix B.**

## **8. FACILITY ILLUSTRATION**

A detailed illustration of the activity must be provided at a scale of 1:200 for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity. To be attached in the appropriate Appendix. **Refer to Appendix C.**



## SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

**Note:** Complete Section B for the proposal and alternative(s) (if necessary)

**Further:**

### Instructions for completion of Section B for linear activities

- 1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
- 2) Indicate on a plan(s) the different environments identified
- 3) Complete Section B for each of the above areas identified
- 4) Attach to this form in a chronological order
- 5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route

**N/A not a linear activity**

times

### Instructions for completion of Section B for location/route alternatives

- 1) For each location/route alternative identified the entire Section B needs to be completed
- 2) Each alternative location/route needs to be clearly indicated at the top of the next page
- 3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives

**NO DUPLICATES, as there are no location alternatives. Thus section B has only been completed for the proposed activity.**

times

(complete only when appropriate)

### Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

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Section B - Section of Route

(complete only when appropriate for above)

Section B – Location/route Alternative No.

**Proposed activity**

 (complete only when appropriate for above)

## 1. PROPERTY DESCRIPTION

Property description:

**Portion 86 and 124, Pretoria Town and Townlands 351 JR, Pretoria West.**

**Please note that the total size of the properties involved is very large (758 090 m<sup>2</sup>) in comparison to the footprint of the activity (14 513 m<sup>2</sup>). For this reason, the description of the environment in this section has focussed on the environment on the activity footprint and the area immediately surrounding it.**

(Farm name, portion etc.)

## 2. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:

Latitude (S):	Longitude (E):
<b>25.7633055°</b>	<b>28.1442944°</b>

In the case of linear activities: **N/A**

Alternative:

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Latitude (S):	Longitude (E):
°	°
°	°
°	°

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached

## 3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Flat	<del>1:5</del> <del>1:20</del>	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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## 4. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site.

Ridgeline	Plateau	Side slope of hill/ridge	Valley	<del>Plain</del>	Undulating plain/low hills	River front
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## 5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)  
Dolomite, sinkhole or doline areas

Seasonally wet soils (often close to water bodies)

YES	<del>NO</del>
YES	<del>NO</del>
YES	<del>NO</del>

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Unstable rocky slopes or steep slopes with loose soil  
 Dispersive soils (soils that dissolve in water)  
 Soils with high clay content (clay fraction more than 40%)  
 Any other unstable soil or geological feature  
 An area sensitive to erosion

YES	<del>NO</del>
YES	<del>NO</del>
YES	<del>NO</del>
YES	<del>NO</del>
YES	<del>NO</del>

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s)  YES  NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

<b>Latitude (S):</b>	<b>Longitude (E):</b>
°	°

c) are any caves located within a 300m radius of the site(s)  YES  NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

<b>Latitude (S):</b>	<b>Longitude (E):</b>
°	°

d) are any sinkholes located within a 300m radius of the site(s)  YES  NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

<b>Latitude (S):</b>	<b>Longitude (E):</b>
°	°

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

### 6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 3)?

YES	<del>NO</del>
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**Please note:** The Department may request specialist input/studies in respect of the above.

### 7. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % =	Natural veld with scattered aliens % =	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	<del>Paved surface (hard landscaping) % = 40</del>	<del>Building or other structure % = 60</del>	Bare soil % =

**Please note:** The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies. – **Please refer to Appendix I for further information regarding potential impacts to the ecology of the site.**

Are there any rare or endangered flora or fauna species (including red list species) present on the site

YES	<del>NO</del>
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If YES, specify and explain:

**As the site is an existing industrial area which is completely covered with buildings and paved areas, there is no possibility of any such plants being present on the site (i.e. within the footprint of the activity and associated structures).**

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.

YES	<del>NO</del>
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If YES, specify and explain:

It is possible that there may be rare or endangered flora or fauna species within 200 m of the site, though none were identified during the site visit.

The GDARD Biodiversity unit indicated (in an email dated 27 February 2013) that the following rare / endangered plants may be located on the site (*Ceropegia decidua*, *Holothrix randii* and *Habenaria kraenzliniana*) (refer to Appendix E for a copy of the comments received from GDARD).

As the footprint of the existing ferrosilicon plant will not be expanded, no vegetation will be damaged or destroyed for this project, and there will be no impact on the plant species *Ceropegia decidua*, *Holothrix randii* and *Habenaria kraenzliniana*.

Are there any special or sensitive habitats or other natural features present on the site? YES

If YES, specify and explain:

As the site is an existing industrial area which is completely covered with buildings and paved areas, there are no special or sensitive habitats or other natural features present on the site (i.e. within the footprint of the activity and associated structures).

Was a specialist consulted to assist with completing this section YES

If yes complete specialist details

Name of the specialist: \_\_\_\_\_  
 Qualification(s) of the specialist: \_\_\_\_\_  
 Postal address: \_\_\_\_\_  
 Postal code: \_\_\_\_\_  
 Telephone: \_\_\_\_\_ Cell: \_\_\_\_\_  
 E-mail: \_\_\_\_\_ Fax: \_\_\_\_\_

Are any further specialist studies recommended by the specialist? N/A YES NO

If YES, specify: \_\_\_\_\_

If YES, is such a report(s) attached? YES

If YES list the specialist reports attached below  
 \_\_\_\_\_  
 \_\_\_\_\_

Signature of specialist: \_\_\_\_\_ Date: \_\_\_\_\_

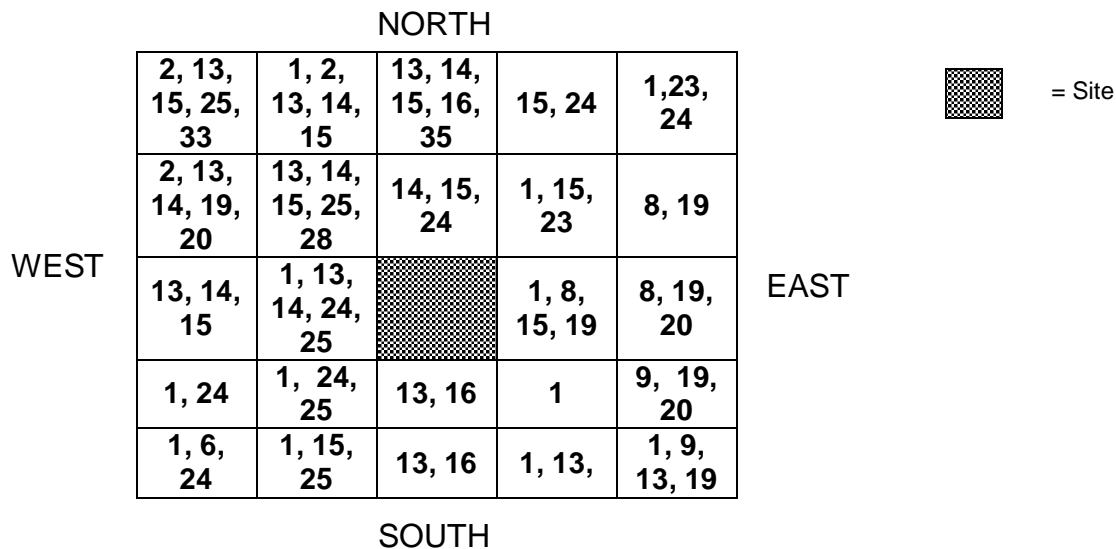
**Please note:** If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

## 8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial
16. Heavy industrial <sup>AN</sup>	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport <sup>N</sup>	23. Train station or shunting yard <sup>N</sup>	24. Railway line <sup>N</sup>	25. Major road (4 lanes or more) <sup>N</sup>
26. Sewage treatment plant <sup>A</sup>	27. Landfill or waste treatment site <sup>A</sup>	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33. Spoil heap or slimes dam <sup>A</sup>	34. Small Holdings	
Other land uses (describe):	<b>35. Power station</b>			

NOTE: Each block represents an area of 250m X250m



**Note:** More than one (1) Land-use may be indicated in a block

**Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "A" and with an "N" respectively.

Have specialist reports been attached  
If yes indicate the type of reports below

<del>YES</del>	NO
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**The following features/land uses with "AN" or "A" were ticked: heavy industrial and spoil heap / slimes dam.**

**An Air Quality Impact Assessment has been compiled by Lerato Khumalo-Peer reviewed by Digby Wells and Associates (Pty) Ltd (Digby Wells Environmental).**

**The following features/land uses with "N" were ticked: train station or shunting yard, railway line and major road. These features/land uses will not impact the proposed FerroAlloys Expansion Project. As the FerroAlloys Expansion Project is proposed on an existing industrial site it will not have any receptors who are particularly sensitive to noise. Thus it will not be affected by the noise from this feature. The FerroAlloys Expansion Project will also only cause a very slight increase in the noise currently generated by the existing ferrosilicon plant. Thus the cumulative impact of the noise will be a negligible increase in the noise level.**

## 9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

The site is located within the Pretoria West Industrial area, the surrounding land use consists of light and heavy industry, including various industrial processes e.g. ferromanganese production, Exxaro's Research and Development facility, cement production, iron and steel works, coke manufacturing, glass manufacturing, power generation, brickworks, charcoal production. There are also a number of small manufacturing businesses and warehouses in the area. The social and economic conditions therefore consist primarily of a large industrial area, with employees and vehicles that access the site on a daily basis. There are no permanent residents on the site.

To the east of the plant is the Pretoria Police College used for training of members of the South African Police Service (SAPS). This college has residences, educational and sports facilities. To the far west (500m away) is the Training College (ISCOR School of Finance) and the Pretoria West Engineering College.

To the north is the Pretoria West Power Station owned by the City of Tshwane.

A railway line passes by the site from the south west to the north east, approximately 80 meters away. A main road (the M7, Rodger Dyason Road) also passes south and west of the site.

Thus it can be seen that the site is located in a primarily industrial area with some educational and training institutions nearby.


## 10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50m in length;
- (c) any development or other activity which will change the character of a site-
  - (i) exceeding 5 000 m2 in extent; or
  - (ii) involving three or more existing erven or subdivisions thereof; or
  - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
  - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000 m2 in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?

YES	NO 
-----	---

If YES, explain:

There is a historically significant building on a nearby site. It is located approximately 1.2 km south west of the existing ferrosilicon plant. The historic building is registered on the SAHRA South African Heritage Resources Information System (SAHRIS), site reference: 9/2/258/0133, site name: The Boiler and Blower House of the Blast Furnace and Adjacent Chimney of the Old Pretoria Iron Mines Limited at Iscor, Pretoria. The site has been declared as a Provincial Heritage Site.

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

**A specialist Heritage Impact Assessment was not considered necessary as the proposed Exxaro FerroAlloys Expansion project will not affect the historic building in any way. There is no risk of damage, destruction, defacement, alteration or removal of the historic building.**

**The Exxaro FerroAlloys Expansion project will involve a small-scale expansion of the existing ferrosilicon plant within the existing warehouse building on site.**

Will any building or structure older than 60 years be affected in any way?

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)? **A permit is not required from SAHRA or the Provincial Heritage Resources Authority Gauteng (PHRAG), as section 38 of the National Heritage Resources Act 25 of 1999 is not applicable to the Exxaro FerroAlloys Expansion project.**

YES	<del>NO</del>
YES	<del>NO</del>

If yes, please attached the comments from SAHRA in the appropriate Appendix

**SAHRA and PHRAG were informed of the project. No comments have been received to date.**

## SECTION C: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT

The Environmental Assessment Practitioner must follow any relevant guidelines adopted by the competent authority in respect of public participation and must at least –

- 1(a) Fix a site notice at a conspicuous place, on the boundary of a property where it is intended to undertake the activity which states that an application will be submitted to the competent authority in terms of these regulations and which provides information on the proposed nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations on the application may be made;
- 1(b) inform landowners and occupiers of adjacent land of the applicant's intention to submit an application to the competent authority;
- 1(c) inform landowners and occupiers of land within 100 metres of the boundary of the property where it is proposed to undertake the activity and whom may be directly affected by the proposed activity of the applicant's intention to submit an application to the competent authority;
- 1(d) inform the ward councillor and any organisation that represents the community in the area of the applicant's intention to submit an application to the competent authority;
- 1(e) inform the municipality which has jurisdiction over the area in which the proposed activity will be undertaken of the applicant's intention to submit an application to the competent authority; and
- 1(f) inform any organ of state that may have jurisdiction over any aspect of the activity of the applicant's intention to submit an application to the competent authority; and
- 1(g) place an advertisement in one local newspaper and any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these regulations.

**Refer to Appendix E for copies of the notices, advertisements, notifications and list of Interested and Affected Parties (IAPs) and authorities.**

### 2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority (GDARD).

Has any comment been received from the local authority?

NO

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

- 1. Danie Swanepoel, the Ward Councillor for Ward 3, requested a map of the site overlaid with the ward numbers in order to identify the wards of relevance to the project. A map showing the property boundaries and the ward numbers for the FerroAlloys Expansion Project as well as Google earth file of the properties in the area was sent to Mr Swanepoel. Danie said he was happy with the information received and would discuss it with other ward councillors.**
- 2. Ilse Kotze, from City of Tshwane Metropolitan Municipality, sent a request to be included on the database for the FerroAlloys Expansion Project. Ms Kotze's details were added to the database.**

**Copies of the correspondence with authorities as well as IAPs are attached in Appendix E.**

If "NO" briefly explain why no comments have been received

**N/A**

### 3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least thirty (30) calendar days before the submission of the application and be provided with the opportunity to comment.



Has any comment been received from stakeholders?

YES  NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

1. **Justice Maluleke of the Department of Water Affairs requested for the BAR to be sent through to the DWA for comment once completed. Mr Maluleke indicated that if a Water Use Licence (WUL) is required for the project, the process would need to start for the application. Synergistics responded that the BAR would be sent to the DWA for comment but a WUL is not required for the project.**
2. **Sifiso Mahlangu of Afrox enquired as to when the project was going to commence and when the anticipated streaming of the plant would take place. Synergistics responded that the plant already exists and that the expansion project would only begin following the authority decision on Environmental Authorisation and the AEL which are expected to be in August and November respectively (depending on when reports are submitted for authority and public review).**
3. **Doctor Maluleka of Arcelormittal requested that he and Joe Prinsloo be added to the database for the project. Mr Maluleka enquired whether FerroAlloys have fall-out dust monitoring results, will there be an increase in the number of employees with the expansion and can FerroAlloys forward him effluent water discharge monitoring results. Synergistics responded that all his queries would be addressed in the basic assessment report which would be available for public comment upon completion. Arcelormittal are the landowners where the Ferrosilicon Plant is located and where the extension is to take place, thus they have direct interest in the project.**
4. **Liesl Koch (Specialist SHE: Environment, Land & Biodiversity Unit) at the Pretoria West Sasol Oil Depot, requested to be registered as an IAP.**
5. **Bobcat Equipment Rental in Pretoria West requested to be registered as an IAP.**

**Copies of the correspondence with authorities and IAPs are attached in Appendix 4.**

If "NO" briefly explain why no comments have been received

**N/A**

#### **4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS**

The Environmental Assessment Practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

The practitioner must record all comments and respond to each comment of the public / interested and affected party before the application is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

**5. APPENDICES FOR PUBLIC PARTICIPATION**

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below

Appendix 1 – Proof of site notice

Appendix 2 – Written notices issued to those persons detailed in 1(b) to 1(f) above

Appendix 3 – Proof of newspaper advertisements

Appendix 4 – Communications to and from persons detailed in Point 2 and 3 above

Appendix 5 – Minutes of any public and/or stakeholder meetings

Appendix 6 – Comments and Responses Report

Appendix 7 – Comments from I&APs on Basic Assessment (BA) Report

Appendix 8 – Comments from I&APs on amendments to the BA Report

Appendix 9 – Copy of the register of I&APs

Appendix 10 – Comments from I&APs on the application

Appendix 11 – Other

**Refer to Appendix E 1-11**

## SECTION D: RESOURCE USE AND PROCESS DETAILS

**Note:** Section D is to be completed for the proposal and alternative(s) (if necessary)

### Instructions for completion of Section D for alternatives

- 1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
- 4) Each alternative needs to be clearly indicated in the box below
- 5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives

**NO DUPLICATES. As the only alternative under consideration is the no-go alternative, section D is not applicable as there is no information to present in this section regarding the no-go alternative.**

times

(complete only when appropriate)

Section D Alternative No.

**NO DUPLICATES.**

(complete only when appropriate for above)

### 1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

#### Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

If yes, what estimated quantity will be produced per month?

NO
<b>16 m<sup>3</sup></b>

How will the construction solid waste be disposed of (describe)?

**Construction solid waste will be separated into hazardous and general waste.**

**General construction waste will be collected on a monthly basis or as required and will be disposed of at a licensed municipal landfill site.**

**Hazardous construction waste (such as used oils or oily rags) will be collected and disposed of in the hazardous waste container on site that is already used for disposal of hazardous waste from the existing Ferrosilicon production operations. The hazardous waste container will then be collected on a monthly basis or when full capacity is reached. The hazardous waste will be collected by a reputable hazardous waste disposal contractor for disposal at a licensed hazardous waste disposal facility such as Holfontein Hazardous Waste Disposal Site which is a permitted H:H site.**

Where will the construction solid waste be disposed of (describe)?

**General waste will be disposed at a licensed municipal landfill site, while hazardous waste will be collected by a reputable hazardous waste disposal contractor for disposal at a licensed hazardous waste disposal facility such as Holfontein Hazardous Waste Disposal Site which is a permitted H:H site.**

Will the activity produce solid waste during its operational phase?

If yes, what estimated quantity will be produced per month?

NO
<b>50 m<sup>3</sup></b>

How will the solid waste be disposed of (describe)?

**General waste (slag) is produced during the ferrosilicon manufacturing process. The current production of slag at the existing plant is approximately 2 tons per month. With the increased capacity of the proposed Exxaro FerroAlloys Expansion project, a total of approximately 4 tons of slag per month will be produced.**

**The slag is disposed of at a licensed municipal landfill site, where it is used as cover material for the landfill.**

**Another general waste which is produced in the process is rust which is removed from the scrap steel which is an input into the ferrosilicon manufacturing process. Approximately 2% of the scrap steel is removed as rust. A maximum of approximately 18.5 tons per month of rust is produced. The rust is also disposed of at a licensed municipal landfill site.**

**There are small amounts of hazardous waste produced during the operational phase (e.g. used oil from machine maintenance etc.). This hazardous waste is collected by a reputable hazardous waste disposal contractor for disposal at a licensed hazardous waste disposal facility such as Holfontein Hazardous Waste Disposal Site which is a permitted H:H site.**

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?

<b>YES</b>	<b>NO</b>
------------	-----------

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

**All general solid waste feeds into the municipal waste stream.**

**The hazardous waste is disposed of at a privately owned hazardous waste disposal site (EnviroServ Waste Management (Pty) Ltd manages the Holfontein Hazardous Waste Disposal Site).**

**Note:** If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

**A scoping and EIA process is not required as there will be no waste disposed of or treated on site.**

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

<b>YES</b>	<b>NO</b>
------------	-----------

If yes, inform the competent authority and request a change to an application for scoping and EIA.

**A scoping and EIA process is not required as there will be no hazardous waste disposed of or treated on site. The small amounts of hazardous waste produced will be removed to a licensed hazardous waste disposal facility.**

Is the activity that is being applied for a solid waste handling or treatment facility?

<b>YES</b>	<b>NO</b>
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If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

**Exxaro FerroAlloys uses scrap metal (steel) for the production of ferrosilicon. This scrap steel is sourced from the nearby ArcelorMittal steel manufacturing facility. Any spillage of steel throughout the process is recycled and re-used in the process of ferrosilicon production.**

**Ferrosilicon dust which is extracted from the process and from the bag house, is collected in a hopper and recycled back into the ferrosilicon manufacturing process. Thus no dust is disposed of.**

**The ferrosilicon product is required to be between 5 and 212 microns in size. The particles larger than 212 microns are screened out and returned for reprocessing. Thus no ferrosilicon product is disposed of.**

# BASIC ASSESSMENT REPORT [REGULATION 22(1)]

**Liquid effluent (other than domestic sewage)**

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	<input checked="" type="checkbox"/>
-----	-------------------------------------

If yes, what estimated quantity will be produced per month?

	<b>N/A m<sup>3</sup></b>
--	--------------------------

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?

YES	<input checked="" type="checkbox"/>
-----	-------------------------------------

Will the activity produce any effluent that will be treated and/or disposed of on site?

Yes	<input checked="" type="checkbox"/>
-----	-------------------------------------

If yes, what estimated quantity will be produced per month?

	<b>N/A m<sup>3</sup></b>
--	--------------------------

If yes describe the nature of the effluent and how it will be disposed.

**NOT APPLICABLE, no effluent is produced.**

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	<input checked="" type="checkbox"/>
-----	-------------------------------------

If yes, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

**NOT APPLICABLE, no waste water is produced.**

**Liquid effluent (domestic sewage)**

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?

<input checked="" type="checkbox"/>	NO
-------------------------------------	----

If yes, what estimated quantity will be produced per month?

	<b>123 m<sup>3</sup></b>
--	--------------------------

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)? **The municipality will not require additional domestic effluent treatment capacity as the existing capacity is sufficient for the small increase in effluent produced.**

YES	NO
<input checked="" type="checkbox"/>	

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	<input checked="" type="checkbox"/>
-----	-------------------------------------

If yes describe how it will be treated and disposed off.

**NOT APPLICABLE**

**Emissions into the atmosphere**

Will the activity release emissions into the atmosphere?

<input checked="" type="checkbox"/>	NO
-------------------------------------	----

If yes, is it controlled by any legislation of any sphere of government?

<input checked="" type="checkbox"/>	NO
-------------------------------------	----

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. **The Exxaro FerroAlloys Expansion project will require an amendment to the existing AEL for the existing ferrosilicon plant. This triggers the listed activity 28 in the Listing notice 1 (GN R 544, 18 June 2010). Thus only a Basic Assessment process is required.**

If no, describe the emissions in terms of type and concentration:

**An AEL amendment will be required for the expansion. The type and concentration of the emissions will be provided in the application form for the AEL amendment.**

## 2. WATER USE

Indicate the source(s) of water that will be used for the activity

<input checked="" type="checkbox"/> municipal	Directly from water board	groundwater	river, stream, dam or lake	other	the activity will not use water
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**The ferrosilicon manufacturing process uses approximately 8 kl of water which is recycled in the process. Small amounts of potable water (obtained from the municipality) are used by the employees. Some additional potable water will be required as a result of the Exxaro FerroAlloys Expansion project as there will be approximately 45 additional employees working at the plant.**

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

N/A liters

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

Does the activity require a water use permit from the Department of Water Affairs?

YES 

If yes, list the permits required

**NOT APPLICABLE**

If yes, have you applied for the water use permit(s)?

YES 

If yes, have you received approval(s)? (attached in appropriate appendix)

YES 

### 3. POWER SUPPLY

Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source

**Electricity is supplied by the Municipality to ArcelorMittal (landowner) which then supplies electricity to Exxaro FerroAlloys.**

If power supply is not available, where will power be sourced from?

**A power supply is available.**

### 4. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

**Induction furnaces are currently used in the plant and will continue to be used with the Exxaro FerroAlloys Expansion project. An induction furnace is an electrical furnace in which the heat is applied by induction heating of a metal in a crucible placed in a water-cooled alternating current solenoid coil.**

**An induction furnace is a controllable smelting process and the advantage is that it is cleaner and more energy efficient in comparison to other metal smelting processes.**

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

**No alternative energy sources have been taken into account.**

## SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2006, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

### 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

**The main issues raised by IAPs were queries regarding the commencement of the project, how the upgrade will influence the number of employees, and whether fall-out dust impact results are available.**

Summary of response from the practitioner to the issues raised by the interested and affected parties  
(A full response must be provided in the Comments and Response Report that must be attached to this report):

**The relevant IAPs were informed that the commencement of the project would start only after the authority decision on the Environmental Authorisation (EA) and issuing of the AEL. It is expected that the authority decision on the EA for the project will be at the end of August 2013 and the authority decision on the AEL is expected to be in November 2013 (depending on the dates of report submissions). The relevant IAPs were informed that the number of employees and the dust-fall out impacts would be included in the BAR. At this stage it is expected that the number of employees at the plant will double as a result of this expansion. Thus an additional 45 jobs will be created.**

**Please refer to Appendix E for the Comments and Response report.**

### 2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilised in the rating of significance of impacts

**All the risks identified assessed according to the criteria discussed below. Each possible risk was awarded a qualitative ranking. The criteria used for assessing the significance of the impacts are given in Table 1 and Table 2. The significance of the impacts was determined as follows:**

$$\text{impact significance} = \text{consequence (intensity + frequency + extent + duration)} \times \text{probability}$$

**The process adopted involved the application of scientific measurements and professional judgment to determine the significance of environmental impacts associated with the project.**

**Where the consequence of an event is not known or cannot be determined, the precautionary principle was adhered to and the worst-case scenario assumed. Where required and possible, management measures to reduce the significance of impacts were recommended.**

**Table 1: Criteria for assessing significance of impacts**

INTENSITY = MAGNITUDE OF IMPACT	RATING	
Insignificant: impact is of a very low magnitude	1	Insignificant
Low: impact is of low magnitude	2	Low
Moderate: impact is of medium magnitude	3	Moderate
High: impact is of high magnitude	4	High
Very high: impact is of highest order possible	5	Very High

<b>FREQUENCY = HOW OFTEN THE IMPACT CAUSE OCCURS</b>	<b>RATING</b>	
<b>Seldom: impact cause occurs once or twice</b>	1	<b>Seldom</b>
<b>Occasional: impact cause occurs every now and then</b>	2	<b>Occasional</b>
<b>Regular: impact cause is intermittent but does not occur</b>	3	<b>Regular</b>
<b>Often: impact cause is intermittent but occurs often</b>	4	<b>Often</b>
<b>Continuous: the cause of the impact occurs all the time</b>	5	<b>Continuous</b>

<b>EXTENT = SPATIAL SCOPE OF IMPACT</b>	<b>RATING</b>	
<b>Immediate: limited to the immediate site</b>	1	<b>Immediate</b>
<b>Property: limited to the affected property</b>	2	<b>Property</b>
<b>Local Area: impact affects neighbouring properties</b>	3	<b>Local Area</b>
<b>Regional: impact extends beyond the neighbouring</b>	4	<b>Regional</b>
<b>Provincial: impact affects the Gauteng Province</b>	5	<b>Provincial</b>

<b>DURATION = HOW LONG THE IMPACT LASTS</b>	<b>RATING</b>	
<b>Very short-term: impact lasts for a short time (days or less)</b>	1	<b>Very Short-term</b>
<b>Short-term: impact lasts for a short time (weeks or months)</b>	2	<b>Short-term</b>
<b>Medium-term: impact lasts for the first few years of plant operation</b>	3	<b>Medium-term</b>
<b>Long-term: impact occurs over the operational life of plant</b>	4	<b>Long-term</b>
<b>Residual: impact is permanent (remains after closure of plant)</b>	5	<b>Residual</b>

<b>PROBABILITY = LIKELIHOOD THAT THE IMPACT WILL OCCUR</b>	<b>RATING</b>	
<b>Highly unlikely: the impact is highly unlikely to occur</b>	1	<b>Highly Unlikely</b>
<b>Unlikely: the impact is unlikely to occur</b>	2	<b>Unlikely</b>
<b>Possible: the impact could possibly occur</b>	3	<b>Possible</b>
<b>Probable: the impact will probably occur</b>	4	<b>Probable</b>
<b>Definite: the impact will occur</b>	5	<b>Definite</b>

**Table 2: Impact Significance Interpretation Ratings**

<b>IMPACT SIGNIFICANCE</b>	<b>(CONSEQUENCE) X (PROBABILITY)</b>	<b>ACTION REQUIRED</b>
<b>High Significance</b>	67 – 100	Issue will cause a highly notable environmental impact.
<b>Moderate Significance</b>	34 – 66	The issue will have a moderate notable impact on the environment.
<b>Insignificant</b>	0 – 33	The issue will have an insignificant impact on the environment and either be of short term or not noticeable.

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction



## BASIC ASSESSMENT REPORT [REGULATION 22(1)]

phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

### Proposed activity

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
<b>GEOLOGY</b>			
No geological related impacts were identified.	Insignificant	None Required	Insignificant
<b>CLIMATE</b>			
No climate related impacts were identified.	Insignificant	None Required	Insignificant
<b>TOPOGRAPHY</b>			
The topography will be unaffected, as the expansion will occur indoors within an existing facility/ warehouse. Thus there will be no excavations required.	Insignificant	None Required	Insignificant
<b>SOIL</b>			
The site is completely covered with paving and thus soil will not be affected in any manner for this proposed project. No soil will be removed or disturbed.	Insignificant	None Required	Insignificant
<b>LAND USE AND LAND CAPABILITY</b>			
The Pretoria-west area is a known industrial and commercial area. The Exxaro FerroAlloys Expansion project will take place within an existing industrial facility. Thus the proposed project will be in line with the existing land use and land capability.	Insignificant	None Required	Insignificant
<b>VEGETATION</b>			
The proposed activity will not result in the loss of or disturbance to flora. No vegetation will be cleared or disturbed.	Insignificant	None Required	Insignificant
<b>ANIMAL LIFE</b>			
The proposed activity will not result in the loss of or disturbance to fauna.	Insignificant	None Required	Insignificant

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
<b>SURFACE WATER</b>			
All material storage and operations currently take place in an enclosed facility with a roof. All activities and storage of material will continue to be under a roof and thus no contamination of storm water will occur from the site during rain events. Storm water is currently channelled into the existing municipal storm water system.	Insignificant	All input and waste materials must be stored in covered areas to prevent the contamination of stormwater.	Insignificant
<b>GROUNDWATER</b>			
The Exxaro FerroAlloys Expansion project footprint is on a concrete floor area. The storage areas for the input materials and wastes will also be on concrete surfaces. There is thus no possibility of contamination of groundwater. No groundwater extraction will occur for the Exxaro FerroAlloys Expansion project.	Insignificant	The existing ferrosilicon plant and the expansion must be located on a concrete floor area. The storage areas for the input materials and wastes must also be on concrete surfaces.	Insignificant
<b>NOISE</b>			
Noise generated on site does not exceed the noise limits as specified for an industrial site at the site boundary. The Exxaro FerroAlloys Expansion project will result in only a negligible increase in noise levels.	Insignificant	None Required	Insignificant
Noise generated on site inside the building, has the potential to damage hearing of employees, if continuous exposure occurs.  The noise will be confined within the existing warehouse, thus the effect of the noise on the environment is also considered to be minimal.	High Significance	The existing ferrosilicon plant has health and safety procedures and policies in place that are strictly enforced. The safety procedure must be complied with that states that all employees as well as visitors are to be provided with ear protection that should be worn at all times, when	Insignificant

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
		entering the site.  Noise exposure monitoring must be conducted to assess the effectiveness of the risk control.	
<b>HERITAGE RESOURCES</b>			
No disturbances will take place outside the existing ferrosilicon plant footprint and thus there will be no impact on heritage resources. No buildings or structures outside of the existing ferrosilicon plant will be damaged or affected in any way.	Insignificant	None Required	Insignificant
<b>VISUAL IMPACT AND SENSE OF PLACE</b>			
Expansion of the facility will occur within the plant and existing warehouse with no visual impacts and will be in line with the existing sense of place in the Pretoria West industrial area.	Insignificant	None Required	Insignificant
<b>AIR QUALITY</b>			
An increase in PM2.5 and PM10 concentration in the area of the plant due to the increase of ferrosilicon production from 8 100 tonnes p.a. to 13 000 tonnes p.a.  However, the predicted PM2.5 and PM10 concentrations, with the increase in production, will still be below the current emissions standards as specified in the NEM:AQA Regulations (GN 248) Activity 4.9 for ferroalloy production (100 mg/Nm <sup>3</sup> ), and Activity 4.15 for silicon processing (30 mg/m <sup>3</sup> ).  Stack emissions are currently monitored and the	Moderate Significance	The new stack to be constructed for the Exxaro FerroAlloys Expansion project must also be 12 m in height. The expansion must also include the installation of additional bag filters.  The existing ferrosilicon plant has health and safety procedures and policies in place that are strictly enforced. The safety procedure must be complied with that states that all employees as well as visitors are to be provided with dust masks that should be worn at all times, when entering the site.	Insignificant

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
<p>emissions of the proposed expansion have been calculated using USEPA (United States Environment Protection Agency) emission factors. Emission rates were calculated for the following pollutants, particulate matter [PM2.5, PM10, Total Suspended Particulates (TSP)] and carbon monoxide (CO) to determine gas emissions and particulate matter emitted to atmosphere.</p> <p>In the previous expansion of the plant, the Air Quality Specialist recommended that the stack height be increased to 12 metres which would ensure better dispersion of molecules and lower PM2.5 and PM10 concentrations in the vicinity of the plant. This stack height increase has already been done as part of a previous project.</p>		<p>Personal dust exposure monitoring must be conducted to assess the effectiveness of the risk control.</p>	
<b>SOCIO-ECONOMIC IMPACTS</b>			
<p>The FerroAlloys Expansion project will generate approximately 45 additional permanent jobs. A number of employment opportunities will also be created during the construction phase. Employment will be in accordance with Exxaro's employment equity plan.</p>	<p>Moderate Significance - Positive</p>	<p>None Required</p>	<p>Moderate Significance - Positive</p>
<p>Ferrosilicon is used in the mining industry in the Dense Medium Separation (DMS) of ore. The ferrosilicon is mixed with water which increases the density of water by 3.8 times. This dense fluid is then used to separate ores</p>	<p>Moderate Significance - Positive</p>	<p>None Required</p>	<p>Moderate Significance - Positive</p>

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
of different weights. There is a demand for increased production of ferrosilicon, which the Exxaro FerroAlloys Expansion project aims to address. Thus the primary motivation for the project is to expand the ferrosilicon production business of Exxaro FerroAlloys.			
<b>TRAFFIC</b>			
Delivery of raw materials and product is variable. With the increase in ferrosilicon production, traffic will increase slightly.	Insignificant	Due to the low delivery and dispatch rate, no mitigation measures are proposed since the increase in traffic to and from the plant is considered negligible.	Insignificant

<b>Alternative 1 – The no-go alternative</b>			
Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
<p>Not developing the Exxaro FerroAlloys Expansion project will result in the continuation of the <i>status quo</i> at the existing ferrosilicon plant. This includes the continued low levels of ferrosilicon production which are insufficient to meet the needs of the Exxaro FerroAlloys customers. This alternative will not result in increased revenue and business growth for Exxaro FerroAlloys.</p> <p>No additional construction jobs would be generated if the no-go option were to be implemented. The no-go option will also not generate approximately 45 additional permanent jobs.</p> <p>The no-go alternative will not result in any increase in atmospheric emissions from the plant, there will be no additional wastes produced and no additional traffic will be generated.</p>			

<b>Alternative 2 (No second alternative has been considered.)</b>			
Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
This Basic Assessment is for the expansion of an existing facility thus no alternative sites or alternative technologies have been considered as part of this assessment.			

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

**Air Quality Impact Assessment and Peer Review of the Air Quality Impact Assessment. Refer to Appendix G.**

### 3. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

#### Proposed Activity

**In the potential impacts section only the possible impacts that might be applicable to decommissioning or closure will be discussed. It is anticipated that the civil infrastructure (road, paving and buildings) will not be decommissioned, but that the operational infrastructure such as machinery, furnaces etc., will be sold off or cut up for scrap metal.**

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
<b>DUST</b>			
Fugitive dust generation as a result of cutting up and loading of scrap metal.	Insignificant	This impact will be of short duration and thus no mitigation measures will need to be implemented to address this issue. Exxaro's health and safety requirements must be adhered to, to ensure that workers are not exposed to excessive amounts of dust.	Insignificant
<b>NOISE</b>			
Noise generated during the decommissioning phase might be a nuisance to neighbours.	Moderate Significance	This impact will be of short duration. The area is surrounded by industrial sites of which some operate with continuous shifts. However the SAPS training academy and a hospital are nearby, thus working hours during decommissioning must be kept from 07:00 to 17:00.	Insignificant
<b>TRAFFIC</b>			
Increase of heavy vehicles to and from the plant to remove scrap metal or	Insignificant	This impact will be of short duration and thus no mitigation measures	Insignificant

decommissioned equipment.		will need to be implemented to address this issue.	
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**Alternative 1 – the no-go alternative.**

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
The no-go alternative (to not implement the Exxaro FerroAlloys Expansion project) will not have any impacts related to decommissioning and closure as there will not be any additional infrastructure to remove.			

**Alternative 2 (no second alternative has been considered)**

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
No second alternative has been considered.			

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

**Air Quality Impact Assessment and Peer Review of the Air Quality Impact Assessment. Refer to Appendix G.**

**4. CUMULATIVE IMPACTS**

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

The surrounding area comprises mainly light and heavy industry with various industrial processes taking place e.g. ferromanganese production, Exxaro’s Research and Development facility, cement production, iron and steel works, coke manufacturing, glass manufacturing, brickworks and charcoal production.

There is also a coal-fired power station located approximately 400m north of the Ferrosilicon plant.

The Exxaro FerroAlloys Expansion project will be located in the footprint of the existing ferrosilicon plant. The existing ferrosilicon plant as well as the other industrial plants on the site do result in impacts, most notably to air quality, noise and traffic, which are mitigated by management. While the Exxaro FerroAlloys Expansion project does present some additional impacts to air quality, noise levels and traffic, these are insignificant in comparison to the baseline environment of the Pretoria West industrial area. Therefore no detectable changes to the cumulative environmental impacts of the area are anticipated.

The mitigation measures to be put in place with the Exxaro FerroAlloys Expansion project will ensure that the contribution of the expanded plant to the cumulative environmental impact of the area is negligible.

## 5. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

### Proposal

**The main impacts from the project relate to changes in noise levels and air quality.**

**The environmental assessment for the Exxaro FerroAlloys Expansion project considered the potential incremental impacts of the plant and the cumulative impacts of the plant on the surrounding areas.**

**It is concluded that these impacts are either not significant or can be effectively mitigated to a low level of significance. A key factor is the location of the expanded plant within the footprint of the existing ferrosilicon plant which is contained within a warehouse building. The existing plant is well managed in terms of the requirements of the existing Environmental authorisation and APPA certificate. The closest potential sensitive receptors are the people who live and train at the SAPS training college which is located 200 m from the proposed Exxaro FerroAlloys Expansion project site. To date, no comments or concerns have been received from the SAPS regarding this expansion project. The 200 m buffer area and the stringent management of atmospheric emissions at the Exxaro FerroAlloys Expansion project will ensure that significant impacts will not result.**

**The most significant risk of the plant expansion will be to operator health, as health risks of exposure to dust and noise are high. Design and operational procedures at the plant are required to minimise exposure risks. Stringent PPE and risk awareness training will also protect operators and workers. Exposure monitoring must be conducted to assess the effectiveness of the risk control.**

**As the Exxaro FerroAlloys Expansion Project is of a small scale when compared to industrial activities in the Pretoria West industrial area, there will only be a very small increase in the cumulative environmental impacts in the area.**

**There are also positive socio-economic impacts which will result from the FerroAlloys Expansion project, namely the creation of temporary construction jobs and 45 permanent jobs. The project will also have positive economic impacts for Exxaro FerroAlloys and their ferrosilicon customers who will have access to an increased supply of ferrosilicon.**

**In conclusion the environmental risks and negative impacts that may result from the implementation of the Exxaro FerroAlloys Expansion project are not of sufficient significant to prevent the project from receiving environmental authorisation. Key to this is that the Exxaro FerroAlloys Expansion project will be operated to ensure that atmospheric emissions are below the legislated limits.**

**Currently, the negative environmental impacts experienced at the existing plant are already managed and monitored in a satisfactory manner and the additional impacts identified for this process will be managed and monitored in the same manner.**



Alternative 1

**See no-go alternative described below.**

Alternative 2

**No second alternative identified for this project.**

No-go (compulsory)

**The no-go option would mean that the project does not go ahead and there would not be any expansion to the existing ferrosilicon plant. This would mean that the ferrosilicon plant would not increase production at the existing facility. Alternative sites would thus have to be considered which would create an additional environmental footprint. This would result in greater environmental impacts than simply expanding existing infrastructure.**

**The no-go option will not result in any positive socio-economic benefits associated with increased employment opportunities and the increased supply of ferrosilicon to the market.**

**Ferrosilicon is a commodity and Exxaro FerroAlloys needs to increase production in the plant to make it an economically feasible operation. Without an increase in production there is a possibility that scrap metal, which is beneficiated for the production of ferrosilicon, might be disposed of at dump sites.**

## 6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

**Due to the nature of the project, there is only one proposal.**

For alternative:

**Not applicable**

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

**There is only one proposal (and no alternatives other than the no-go alternative) to this project due to the location and nature of the project which is an expansion of an existing plant.**

**Although alternative sites were not selected or evaluated for this process, it is evident that due to the current location of the plant and nature of business of the neighbouring industries, expanding the existing facility is more feasible than the building of a new plant which will have an additional environmental footprint at another locality.**

**The most significant impact of the proposed expansion will be additional atmospheric emissions that will have a cumulative contribution to a poorer air quality in the Pretoria West industrial area. However, viewed on a regional scale, the contribution to air emissions made by the Exxaro FerroAlloys Expansion project will be of very low significance due to the amount and quality of emissions, which are stringently monitored and managed.**

**7. RECOMMENDATION OF PRACTITIONER**

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner).

<del>YES</del>	NO
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If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):


If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

<b>Refer to attached EMP (Appendix H).</b>

**8. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)**

If the EAP answers yes to Point 7 above then an EMPr is to be attached to this report as an Appendix

EMPr attached

Yes
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## SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

It is required that if more than one item is enclosed that a table of contents is included in the appendix

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information - **Not applicable – not a linear activity**

Appendix E: Public participation information

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: Specialist reports – **Air Quality Impact Assessment**

Appendix H: EMPr

Appendix I: Other information

### CHECKLIST

To ensure that all information that the Department needs to be able to process this application, please check that:

- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed; and