

TOWNSHIP ESTABLISHMENT MOTIVATING MEMORANDUM

PROPOSED TOWNSHIP **CLAYVILLE EXTENSION 71**

SITUATED ON A PORTION OF PORTION 207
(A PORTION OF PORTION 183)
OF THE FARM OLIFANTSFONTEIN 410 JR

APPLICATION IN TERMS OF SECTION 96 (1)
OF THE TOWN PLANNING AND TOWNSHIPS
ORDINANCE (ORDINANCE 15 OF 1986)
AS READ WITH THE SPATIAL PLANNING
AND LAND USE MANAGEMENT, 2013

NOVEMBER 2015



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APPLICATION FOR TOWNSHIP ESTABLISHMENT

CLAYVILLE EXTENSION 71

SITUATED ON A PORTION OF PORTION 207 (A PORTION
OF PORTION 183) OF THE FARM OLIFANTSFONTEIN 410
JR

SUBMITTED IN TERMS OF
SECTION 96 OF THE TOWN PLANNING AND TOWNSHIPS ORDINANCE,
1989 (ORDINANCE 15 OF 1986) AS READ TOGETHER WITH THE SPATIAL
PLANNING AND LAND USE MANAGEMENT ACT AS WELL AS THE
EKURHULENI TOWN PLANNING SCHEME, 2014

NOVEMBER 2015

EXECUTIVE SUMMARY

As stated by the premier in her February 2011 State of the Province Address, Gauteng will *“...continue to invest in 14 mixed housing development projects in all regions of the Province.”* One of these is the Clayville-Tembisa Mega-Housing Project. The proposed Clayville Extension 71 Township forms a part of the Clayville-Tembisa Mega-Housing Project, which includes the proposed Clayville Extension 50, Extensions 76-80 Townships and the densification of the existing Clayville Extension 45 Township. Together the Clayville-Tembisa Mega-Housing Project will contribute to approximately 14,000 additional stands and units within the Ekurhuleni Metropolitan Municipality – making this one of the priority housing projects for the Metropolitan and the Province at large.

The proposed development will accommodate the informal settlements of Winnie Mandela Park, Madelakufa and Tembisa.

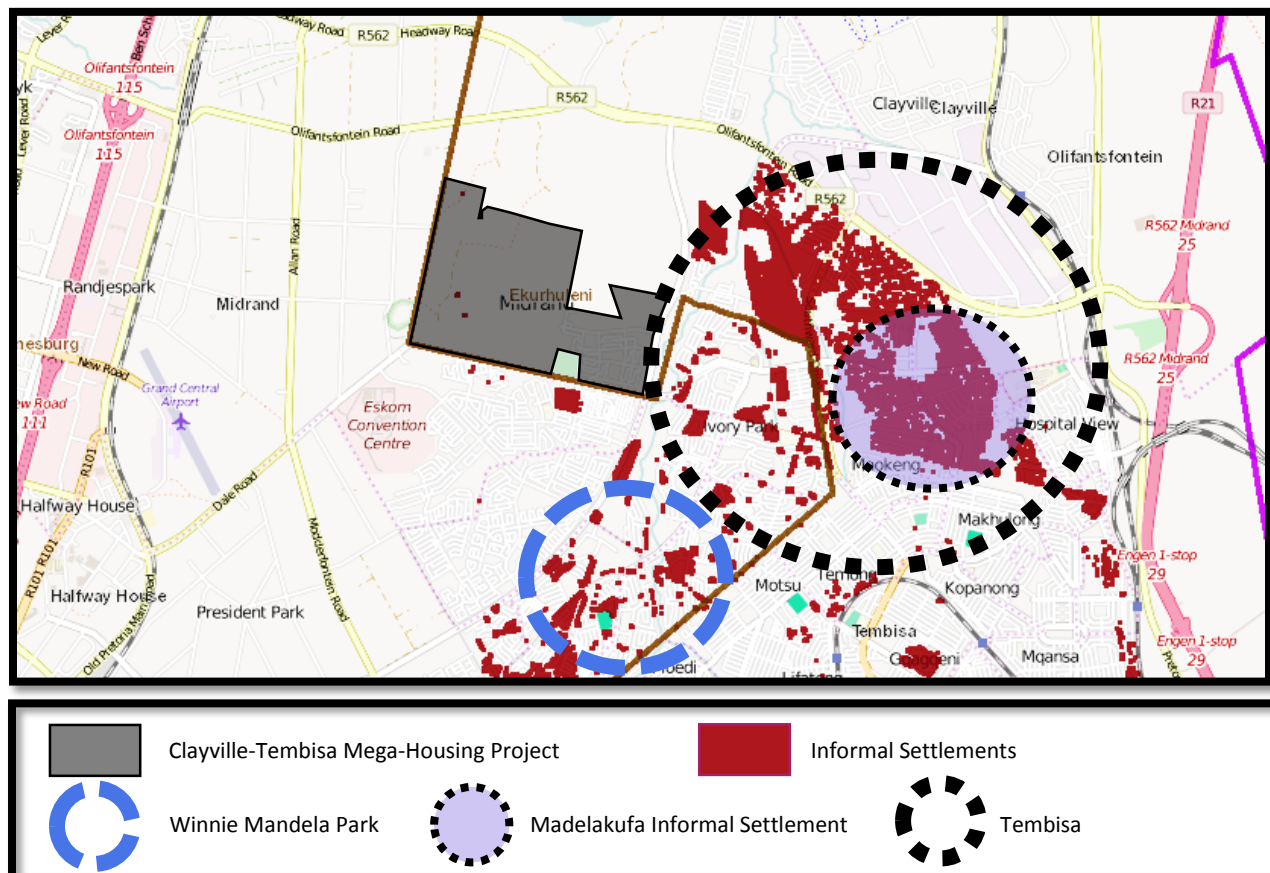


Figure 1: Proposed Clayville-Tembisa Mega-Housing Project in relation to the informal settlements of Winnie Mandela Park, Madelakufa and Tembisa

Clayville Extension 71 will make provision for 434 'Residential 2' Stands, 315 'Residential 4' Units and 11 stands for the associated supportive uses.

This application aims to action the proposed Township Establishment of Clayville Extension 71. Ensuring that a holistic, integrated and sustainable mixed use development is developed to cater for the gap and rental markets and for the betterment of the critical masses which live in the marginalized areas of the Ekurhuleni Metropolitan Municipality. It is envisaged that the development will enable the creation a truly mixed use living environment with varying housing typologies and finance options.

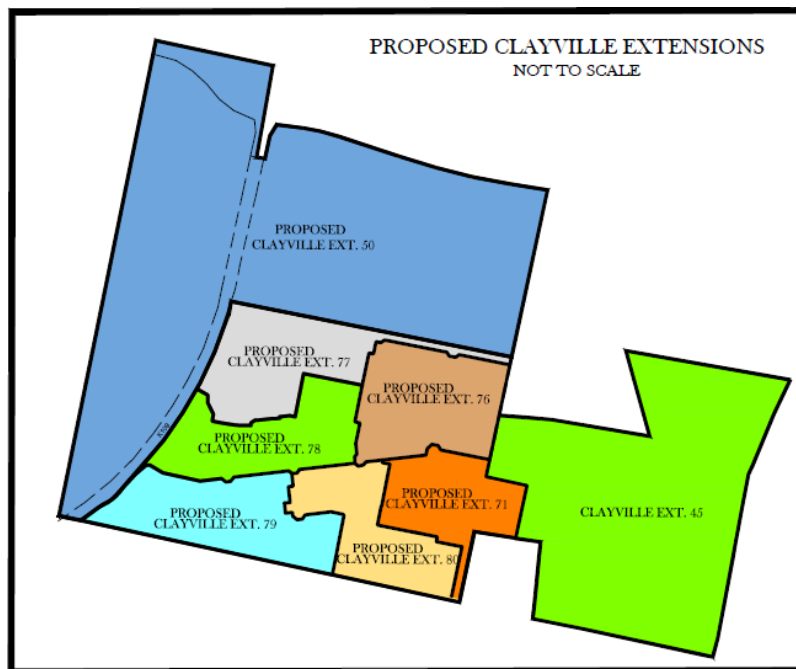


Figure 2: Proposed Extensions of the Clayville-Tembisa Mega-Housing Project

The development will also contribute to ensuring effective urban integration and infill development through coherent planning, economic empowerment, focused public investment, environmental sustainability and a better utilisation of land.

The land has been subjected to extensive studies to ensure its viability for a fully integrated residential development. The various studies conducted on the land have included environmental scoping, wetland delineation, floodline delineation, geology, bulk service availability and extensive road network planning. The township has been proven to be in line with all the legislative frameworks governing development, including the MSDF, Proposed RSDF, NDP, BGN and GSDF. The township establishment of Clayville Extension 71 is both viable and sustainable and can be deemed to be necessary, desirable and desperately needed in the lower-middle income gap and rental markets.



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1 INTRODUCTION

ValuMax (Pty) Ltd. appointed Urban Dynamics Gauteng Inc. to compile and submit an application to obtain the necessary approval from the Ekurhuleni Metropolitan Municipality (Kempton Park Customer Care Area) for the establishment of a township to be known as Clayville Extension 71.

The proposed Clayville Extension 71 Township will be established on a Portion of Portion 207 (a Portion of Portion 183) of the Farm Olifantsfontein 410 JR, located within Region B of the northern planning region of the Ekurhuleni Metropolitan Municipality.

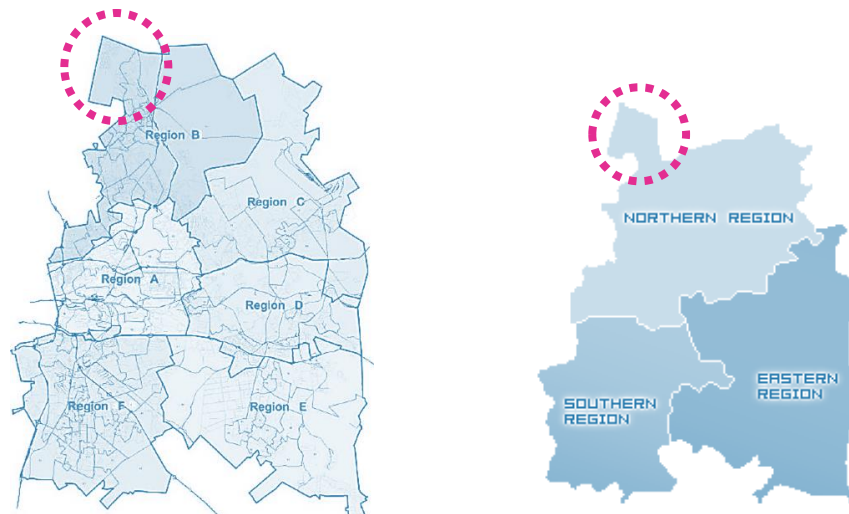


Figure 3: Planning Regions within Ekurhuleni Metropolitan Municipality

The purpose of this application is to establish a fully integrated residential township which will provide housing stock for the lower-middle income gap and rental markets created through the expansion of the Olifantsfontein-Clayville Industrial Area, the development of the Sisulu (R21) Corridor and the proposed Integrated Rapid Public Transport Corridor from Clayville to Vosloorus.

The report will detail information with regard to:

- The site and its surrounds;
- The designs and rationales behind the township layout;
- The policies in support of the development;
- The environmental investigations undertaken;
- The reports on engineering infrastructure;
- The institutional framework and;
- A motivation in terms of the need and desirability of the proposed development.

2 BACKGROUND

ValuMax (Pty) Ltd. was initially mandated by the Gauteng Provincial Government to densify the existing Clayville Extension 45 Township which lies adjacent to Portion 183 of the Farm Olifantsfontein 410 JR. Valumax (Pty) Ltd. then identified Portion 183 Olifantsfontein 410 JR as a strategic land parcel to further address the need for additional housing stock for the low-middle income gap and rental markets within the Ekurhuleni Metropolitan Municipality.

Portion 183 was then subdivided to create two portions, namely Portion 207 and the Remaining Extent of Portion 183 of the Farm Olifantsfontein 410 JR, see **Figure 4** below. The said division of land application, divided the land in accordance with the proposed alignment of the K-route which is proposed to run along the western boundary of Portion 207 of the Farm Olifantsfontein 410 JR (See the **Approved SG Diagram** attached hereto as **Annexure A**).

The proposed Clayville Extension 71 Township is to be established on a Portion of Portion 207 (a Portion of Portion 183) of the Farm Olifantsfontein 410 JR. Clayville Extension 71 forms a part of the greater development of Clayville Extensions 50, 71 and 76-80 development (Clayville-Tembisa Mega-Housing Project) (see below).

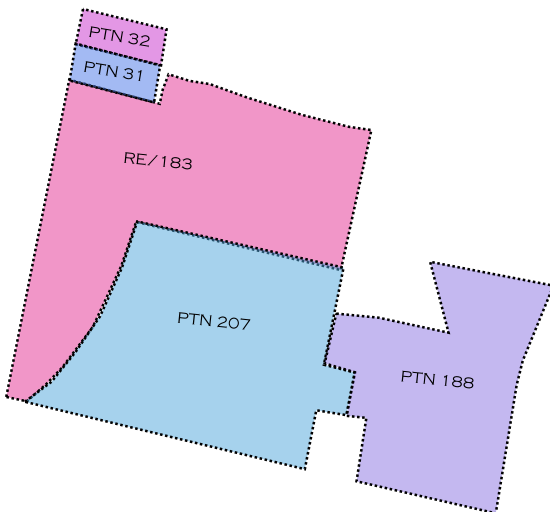


Figure 4: Farm Portions on which the Clayville-Tembisa Mega-Housing Project is established

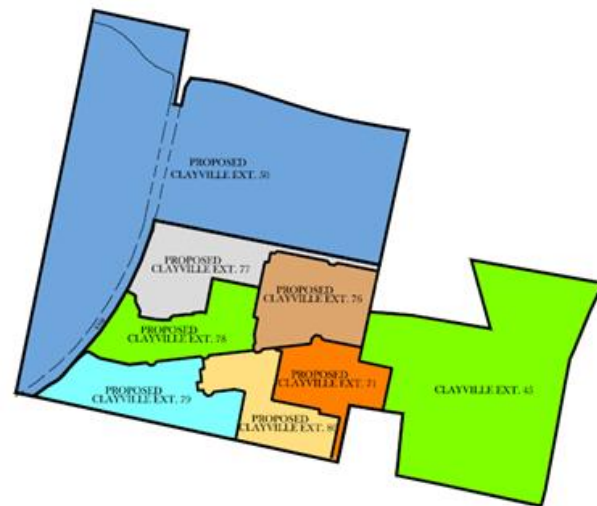


Figure 5: Proposed Extensions within the Clayville-Tembisa Mega-Housing Project

A total of six (6) separate phases are proposed, indicated in Table 1. The phases will be known as:

Table 1: Proposed Phasing Plan

CLAYVILLE PROPOSED PHASES	
Phase 1	Clayville Extension 71
Phase 2	Clayville Extension 76
Phase 3	Clayville Extension 77
Phase 4	Clayville Extension 78
Phase 5	Clayville Extension 79
Phase 6	Clayville Extension 80

It is noted that these proclamation phases can be developed as a separate, stand-alone development phase and implementation will be based on growing market demand as well as the phased increased availability of municipal services.

The proposal by ValuMax (Pty) Ltd. to create a fully integrated housing development links to the CIF (Capital Investment Framework) as well as the Draft EMM RSDF's identification of the area as a priority area for Capital Investment.

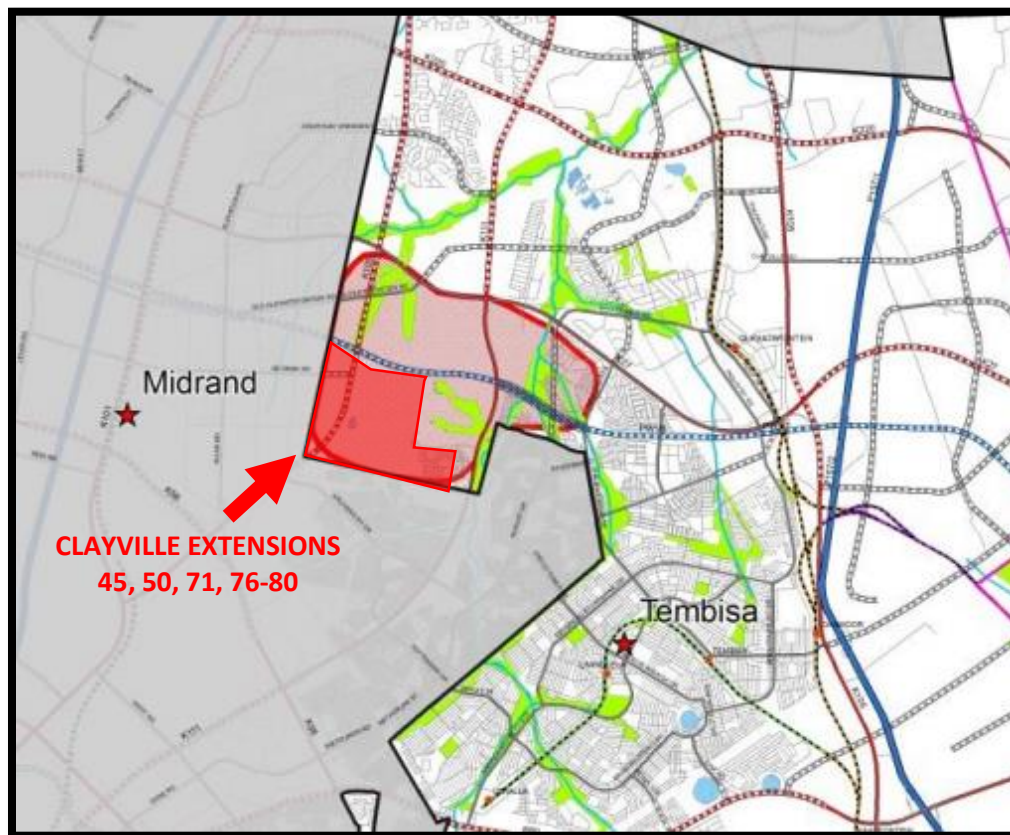




Figure 6: Extract from the Draft EMM RSDF indicating the densification of the existing Clayville Extension 45 Township and the proposed Clayville Extensions 50, 71, 76-80 Townships as priority areas as identified through the CIF (Capital Investment Framework)

Due to the urgency and dire need for housing, it is understandable that an application for the provision of housing stock for the low-middle income gap and rental markets which exist in the surrounding areas is not only recommended but desperately needed. The surrounding area in which the township is proposed was established as an industrial activity node as described within the Ekurhuleni Metropolitan Spatial Development Framework, 2011. This area is increasingly characterised by increased residential growth in relation to the Sisulu (R21) Corridor and the proposed IRPTN Corridor, which would connect this peripheral yet emerging market to the more central areas of the Ekurhuleni Metropolitan Municipality.

3 THE APPLICATION

An application for the establishment of the Clayville Extension 71 Township situated on a Portion of Portion 207 (A Portion of Portion 183) of the Farm Olifantsfontein 410 JR is hereby submitted in terms of Section 96 of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986), as read together with the Spatial Planning and Land Use Management Act, 2013 and the Ekurhuleni Town Planning Scheme, 2014.

This township is proposed to be a Fully Integrated Housing Development with a variety of housing typologies. As a fundamental town planning practice, social amenities and other supporting land uses will be provided to create a sustainable residential development.

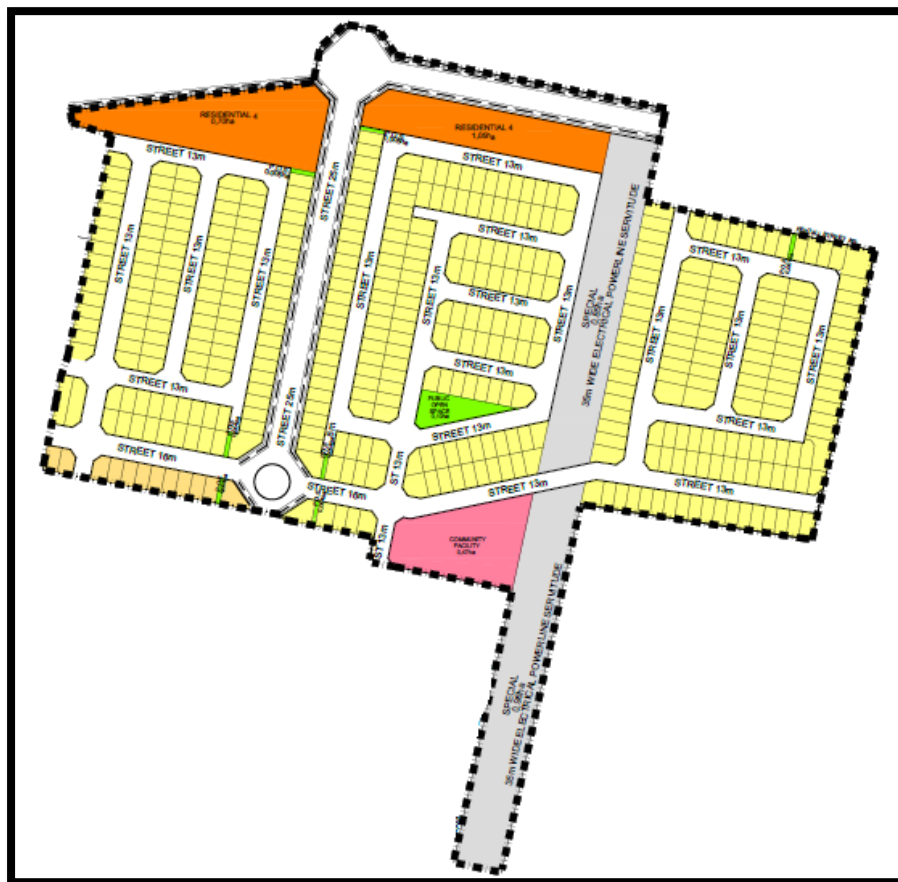


Figure 7: Proposed Layout for Clayville Extension 71

The proposed zonings and associated development controls are detailed in the table below:

Table 2: Proposed zoning & development controls for the proposed Clayville Extension 71 Township.

ZONING	LAND USE	NO OF ERVEN / UNITS	DEVELOPMENT CONTROLS
Residential 2	Dwelling Houses 9m X 18m = 160m ²	422	Density: As Per Scheme (One Dwelling Per Erf); Height: As Per Scheme (2 Storeys); Coverage: As Per Scheme (60%) ; Parking: As Per Scheme (One Parking Bay Per Erf); Building Lines: 1m on All Sides
	Dwelling Houses 9m X 20m = 180m ²	12	Density: As Per Scheme (One Dwelling Per Erf); Height: As Per Scheme (2 Storeys); Coverage: As Per Scheme (60%) ; Parking: As Per Scheme (One Parking Bay Per Erf); Building Lines: 1m on All Sides
Residential 4	Dwelling Houses, Dwelling Units, Residential Buildings And Private Roads	2 (315 Units)	Density: 180 du/ha; Height: 4 Storeys; Coverage: 60% Parking: 0.5 Parking Bays Per Unit; Building Lines: 2m on all sides
Public Open Space	Parks, Gardens, Botanical Gardens, Zoological Gardens, Conservation Areas, Art Galleries, Sport & Recreation Clubs, Social Halls, Open Spaces, Play Parks, Squares And Buildings Used In Connection Herewith, Municipal Purposes, Sports Grounds, Swimming Pools, Stormwater Retention & Attenuation Ponds.	8	As per Scheme
Community Facility	Places Of Instruction, Places Of Education, Social Halls, Places Of Public Worship, Libraries, Child Care Facilities, Sport And Recreation Clubs, Sports Grounds, Monasteries, Convents	1	Height: As Per Scheme (3 Storeys); Coverage: As Per Scheme (50%); Parking: As Per Scheme; Building Lines: As Per Scheme (5m On All Street Boundaries & 3m On All Other Boundaries)
Special	Electrical Powerlines & Municipal Services	2	As per Scheme
Roads	Streets/Roads, Private Roads, Toll Gates, Weigh Bridges, Parking, Cycle Lanes, Bus Lanes, Municipal Services And Infrastructure		As Per Scheme

* Proposed Zonings are in terms of the Ekurhuleni Town Planning Scheme, 2014.

Attached hereto as **Annexure B** are the proposed **ETOPS Annexures** setting out the proposed development controls in terms of the Ekurhuleni Town Planning Scheme, 2014. The proposed zonings and **Proposed Layout Plan** can be seen attached hereto as **Annexure C**.

4 THE LAYOUT

For ease of reference, please refer to the **Proposed Layout Plan** attached hereto as **Annexure C**.

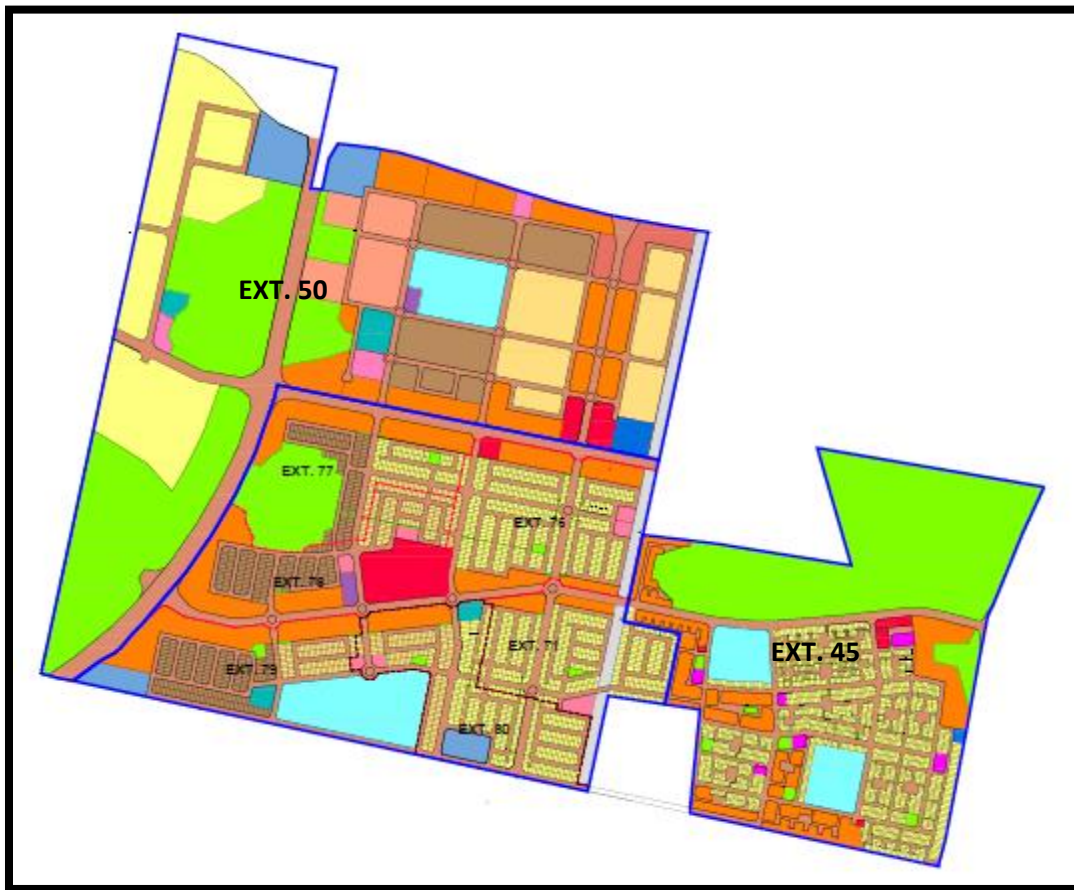


Figure 8: Proposed Layout Plan for the Clayville- Tembisa Mega-Housing Project

4.1 INFLUENCING FACTORS

There are a number of influencing factors that determined the overall layout configuration and structure of the greater Clayville-Tembisa Mega-Housing Project. The explanation below will focus on extensions 71, 76 -80 to better display Clayville Extension 71. These factors relate to:

- The 5 access points to the site. One access on the southernmost road within the township, two accesses on the Proposed K109 and two accesses along the eastern portion of the township.
- The alignment of the proposed K109 through the site.
- The road classifications and associated spacing's
- The linkages with the surrounding areas and the proposed Clayville Ext. 50 Township

- The presence of a wetland and a Dam along the western boundary of the site determines large areas which have been accommodated as “Public Open Space”.

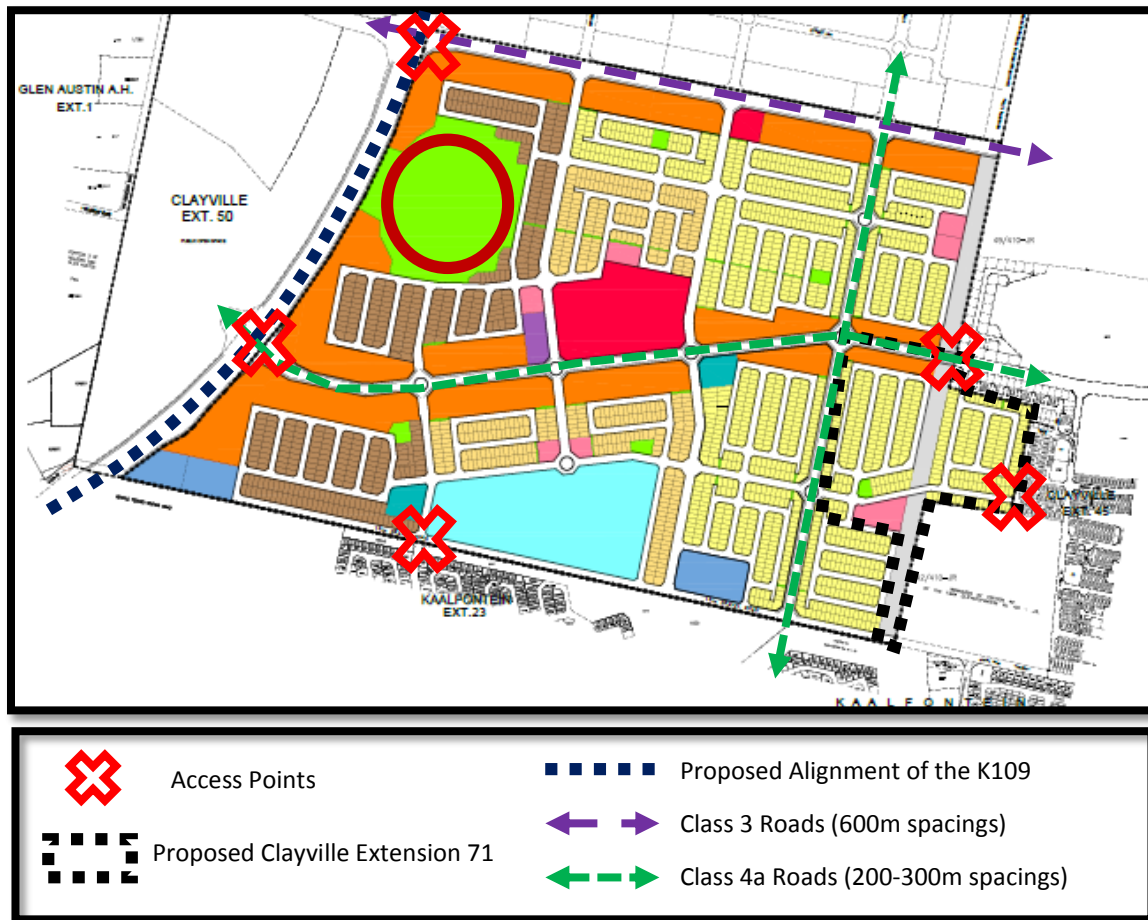


Figure 9: Influencing Factors on the Layout Design of Clayville Extension 71 and Extensions 76-80

4.2 DESIGN RATIONALE

The development motivated in this memorandum is initiated with all existing policy guidelines and legal frameworks in mind. The proposed development conforms to the following principles:

- Urban Integration and Infill

The project site represents a strategic infill site. This development will serve to enhance the integration of the fragmented urban development between the existing Tembisa Area to the south and east, Glen Austin Agricultural Holdings to the west and Midrand Estates to the north. The development will provide new affordable housing in close proximity to the Midrand CBD through the development of currently under-utilised land.

- Coherent Planning



The effective and coherent planning of sub-regions has always been disrupted by the presence of pockets of development cut off from each other by means of major infrastructure or physical elements. The proposed development which is an affordable housing development would start to integrate the various development pockets into a coherent whole by link roads and by filling in the vacant land. The surrounding roads as well as proposed Provincial Roads are accommodated and continued in the layout plan and will provide access to this development and surrounding townships. The development is therefore imperative in firstly integrating pockets of development and secondly making use of existing bulk infrastructure and services. The layout plan makes the necessary linkages to integrate the sub-area.

- Establishment of a Sustainable Living Environment

The developer will strive to establish a sustainable living environment for the inhabitants of Clayville Extension 71 by providing local social supportive facilities. The development forms part of a larger development area with supportive land uses such as a Primary School, Secondary School, Community Facilities and Parks.

- Economic Upliftment

A project like this will create positive spin-offs in terms of job creation for at least the construction period of the project. This economic opportunity must also be structured in such a way that it can establish long-term sustainable economic growth both in terms of skilled and unskilled labour and further in terms of the establishment of permanent business and economic growth opportunities in the area. The proposed development is situated immediately east of the Midrand CBD and close to various business and industrial nodes providing the area with access to places of employment.

- Focused Public Investment

The Gauteng Spatial Development Framework (GSDF) limits development to areas located within a provincial urban edge. This development area falls within this urban edge and is considered a strategic infill opportunity to focus investment in an accountable and suitable manner. The site is situated adjacent to the Midrand CBD and falls within an area identified for infill residential densification in the MSDF for Ekurhuleni.

- Optimisation of Bulk Infrastructure

The project will enhance infrastructure utilisation and it will contribute to speeding up construction of the proposed provincial road infrastructure. Clayville Extension 71 is located adjacent to established

townships, such as Clayville Extension 45 & the Kaalfontein Extensions, providing bulk services in close proximity to the proposed township border.

- Environmental Sustainability

The identified development area has certain environmental qualities and the proposed planning framework recognises these qualities and accommodates all these areas of environmental sensitivity in Public Open Space i.e. the Wetland. Through sensitive planning, the identified natural features were accommodated into public open space to the benefit of the community. After all physical factors and practical considerations were taken into account the layout plan for Clayville Extension 71 was drafted to accommodate the natural features.

See the **Open Space Framework** attached hereto as **Annexure D**.

4.3 PROPOSED ROAD STRUCTURE

Clayville Extension 71 has been planned to take into consideration the existing and planned Provincial and Municipal Road infrastructure, continuing existing roads where necessary.

4.3.1 Provincial Roads

The proposed K109 borders Portion 207 Olifantsfontein 410 JR on the western boundary and was accommodated on the layout plan for Clayville Extension 71 (developed on a Portion of Portion 207).

4.3.2 Access

The proposed Clayville Extension 71 Township will gain access off Thabana Ntlenyana Drive and Jalua Volcano Drive to the east of the proposed township.

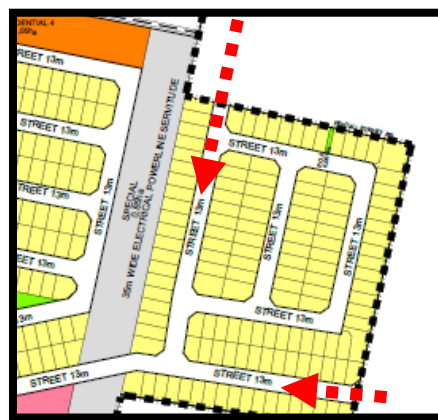


Figure 10: Proposed access into the proposed Clayville Extension 71 Township



block while 16m and 13m streets provide internal access in each block. The 16m access roads intersect with the main spines to provide access to all cells of residential development.

The minimum Class 5b (13m road reserve) roads provide access to the blocks of the residential development. The roads have been designed to create a grid pattern where possible to allow for ease of access and pedestrian accessibility.

The layout has been designed to accommodate a bus route which will run in a loop through the development, additionally the shopping centre (in the Proposed Clayville Extension 78) will provide an Intermodal Transport Facility. Busses and Taxis will enter the township from the K109 or through the northernmost road on the boundary of the Clayville Extension 77 Township, which will form a strategic east-west linkage.

4.3.4 Street Names

Street names have not yet been included in the township layout plan. The proposed street names are to be confirmed in due course. It is proposed, that once the street names have been submitted, these street names be approved together with the township application.

4.4 RESIDENTIAL COMPONENT

With reference to **Annexure C** (Layout Plan), the design philosophy is to provide bonded houses and rental units and services in Clayville Extension 71 at a level that is affordable for people in the gap and rental market. The development will cater for bonded housing for middle income groups earning between R3,000.00 and R15,000.00.

A total of approximately 434 'Residential 1' erven will be provided and are made up of erven measuring 160m² and 180m² with average dimensions of 9.5m x 20m. A further 315 rental units will be provided (180 units per hectare) on erven zoned "Residential 4".

4.5 SUPPORTIVE LAND USES

The underlying philosophy advocated is one of a comprehensive and sustainable residential environment satisfying the housing and other social needs of the target community. The overall Layout Plan for Clayville Extension 71, makes provision for a total of 739 residential stands and units. These residential erven comprise stands at different densities. The Clayville-Tembisa Mega-Housing Project layout plan makes provision for Schools, Community Facilities and a neighbourhood shopping centre.



The provision of supportive land uses represents the application of the minimum standards applicable to the larger focus area. Care was taken to ensure that all supportive land uses (over the larger area) are accessible through 20m or 16m street reserves, which represents those roads planned for public transportation and overall accessibility. Careful thought was also given to enable safe pedestrian movement to and from such facilities.

- Community Nodes

The Clayville-Tembisa Mega-Housing Project provides for 1 large Business stand in Clayville Extension 78, which is located centrally in the development along the 25m access road into the township. The intention is not to create a major business node which would be in conflict with the Midrand CBD, but to provide a neighbourhood shopping centre in support of the local community. Small corner shops were also provided in Clayville Extension 45 and 76. Additionally 13 community facility stands have been accommodated within the Clayville Extension 45, 50, 71 and 76-80 Townships, along with 59 stands zoned Public Open Space.

- Public Open Space

A large pocket of land zoned Public Open Space was accommodated on the western extent of the Clayville Extension 50, 71 and 76-80 townships to accommodate the dam and wetland area. This area was identified as a wetland area and important for the Giant Bullfrog ecosystem and therefore needed to be protected.

In accordance with the guidelines as set out in the draft RSDF 2015/2016, it is imperative that through the development of a township such Clayville Ext. 71, walkable neighbourhoods, access and an interconnected open space framework be provided to foster a sense of place in neighbourhoods.

An open space framework was created for the proposed Clayville-Tembisa Mega-Housing Project, and can be seen attached hereto as **Annexure D**.

5 PROPERTY PARTICULARS

5.1 LOCALITY

Regionally, the subject site is located within the northern part of the Ekurhuleni Metropolitan Municipality. The land is strategically located between the R21 to the east and the N1 to the west of the site. Tembisa is located approximately 8km to the South East, Midrand approximately 7km to the South West and

Centurion approximately 21km to the north of the site (see Regional Locality Plan attached hereto as Annexure E).

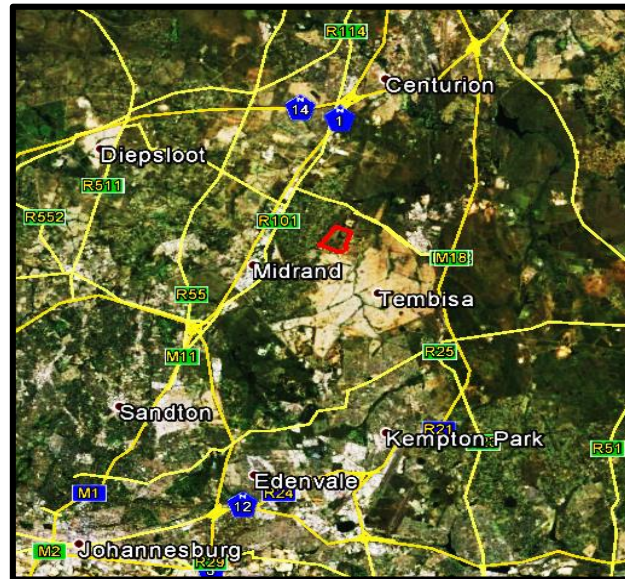


Figure 12: Regional Locality of the Subject Site

Locally, the subject Mega-Housing Project is located to the east of the Glen Austin Agricultural Holdings and Bird Sanctuary. Kaalfontein low-middle Income Township lies adjacent to the site on the southern boundary and Ivory Park township lies to the east of the subject land, these townships form the peripheral areas to Tembisa. Olifantsfontein Road is located further north of the site which links the N1 and the R21 (Albertina Sisulu Corridor). The subject land is furthermore located to the north-east of the Gautrain's Midrand Station and the Grand Central Airport (see Aerial Locality Plan attached hereto as Annexure F).

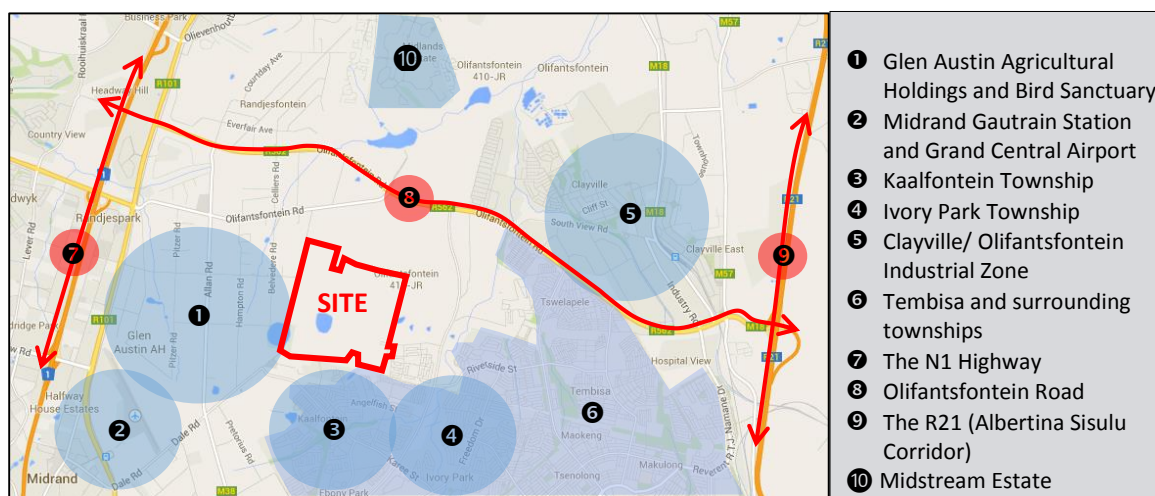


Figure 13: Locality of the Clayville-Tembisa Mega-Housing Project

5.2 EXISTING AND SURROUNDING LAND USES

From the site visit conducted, the Tembisa/Kaalfontein/Ivory Park Townships are located to the south-east of the subject site (Figure 14 & 15); the Glen Austin Bird Sanctuary to the west of the subject site (Figure 16); City Power and Johannesburg Roads Agency Depots to the south of the subject site (Figures 17 & 18) and the Interwaste landfill site directly north of the site (Figure 19).



Figure 14: Kaalfontein Township directly south of the subject site



Figure 15: Tembisa Township to the South East of the Subject Site



Figure 16: The Glen Austin Bird Sanctuary to the West of the Subject Site



Figure 17: Johannesburg Roads Agency Depot to the South of the Subject Site



Figure 18: City Power Depot to the South of the Subject Site



Figure 19: Interwaste Landfill Site to the North of the Subject Site

The existing **Surrounding Land Use** and **Zoning Plans** can be found attached hereto as **Annexures M** and **N** respectively.

5.3 LEGAL ISSUES

5.3.1 Property Description, Ownership and Size

With reference to the **Deed of Transfer T16870/2009** (attached hereto as **Annexure G**), Portion 183 of the Farm Olifantsfontein 410 J.R. is registered in favour of Summer Symphony Prop 264 CC.

Portion 183 was divided to create two portions, namely Portion 207 and the Remaining Extent of Portion 183.

The proposed Clayville Extension 71 Township is to be established on a Portion of Portion 207 (a Portion of Portion 183) of the Farm Olifantsfontein 410 JR. See the table below, which summarizes the portions description, ownership and size:

Table 4: Property Ownership, Description and Size

Property Description	Ownership	Size	Title Deed
Portion 183 Olifantsfontein 410 JR	Summer Symphony Properties 264 CC	17,01 Ha of the total area 274,3906Ha	T16870/2009

5.3.2 Development Agreement and Special Power Of Attorney

A copy of the necessary **Special Power of Attorney** and **Closed Corporation Resolution**, mandating Urban Dynamics Gauteng Inc. to submit this application on behalf of the registered land owner are attached hereto as **Annexure H** respectively.



5.3.3 Mineral Rights and Related Issues

The mineral rights on the farm now vest with the State as custodian of such rights under the Minerals and Petroleum Resources Development Act.

The subsequent application for township establishment will be circulated to the Department of Mineral Regulation for their comments and consent in terms of Section 53 of the Minerals and Petroleum Act, 2002.

5.3.4 Mortgage Bond

There are no mortgage bonds registered against the property Title, therefore no bond holder's consent is required.

5.3.5 Restrictive Title Conditions & Servitudes

The aforementioned Title Deed has no restrictive conditions over the subject property (see the **Land Surveyors Certificate** and the **Conveyancers Certificate** attached hereto as **Annexure I** and **P**).

6 ENVIRONMENTAL CONDITIONS

LEAP has been appointed by ValuMax Midrand (Pty) Ltd to assist with the requirements of the Scoping (EIA) Assessment Procedure, currently in process under the NEMA, 2006 legislation. A Notice of Intent was lodged with the Gauteng Department of Agriculture and Rural Development (GDARD), the application reference number received is GAUT 002/14-15/0097. An Environmental Impact Assessment will be followed and an application for authorization will be made in respect of NEMA activities listed in Government Gazette No. 543, 544, 545 and 547 of June 2010.

7 GEOLOGY

Intraconsult CC was appointed by Valumax Midrand (Pty) Ltd to compile a Geotechnical Report to present and comment on the results and observations of geotechnical investigations carried out for project planning purposes for Clayville Extension 50 and 71.

The project was initially described as Clayville Extension 50 & 71, however Clayville Extension "71" was divided to become 6 separate Extensions namely; Clayville Extension 71, 76, 77, 78, 79 and 80.

Find the **Geotechnical Report** attached hereto as **Annexure O** a summary of the main findings within the report below.



7.1 SITE DESCRIPTION

Natural vegetation consists of veld grasses. There are areas of medium hard rock and hard rock and sub-outcrop in sectors of those site which lies immediately north of the Glen Austin fault belt.

7.2 FOUNDATION RECOMMENDATIONS AND SOLUTIONS

The geotechnical investigations confirmed that potentially problematic soils mantle the bedrocks over the site area. The locality of these soils and their anticipated in-service behavior has been analysed and broad zonation provided on the soil maps.

Possible foundation solutions are further complicated by the possible presence of 'hard' and 'soft' materials immediately beneath individual footprints as a consequence of local rock sub-outcrop. It is recommended that all soils are precompacted below foundation works.

As many of these erven are likely to be developed with double Storey structures. It is recommended that engineered rationally designed foundations are adopted on this site.

7.3 DRAINAGE

Signs of potential seepage and perched water tables were noted in many of the opened trial holes and are probably associated with the impermeable nature of the underlying pedocrete soils and bedrock across this site.

The seepage zones prefixed 2/3W require particular attention. The following comments and recommendations apply:

- The subsurface profile typically consists of a thin horizon of hillwash, overlying hardpan ferricrete grading into soft and hard rock granite.
- During the rainy season ground water accumulation and lateral seepage occurs within the soils horizons, on the soil-ferricrete/granite interface. This water gathers upslope of the seepage zone and migrates downslope until it is forced to "daylight" by the outcropping or dramatic shallowing of the granite or ferricrete.
- It is the opinion of Intraconsult cc that these sub-areas can be developed from a geotechnical perspective provided certain precautionary measures are implemented, including:
 - Use of cutoff drains topographically immediately above the delineated area and also the side drains in appropriately designed road networks.



- Subsurface drains located strategically to capture the groundwater seepage e.g. below the sewer pipeline in sewer trenches. These drains could remove the water and discharge it downslope possibly into road side drains.
- Using spoil to backfill the deeper pan areas – later to be planned as POS.
- All structures and walls will need to have adequate freeboard and appropriate damp proofing, to preclude rising damp.

7.4 SPECIAL PRECAUTIONARY MEASURES

Careful stormwater management will be required across this entire site in order to remove stormwater in a speedy and efficient manner and to prevent any accumulation of surface water against or near buildings.

Special care will be required for the design (and drainage) of services in close proximity to any of the existing natural drainage paths that occupy sectors of this site, as spring/seepage conditions may be expected to occur in such locations during periods of heavy or continuous rain.

7.5 GENERAL SITE CLEARANCE / PREPARATORY WORKS

Provision should be made to remove the areas of unconsolidated solid and organic waste fill uncovered during these investigations.

7.6 ROAD CONSTRUCTION AND INSTALLATION OF UNDERGROUND SERVICES

Most sections of the site are underlain by soils with a general assessment of 'fair' to 'good' as natural sub-grade materials.

"Intermediate' excavation conditions should be anticipated in sections of the site as well as some degree of hard rock where outcrop conditions exist.

Outcropping boulder medium and hard (granite) rock has been recorded as well as solid hard (granite) rock outcrop. These are certainly additional outcrops or near surface hard materials across this site currently masked by long grasses and the dumps of solid and organic waste. It is probably prudent to avoid such rocky sub-areas in the planning of this site.

Selected granular bedding and select fill will need to be imported to these works.

7.7 CONCLUSION

It is recommended that all layouts for this development are reviewed on an ongoing basis and finally certified by the geotechnical specialist as being in accordance with the findings detailed within the report. It is recommended that a competent specialist inspect excavation works for services during the development of the site as poorer sub-areas may have been missed.

8 ENGINEERING SERVICES

8.1 TRAFFIC IMPACT STATEMENT

WSP Group Africa (Pty) Ltd was appointed to prepare a Traffic Impact Assessment for Clayville Extension 50, 71 and 76-80.

For ease of reference, please see the Traffic Impact Assessment attached hereto as Annexure J.

8.1.1 Surrounding Road Network and Master Planning

The surrounding road network and master planning includes municipal planning, provincial and national planning.

The provincial and national road planning includes the planned K111, K109 and PWV5 (see Figure 20 below).

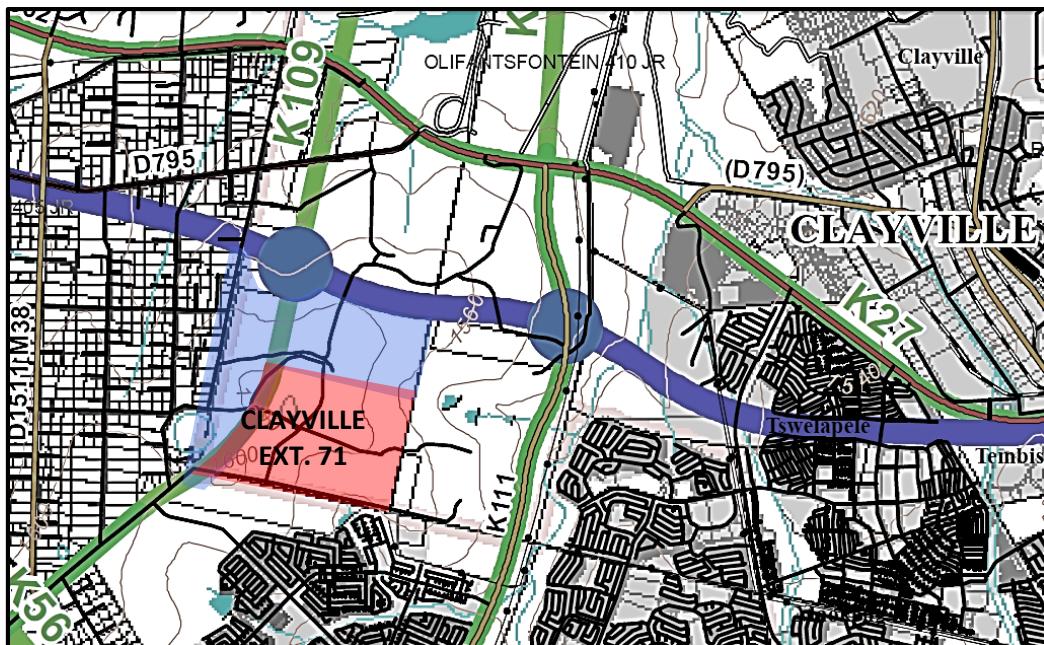


Figure 20: Proposed Major Roads surrounding the subject site - The K109 & the PWV5

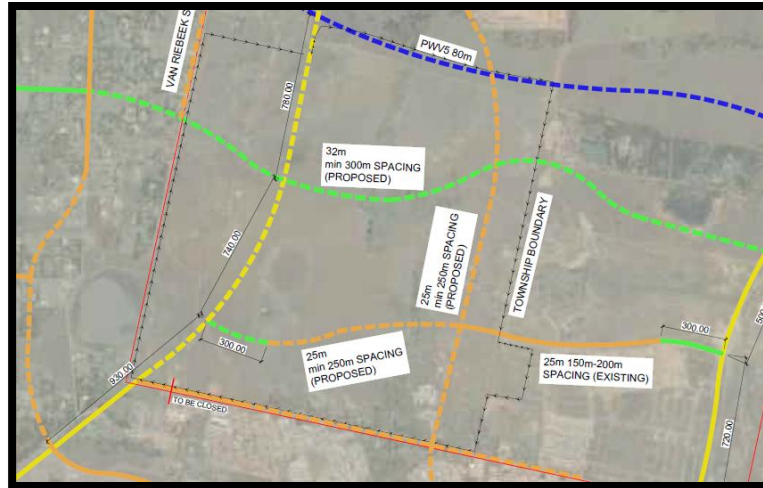


Figure 22: Proposed Accesses to Clayville Extensions 50, 71, 76-80

8.1.3 Existing Traffic Volumes and Development Trip Generation Volumes

A traffic count was conducted on the existing traffic count and a common peak hour was determined:

- Weekday AM Peak Hour 06:45-07:45
- Weekday PM Peak Hour 16:30-17:30

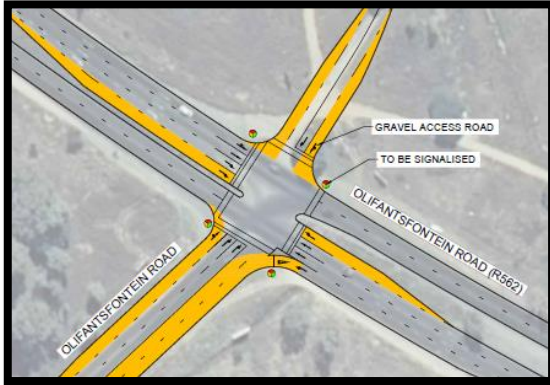
Detailed traffic surveys were carried out at the following intersections:

- Olifantsfontein Road (R562)/Olifantsfontein Road
- Olifantsfontein Road (R562)/Main Road (Future K111)
- Main Road (Future K111)/Thabana Ntlenyana Drive
- Main Road (Future K111)/Riverside Street
- Main Road (Future K111)/Karee Street
- Dale Road/Archerfish Drive
- Dale Road/Modderfontein Road
- Dale Road/Old Pretoria Road

From the surveys and the expected trip generation (inclusive of the 2020 scenario and the latent development inclusion) the proposed development is expected to generate approximately 5061 trips and 5870 trips (inbound and outbound) during the weekday AM and PM peak hours on the external road network.

8.1.4 Road and Intersection Upgrades

The following road and intersection upgrades are proposed for the development of the Clayville-Tembisa Mega-Housing Project:



Olifantsfontein Road (R562) and Olifantsfontein Road



Olifantsfontein Road (R562) and Main Road (Future K111)



Thabana Ntlenyana Drive and Main Road (Future K111)



Riverside Street and Main Road (Future K111)



Future Main Road (K111) and Karee Street



Dale Road (Future K109) and Archerfish Drive



Allan Road, Dale Road and Modderfontein Road



Kerk Street, Dale Road and Old Pretoria Road



Proposed K109 and Olifantsfontein Road (R562)



Proposed Access Roads and the Proposed K109



Proposed K109 and the Proposed Access Roads

Figure 23: Proposed Road and Intersection Upgrades for the Clayville-Tembisa Mega-Housing Project



8.1.5 Non-Motorised Transport and Public Transport

The existing area is serviced by Minibus Taxis which were observed on Main Road, Archerfish Drive and Dale Road. In addition to this public transport lay-bys are currently along Main Road near the Main Road/Riverside Street Intersection and Main Road/Thabana Ntlenyana Drive Intersection.

The future K109 will be provided with a pair of public transport lay-bys in the form of bus and taxi stops at each access point. A 1.5m sidewalk will also be constructed along all roads within the development.

8.1.6 Conclusion and Recommendations

- It is proposed that the development be served by two primary accesses off the planned future K109 route. The secondary access to the proposed development is off Main Road (planned future K111 route) and Thabana Ntlenyana Drive. Furthermore a future access is planned 500m north from K111/Thabana Ntlenyana Drive intersection.
- From the analysis performed, it was found that the impact of the proposed developments can be mitigated by means of a number of road and intersection improvements.
- The 2020 background traffic plus latent rights traffic show that there is an existing capacity constraint. Therefore the developers of the latent rights developments are required to contribute towards roads and intersection upgrades. The upgrading will be as per the requirements of EMM and GDRT.

From a traffic engineering perspective, the proposed development is thus regarded as feasible and sustainable and is therefore supported.

8.2 ENGINEERING BULK SERVICES

Bigen Africa Services (Pty) Ltd was appointed by Valumax Midrand (Pty) Ltd to do the investigation on the existing and required external engineering services for the proposed Clayville Extension 71, 76-80 housing development.

The Outline Scheme Report can be found attached hereto as Annexure K.

The engineering services addressed in this report are:

- Water Supply
- Sanitation
- Roads Infrastructure



- Stormwater; and
- Electricity Supply

8.2.1 Water Supply

The design of the bulk, link and internal reticulation required for the development will accommodate the ultimate demands anticipated. The total Average Annual Daily Demand (AADD) of the Clayville Extension 71 Development Project amounts to 4.9 Ml/day. The peak hour demand totals 230 l/s.

Table 5: Standards and Specifications for Water Supply

ZONING	UNIT DEMAND	UNITS OR ERVEN	AADD (Kℓ/d)	FLOW (ℓ/s)	DESIGN PEAK FLOW (ℓ/s)
Res 1/RDP Units	800 ℓ/unit/day	2220 Units	1332	23.13	61.67
3-4 Storey RDP/Social/Rental Units	600 ℓ/unit/day	3814 Units	2288	39.7	105.9
Crèche	2 000 ℓ/unit/erf		1 500	17.4	69.4
Religious	2 000 ℓ/unit/erf				
Schools	15 000 ℓ/unit/erf				
Business (Offices, shops etc.)	20 000 ℓ/unit/erf				
Industrial	20 000 ℓ/unit/erf				
Community Facilities	2 000 ℓ/unit/erf				
Cultural Village	2 000 ℓ/unit/erf				
Total			5 120	80.23	237

Johannesburg Water and Rand Water Bulk Water Infrastructure exist in close proximity to the development. The utilisation of both entities' infrastructure was considered for the provision of water, but the only viable option is the supply from the Rand Water Infrastructure.

A 915mm diameter Klipfontein-Pretoria Rand Water Line (RW3508) is situated within the road reserve of Allan Road to the West of the development. Supply to on-site infrastructure was considered by connecting to the abovementioned Rand Water pipeline. Rand Water requires that on-site storage facilities be provided if the peak flow rate exceeds 30% of the average annual daily demand flow rate.

As a result a 20Ml ground reservoir, a 2Ml water tower and a pump station which will supply the high and low pressure zone areas need to be constructed. A 700mm diameter supply line will be required between

the Rand water line and the new ground reservoir on site, as well as a new 400mm diameter steel connection line to the township.

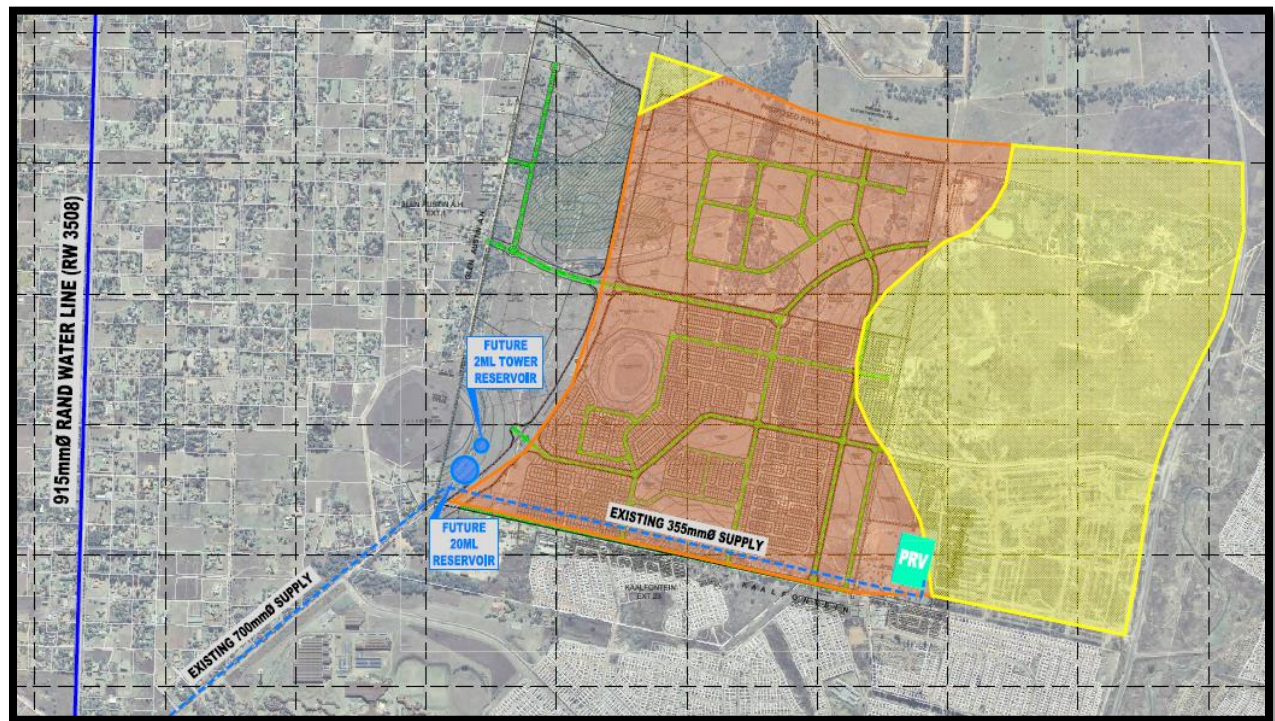


Figure 24: Proposed Bulk Water Infrastructure

8.2.2 Sewerage

The Ekurhuleni Metropolitan Municipality is the Water Service Authority for Clayville Extension 71, 76-80 Development in terms of the Water Services Act (Act no. 108 of 1997).

Sewerage designs are in line with the Sewer Master Plan for the area. The entire development will be in accordance with conventional level 3 – a metered pressure water connection with water-borne sanitation for each property.

Table 6: Standards and Specifications for Sewage Infrastructure

PARAMETER	DETAIL	SPECIFICATION
Peak Factor	Entire Development	2.5
Minimum Flow Velocity	Residential Areas	0.7 m/s
Minimum Depth to invert	Mid Blocks	1m
	Road Reserve	1m
	Other areas	800mm
Manhole Spacing	Network Sewers	110m

Minimum Gradients	150mm Diameter (fewer than 24 dwellings) 150mm diameter 200mm diameter 225mm diameter 250mm diameter 300mm diameter	1/80 1/100 1/200 1/220 1/240 1/300
Pipe Material	110mm to 315mm diameter ≥ 355mm diameter	Solid wall uPVC class 400 to SANS 1601 Solid Wall uPVC class 34 to SANS 791
Design Capacity	All Pipes	67% at design flow
Minimum Pipe Diameter	Gravity Sewers Connections	150mm 100mm
Stormwater Infiltration		15% of design flow
Hydraulic Calculations	Manning Equation	$n = 0,012$
Location of Sewers	All Areas	Sewers 2.5m from road reserve boundaries, unless otherwise indicated. 1m from the erf boundary for midblocks
Connections	For Stands	110mm uPVC with slip on couplings

The Kempton Park Water Master Plan categorises the project area within the “Eastern Area” served by the 750mm diameter ERWAT Regional Outfall Sewer, draining the entire area and connecting to the Olifantsfontein Waste Water Treatment Works located to the North West of Clayville.

The natural topography of the site divides it into three drainage areas as indicated below:

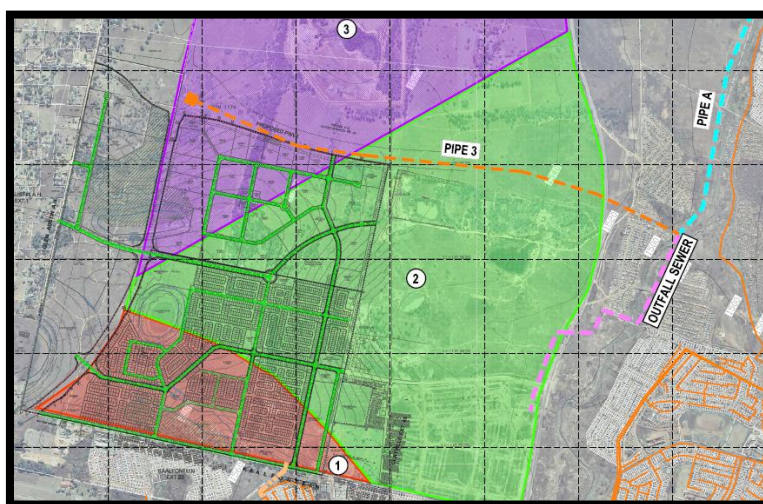


Figure 25: Proposed Bulk Sewer Infrastructure



Drainage Area One: Drainage area one (+52 ha) drains to the south where it will connect into a bulk sewer located in the vicinity of the Kaalspruit floodline in Kaalfontein. A 160mm diameter link sewer of 1100m in length needs to be constructed and 475m of 250mm diameter need to be upgraded to a 315mm diameter pipeline. The sewer drains into the ERWAT Regional Outfall Sewer which drains into the Olifantsfontein WWTW.

Drainage Area Two: Drainage area two slopes towards the east where a 450 mm diameter communal link sewer needs to be constructed which will drain both the Clayville Development and a future Ekurhuleni Housing Development ($\pm 4\,000$ stands) located to the east. This pipe follows the Kaalspruit flood line at a minimum slope.

Drainage Area Three: Drainage area three drains Extension 50 and (± 50 ha) drains toward the north where a new 250mm diameter link needs to connect area three with the link of area two. A small pump station may be required to transfer the run-off from this area over the watershed into Drainage Area 2.

Pipe 2 and Pipe 3 will connect into the proposed 500mm outfall sewer and a 500mm sewer bridge crossing need to be constructed upstream of the connection into the ERWAT sewer east of the Kaalspruit. The total length of the outfall sewer is approximately 1.5km and the sewer bridge crossing is approximately 80 m in length. The alignment of the outfall sewer and locality of future developments, which will connect to the collective sewer.

The sewerage will be treated at the Olifantsfontein WWTW which has a total capacity of 105 Mℓ/day. Previously Ekurhuleni Metro Municipality indicated that the treatment works are currently operating at 65 Mℓ/day. ERWAT still needs to confirm that the works has sufficient capacity to accommodate sewer flows generated by the proposed development of 10.8 Mℓ/day.

8.2.3 Roads

It is envisaged that the majority of traffic will be generated from the Midrand City Centre. As a result access from the North and South East will be achieved by extending Dale Road on the Southern Border of the development and constructing the K109 link between Dale Road and Olifantsfontein Road with intersections.

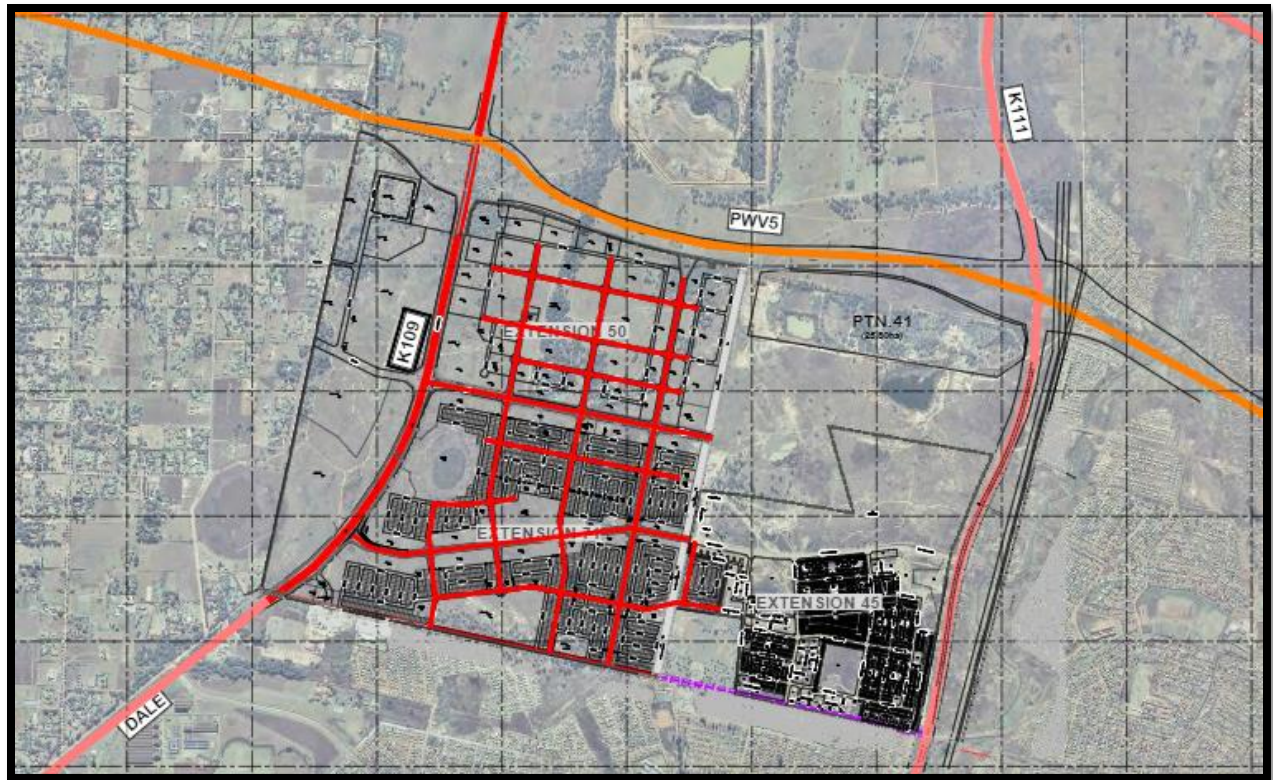


Figure 26: Proposed Bulk Roads and Stormwater Infrastructure

Access from the North and South East will be achieved by extending Dale Road on the Southern border of the Development to Ruwenzori Road in the east and constructing the K109 link between Dale Road and Olifantsfontein Road as an initial phase. Road servitudes in the vicinity of the development include the future PWV5 (East West direction) located to the North, the planned K109 (North South direction) to the west and the existing K111 (North South direction) to the East.

Table 7: Road Design Guidelines

	ROAD CATEGORY				
	Local Distributor Class 4	Access Collector Class 4	Access Collector Class 5a	Access Loop Class 5b	Access Loop/ Cul-de-Sac Class 5c
Road Reserve Width (m)	30	25	25/20	16/13	10
Carriage Way Width (m)	14	14	7,4/8	6/5,5	5
Minimum Centre Line Radii for Angles of deflection > 60 Deg (m)	90	90	90/50	50/30	12,5

Minimum Centre Line Radii for Angles of deflection ≤ 60 Deg (m)	500	500	130	110/60	30
Roadway Shoulders (m)	2,0	2,0	2,0	2,0	N/A
Desired Maximum Speed (km/h)	60	60	50	40	20
Minimum Stopping Distances	85	85	65	65	20
Minimum Gradient	1:150	1:150	1:150	1:150	1:150
Maximum Gradient	1:10	1:10	1:10	1:8	1:5
Minimum K-Value	10	10	10	6	1
Minimum Vertical Curve (m)	40	40	40	30	20
Cross Fall / Camber	2% for Road Gradient $< 6\%$ 3% for Road Gradient $> 6\%$				2,5%
Super Elevation	4%	4%	4%	None	None

8.2.4 Flood Lines

Two flood plains initiate on the site, one at the southern border and one at the center of the development as indicated below.

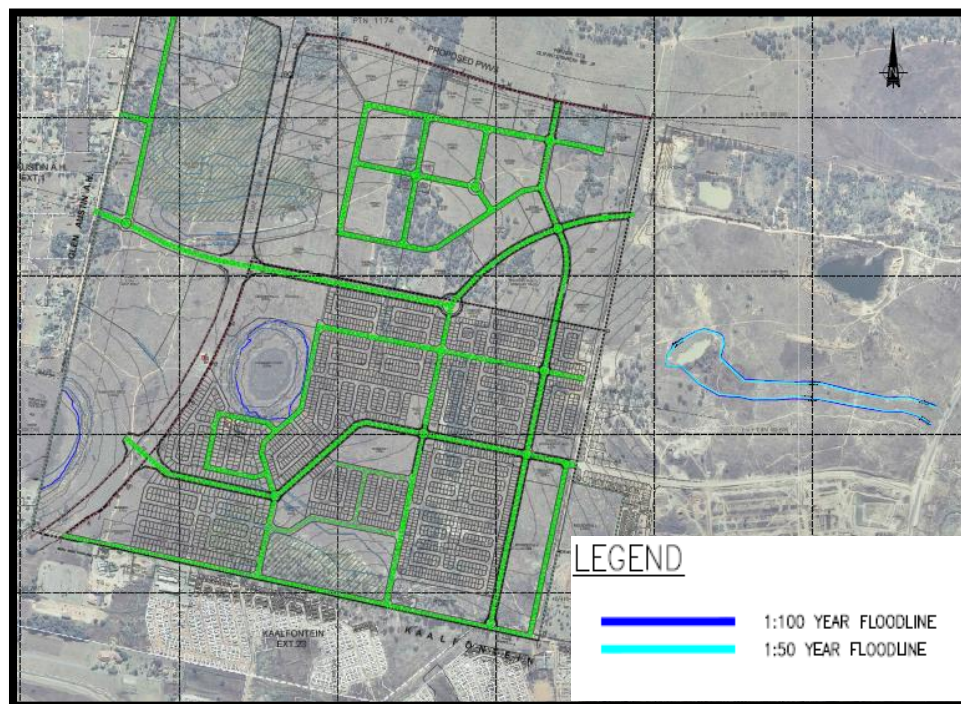


Figure 27: 1:50 & 1:100 Year Floodlines



The flood areas have relatively shallow embankments and will be accommodated into the layout plan as open space and stormwater runoff.

8.2.5 Stormwater

A water course originates within the site towards the east of the site which will facilitate stormwater drainage. The naturally occurring floodlines affecting the project site have been designated as wetlands and will be retained for drainage, detention and ecological purposes.

Provision will be made for attenuation for the rate of run-off within the development area. The floods will be attenuated in proposed attenuation dams on site. Attenuation will be calculated to ensure that outflows do not exceed the undeveloped calculated floods.

Table 8: Stormwater Design Criteria and Standards

PARAMETER	SPECIFICATION
Recurrence Interval	No kerb overtopping 1:5 years
Maximum Flow Velocity On Road Edge	3 m/s
Kerb Inlet Position	At kerb overtopping, and road intersection
Kerb Inlet Size	1,5m minimum 10,0m maximum
Pipe Size	450 dia maximum
Rational Model	C Value = 0,8 MAP = 740mm Summer Rainfall Region

8.2.6 Electricity

The **Electrical Services Report** dated 03 November 2011 was prepared by Lebohang Consulting Engineers and is attached hereto as Annexure L.

This report deals with the Bulk, Bulk Link and Internal Infrastructure requirements for the development which consists of approximately 14 320 BNG units, allocated as follows:

8.2.6.1 Bulk Supply

A budget quote has been received from Eskom for a temporary 7MVA supply to service a portion of the first phase of Clayville Ext. 45 from their College Substation. The supply will expire after 5 years and as a result a permanent bulk supply solution must be found for the entire development.

The permanent bulk supply will come from a “Self-Build” project due to Eskom/EMM’s 3x30MVA 88/11kV. An approximate total capacity of 55MVA is required for the entire Clayville/Tembisa Mega Housing Project.



This includes approximately 3MVA excess per extension in order to cater for the unknown number and scale of the urban amenities.

After holding discussions with Eskom, there appear to be 2 possible options for bringing sufficient capacity into the area, with each posing a different set of challenges. Option 1 would be to link into the existing Claystep/Clayglass 88kV ring and option 2 would be to upgrade and repair the existing Lulamisa/Crowthrone 88kV infrastructure.

8.2.6.2 Internal Infrastructure

The proposed infrastructure will follow Ekurhuleni's underground specifications where Eskom will ultimately take over the infrastructure. The Medium Voltage (MV) infrastructure is underground; Low Voltage (LV) infrastructure is underground and the service connections underground.

– MV Infrastructure

The development will be subdivided into zones and miniature substations placed per zone, rendering 3kVA per subsidised household ADMD and 3.5kVA per FLISP household ADMD according to EMM Electricity and Energy specification. Essentially 500kVA mini- substations may be used.

The mini-substations will be connected on ring/ 3 leg-ring design networks directly from the Substation or switching station.

– LV Infrastructure

The low voltage network will be fed from appropriately rated feeder circuit breakers in the miniature-substations via underground cables to Metering Kiosks (equal or similar to 12, 16 or 20 way Power Process Systems 3CR12). Suitably sized earth conductors (120mm², 70mm² and 35mm²) must be run in parallel with the LV supply cables.

– Service Connections

Parameters:

- ADMD (Subsidised Unit) 3kVA/erf
- ADMD (FLISP Unit) 3.5kVA/erf
- Supply voltage 420/242 Volt
- Regulation +- 8%
- Service connection (max.) 40 Amp, Curve 1, 10kA (In Kiosk)



All service connections will be done with 16mm² 2-core Cu PVC/SWA cable and shall be installed from the Kiosk to the DB in the residential unit to avoid joining of cables.

The service connection must be able to interface with an Ekurhuleni specified pre-payment meter.

- *Metering and Vending*

The house owner is responsible for applying for a pre-paid meter directly at Ekurhuleni Metro Municipality. The contractor will terminate and install a CB in the Meter Kiosk and must clearly mark the Unit/House numbers in the Kiosk.

- *Sleeves*

Cable sleeves shall be installed for road crossings and any other required position where the sleeves would be considered appropriate. 110mm inside diameter PVC or NEX tube sleeves shall be used, buried at a depth of 1.5m where roads are to be constructed at a later stage.

- *Earthing*

Earthing requirements shall be carried out in accordance with EMM specification and shall adhere to the latest revision of the SANS 10292 (SABS 0292) Earthing of low-voltage (LV) distribution systems.

- *Street Lighting*

The public lighting shall be in accordance with EMM specification and SANS 10098-1:2007, Table 2: Recommended lighting values for group B and group C streets and footways.

- *Streetlight Poles*

New 8.7m galvanised steel poles shall be installed.

- *Streetlight Fittings*

70W HPS Luminaire, side entry, no overhang with a boom angle of 15° must be installed. Luminaire mounting height: 7.5m. One fitting per pole.



9 MOTIVATION

9.1 INTRODUCTION

This section contains a documented motivation for the proposed development in terms of need and desirability as prescribed in Section 96 of the Town Planning and Townships Ordinance , 1986 (Ordinance 15 of 1986).

A development of this nature and size invariably affects many facets of the physical and socio-economic environment. In addition to this, the fact that the attached layout plan (Refer to Annexure C) represents a plan created through a multi-disciplinary process of needs determination, environmental scoping, urban design, engineering inputs and geotechnical input, results in the opportunity to motivate the establishment of Clayville Extension 71 on a number of levels. An attempt will therefore be made to motivate this development from a range of different viewpoints while keeping within the requirements, in motivating the proposed development in terms of need, desirability and the general principles for land development as contained in the SPLUMA, 2013.

9.2 NEED

It is the view of the applicant that the proposed establishment of Clayville Extension 71 will enhance the value of the land in the area. The densification and development of the site will also contribute to the much needed economic growth and housing supply in this part of Ekurhuleni.

9.2.1 Urban Integration and Infill

The project site represents a strategic infill site. This development will serve to enhance the integration of the fragmented urban development between the existing Tswalapele Township to the northeast, Tembisa to the southeast and the Midrand Metropolitan Node and the Glen Austin Agricultural Holdings to the west. The development will provide new affordable housing in close proximity to the developing Midrand Node through the development of currently under-utilised land. The development is situated in close proximity to Flint Mazibuko Street which forms part of Phase 1 of the IRPTN. The development is also situated in close proximity the the Gautrain's Midrand Station.

Additionally, the site can be classified as a strategic Greenfield Development. Being a Greenfield development, the application aims to create a planned community on previously undeveloped land. Unlike urban sprawl, where there is little or no proper suburban planning, this Greenfield development is about efficient urban planning that aims to provide practical, affordable and sustainable living spaces for



the growing urban population. This development takes future growth and development into account as well as seeks to avoid the various infrastructure issues that plague existing urban areas and surrounding townships such as Tembisa.

Moving forward with this Greenfield development well within the urban edge, is far more convenient than attempting to develop or modify existing urban areas. The process of revitalizing old or rundown neighbourhoods, can be expensive, slow, and fraught with various social and political issues. The Greenfield process can be a comparatively faster and easier process, with no previous issues to contend with.

9.2.2 Coherent Planning

The effective and coherent planning of sub-regions has always been disrupted by the presence of pockets of development cut off from each other by means of major infrastructure or physical elements. The site for the proposed Township Establishment is cut off from the Midrand Metropolitan Node by the N1 and from the Midstream Estate Area by Olifantsfontein Road. The proposed development which is a fully integrated housing development would start to integrate the various development pockets into a coherent whole by linking roads and filling in the vacant land. The development is therefore imperative in firstly integrating pockets of development and secondly making use of existing bulk infrastructure and services.

9.2.3 Establishment of a Sustainable Living Environment

The developer will strive to establish a sustainable living environment for the inhabitants of Clayville Extension 71 by providing local social supportive facilities. The development forms part of a larger development area with supportive land uses such as a Primary School, Secondary School, Community Facilities, Business Sites and Parks. This will promote the principle of “Live, Work and Play” within the community.

9.2.4 Economic Upliftment

A project like this will create positive spin-offs in terms of job creation for at least the construction period of the project. This economic opportunity must also be structured in such a way that it can establish long-term sustainable economic growth both in terms of skilled and unskilled labour and further in terms of the establishment of permanent business and economic growth opportunities in the area. The proposed development is situated east of the Midrand Metropolitan Node and close to various business and industrial nodes providing the area with access to places of employment.



9.2.5 Focused Public Investment

The Gauteng Spatial Development Framework (GSDF) limits development to areas located within a provincial urban edge. This development area falls within this urban edge and is considered a strategic infill opportunity to focus public investment in an accountable and suitable manner. The site is situated adjacent to the Midrand Metropolitan Node and falls within an area identified for infill residential densification in the MSDF for Ekurhuleni.

9.2.6 Environmental Sustainability

The identified development area has certain environmental qualities and the proposed **Open Space Network** recognises these qualities and accommodates all these areas of environmental sensitivity in dedicated Public Open Space areas. An **Open Space Network** was created by GWA Studio (See **Annexure D**).

The benefits of an Open Space Network are far and wide reaching. Green spaces in urban areas provide substantial environmental benefits. Trees reduce air pollution and water pollution, they help keep neighbourhoods cooler, and they are a more effective and less expensive way to manage stormwater runoff than building systems of concrete sewers and drainage ditches.

The parks will also produce important social and community development benefits. They will make the neighborhoods livable; they offer recreational opportunities for youth, children, and families; and they will provide places in neighborhoods where people can feel a sense of community.

Access to public parks and recreational facilities has been strongly linked to reductions in crime and in particular to reduced juvenile delinquency. Community gardens increase residents' sense of community ownership and stewardship, provide a focus for neighborhood activities, expose youth to nature, connect people from diverse cultures, reduce crime by cleaning up vacant lots, and build community leaders.

9.2.7 Housing Need

It is hereby stated that there is a qualified need to address regional housing issues in the sub-region. The site on which the proposed township will be located is to the east of the Midrand Metropolitan Node and west of the R21 (Albertina Sisulu) Development Corridor.

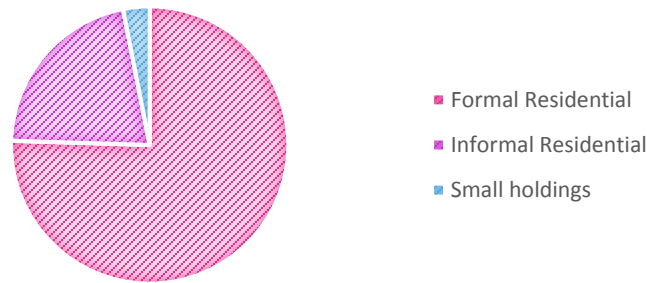


Figure 28: Residential Typology surrounding the Proposed Clayville-Tembisa Mega-Housing Project

The growing gap between income and the cost of housing does not affect only lower income households but also households with middle-range incomes whom struggle to find affordable housing.

There are a growing number of South African households that are willing and able to buy or rent a non-subsidized house. However, many of these families simply have nowhere to go as there is little suitable housing stock made available to them in good localities. Many of these families resort to subsidized housing as an alternative residential option thereby creating a shortage of subsidized housing supply. A need exists to create affordable housing for middle income households who are willing to purchase or rent non-subsidized housing and thereby participate in financed and bonded housing.

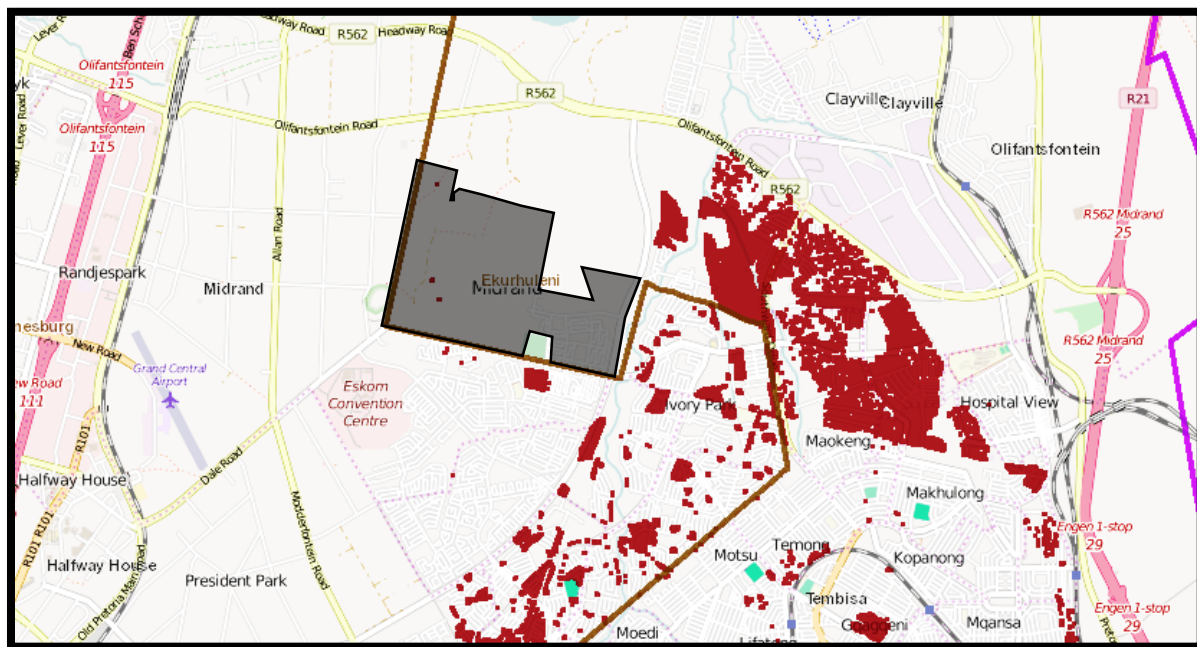


Figure 29: Proposed Clayville-Tembisa Mega-Housing Project in relation to the informal settlements of Winnie Mandela Park, Madelakufa and Tembisa

The proposed Clayville-Tembisa Mega-Housing Project proposes to address the need to initiate an Upward Mobility Trend through “Gap Housing”. “Gap Housing” addresses the gap between what middle income families earn and the affordability of housing.

“Gap Housing” is therefore aimed at widening the availability of housing stock for the lower income families. This proposed development commits itself to providing the “gap housing” — so named because it addresses the gap between what middle income families earn and what houses they can afford. This will be achieved by bridging the gap between the high and low income housing types.

9.2.8 Economic Empowerment – Bridging the Gap

In the process of bridging the gap between high and low income areas, it is essential to ensure that employment opportunities are available to the poor in order for them to be able to improve their economic status and partake in financial growth.

These employment opportunities should be located in close proximity to these lower income communities. In this case Clayville Extension 71 is situated in close proximity to the Clayville Industrial Node (within 5 minute driving distance) and the Midrand Metropolitan Node (within 15 minute driving distance). The relatively short driving/travelling distances to these areas of economic opportunity make this location suitable for a residential township.

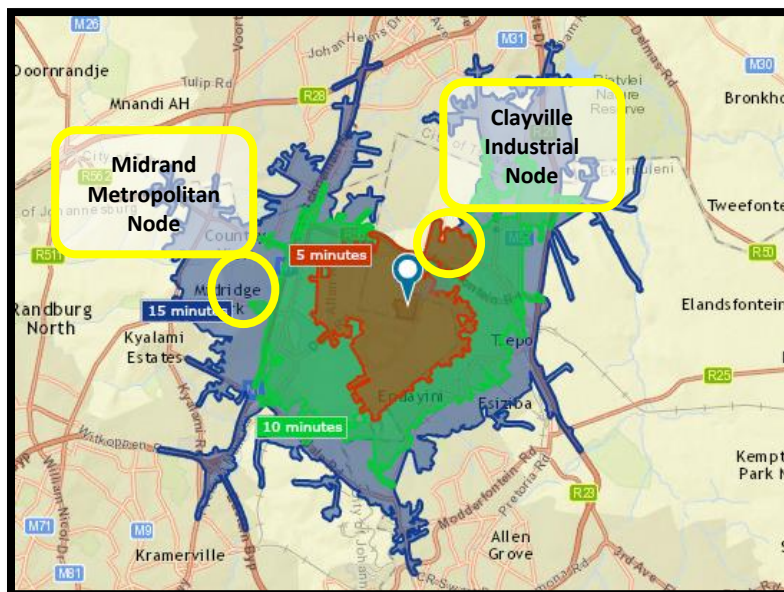


Figure 30: Drive Time Bands

These employment opportunities can benefit the residents of this proposed development. The development will also link the existing housing developments of Estates and Townhouses to the west of the development and the formalization of households to the east of the development (See Figure 31). The development will close the gap between these two areas. Economically, this development will also bring new business opportunities in the area.

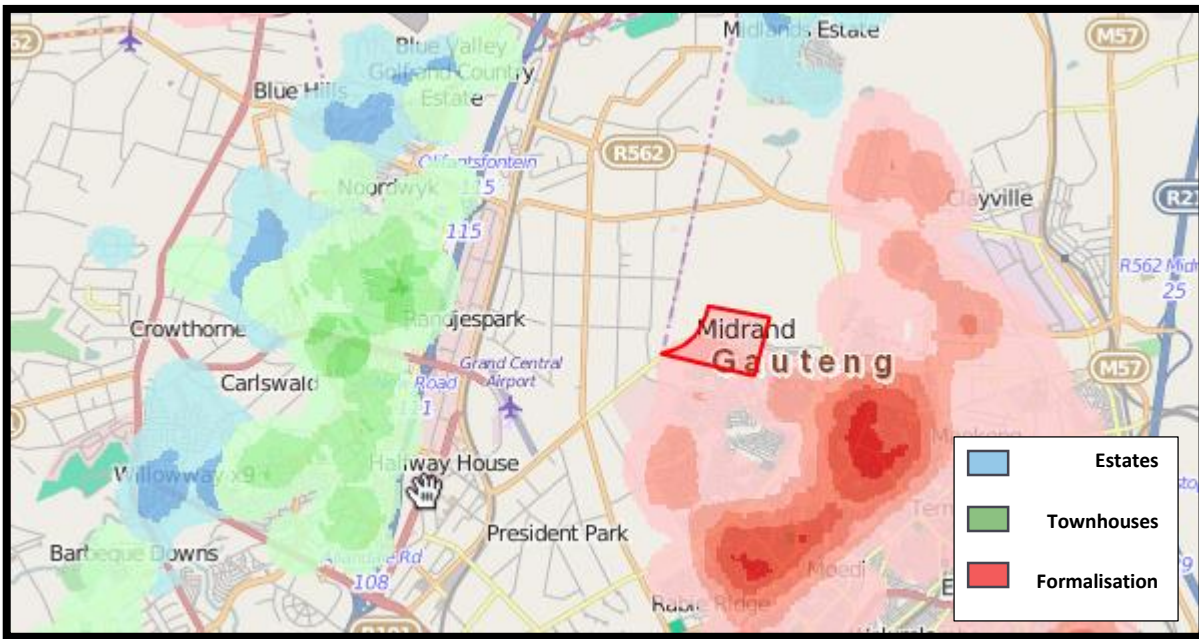


Figure 31: Housing Development Trends

9.2.9 Variety of Housing Typologies

The proposed development will consist of bonded and rental housing with supportive land uses in order to make it a sustainable and integrated development. Through the formulation of the layout plan, provision was made for various housing typologies and densities to provide for interest and variety. The housing typology varies in that a variety of stand and unit sizes will be available. The value/cost of the houses constructed is linked to stand/unit sizes.

The Clayville-Tembisa Mega-Housing Project is a development that aims to promote a high quality, residential and mixed-use environment supported with public amenities. As such it could be argued that the proposed development will act as a key structuring feature in the sub-region because it will encourage a range of housing options to meet different and changing needs of households in the area. The proposed development promotes mixed-uses by allowing appropriate services, supportive uses and social amenities to be intermingled with residential development.



9.2.10 Better Utilization of Land

The application is made to ensure the optimum utilization of the site without defeating any of the primary considerations in respect of environmental issues, compatibility, health, safety, orderliness, economics and the wellbeing of all persons and instances.

It is the intention of the Developer to realize the development potential of the property by establishing a high density, mixed income and mixed land use development in Clayville, which is strategically located between the N1 to the west and the R21 to the east. The proposed development will consist of an integrated, multifunctional neighborhood offering residential, business, community and recreational facilities.

9.2.11 Impact on Surrounding Properties

The provision of new tenure options and housing typologies would generally enhance the area and accommodate a wide range of residents and income groups. The proposed development will protect the area from further land invasion thus having a lesser potential impact.

9.3 DESIRABILITY

As part of the motivating memorandum, it is important to investigate the compliance of the application with the Town Planning Policies that apply in the area. This will also prove that the proposed application is desirable and won't have any undesirable effects on the surrounding area. The application's desirability will be assessed in terms of the land development policies such as the Ekurhuleni Metropolitan Regional Spatial Development Framework (2011) as well as the principles as contained in the Spatial Planning and Land Use Management Act (2013).

*Note: The Regional Spatial Development Framework for Ekurhuleni Metropolitan is currently under review thus the Metropolitan Spatial Development Framework (2011) will be used to motivate the desirability of the proposed rezonings.

9.3.1 Ekurhuleni Metropolitan Spatial Development Framework (MSDF): 2011

In terms of the Ekurhuleni Metropolitan Municipalities Spatial Development Framework, the proposed establishment of Clayville Extension 71 is located in **Administrative Region B**. An excerpt is taken from the Ekurhuleni MSDF for Region B below:

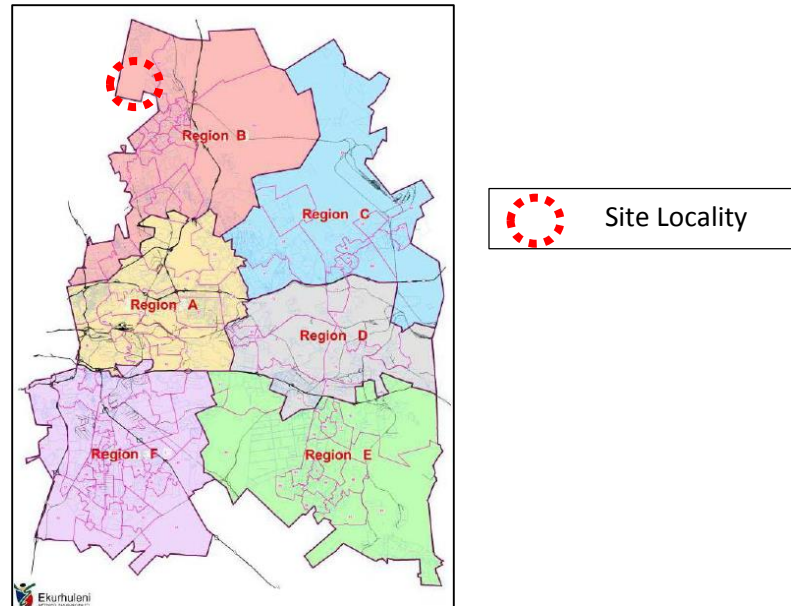


Figure 32: Regions within the Ekurhuleni Metropolitan Municipality.

REGION B

‘This is the north–west region (see Figure 32) and it comprises the area which was part of the Khayalami metro. The region is the only area that went through the first and second phases of local government transition and if well supported should develop critical mass on the basis of the economy of the region. This critical mass can be attained and built on the backbone of the industrial developments in Clayville, the proposals for the development of Albertina Sisulu (R21) Corridor, as well as the high income areas of Midstream, Serengeti and Edenvale town as well as the northern areas of Kempton Park. The critical mass should assist in the planning and urban management proposed for focus in Tembisa in terms of the Tembisa Masterplan as pronounced by the Premier in the Gauteng State of the Province address of 2011. The residents of this region also benefit from the developments taking place in the adjoining metros of Johannesburg and Tshwane and alignment is very important.’

The region is in need of developmental support as mentioned in the expert above, the proposed development of the Clayville-Tembisa Mega-Housing Project provides the impetus required for such support. The development will strive to bring together the pockets of development within the region into a coherent whole. This will assist with the sustainability of land development in the region and provide housing stock to the critical masses on the periphery of the Metropolitan.



The Gauteng Provincial Department of Human Settlements is conducting the formulation of Municipal Housing Frameworks parallel to the Spatial Development Framework of Ekurhuleni. These will include, but are not limited to: Integrating previously disadvantaged areas into the urban fabric, eradicating informal settlements and working towards residential densification in Expansion Areas.

As stated by the premier in her February 2011 State of the Province Address, Gauteng will "...continue to invest in 14 mixed housing development projects in all regions of the Province." Two of these are in Ekurhuleni, namely: Chief Albert Luthuli, which accommodates Daveyton and surrounding informal settlements; and Clayville that will accommodate Winnie Mandela Park, Tembisa and Strydom Land for Madelakufa and other parts of Tembisa.

The MSDF sets out a planning approach for the Ekurhuleni Metropolitan, the relevant points for effective planning of the region will be discussed in more detail below:

Linking disadvantaged communities to the Core Area

The subject site is bordered by the outer suburbs of Tembisa - one of the identified disadvantaged communities within the Ekurhuleni Metropolitan earmarked for various economic and social upliftment projects. Additionally, the subject site is located within an area which is earmarked for future industrial expansion and growth, thus with a subsequent increased workforce, there will be an increased need for housing stock. The proposed development for a densified mixed-use housing township will provide the required housing stock in close proximity to the Clayville/Olifantsfontein Industrial Zone, where employment would be generated.

Mixed-Use, High-Density Development along Corridors

The Albertina Sisulu Corridor is a key linkage between the north and south of the Metropolitan. Again, the subject site for the proposed township establishment is located in close proximity to the R21 (Albertina Sisulu Corridor) to the west of the site as well as the N1 to the east of the site. This makes the subject site a prime location for future development, especially with regard to mixed-use development to serve the surrounding disadvantaged communities. The proposed development of the area around the transportation corridors will also ensure the optimum utilisation of public transport, while supporting the disadvantaged communities with efficient and easy access to job opportunities within the developing industrial areas of Clayville and Olifantsfontein.

Structure the Integrated Rapid Public Transport Network (IRPTN) to support development corridors

The IRPTN should be designed around the main strategic linkages within the Ekurhuleni Metropolitan Municipality. Due to the need to further promote Transit Orientated Development (TOD) around the key railway networks, the subject site is ideally located in close proximity to the Midrand Gautrain Station as well as the Pinedene and Olifantsfontein Railway Stations. These railway stations create strategic linkages between the north and south in terms of industrial development and densification along the Albertina Sisulu Corridor (See **Figure 33** below).

The Clayville Industrial Area has also been identified as an existing industrial area in need of upgrading in line with Phase 1 of the IRPNT priorities, mindful of the need to create job opportunities in close proximity to Previously Disadvantaged Areas. The IRPTN Corridor will run from Tembisa (Clayville) to Vosloorus.

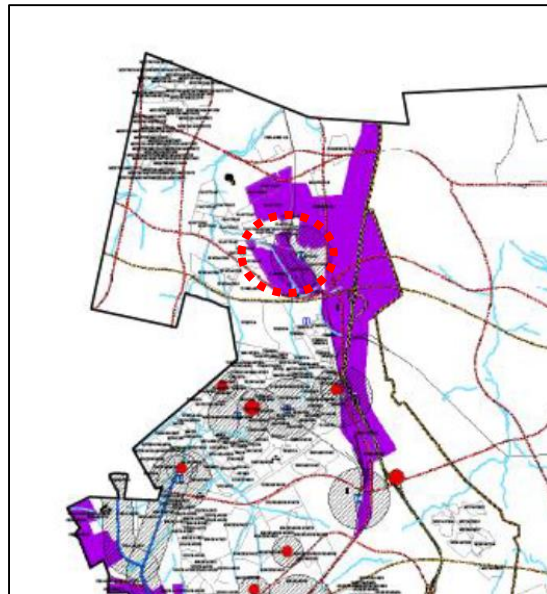


Figure 33: The Industrial Development Zones within Region B

Promote Infill Residential Development

The Ekurhuleni MSDF states that as a priority, infill residential development should be promoted in all strategically located vacant areas that are suitable for development. The subject land is ideally located and is identified for densification on the MSDF Plan, furthermore; the subject land falls well within the demarcated urban edge for the Ekurhuleni Metropolitan Municipality.

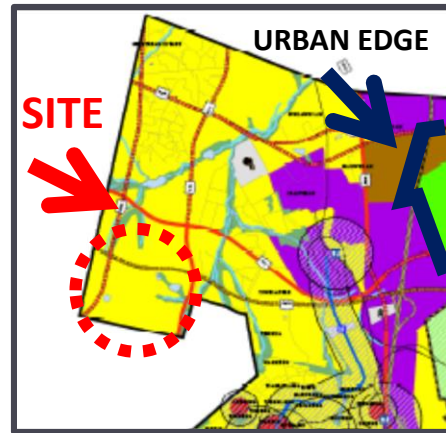


Figure 34: Site within the Urban Edge as per the MSDF, 2011

Protecting existing industrial areas from the potential negative effects of informal settlements located in close proximity thereof.

The industrial areas of Ekurhuleni (see **Figure 33** above), generate the bulk of employment and economic activity in Ekurhuleni. These areas should therefore be protected from potential negative influences such as informal settlements established in close proximity to the industrial areas and potential illegal land invasion. The available land should then be developed, ideally, as social or bonded housing. The subject land is located in close proximity to the Clayville Industrial Hub and the Tembisa Informal Township. Thus the land could be at risk of further invasion from informal settlers as a result of the increasing shortage of housing stock. It can then be concluded, that it would be a matter of urgency and prove desirable that the land be densified for development.

Tightening and enforcing the Urban Edge

The MSDF determines an accurate and defined urban edge so as to exclude as much land as possible. A tighter urban edge increases development pressure on land within the edge, such as that of the subject site. Thus resulting in speeding the process of infill development and optimal utilisation of resources. This would have positive spin-offs relating to increasing the chances of achieving a viable, sustainable public transport system.

Services and Infrastructure

It is critical that the services, infrastructure and high levels of access are maintained to ensure that this identified development area can maximise its economic potential.



As explained above in Section 6, there is adequate supply of services.

9.3.2 National Development Plan

The National Development Plan (NDP) offers a long-term perspective for the development of South Africa aimed at eliminating poverty and reducing inequality by 2030. The importance of creating sustainable human settlements is emphasised by the NDP. The key target for human settlements as described by the plan includes:

- More people living closer to their places of work.
- Better quality public transport.
- More jobs in or close to dense urban townships.
- Clear strategy for densification of cities through land use planning and focused strategy on the housing gap.

The proposed Clayville-Tembisa Mega-Housing Project will offer various employment opportunities in close proximity to residential activities as the development will be one that has integrated land uses (residential, retail, business and other social facilities).

It can be interpreted that the proposed development will assist in realising the vision of the National Development Plan by creating a development that is compact offering employment opportunities and quality public transport.

9.3.3 Breaking New Grounds: Comprehensive Plan for Development of Sustainable Human Settlements

The Breaking New Ground Plan (also referred to as BNG) was published by the National Department of Housing in 2004 to provide guidelines for the development of sustainable human settlements. The policy, BNG, takes a different approach of creating sustainable human settlements as compared to only providing houses. Sustainable human settlements envisioned by BNG is one where inhabitants have adequate access to economic opportunities, mix of safe and secure housing/tenure types, reliable basic services, educational, health, and social services. The Clayville-Tembisa Mega-Housing Project builds upon these very principles.

The BNG guidelines, relevant to new development and how the proposed Clayville development will incorporate these guidelines are discussed below:



Residents should live in a safe and secure environment, and have **adequate access** to economic opportunities, a mix of safe and secure housing, and tenure types, reliable and affordable basic services, educational, entertainment and cultural activities, and health, welfare and police services.

The Clayville-Tembisa Mega-Housing Project will incorporate all of the above mentioned amenities as the development will be a mixed land use inclusionary development. The development will offer a range of housing types, sizes and prices to accommodate financial capability. Apart from the residential activities, the development will also comprise of business, retail, schools, recreational spaces and other social support services.

Ensure the development of **compact, mixed land use**, diverse, life-enhancing environments with maximum possibilities for **pedestrian movement and transit** via safe and efficient public transport in cases where motorised means of movement is imperative.

The road network within the proposed development is one that caters to both motorised and non-motorised movements. Pedestrian networks are designed to create a sense of place. They are also proposed along the roads which accesses the green open spaces to enhance walkability and pedestrian connectivity. The nodes/activities areas within the site will be placed strategically to allow 10 minute walk distance to the development. The proposed development will also take advantage of Ekurhuleni BRT system proposed along Flint Mazibuko Street.

Ensure that low-income housing is provided in **close proximity to areas of opportunity**.

The mixed use inclusionary development will provide all income groups in the development with economic opportunities in close proximity as individuals will have access to the Clayville Industrial Area to the north and the Midrand Metropolitan Node to the west.

Integrate previously excluded groups into the city, and the benefits it offers, and to ensure the development of more **integrated, functional and environmentally sustainable** human settlements, towns and cities. The latter includes densification.

The proposed development aims to be inclusionary on all levels of urban life. The integration of socio economic, gender and racial predispositions lies at the heart of the intervention. The development will be integrated with the greater Ekurhuleni and Gauteng province making it a functioning sustainable human settlement.



There is a need to move away from a housing-only approach to a more **holistic development of human settlements**, including the provision of social and economic infrastructure.

The proposed development will consist of various residential typologies, retail, schools, recreational spaces and other supportive land uses. It is the mission of the proposed development to be inclusionary of social and economic amenities providing for a truly inclusionary development.

Social housing must be understood to accommodate a **range of housing product** designs to meet spatial and affordability requirements. Social housing products may include Multi-level flat, or apartment options, for higher income groups, incorporating beneficiary mixes to support the principle of integration and cross-subsidisation.

The development will comprise of various residential units with for families earning below R15 000 per month, providing for a sector that highly requires entry into the housing market. The residential component in the development will also include bonded housing options, marketed and sold in the open market.

9.3.4 Gauteng Spatial Development Framework (GSDF) 2011

Gauteng Spatial Development Framework (GSDF) aims to achieve an equitable and sustainable urban system and structure the urban form. The GSDF does not replace municipalities SDF but enables the creation of a coherent framework, which forms the basis for future development and decision-making processes (e.g. policy, resources and socioeconomic profiles). The framework aims to achieve the following for the province:

- Functional efficiency (so that individual elements work together as a whole);
- Environmental harmony; (creating development processes and forms that are environmentally sustainable);
- A sense of place (creating a place that is recognisably distinct, strengthens local identity, and simultaneously plays its role within the wider urban system); and
- Socio-economically sustainable (is viable, enabling economic growth and expansion and supports all social activities and the development of its communities).

The Clayville-Tembisa Mega-Housing Project will encourage the above mentioned principles as it will take a holistic approach towards delivering a development that is efficient and socio-economically sustainable.



9.3.5 Motivation in terms of the Development Principles of the Spatial Planning Land Use Management (SPLUMA) Act No. 16 of 2013

The Spatial Planning Land Use Management (SPLUMA) Act intends to provide a uniform framework for spatial planning and land use management in the republic. It seeks to promote consistency and uniformity in procedures and decision-making in spatial planning. The objectives of the Act are:

- Provide for a uniform, effective and comprehensive system of spatial planning and land use management for the Republic;
- Ensure that the system of spatial planning and land use management promotes social and economic inclusion;
- Provide for development principles and norms and standards;
- Provide for the sustainable and efficient use of land;
- Provide for cooperative government and intergovernmental relations amongst the national, provincial and local spheres of government; and
- Redress the imbalances of the past and to ensure that there is equity.

Implications of the Act on the Proposed Development

The application of the SPLUMA principles applies to all organs of state and other authorities responsible for implementation of legislation regulating the use and development of land. The following principles, with relevant sub principles, apply to spatial planning, land development and land use management. These principles are discussed below:

a) Principle of Spatial Justice, whereby -

(i) Past spatial and other development imbalances must be redressed through improved access to and uses of land

The developer has identified this strategically located, inactive land parcel to develop an inclusionary mixed land use development, which will cater for a variety of income groups. The proposed development will offer various bonded housing typologies and inclusionary housing addressing the distorted spatial space in Ekurhuleni. The development will improve ownership for previously disadvantaged individuals.

The proposal of a mixed use development will provide for a cohesive social and economic environment, meeting basic needs of local residents as well as addressing past spatial imbalance. The proposed development will improve access to housing (close to the Midrand Metropolitan Node and the



surrounding Tembisa informal townships) and employment opportunities for previously excluded/disadvantaged groups, ensuring a development that is integrated, functional and environmentally sustainable human settlement.

(ii) Spatial development frameworks and policies at all spheres of government must address the inclusion of persons and areas that were previously excluded, with an emphasis on informal settlements, former homeland areas and areas characterised by widespread poverty and deprivation;

The proposed development will provide for inclusionary housing to those who were previously not able to own/buy property in competitive residential market. Inclusionary Housing is considered the central theme of the development and the proposed development will promote the above principle by making provision for previously disadvantage persons to participate in the property market. Furthermore the greater Clayville area is an economically disadvantaged area which will be enhanced by this proposed development.

b) Principle of spatial sustainability, whereby spatial planning and land use management systems must -

(i) Promote land development that is within the fiscal, institutional and administrative means of the Republic

The proposed development is aimed at providing inclusionary housing with a mixed use component. The proposed development will deliver formal housing with supportive facilities attracting investors and financial investment into the area.

(ii) Ensure that special consideration is given to the protection of prime and unique agricultural land;

The land presents undeveloped and underutilised land within an urban setting. Surrounding agricultural areas will not be negatively affected by this proposed township. Furthermore, no natural features like streams/wetlands or ridges will be destroyed by the development to the detriment of rural areas. The proposed development strives for the optimum utilization of this site delivering much needed housing and employment opportunities, while increasing the land value.

(iii) Uphold consistency of land use measures in accordance with environmental management instruments



The proposed development is structured in a manner that is in accordance with the environmental framework of the Ekurhuleni Metropolitan Municipality and Gauteng Department of Agriculture and Rural Development (GDARD), which aims at managing the city's scarce environmental resources to achieve sustainable development. The application has taken into consideration the existing natural environment and how best to develop the land with minimal impact. An Environmental Impact Assessment in accordance with the National Environmental Management Act (NEMA) 1998 (Act No.17 of 1998) is being conducted for the site.

The development is aimed at providing a high quality interface between urban elements and the natural environment in a controlled manner to ensure that these elements benefit from one another. The natural landscape will act as a green strip flowing through the entire development and linking up with the open space in surrounding developments.

(iv) Promote and stimulate the effective and equitable functioning of land markets

Valumax Midrand (Pty) Ltd. analysed the housing demand and supply in the area and identified the site as a desirable location to create new densified bonded housing to meet the demand. The current housing market in South Africa is distorted with high income groups able to participate in the residential market and middle income groups, earning between R3 500 to R15 000, not able to access either state housing or participate in the private property market. The property market in SA is not functioning effectively as there is a lack of supply for the gap market. The proposed development will provide for a variety of bonded housing types catering for the "gap housing" market, addressing the distorted housing market. The development will generally have a positive effect on the properties in the area.

(v) Consider all current and future costs to all parties for the provision of infrastructure and social services in land developments

The application will be circulated both internally and externally to different government departments, Municipal Owned Entities (MOE) and parastatals (Eskom, Telkom, Transnet etc.) for technical coordination and consultation.

(vi) Promote land development in locations that are sustainable and limit urban sprawl

In many instances, the legacy of Apartheid planning practices have resulted in sprawling urban areas characterized as being uneconomical and offering one-dimensional opportunities to residents. The proposed development is partly classified as infill development in terms of the Gauteng Spatial



Development Framework on vacant land within the urban environment (Provincial Economic Core). The proposed development therefore will contribute to the re-engineering of the existing urban form, the establishment of a more compact city and also contribute to the optimization of the use of existing infrastructure such as bulk sewer lines, bulk roads and water.

(vii) Result in communities that are viable

The proposed development adopts a holistic approach to providing a well-functioning, sustainable community. The development will offer mixed land uses with maximum possibilities for pedestrian movement and transit via safe and efficient public transport. The provision of inclusionary housing in close proximity to areas of economic opportunity will promote the principle of spatial sustainability.

c) Principle of Efficiency, whereby

(i) Land development optimises the use of existing resources and infrastructure

This principle calls for the optimization of investment already made in terms of existing development of services infrastructure. Basic services are already available on the site and in surrounding townships and this development will seek to optimize on the infrastructure already provided in the area but has also upgraded the bulk services and infrastructure in the area. The fact that it partly represents infill land development in an urban setting will ensure that the existing resources are optimized.

e) Principle of good administration

(i) All spheres of government ensure an integrated approach to land use and land development that is guided by the spatial planning and land use management systems as embodied in this Act;

The development builds upon the principles and legislative framework governing development in the Gauteng Province and Ekurhuleni Metropolitan Municipality, such as the: National Development Plan; Breaking New Grounds: Comprehensive Plan for Development of Sustainable Human Settlements; Gauteng Spatial Development Framework (GSDF) 2011 and the Municipal Spatial Development Framework. The above legislations are aimed at promoting human settlements that are integrated, offering employment opportunities to previously disadvantaged individuals in order to address the distorted apartheid cities. The proposed development is in line with the spatial planning and land use management systems of the Ekurhuleni Metropolitan Municipality and promotes the development objective of the Gauteng Province.



(iii) The requirements of any law relating to land development and land use are met timeously;

The application for the Township Establishment of Clayville Extension 71 of is made in terms of Section 96 of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986), as read together with the Ekurhuleni Town Planning Scheme, 2014 and the Spatial Planning and Land Use Management Act, 2013.

(iv) The preparation and amendment of spatial plans, policies, land use schemes as well as procedures for development applications, include transparent processes of public participation that afford all parties the opportunity to provide inputs on matters affecting them; and

Particulars of the application will lie for inspection during normal office hours at the office of the Area Manager: Land Use Management, 5th Floor, Kempton Customer Care Area, Cnr CR Swart Drive & Pretoria Road, Kempton Park, from the date of submission.

(v) Policies, legislation and procedures must be clearly set in order to inform and empower members of the public.

The above principles call for a transparent and clear public participation process with all parties adhering to allocated timeframes. The public will also be given a chance to object, make representations and comment on the development. The proposed development will be advertised in the *Bleed*, *Citizen Newspapers* and *Provincial Gazette*, informing the public of the development and relevant contact person to acquire information. Site notices will also be visibly placed around the site, to ensure all members of the public have sufficient resources to make informative decisions.



10 CONCLUSION

The proposed Clayville Extension 71 Township forms a part of the Clayville-Tembisa Mega-Housing Project, which includes the proposed Clayville Extension 50, Extensions 76-80 Townships and the densification of the existing Clayville Extension 45 Township. Together the Clayville-Tembisa Mega-Housing Project will contribute to approximately 14,000 additional stands and units within the Ekurhuleni Metropolitan Municipality – making this one of the priority housing projects for the Metropolitan and the Province at large.

It is our opinion that the proposed township establishment of Clayville Extension 71 will not only benefit the future residents in the area but it will also help urban integration and infill and assist with the overall development strategies of the Ekurhuleni Metropolitan Municipality.

This application represents an opportunity for the farm portion to be developed to its highest potential at an appropriate scale and in an economically viable way.

We have demonstrated that the proposed development is viable and desirable on an engineering, town planning and economical level and that approval of this application in terms of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986) is appropriate.

The report provides background and general information pertaining to the township. It also serves as a motivation in compliance with the guiding principles for development as set out in the SPLUMA and the MSDF. In light of the motivation provided in this report, the application for township establishment is desirable and can be supported based on the following:

- The proposed application complies with the Guiding Principles set out in SPLUMA, 2013.
- The proposed township establishment is aligned with the MSDF of Ekurhuleni Metropolitan Municipality;
- There are no legal or technical impediments to the proposed township establishment;
- Since the proposed development is close to an established area, bulk services are already in place on / or bordering the property, where various upgrades have already been proposed by the city;
- The proposed township establishment can be considered as necessary and desirable from a town planning point of view;
- The proposed township establishment will help to alleviate the current need for housing, which is one of South Africa's highest priorities;



It can therefore be concluded that this application is desirable and that it will be in the interest of the broader public. The favorable consideration of this township establishment is therefore respectfully requested.
