

**ENHLALAKAHLE PHASE 2
SUBSIDISED HOUSING DEVELOPMENT:
PRELIMINARY ENVIRONMENTAL ASSESSMENT**



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1 INTRODUCTION

1.1 PROJECT BACKGROUND

The uMvoti Municipality has, through its IDP process, and extensive consultation with respective beneficiary communities residing within the uMvoti Municipality, identified the need to provide subsidised housing in its area of jurisdiction. This process was initiated as a means to address the municipality's housing need and in doing so improve the living conditions and quality of life of its communities.

The purpose of this document is to provide a Preliminary Environmental Assessment for the development of the eNhlalakahle Phase 2 Subsidised Housing Development. The proposed project is a greenfield development and includes the provision of suitable housing to 600 beneficiaries within the project area.

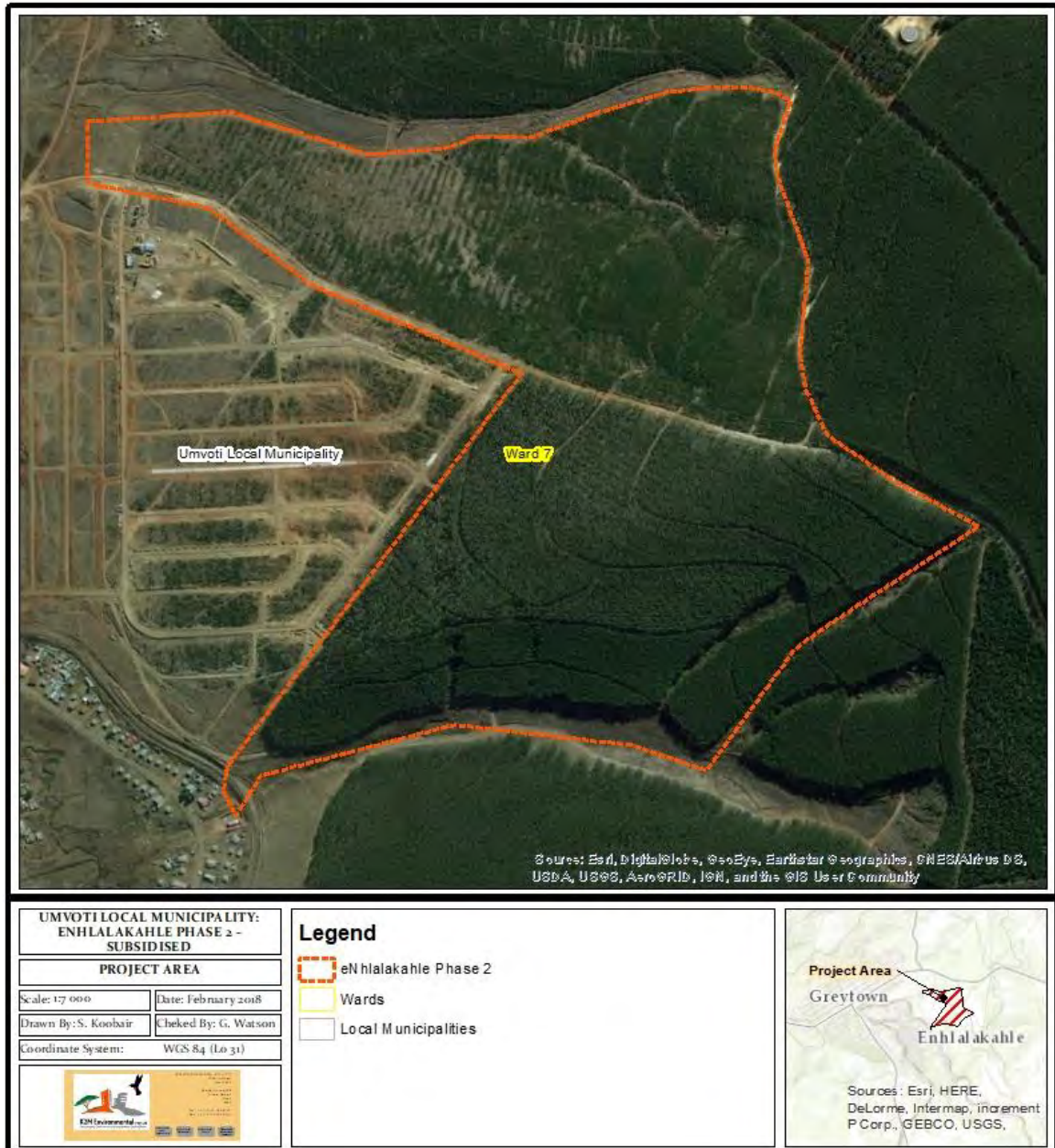
This Preliminary Environmental Assessment will only provide an initial baseline environmental report that briefly describes potential environmental impacts of the proposed development and some preliminary recommended mitigation measures. This initial screening report will also provide an assessment of the viability of the proposed development for the developer in terms of environmental criteria. This document thus does not constitute an environmental scoping report as per the EIA Regulations, but is an initial environmental study for the purposes outlined above.

1.2 SITE DESCRIPTION

The total extend of the project area is approximately 59Ha and is situated on a portion of Ward 7 of the uMvoti Local Municipality. The proposed development is an urban housing project, which will be located approximately 2km east of Greytown. The project area is relatively flat in the north western and central section, but becomes steep in the eastern and southern sections of the project area. There are watercourses that traverse the northern and southern sections of the project area. It should be noted that the land was leased to Mondi for a timber planation, however, Mondi is now in the process of removing the timber trees to accommodate for the housing project. It should also be noted

that there is a housing project that is currently taking place, west of the project area. The project area in relation to the wards is depicted in Map 1.1 below.

Map 1.1: Project Area



Photograph 1.1: Forestry within Project Area



Photograph 1.2: Forestry



2 LEGISLATION

The legislation tabulated below, have been included into this report, as it may have a possible impact on the proposed development.

Table 2:1: Legislation

| Act | Summary of Requirement | Implication for Project |
|---|--|---|
| National Environmental Management Act (No. 107 of 1998) | The National Environmental Management Act (No. 107 of 1998) provides for the control of certain listed activities which "may have a detrimental effect on the environment." In terms of the Environmental Impact Assessment (EIA) Regulations Listing Notice 1, Listing Notice 2 and Listing Notice 3 of 2014 (as amended in 2017), such activities are prohibited until written authorisation is obtained from the Minister or his delegated authority. Activities listed in EIA Regulations Listing Notice 1 and Listing Notice 3 of 2014 will require a Basic Assessment to be conducted while activities listed EIA Regulations Listing Notice 2 of 2014 will require a thorough EIA process which includes a Scoping Report and an Environmental Impact Assessment Report. | Any proposed development on the site must be screened in light of these regulations and authorisation must be acquired prior to construction, should it be concluded that the development triggers any of the activities listed in the above-mentioned regulations. |
| National Water Act (Act 36 of 1998) and regulations | The purpose of the NWA, (Act No.36 of 1998) is to ensure that the nation's water resources are protected, developed, conserved, managed and controlled. Section 21 of NWA defines a water use as: <ul style="list-style-type: none"> a) Taking water from a water resource; b) Storing water; c) Impeding or diverting the flow of water in a watercourse; d) Engaging in a stream flow reduction activity; e) Engaging in a controlled activity; f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer or other conduit; g) Disposing of waste in a manner which may detrimentally impact on a water resource; h) Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process; i) Altering the bed, banks, course or characteristics of a watercourse; j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people. | Should the proposed development trigger any of the water uses, then an authorisation from the Department of Water and Sanitation will be required. |

| | | |
|--|---|---|
| | Any development which triggers the listed water uses will require authorisation from the Department of Water and Sanitation prior to construction. | |
| | A person is prohibited from establishing a township unless the layout plan shows, in a form acceptable to the local authority, the 1/100 year flood level, for the purposes of ensuring that all persons who might be affected have access to information regarding potential flood hazards. | Depending on the exact location of the housing components, a 1/100 year floodline will have to be determined. |
| National Forest Act (No. 84 of 1998) | The purpose of the National Forest Act is to: <ul style="list-style-type: none"> • Promote the sustainable management and development of forests for the benefit of all; • Create the conditions necessary to restructure forestry in State forests; • Provide special measures for the protection of certain forests and trees; • Promote the sustainable use of forests for environmental, economic, educational, recreational, cultural, health and spiritual purposes; • Promote community forestry; • Promote greater participation in all aspects of forestry and the forest products industry by persons disadvantaged by unfair discrimination. | Indigenous trees will have to be protected, where possible, during the implementation phase of the project Should the development entail cutting down of protected trees, then authorisation from the Department of Agriculture and Forestry will be required. |
| Water Services Act (Act 108 of 1997) | Access to water services must be through a nominated water services provider, failing which approval should be obtained from the water services authority. | Applicable if water provision will form part of the subsidy application. |
| Environmental Conservation Act (Act 73 of 1989) | Waste must be disposed of at a waste disposal facility licensed in terms of the provisions of the Act. Any hazardous waste such as paints, varnishes, waste oils etc accumulated at the construction sites must be disposed of at hazardous waste sites. If waste dumps are established for housing developments, a waste disposal license will be required from the Department of Water Affairs and Forestry. | A waste disposal license for a waste dump will be required if a formal waste collection and removal system is implemented as part of housing project. Waste which is may be generated during the construction process, will have to appropriately disposed of. |
| National Building Regulations and Building Standards Act (Act 103 of 1997) and Regulations | No person may on specified days and during specified times generate noise from a construction site which may unreasonably disturb or interfere with the amenity of the neighbourhood, unless authorized to do so by the local authority. | Appropriate specifications will have to be included in the tender documentation |
| National Heritage Resources Act (Act 25 of 1999) | No person may alter or demolish any structure or part of a structure that is older than 60 years without a permit issued by the relevant provincial heritage resources authority No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site. No person may, without a permit issued by the South African Heritage Resources Association or | The existence of graves, archaeological or paleontological sites must be taken into consideration when planning for housing developments. |

| | | |
|--|--|--|
| | a provincial heritage resources authority, destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by the local authority. "Grave" is widely defined in the Act to include the contents, headstone or other marker of such a place, and any other structure on or associated with such place. | |
| Conservation of Agricultural Resources Act (Act 43 of 1983 and GN R1048) | This regulation requires the control of weeds and invader plants, which occur on any land or inland water surface in SA. Category 1 plants are declared weeds and may only occur in biological control reserves. Category 2 plants are declared invader plants and may only occur in demarcated areas and biological control reserves. Category 3 plants are declared invader plants and may occur in biological control reserves. All weeds and invader plants not within the demarcated areas or biological control reserves must be eradicated and control methods are stipulated | Weeds and invader plants should be eradicated if occurring at the final project location. |
| National Building Regulations and Building Standards Act (Act 103 of 1997) and Regulations R2378 | The owner of any land on which excavation work is in progress must keep precautions in the working area and on surrounding roads and footways to limit to a reasonable level the amount of dust arising from these areas. | Appropriate stipulations should be included in the tender documentation for construction. |
| Minerals Act (Act 50 of 1991) | No person may prospect or mine for any mineral without the necessary authorization granted to him in accordance with the provisions of the Minerals Act (Act 50 of 1991). Should construction material be excavated from borrow pits, the provision of the Minerals Act, are applicable and the Department of Minerals and Energy needs to be contacted in order to determine their requirements in this regard. | If any borrow pits are to be excavated during the construction process in the implementation phase, the necessary permits will have to be acquired from the Department of Minerals and Energy. |

3 APPROACH AND METHODOLOGY

3.1 APPROACH

The purpose of this Preliminary Environmental Assessment is to identify possible strategic environmental issues at the earliest possible stage in the planning process to:

- Ensure that environmental issues are addressed in a pro-active manner in the development of the housing process.
- Improve the assessment of strategic environmental impacts that might be caused by the envisaged developments, and
- Ensure that the concept of sustainability is integrated with developmental decision making.

The overall approach towards this preliminary assessment is therefore based on the concept of sustainable development within the context of the official definition of sustainable development being: *“development that aims for equity within and between generations and adopts an approach where the economic, social and Environmental aspects of development are considered in a holistic fashion”*.

3.2 METHODOLOGY

This Preliminary Environmental Assessment provides a summarized overview of some of the key aspects relating to the social, economic, infrastructural, service and biophysical environments which impact on, and are similarly impacted upon by the eNhlalakahle Phase 2 Subsidised Housing project area. The summarized overviews of various aspects contained within the Preliminary Environmental Assessment have been based on a combination of existing available desktop information sources as well as the findings and observations derived from the recent on-site survey conducted of the project area.

Available desktop information sources include information derived from the 2011 South African Census, as well as the uMvoti Municipality Integrated Development Plan 2017/2018; and various spatial GIS information. These information sources were initially made use of to establish the general status quo conditions of various social, economic, service and infrastructural demographics which

impact on and are subsequently impacted upon by the project area and its local population. As a supplement to the information provided and discussed within the assessment report a number of accompanying thematic maps have also been included within the report, which provide a graphical representation of various biophysical factors at play within the project area.

The report has generally been structured as follows:

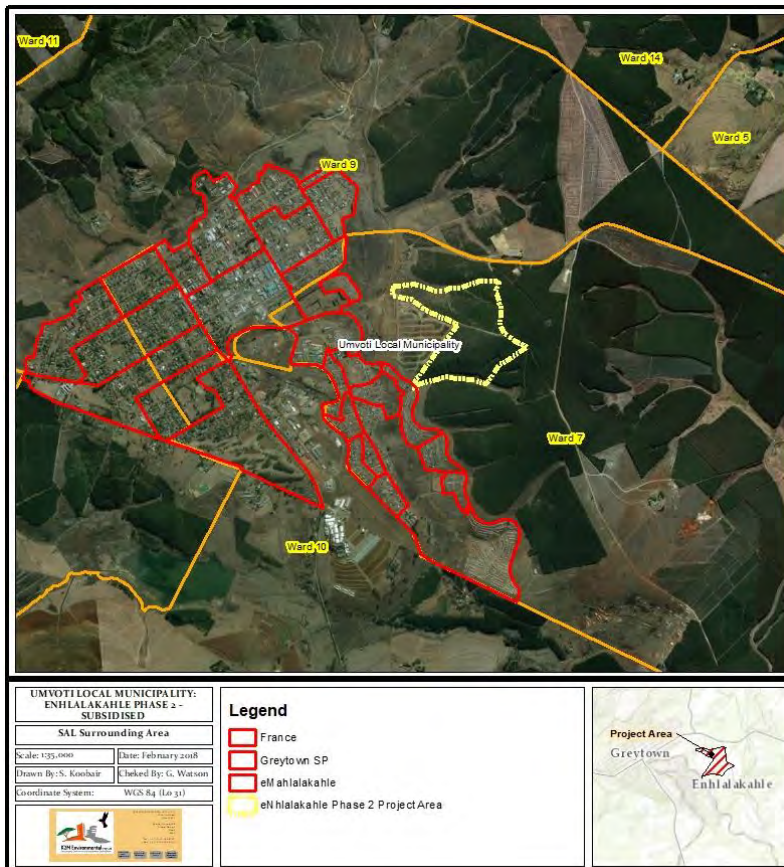
- **Section 4** deals with the **Socio-Economic Development component** of the project area. The social component addresses aspects such as age, gender, education and housing, while the economic component addresses aspects such as monthly household income, employment status, and a profile of the economic sectors within which the employed proportion of the project area population are involved in within the eNhlalakahle Phase 2 Housing project area.
- **Section 5** deals with the **services and infrastructural component** of the project area. The services component therefore addresses residents' access to water, sanitation, electricity, telecommunication infrastructure and waste removal services, while the infrastructural component addresses the road network and stormwater management systems within the project area.
- **Section 6** deals with the **biophysical characteristics** of the project area, and therefore covers aspects such as land cover, topography and drainage, floodline areas, vegetation, mineral deposits, archaeological, cultural and historical sites, and potential sources of pollution.
- **Section 7** provides a brief overview of the **preliminary environmental impacts and proposed mitigation measures** for the eNhlalakahle Phase 2 Housing project area, and discusses some of the impacts associated therewith.
- **Section 8** provides a **summary conclusion** of the findings of the Preliminary Environmental Assessment Report and the potential impact of the proposed development on the environment and local population, while also providing some recommendations with which to minimize or negate any negative impacts.

4 SOCIO-ECONOMIC COMPONENT

4.1 SOCIAL DEMOGRAPHIC CHARACTERISTICS

Given that this project is a Greenfield Development, small area layers (SAL), surrounding the project area was utilised to present a socio-economic overview of the area, as the project will benefit from the similar services. The areas selected were France, Greytown SP and eNhlalakahle (see Map 4.1). These areas were selected as it is combination of both high and low income earners. The eNhlalakahle Phase 2 Housing project area falls within the jurisdiction of the uMvoti Municipality; the figures of the surrounding areas are therefore presented together with the overall figures of the municipality to yield a comparative socio-economic overview for the study area. The total population of the surrounding area is approximately 8 273 persons and the population of the municipality is estimated at 103 092 persons.

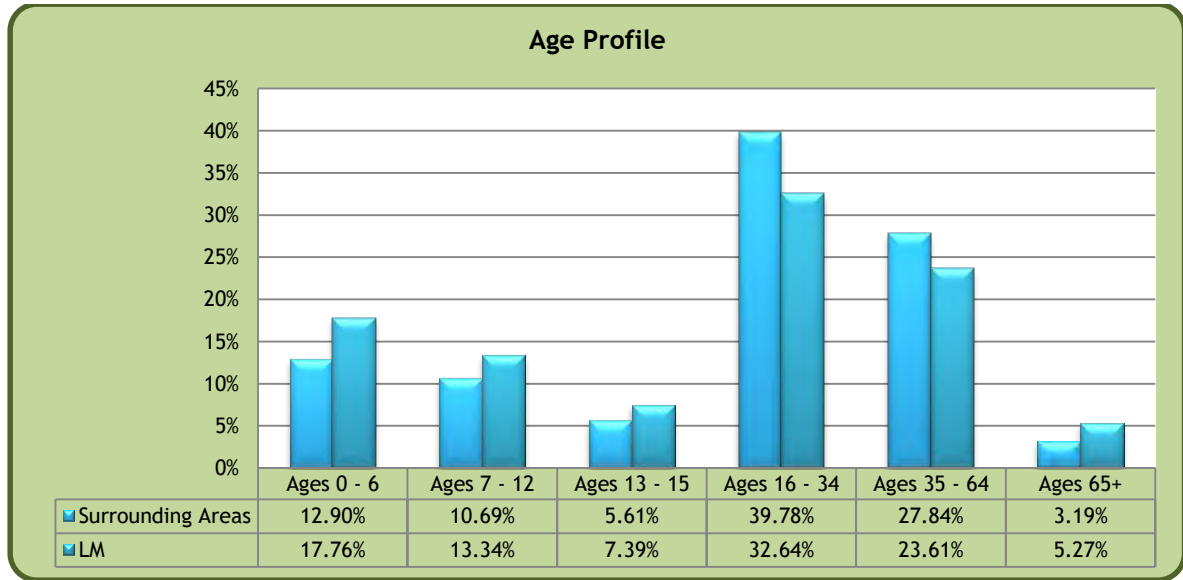
Map 4.1: Selected SALs



4.1.1 Age Profile

The age profile of the surrounding area and of the uMvoti Local Municipality (LM) is depicted in Figure 4.1 below.

Figure 4:1:Age Profile



Source: Statistics SA, Census 2011.

- It is evident from the graph that 39.78% of the population in the surrounding area is between the ages of 16 and 34.
- A total of 27.84% are between the ages of 35 – 64 years, while only 3.19% of the total population are older than the age of 65 years.
- Approximately 29.19% is below the age of 15.
- The figures also indicate that 42.40% of the population within the eDumbe Municipality is younger than 15 years, which is higher when compared to the project area.

4.1.1.1 Implications for the Subsidised Housing Project:

Age distribution patterns are of utmost importance when planning future developments and allocating subsidies as various subsidised facilities will be better enjoyed by individuals of certain ages now and in the future. Age distribution is also considered when determining the need for other supporting facilities necessary to ensure maximum yield of benefits of any given development, such as the

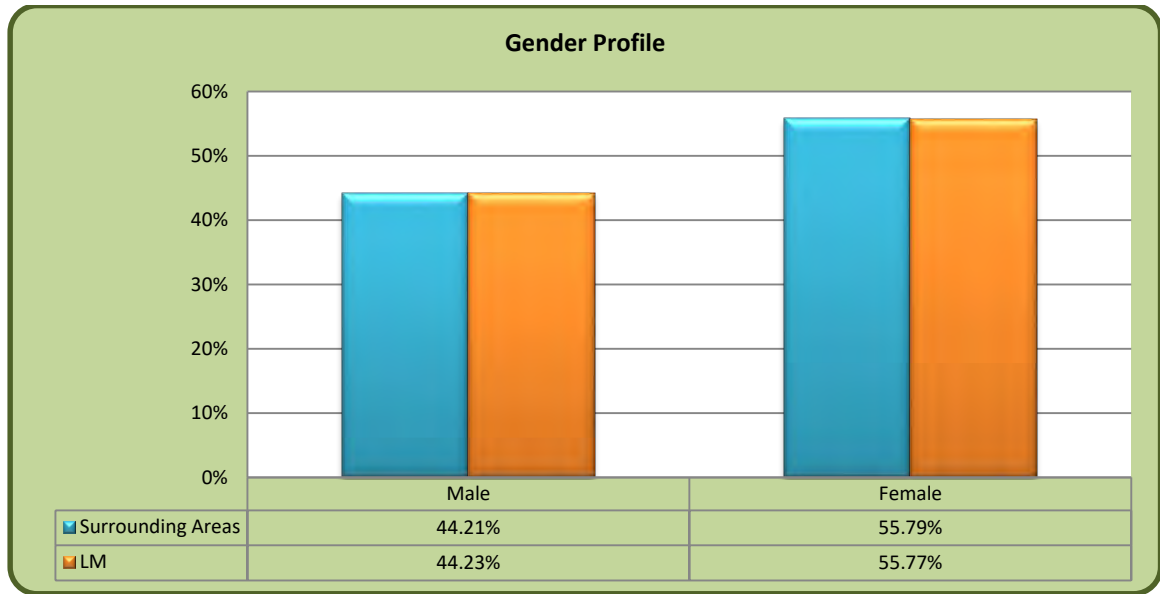
proposed subsidised housing project. The age distribution structure of the population of the project area has various implications as far as subsidised housing is concerned, which must be considered during the planning (location) and implementation of the project, these include:

- Provision of sufficient and appropriate education facilities within close proximity to the housing development, and thereby ensuring that scholars do not travel unnecessary distances.
- Provision of economic and/ or employment opportunities within close proximity of the houses as a number of young people will be entering the economically active age category over the next five to ten years and will thus be seeking appropriate employment opportunities.
- Provision of adequate social services and amenities: as the young age profile increases the proportion of the population which are not yet economically active which results in a high dependency ratio which places increased pressure on social services, facilities, and amenities. Provision of such services will not only benefit young individuals but rather the community at large.

The lack of such facilities and services within close proximity to the area will result in the individuals and families relocating to areas where such services are available and therefore leaving the subsidised houses which were meant to improve their quality of life, thereby limiting the success of the proposed housing project.

4.1.2 Gender Profile

According to the 2011 census information in Figure 4.2 below, as much as 55.79% of the total population is female and 44.21% are male.

Figure 4:2: Gender Profile

Source: Statistics SA, Census 2011.

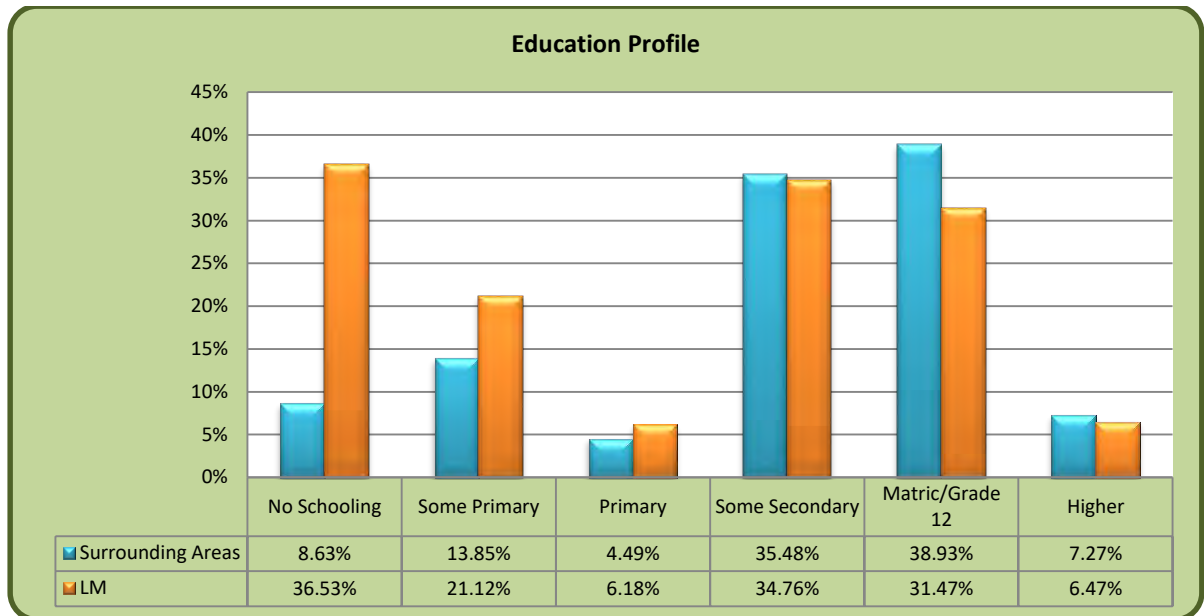
4.1.2.1 Implications for the Subsidised Housing Project:

The implication of gender roles within the eNhlalakahle Phase 2 Housing project area needs to be given due consideration with regards to the implementation of the envisaged subsidised housing project. Practices of gender equality and empowerment are necessary to ensure that benefits derived from the implementation of the proposed development are distributed in such a way that is reflective of the population structure as a whole.

4.1.3 Education Profile

The 2011 education profile of the study area and the uMvoti Municipality is illustrated in Figure 4.3 below.

Figure 4:3: Education Profile



Source: Statistics SA, Census 2011

- The figures above illustrate the education levels of persons over the age of 20 years and therefore falling into the economically active categories of the population.
- Approximately 8.63% of the population having no form of schooling.
- Approximately 13.85% of the population within the study area had undergone some form of primary school education, 4.49% completed primary school, 35.48% completed some form of secondary school and only 38.93% completed matric.

4.1.3.1 Implications for the Subsidised Housing Project:

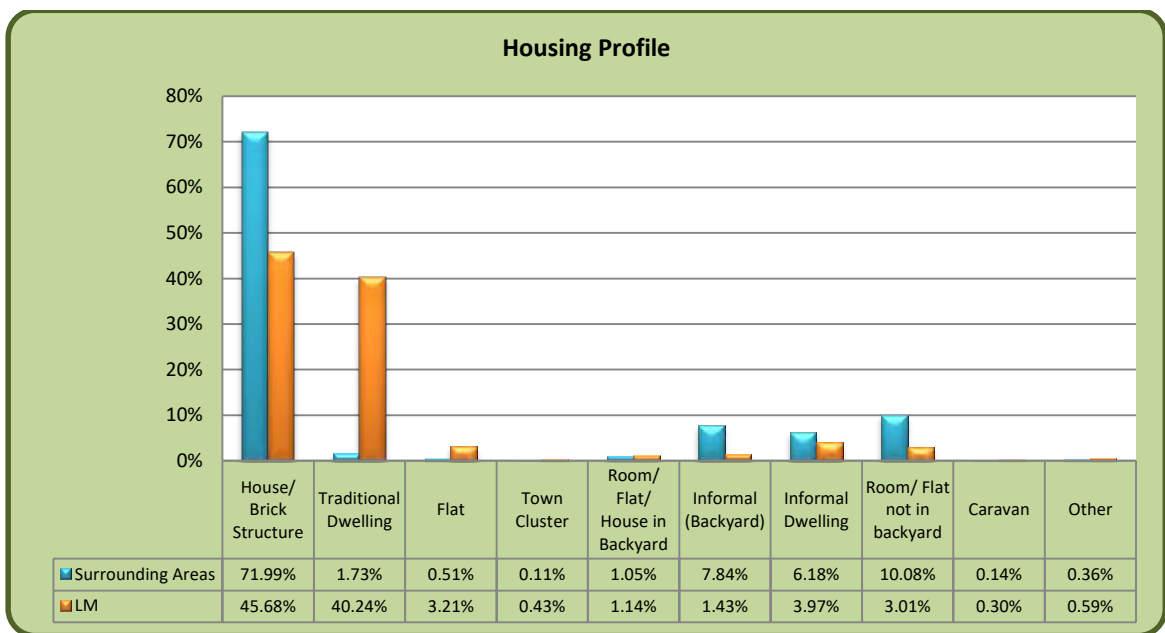
The level of illiteracy will need to be taken into consideration with regards to the implementation of the proposed project to ensure that that population whom are illiterate are assisted, included and involved in community participation practices, and are not discriminated against as a result. Technical aspects of the proposed housing project may have to be communicated as they need to be clearly understood by the beneficiary communities. Specific provisions will need to be made to include those

members of the project area whom may be illiterate in the development process, so as to avoid the possibility of exclusion of certain demographics. Facilities with which to cater to adult education could similarly constitute a viable option for future municipal developments of the area. In terms of overall project development and management it is important to ensure that all beneficiaries fully understand and grasp the implications and technical aspects relating to this housing initiative.

4.1.4 Housing Profile

Figure 4.4 below, depicts the housing profile of the surrounding areas and the uMvoti Municipality.

Figure 4:4: Housing Profile



Source: Statistics SA, Census 2011.

- The most predominant housing type in the project area is the “House/Brick Structure” with 71.99% of houses falling into this category, followed by the “Room/Flat not in backyard” with 10.08%.
- The figures indicate that within the uMvoti Municipality, approximately 45.68% of houses fall in the “House/Brick Structure” housing category while 40.24% fall within the “Traditional dwellings” category and 3.97% fall within the “Informal Dwelling” category.

4.1.4.1 Implications for the Subsidised Housing Project:

According to the Housing Act, 1997, it is pertinent that all citizens and permanent residents of the Republic will, on a progressive basis, have access to:

- Permanent residential structures with secure tenure, ensuring internal and external privacy and providing adequate protection against the elements.

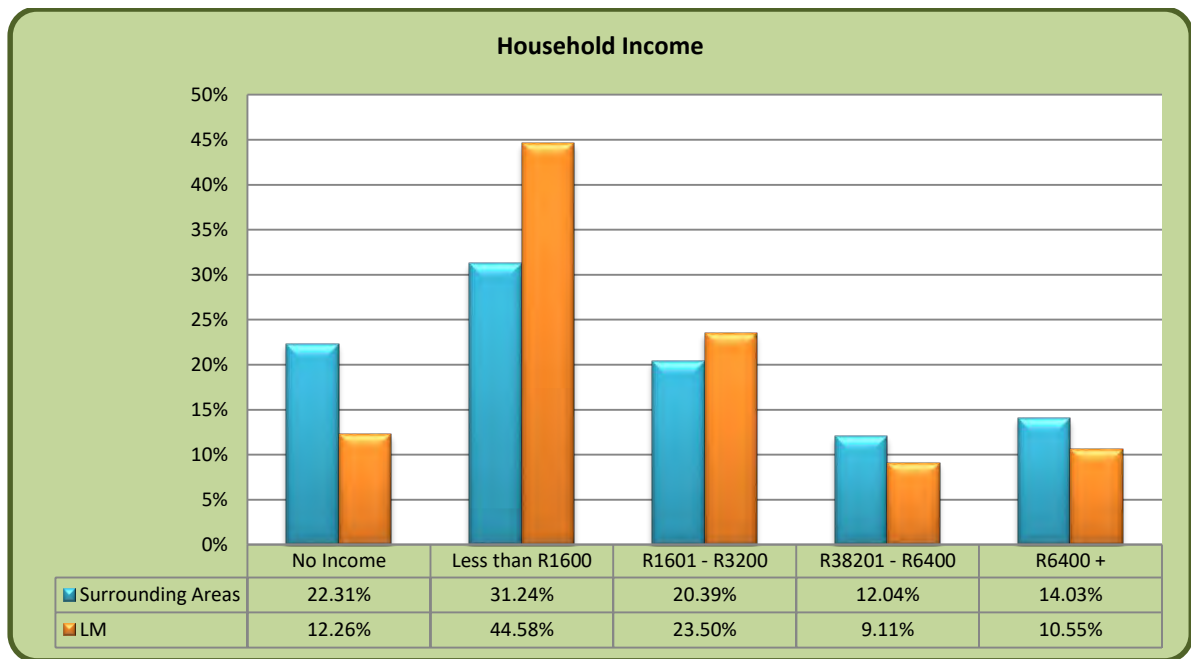
The National legislated (RDP) minimum norms and standards in respect of housing supply in South Africa is considered to be a brick top structure of 40 m² (minimum). Approximately 71.99% of households in the surrounding area; and 45.68% of the households within uMvoti Municipality; have access to housing services at this level. This national standard has been accepted by the Department of Human Settlement as their minimum norms and standards for the housing instrument as far as subsidised housing provision is concerned.

4.2 ECONOMIC DEMOGRAPHIC CHARACTERISTICS

4.2.1 Household Income and Affordability Profile

Figure 4.5 below illustrates the household income profile of the surrounding areas and uMvoti LM.

Figure 4:5: Monthly household income



Source: Statistics SA, Census 2011.

- As much as 22.31% of the total number of households within the surrounding area indicated not to have an income.
- The figures also show that 31.24% of the total number of households indicated a collective monthly household income of less than R1600, with 20.39% falling within the income range of R1600 – R3200 and 12.04% falling between R3200 and R6400.
- Approximately 14.03% of households earn more than R6400, which is much higher compared to the uMvoti Municipality percentage of 10.55%.

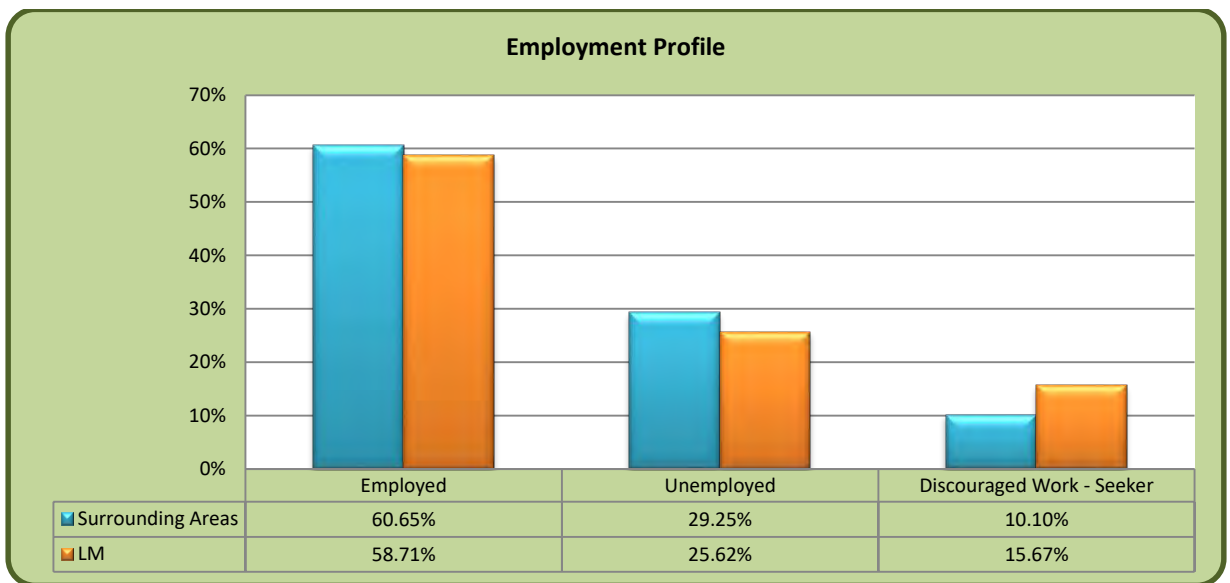
4.2.1.1 Implications for the Subsidised Housing Project:

The figures above indicate the affordability levels within the project area and the overall municipality. The proposed subsidised housing project will benefit many households with low monthly income and who cannot afford proper housing. The ability of residents to pay for service levels above the minimum required standards will also be very limited.

4.2.2 **Employment Profile**

Figure 4.6 below illustrates the employment profile of the surrounding area and the overall municipal profile.

Figure 4:6: Percentage of Economically Active population unemployed



Source: Statistics SA, Census 2011

- These figures illustrate the employment profiles of persons over the age of 15 years and therefore falling into the economically active categories of the population.
- As much as 60.65% of the active population indicated to be employed whilst 29.25% of the economically active population within the project area indicated that they were unemployed.
- The overall employment profile of the uMvoti Municipality indicated that 58.71% of the population was employed and as much as 25.62% was unemployed.

4.2.2.1 Implications for the Subsidised Housing Project:

The potential role of the envisaged housing project in providing some employment and income generating opportunities during the construction and implementation phases should clearly be a key consideration in the project plan. The development of technical skills relating to construction which could benefit the project beneficiaries after completion of the housing project should also be considered in the project implementation and management stages.

4.2.3 Economic Sector Profile

4.2.3.1 Implications for the Subsidised Housing Project:

It can be expected that a number of additional employment opportunities could be created due to the construction of houses for this project. Local employment opportunities should be optimized during the implementation stages to contribute towards longer term economic sustainability in the project area.

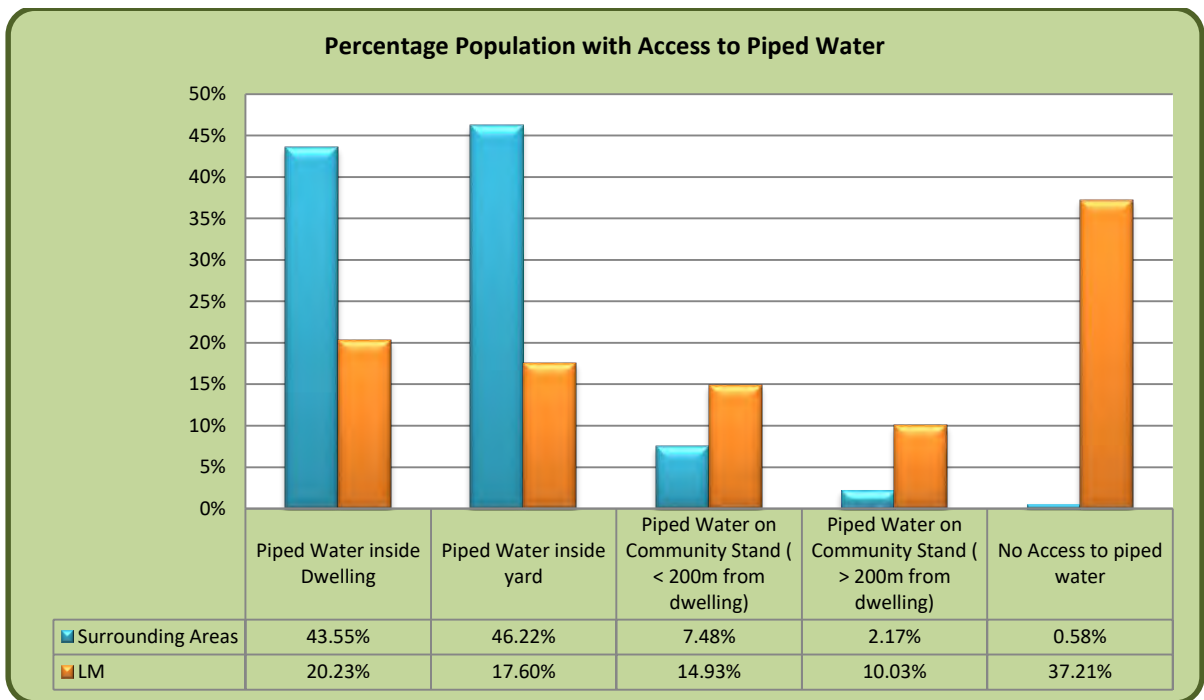
5 SERVICES AND INFRASTRUCTURE

5.1 SERVICES DEMOGRAPHICS

5.1.1 Access to water sources

Figure 5.1 and 5.2 below illustrates the various sources of water, for drinking and other auxiliary household uses, for communities residing within the surrounding area and the overall uMvoti Municipality.

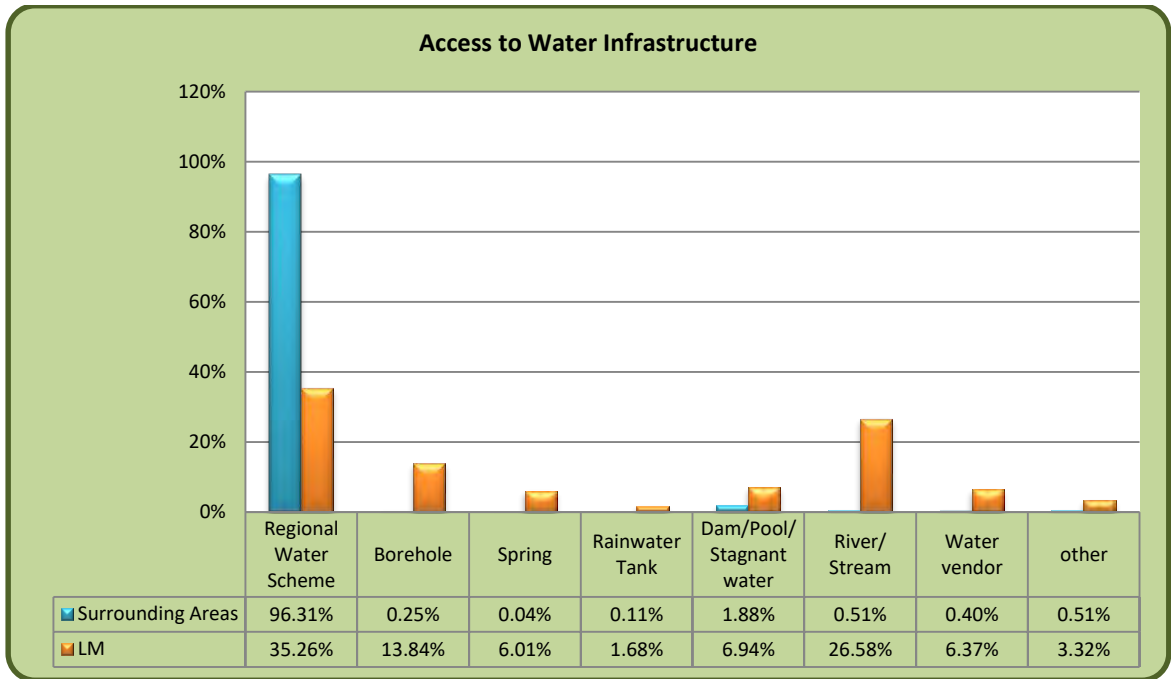
Figure 5.1: Access to Piped Water



Source: Statistics SA, Census 2011.

- Approximately 43.55% of the total number of households within the surrounding area have access to piped water “inside dwelling” and 46.22% have piped water “inside the yard”.
- Approximately 97.25% of households within the surrounding area have to walk less than 200m to get water, whilst 2.17% of households have to walk more than 200m to get water.

Figure 5:2: Access to Water Infrastructure



Source: Statistics SA, Census 2011.

- Approximately 96.31% of the project area is connected to the regional water scheme, which is much higher when compared to the uMvoti LM (35.26%).

5.1.1.1 Implications for the Subsidised Housing Project:

The levels of service delivery derived from acceptable national policy frameworks which are relevant for the level of water services indicate the following definitions as being applicable:

- A ‘Survival’ level of service providing five (5) to eight (8) litres of water per capita per day at 800 – 1500 meters walking distance;

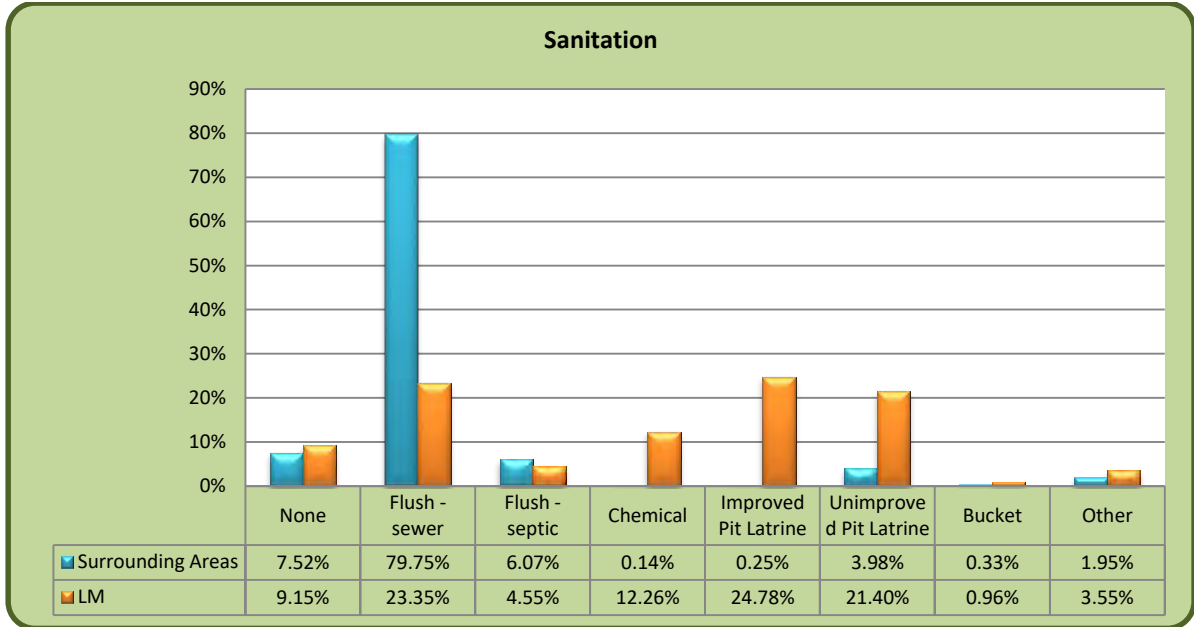
- The RDP level of service providing twenty-five (25) litres of water per capita per day at 200 meters walking distance; and
- A higher level of service providing more than twenty-five (25) litres of water per capita per day and at less than 200 meters walking distance. It even includes a yard or house connection.

The National legislated (RDP) minimum norms and standards in respect of water supply in South Africa are therefore considered to be a maximum 200 m's walking distance between a communal stand pipe and one's residence. Approximately 52.76% of the households within the uMvoti Municipality and 97.25% of the eNhlalakahle Phase 2 Housing study area have access to water services at this level or better (piped water inside dwelling and yard). This national standard has been accepted by the Department of Housing as their minimum norms and standards for the housing instrument as far as subsidized housing provision is concerned. Therefore, due to the fact that the provision of water amounts to housing purposes in terms of the Housing Board/Department of Human Settlements explanation of subsidies, the provision of water at the minimum RDP level of service provision at least should constitute a key municipal objective for implementation in the eNhlalakahle Phase 2 Housing project area, as well as the uMvoti Municipality as a whole. The provision of Subsidised Housing should therefore not occur in isolation but should be supported by various other necessary infrastructural and service provision projects.

5.1.2 Access to Sanitation Infrastructure

Figure 5.3 illustrates the access to the sanitation infrastructure.

Figure 5:3: Access to Sanitation Infrastructure



Source: Statistics SA, Census 2011.

- Majority (79.75%) of households in the surrounding area use flush toilets which are connected to a sewage system while 6.07% use flush toilets which are connected to a septic tank.
- The statistics of the overall uMvoti Municipality indicates that majority (24.78%) of households make use of “improved pit latrines” whilst 23.35% utilise flush toilets connected to a sewage system.
- The potential impact of the extensive utilization of unimproved pit latrines and other forms of inappropriate sanitation infrastructure, on biophysical aspects such as surface and ground water, as well as the potential health implications is clearly evident from these figures, as is the need for improved access to sanitation infrastructure.

5.1.2.1 Implications for the Subsidised Housing Project:

The levels of service delivery derived from acceptable national policy frameworks which are relevant for the level of sanitation services indicate the following definitions as being applicable:

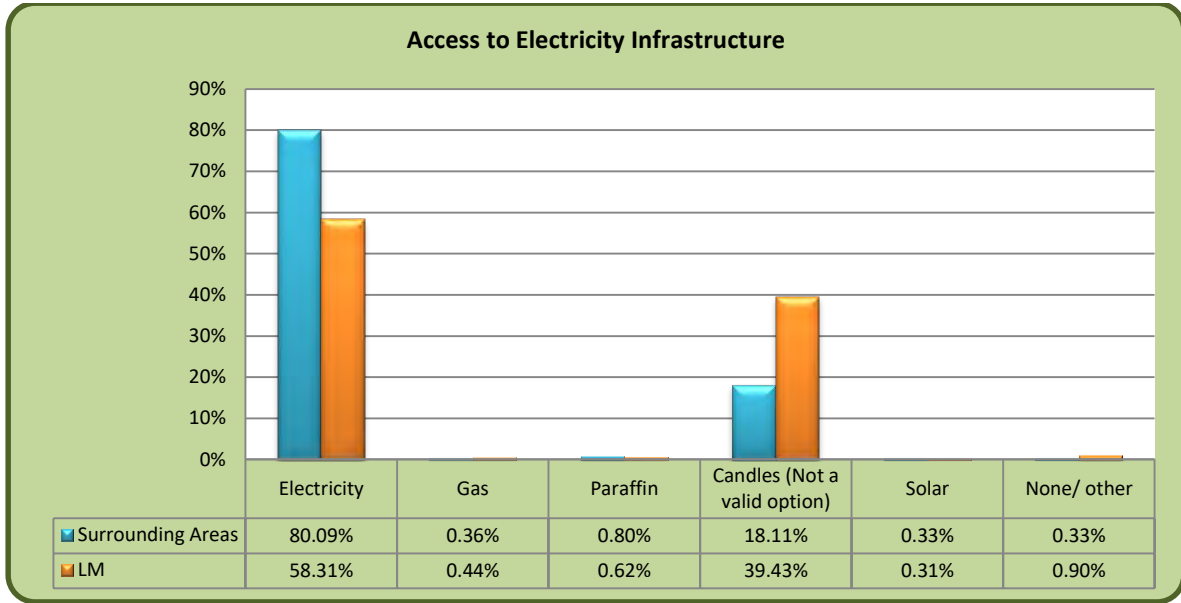
- A Ventilated Improved Pit latrine (VIP) level of service;
- The interim level of service providing on-site sanitation that could include amongst others an on-site dry system (single, double pit or organic systems such as the Enviroloo) or an on-site wet system (such as a low flush or a septic tank and french drain); and
- A waterborne level of service providing treatment of raw sewage by means of a Sewage Treatment Works.

The National legislated (RDP) minimum norms and standards in respect of sanitation service provision in South Africa are considered to be ventilated improved pit toilet (VIP). Approximately 64.94% of households in uMvoti Municipality and 86.23% of the surrounding area have access to sanitation services at this level or better. This national standard has been accepted by the Department of Human Settlements as their minimum norms and standards for all housing instruments as far as subsidised housing provision is concerned. Therefore, due to the fact that the provision of sanitation amounts to housing purposes in terms of the Housing Board/Department of Human Settlements explanation of subsidies, the provision of sanitation at the minimum RDP level of service provision at least should constitute a key municipal objective for implementation in the eNhlalakahle Phase 2 Housing project area, as well as the uMvoti Municipality as a whole. The provision of Subsidised Housing should therefore not occur in isolation but should be supported by various other necessary infrastructural and service provision projects.

5.1.3 Access to Electricity Infrastructure

Figure 5.4 below indicates the various energy sources used for lighting purposes by households within the surrounding area and overall uMvoti Municipality.

Figure 5:4: Access to Electricity Infrastructure



Source: Statistics SA, Census 2011.

- During the time of the survey, the majority (80.09%) of households within the surrounding areas of the study area indicated that they had access to electricity while 18.11% used candles. Overall, within the uMvoti Municipality, 58.31% of households have access to electricity, whilst 39.43% utilize candles.

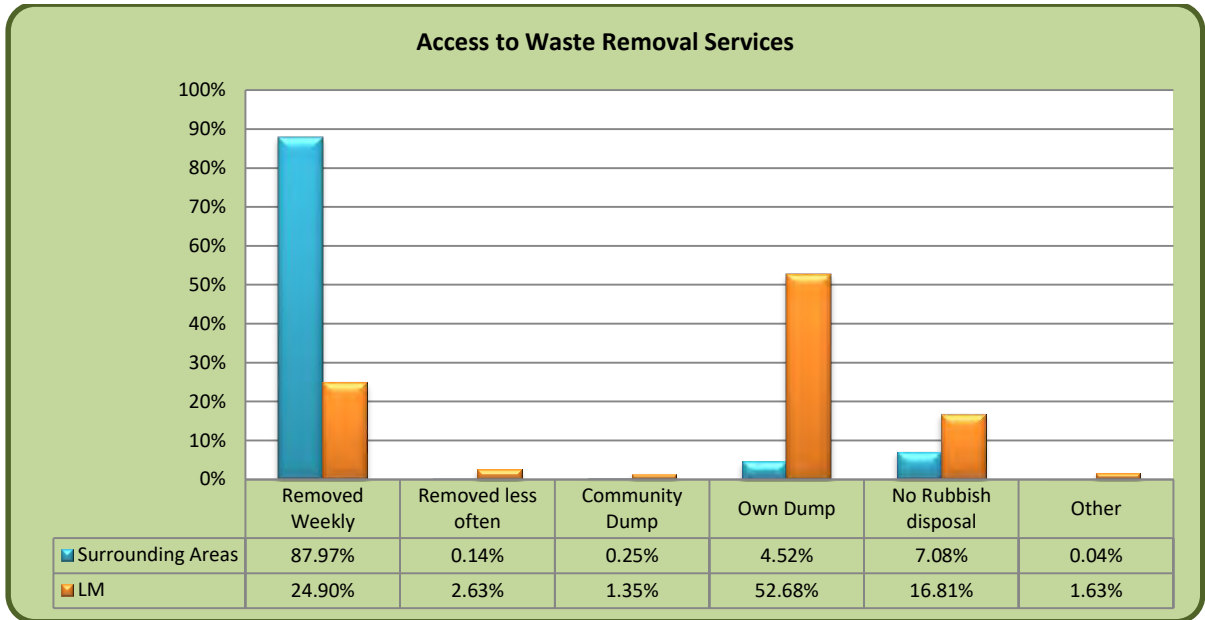
5.1.3.1 Implications for the Subsidised Housing Project:

The provision of an internal electrical reticulation network is not viewed as a minimum requirement as far as subsidised housing is concerned, and as such the provision of an internal electrical reticulation network does not form part of the proposed subsidised housing project. The absence of appropriate electricity infrastructure can often result in the extensive utilization of firewood for cooking and heating purposes with the resulting potential negative impact on natural vegetation. Limited access to electricity infrastructure often contributes to the general deforestation of the surrounding area, and increased levels of air pollution arising from the use of firewood for cooking and heating purposes.

5.1.4 Access to Waste Removal Services

The graph in Figure 5.5 below depicts the various waste management/ removal methods recorded as being used by the various households within the study area and the overall Municipality.

Figure 5:5: Access to Waste Removal Services



Source: Statistics SA, Census 2011.

- As much as 87.97% of households within the surrounding area indicated that their waste was removed weekly, whilst 4.52% indicated that they utilised their own dump.
- The figures from the graph indicate that 24.90% of the households in uMvoti Municipality had their refuse collected once a week and 2.63% collected less often than on a weekly basis. Approximately 52.68% of the local municipality uses their own dumps.

5.1.4.1 Implications for the Subsidised Housing Project:

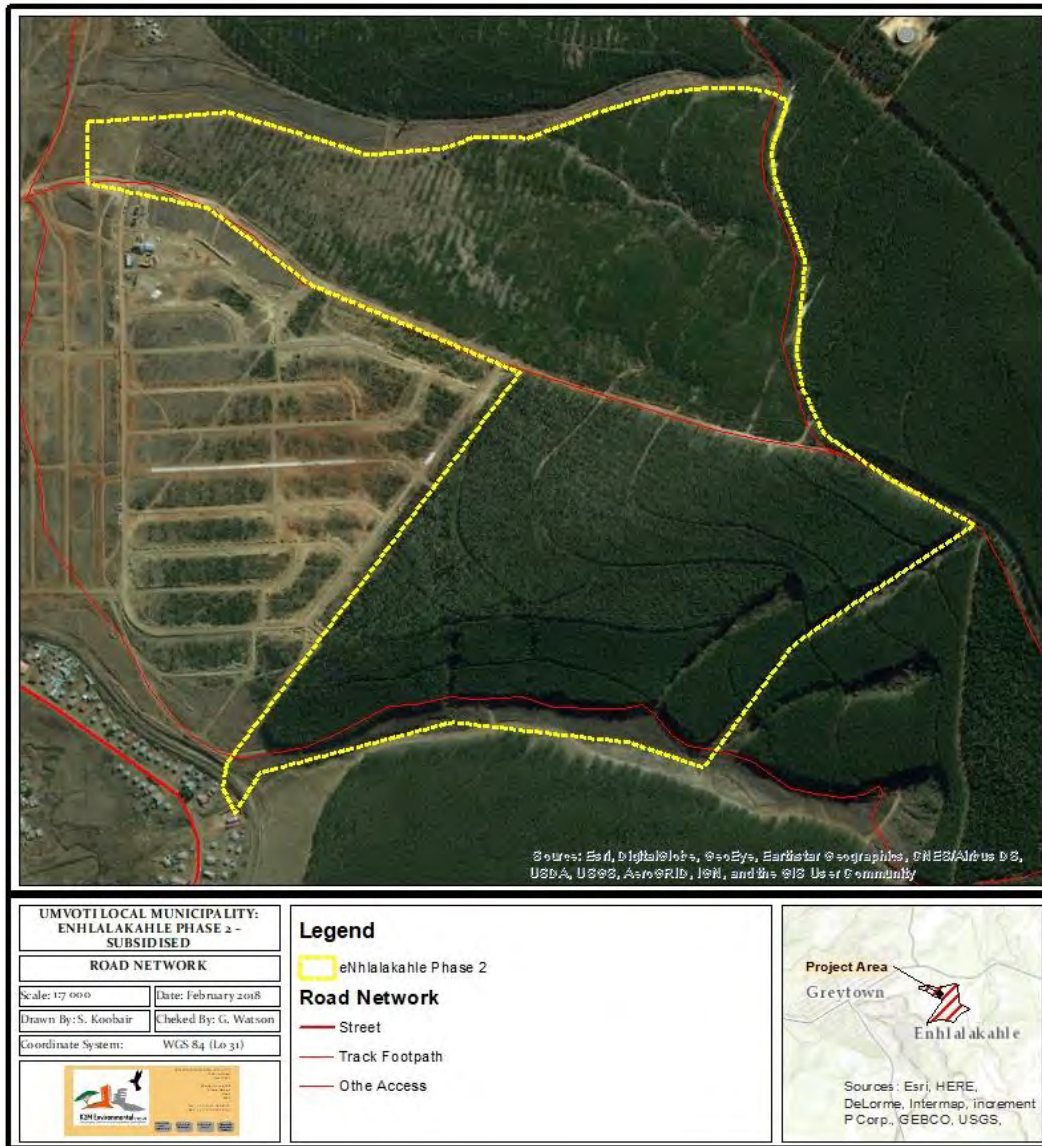
The uMvoti Municipality is the service provider responsible for the provision of a functional waste removal and disposal system within the study area. It must be noted that the absence of waste removal services in the study area can not only impact negatively on the biophysical environment, but also on the aesthetic appearance of the area, and the overall health profile of the resident communities, as well as their livestock as a result of livestock ingesting such waste.

5.2 INFRASTRUCTURE

5.2.1 Roads

This section of the report provides an overview of existing road networks providing access to the eNhlalakahle Phase 2 Housing (project area) as indicated on Map 5.1 below. Access to the project area is obtained via footpaths. Additional roads will need to be constructed for the proposed development.

Map 5.1: Road Network



(i) National Roads

There are no National Roads that have been proclaimed through the project area.

(ii) Provincial Roads

The no Provincial Road that provides access to the project area.

(iii) District Roads

There are no District Roads that have been proclaimed through the project area.

(iv) Numbered Local Access Roads

There are no Local Access Roads that have been proclaimed through the project area.

(v) Unnumbered Local Access Roads

There are a number of unnumbered local access roads and streets within the project area.

5.2.1.1 Implications for the Subsidised Housing Project:

The National legislated (RDP) minimum norms and standards in respect of roads in South Africa are considered to be “access to all erven with graded or gravel paved roads”. This national standard has been accepted by the Department of Housing as their minimum norms and standards for the housing instrument as far as road provision is concerned. It is important to note that the Project Area entirely consists of “Greenfield” development and therefore additional access roads will be constructed. Grading processes may be conducted on some existing roads within and in close proximity to the project area as part of the proposed project in an attempt to improve the current condition of these roads as well as to extend them. It is important to note however that construction of new additional roads will only occur within the demarcated project area and will only entail graded or gravel paved roads therefore the surrounding natural environment will not be adversely impacted upon.

It should also be noted that all Local Access roads will be afforded a minimum 15 m building line within which no construction activities may occur. This therefore ensures that no construction activities associated with the proposed housing project will result in any adverse negative impacts on the existing road network.

5.2.2 Stormwater

Whilst low income subsidised housing developments have huge budgetary constraints on the design and implementation of stormwater management and control systems, it is vitally important to dispose of stormwater as effectively and efficiently as possible. This is due to the fact that uncontrolled stormwater runoff can cause damage to property and may erode and destabilise fill and cut banks. The objectives of the stormwater management system should be as follows:

- To adequately dispose of runoff from developed areas without causing soil saturation or erosion. This is particularly important on any sites underlain by erodible soils and on steep slopes;
- To provide overland flow routes through developments to cater for major storms and thereby minimising any risk of damage to property infrastructure and other immovable assets;
- Stormwater systems should be designed to function adequately with low maintenance in the long term, and should cater for silting, etc.

5.2.2.1 Implications for the Subsidised Housing Project:

While the National legislated (RDP) minimum norms and standards in respect of stormwater management in South Africa is considered to be “Lined open channels” the logistics and costs involved with the implementation thereof mean that such a minimum norm and standard is not feasible for implementation as part of the eNhlalakahle Phase 2 Subsidised Housing development.

6 BIO-PHYSICAL COMPONENT

6.1 CURRENT LAND USE

The project area was being used as timber plantation, however, Mondi is in the process of removing the timber trees to accommodate for the housing project.

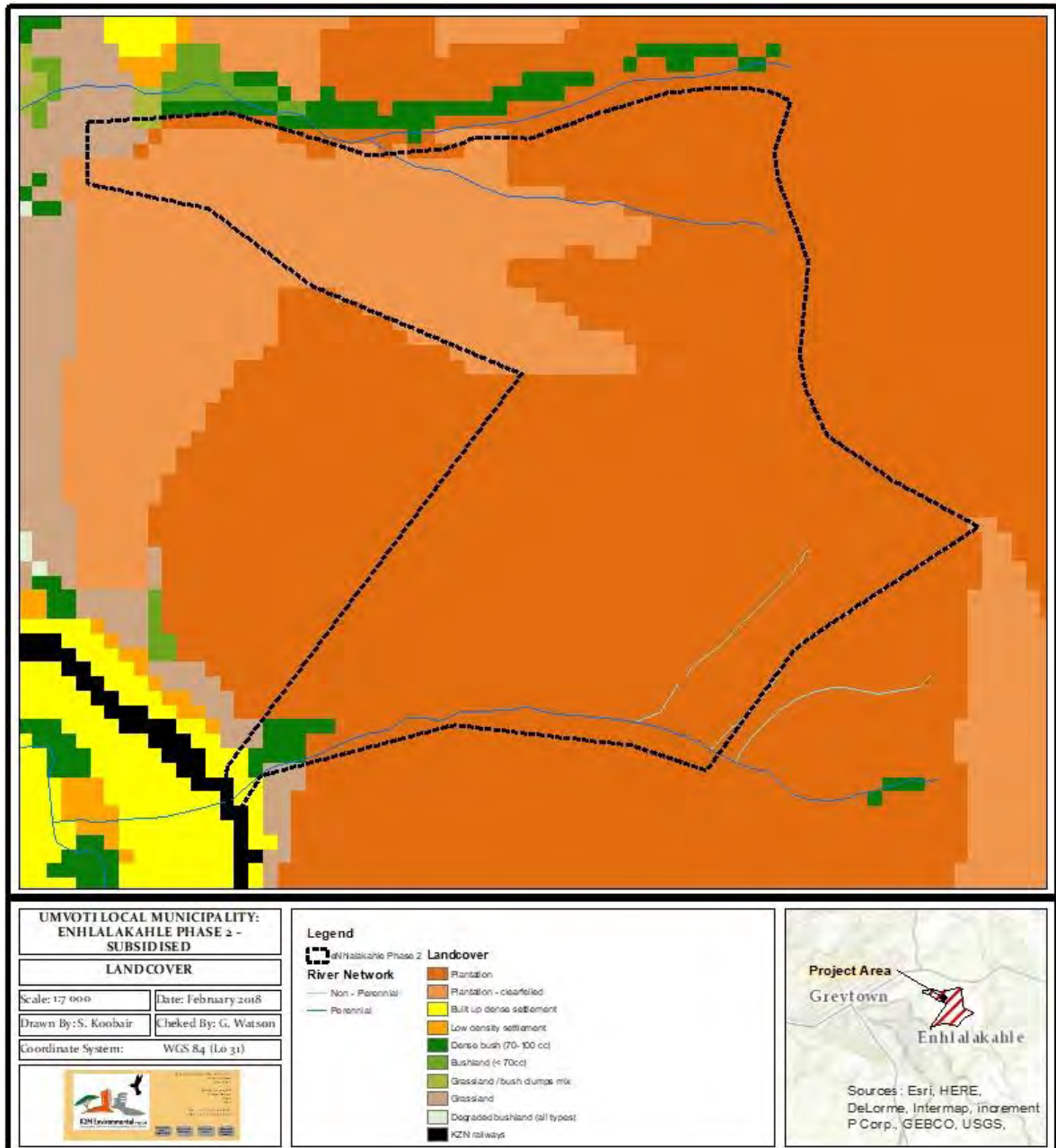
Photograph 6.1: Forestry within Project Area



6.2 LAND COVER AND TOPOGRAPHY

As indicated in Map 6.1, majority of the project area is categorised as “Plantations” and “Plantations – Clear-felled”.

Map 6.1: Landcover



Photograph 6.2: Plantation clear felled

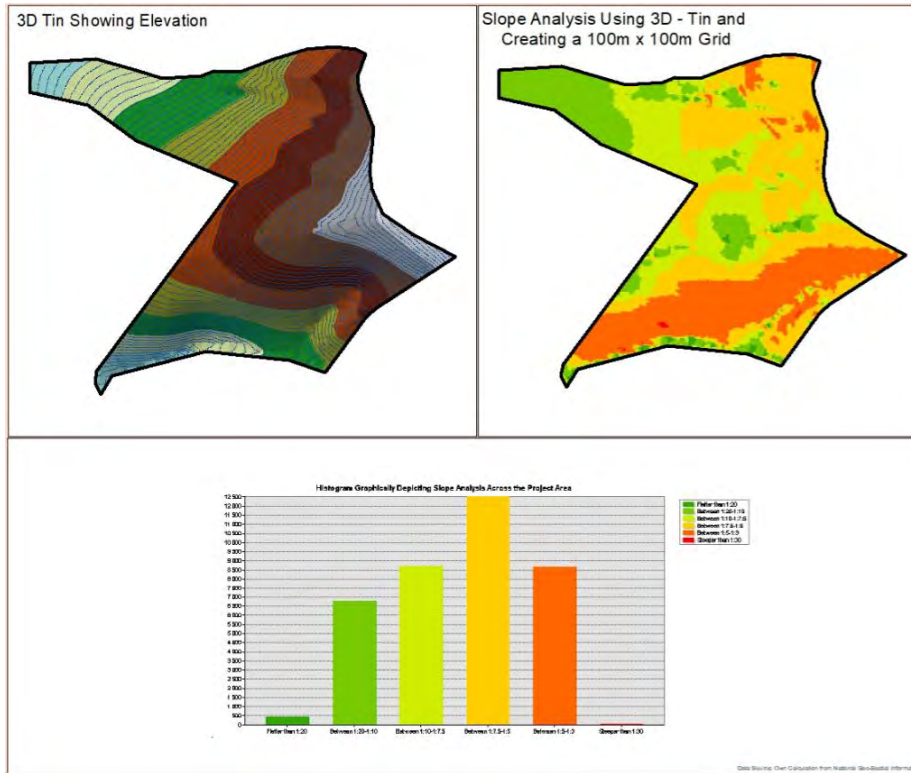
The overall topography of the study area is summarized in Table 6.1 below and clearly depicted on Map 6.2 below. The slope analysis study indicates that the majority of the project area (33.72%) is characterized by slopes “Between 1:7.5 - 1:5” and 23.46% of the area’s topography has a slope character “Between 1:10 - 1:7.5” while 23.32% of the area has a slope of “Between 1:5 - 1:3. Appropriate planning and design principles suitable for the topography of the area and taking due cognizance of the characteristics of the area, will thus have to be applied during the detailed planning stages of the envisaged housing process.

Table 6.1: Slope Analysis

| Slope Analysis | Area (Ha) | Percentage of Total Area |
|----------------------|--------------|--------------------------|
| Flatter than 1:20 | 0.68 | 1.14% |
| Between 1:20 - 1:10 | 10.85 | 18.26% |
| Between 1:10 - 1:7.5 | 13.94 | 23.46% |
| Between 1:7.5 - 1:5 | 20.04 | 33.72% |
| Between 1:5 - 1:3 | 13.86 | 23.32% |
| Steeper than 1:3 | 0.06 | 0.10% |
| Total Area | 59.43 | 100.00% |

Own Calculations

Map 6.2: Slope Analysis



6.3 CRITICAL BIODIVERSITY AREAS

Critical Biodiversity Areas (CBAs) represent the portfolio of sites that is required to represent all biodiversity in the region, and maintain the ecological processes necessary to sustain the biodiversity and ecosystem services. Each CBA category should be maintained in the appropriate ecological state defined by the Land Management Objective for that category. CBAs have been identified based on the definition laid out in the Guideline for Publishing Bioregional Plans (DEAT, 2009):

Critical Biodiversity Areas (CBAs) terrestrial and aquatic areas of the landscape that need to be maintained in a natural or near-natural state in order to ensure the continued existence and functioning of species and ecosystems. In other words, if these areas are not maintained in a natural or near-natural state then biodiversity targets cannot be met. Maintaining an area in a natural or near-natural state can include a variety of biodiversity-compatible land uses and resource uses.

As per Ezemvelo KZN Wildlife, CBAs can be divided into two subcategories, namely Irreplaceable and Optimal. The CBA categories are based on the optimised outputs derived using systematic

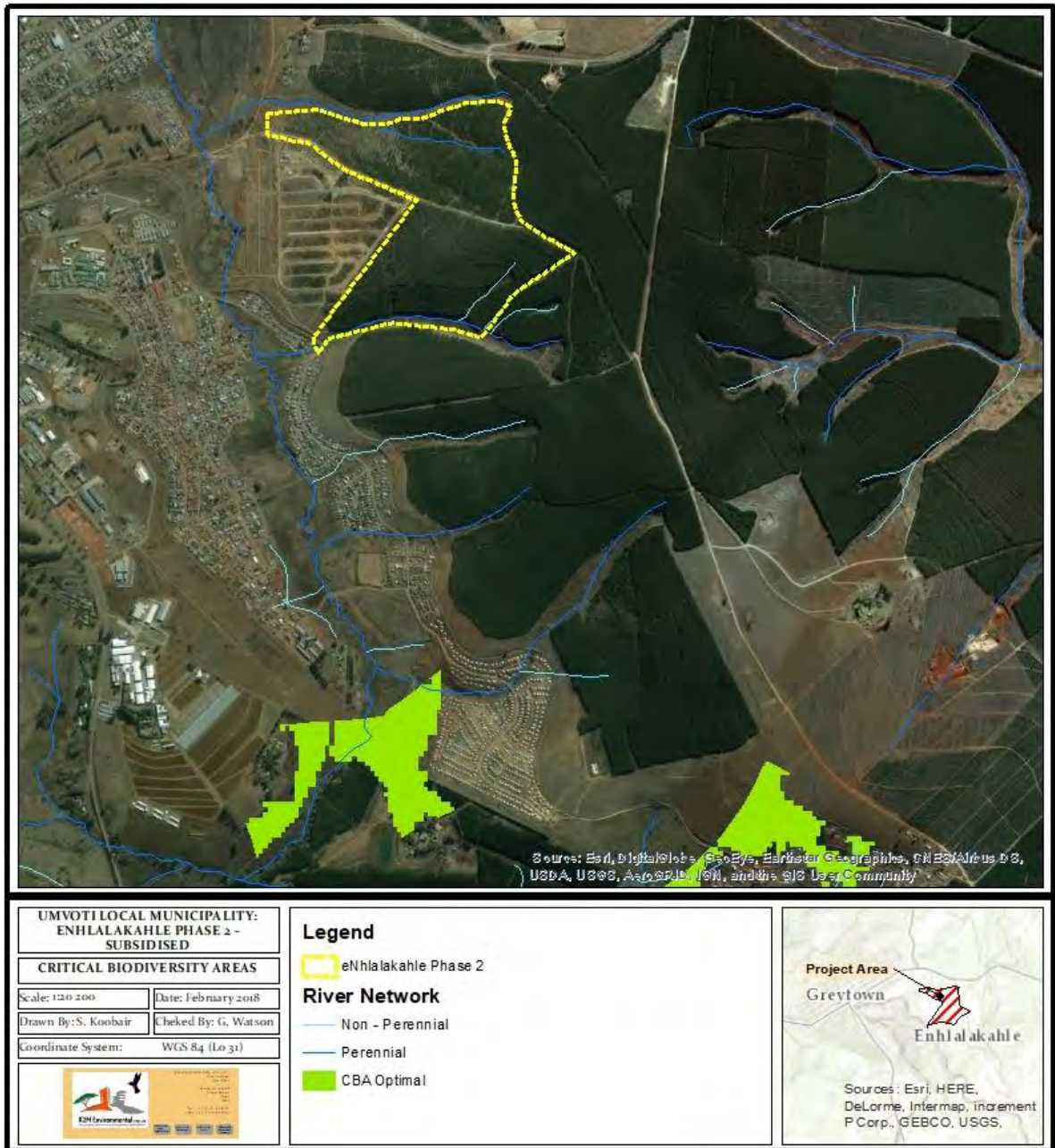
conservation planning software, with the Planning Units (PU) identified representing the localities for which the conservation targets for one or more of the biodiversity features contained within can be achieved.

The CBA Irreplaceable Areas represent the localities for which the conservation targets of one or more of the biodiversity features that can be achieved. These areas are considered critical for meeting biodiversity targets and thresholds, and which are required to ensure the persistence of viable populations of species and the functionality of ecosystems. The CBA: Irreplaceable Areas are identified as having an Irreplaceability value of 1.

The CBA: Optimal Areas are areas which represent the best localities out of a potentially larger selection of available PU's that are optimally located to meet both the conservation target but also the criteria defined by either the Decision Support Layers or the Cost Layer. The CBA Optimal Area has an Irreplaceability score of >0 and < 0.8 .

It should be noted that the CBAs have been done at strategic level, therefore, it is essential to undertake site assessments for particular projects. As per our site assessment are no CBAs within the project area.

Map 6.3: CBAs



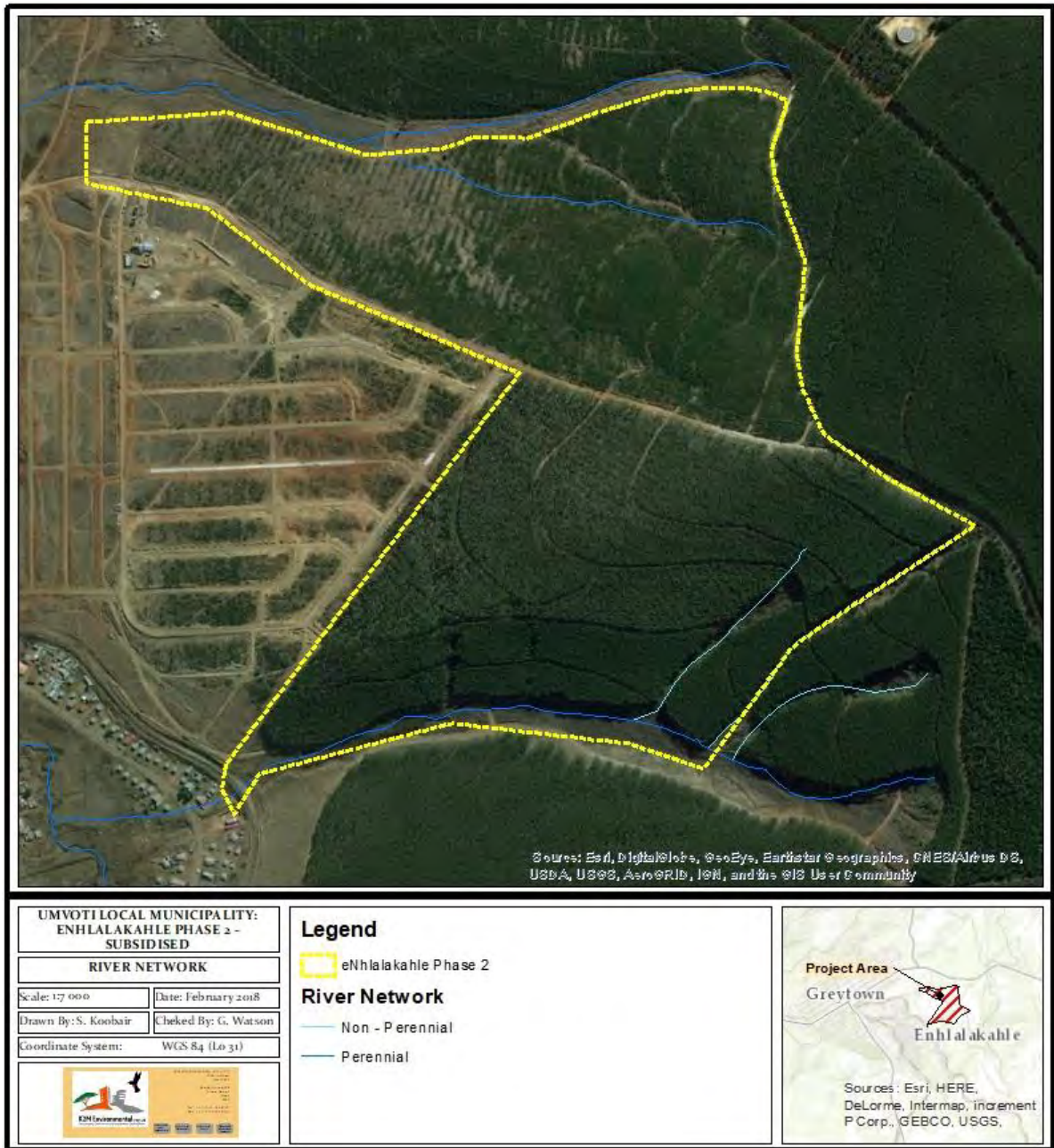
6.4 WATERCOURSES AND FLOOD LINE AREAS

As indicated in Map 6.4, there are perennial rivers as well as non-perennial streams that occur within the project area, which may be subject to periodic flooding depending on the rainfall and subsequent runoff at any point in time, either within or upstream of the specific catchment area.

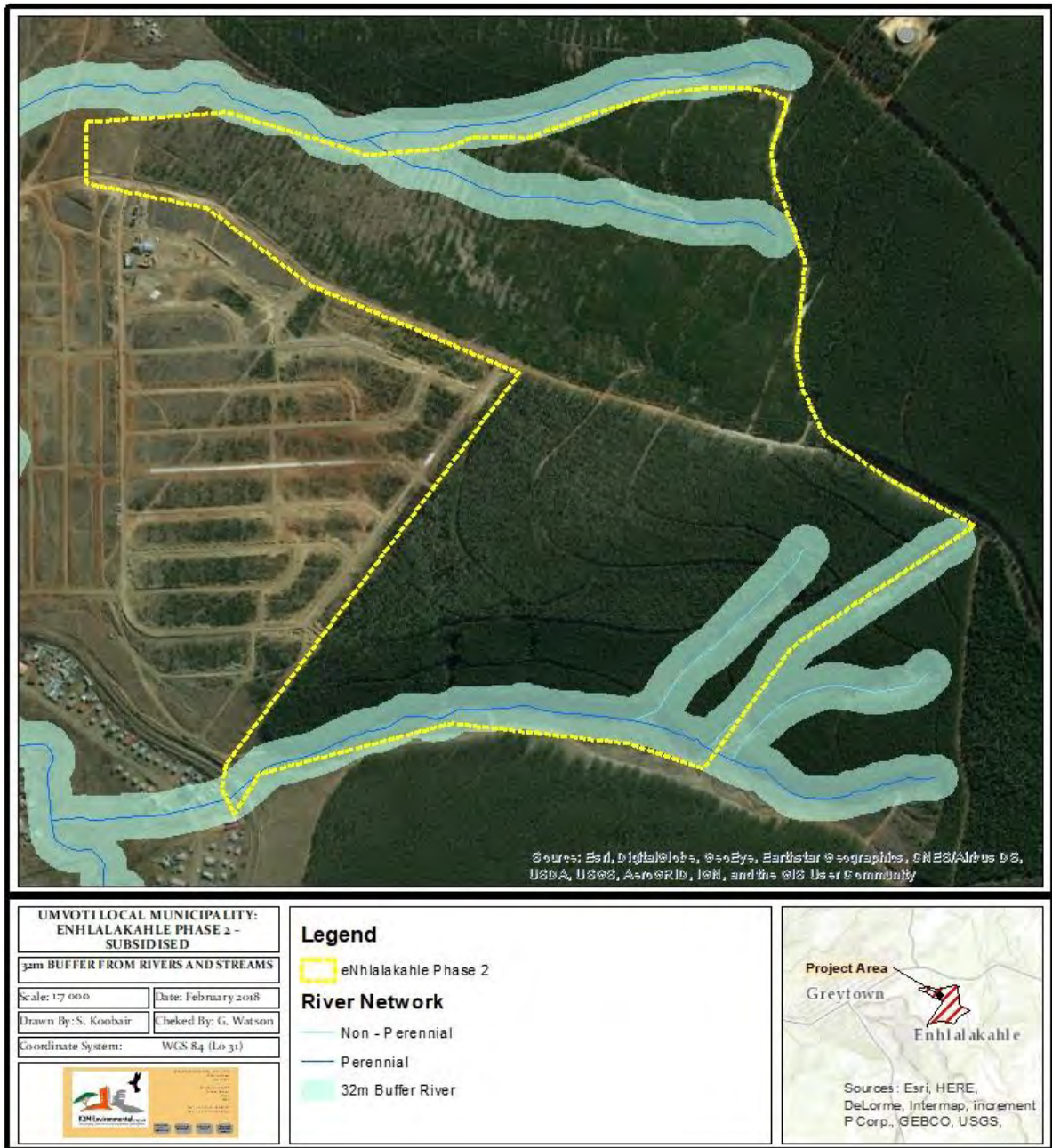
In terms of the National Water Act, as well as other developmental legislation which are applicable, the project area is subject to a 1:100-year flood line restriction and no development should occur within this area.

However, in terms of the 2014 EIA Regulations and for the purpose of this project, all new household structures to be constructed should be located at least 32 m's away from the bank of any river or stream. Should construction take place within 32m from the bank of any river or stream, then an EIA will need to be applied for.

Map 6.4: Watercourses



Map 6.5: 32m Buffer



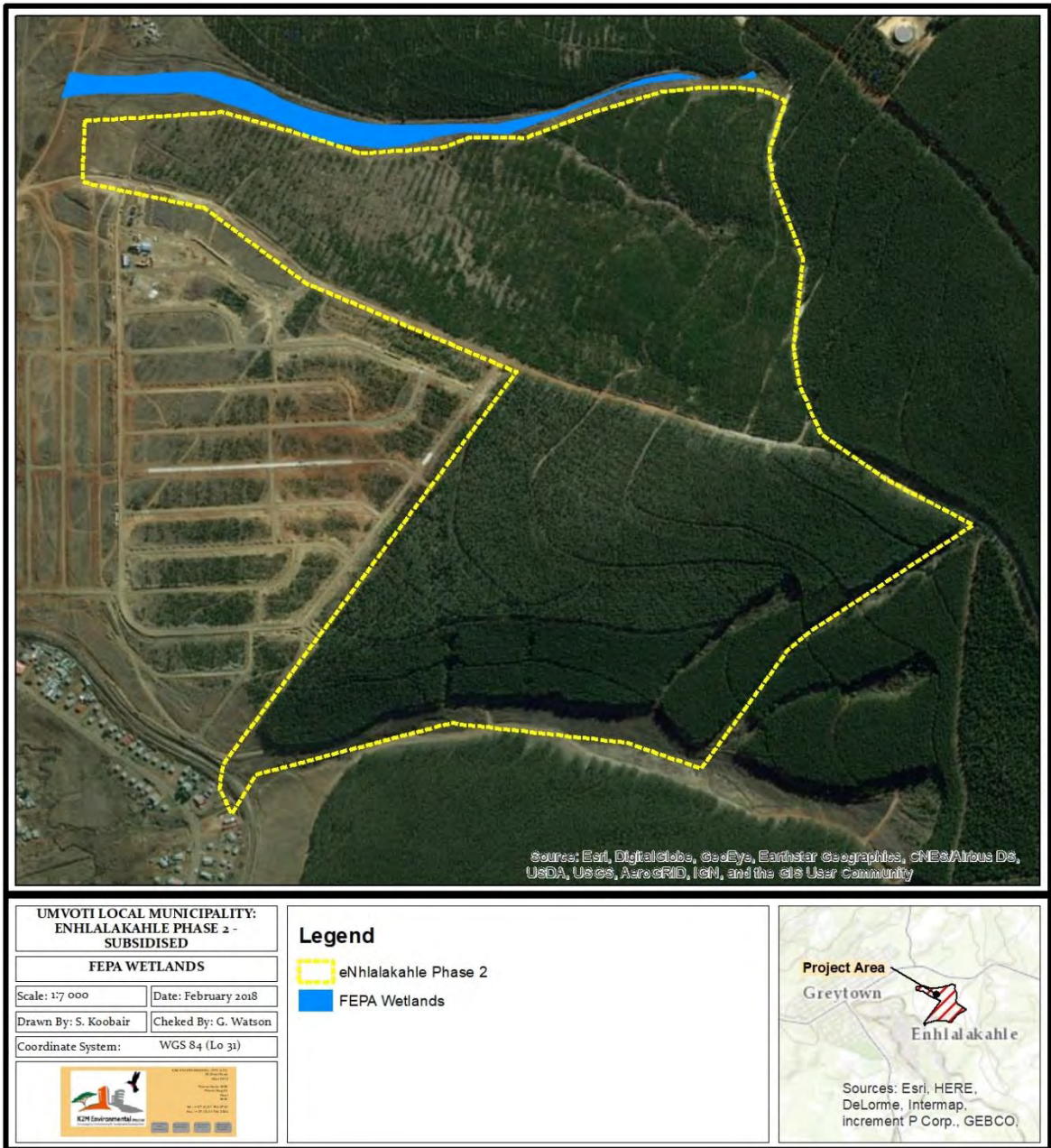
6.5 FRESHWATER ECOSYSTEM PROTECTED AREAS (FEPA'S)

Freshwater Ecosystem Protected Areas (FEPA's) according to the Water Research Council are strategic spatial priorities for conserving freshwater ecosystems and supporting sustainable use of water resources. Freshwater ecosystems refer to all inland water bodies whether fresh or saline, including rivers, lakes, wetlands, sub-surface waters and estuaries. FEPAs are often tributaries and wetlands that support hard-working large rivers, and are an essential part of an equitable and sustainable water resource strategy. FEPAs need to stay in a good condition to manage and conserve freshwater ecosystems, and to protect water resources for human use (Water Research Council).

According to the National Water Act (1998), a wetland is defined as "*Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land, in normal circumstances, supports or would support vegetation typically adapted to life in saturated soil*".

As indicated in Map 6.6, there are no FEPA wetlands have been identified on site. However, due to the proximity of the watercourses, there is a probability of wetlands occurring within the project area.

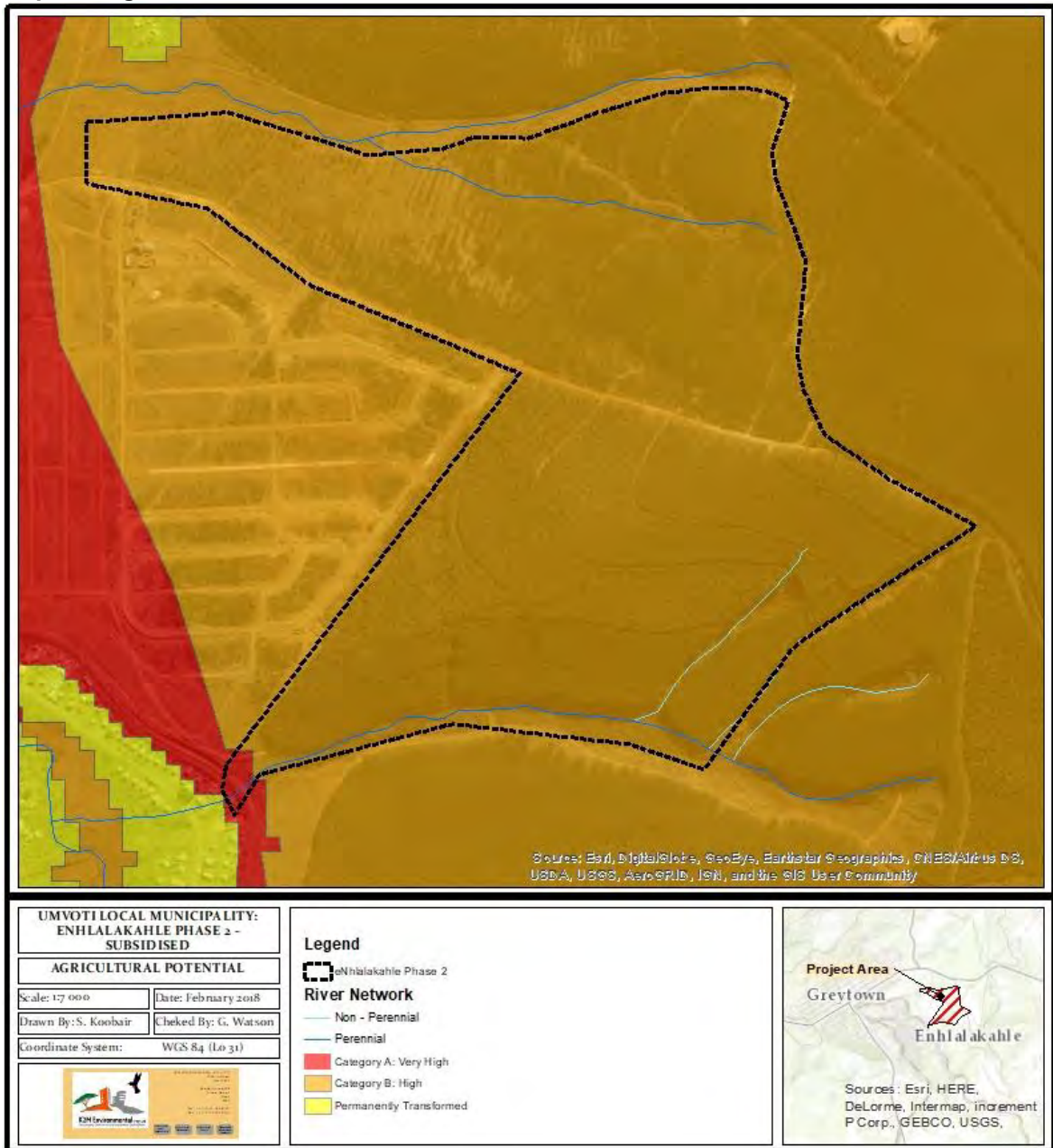
Map 6.6: FEPA Wetlands



6.6 AGRICULTURAL POTENTIAL

According to the Agricultural Land Potential Categories External Report, agricultural potential refers to, the potential of the land to produce sustainably over a long period without degradation to the natural resources base. This includes land under production for cultivation purposes (arable land) and for grazing purposes. As indicated in Map 6.7 below, majority of the project area has been categorised as Category B: High Agricultural Potential. Due to the limited amount of high potential agricultural land in the municipality, all efforts should be focused on retaining land within this Category for predominantly agricultural use. Land within this category has the potential to be used sustainably, with very few limitations to agricultural production (Collett and Mitchell, 2013). Land use will be restricted to those in support of primary agricultural production. Examples include agricultural infrastructure such as storage sheds, silos, hay barns, water reservoirs, collection and storage of agricultural waste and on-farm composting facilities (Collett and Mitchell, 2013).

Map 6.7: Agricultural Potential



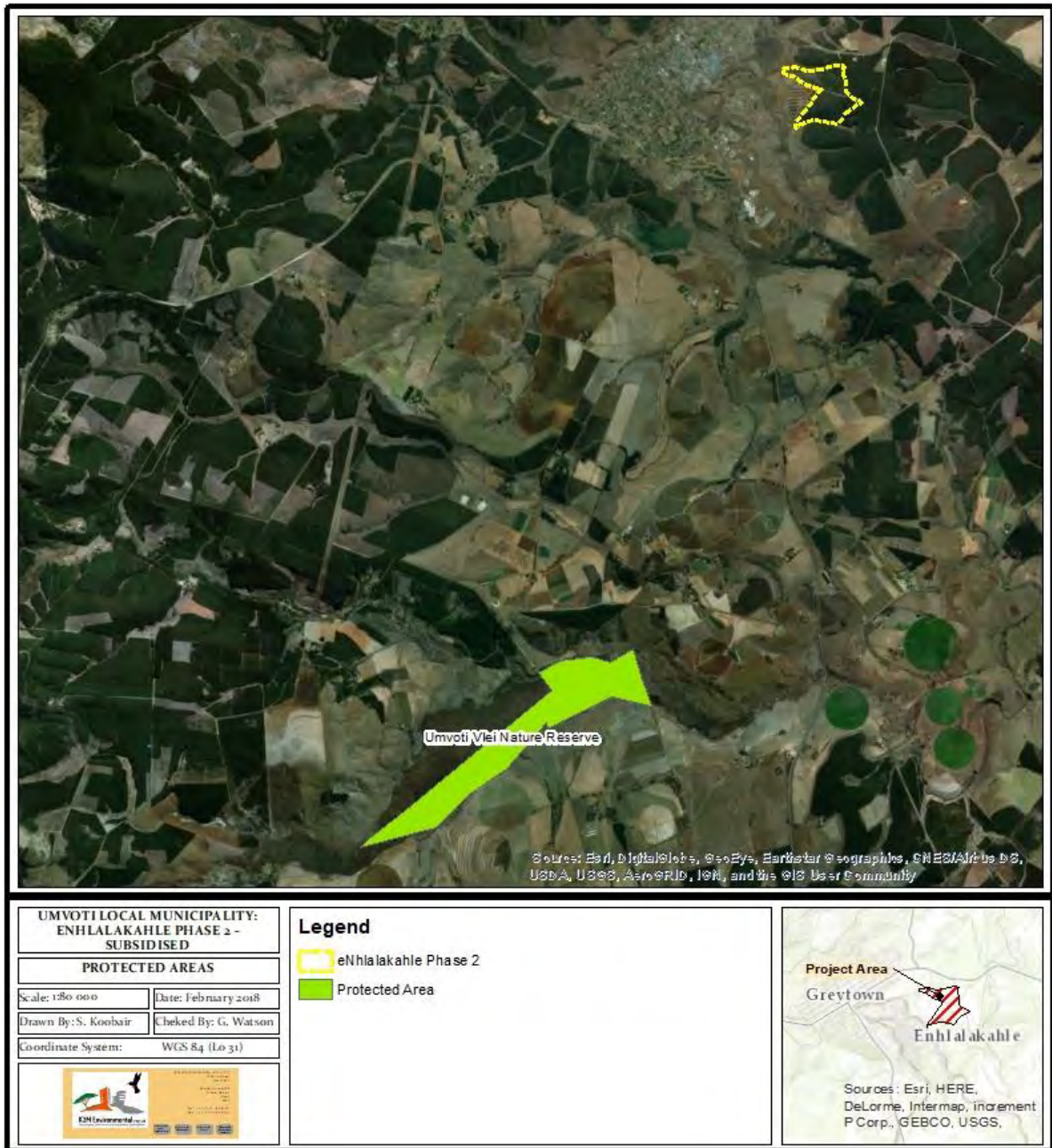
6.7 PROTECTED AREAS

According to the Protected Areas Act (57 of 2003), protected areas are:

- a) special nature reserves, national parks, nature reserves (including wilderness areas) and protected environments;
- b) world heritage sites;
- c) marine protected areas;
- d) specially protected forest areas, forest nature reserves and forest wilderness areas declared in terms of the National Forests Act, 1998 (Act No. 84 of 1998); and
- e) mountain catchment areas declared in terms of the Mountain Catchment Areas Act, 1970 (Act No. 63 of 1970).

As indicated in Map 6.8, there are no protected areas within the project area. The closest protected area is the uMvoti Nature Reserve, located approximately 9km south of the project area.

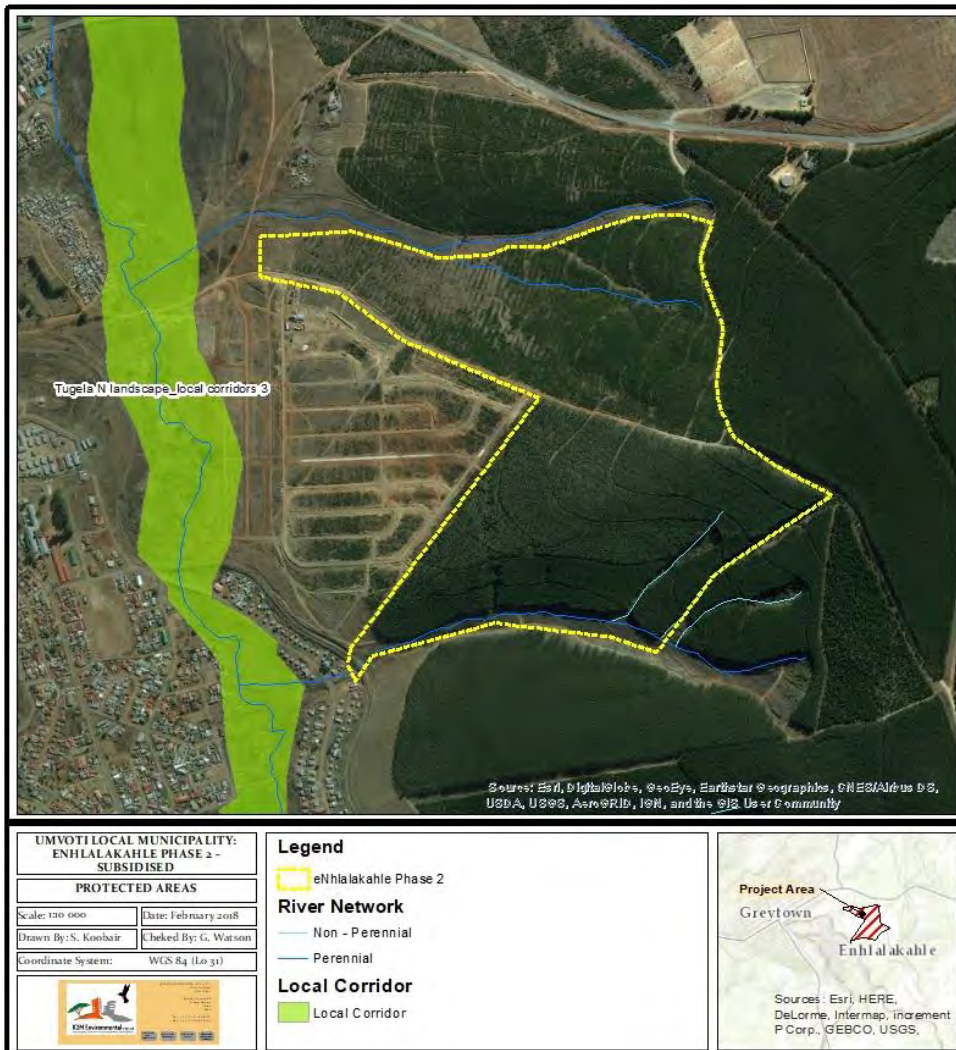
Map 6.8: Protected Area



6.8 ECOLOGICAL CORRIDORS

There are two different types of corridors that have been created by Ezemvelo KZN Wildlife, namely, the Landscape Corridors and the Local Corridors. Landscape Corridors are a series of biogeographic corridors, created to facilitate evolutionary, ecological and climate change processes to create a linked landscape for the conservation of species in a fragmented landscape. Local corridors were developed at a district scale to create fine scale links within the landscape that facilitate ecological processes and ensure persistence of critical biodiversity features. As indicated in Map 6.9, there are no corridors within the project area. The closest corridor is the Tugela Corridor located approximately 500m west of the project area.

Map 6.9: Corridors



6.9 MINERAL DEPOSITS

There are no mineral deposits within the project area and none in close proximity.

6.10 ARCHAEOLOGICAL, HISTORICAL AND CULTURAL SITES

No detailed information is currently available on existing archaeological, historical or cultural sites within the boundaries of the study area. The KwaZulu-Natal Heritage Act requires that Amafa aKwaZulu-Natali (Heritage KwaZulu-Natal) is to comment on the need for an archaeological assessment for proposed development if:

- Development area is larger than 10 000 m²
- Development is longer than 300m
- The development area contains known archaeological sites.

It is not expected that the implementation and operation of the proposed project will result in any adverse impacts on any archaeological, historical or cultural sites which may be present within the area. This aspect will however have to be further investigated during the environmental scoping phase and be informed by detailed land use information emanating from the planning component of the project.

7 PRELIMINARY ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

7.1 WETLAND SYSTEM

The removal of the trees and vegetation from the property will increase the surface flow of stormwater dramatically and will result in soil erosion. Therefore, the removal of vegetation and the rehabilitation and re-vegetation of the wetlands will have to be done concurrently as far as possible to reduce erosion of the wetland system of the project area. To determine the impact of the development on the surface water flow, a Stormwater Flow Assessment will have to be conducted as part of the EIA Process. This stormwater assessment/plan should compare the existing surface water flow with the possible water flow once the area has been developed.

The rehabilitation and re-vegetation of the wetland systems are closely linked and the key to the success of any rehabilitation is the deactivation and plugging of the drains within all of the wetland drainage lines. The blocking of drains will improve flooding and increase the wetted perimeter of the current degraded systems. With the increased moisture levels, hydrophilic vegetation will soon re-colonize these systems and improve biodiversity. Initial re-vegetation should focus on restoring a protective ground cover once the vegetation has been removed to prevent erosion. Indigenous turf grasses such as *Stenophrum secundatum* and *Cynodon dactylon* should be used to establish an initial cover. Natural successional processes should drive the shift in vegetation composition from hygrophilous turf grasses to true hydrophilic species once flooding is restored. Indigenous riparian tree species such as *Ficus sp.*, *Rauvolfia caffra*, *Voacanga thouarsii*, *Syzygium cordatum* should be planted within all the drainage lines to further stabilize the water courses. In the lower wetland portions *Barringtonia racemosa* should be planted. The removal and ongoing control of alien invasive plants is essential across the site. The removal of the vegetation will create an ideal habit for many alien plants and control of these species should be constant during both the construction phase as well as a stipulated function of the uMvoti Municipality (managing authority for the open spaces / wetlands) during the operational phase of the development.

The following principles for successful wetland rehabilitation used by the Mondri Wetlands Project can also be useful:

- **Remove the cause** of the damage, not the symptoms and manage the resource correctly.
- **Re-establish the natural water flow** patterns within the wetland.
- Do not concentrate water always try and spread it out, this should reduce the possibility of erosion occurring.
- Do not underestimate the **force of the water** during high flow periods.
- Many **wetland soils** are **highly erodible**, be aware of this when designing structures.
- There are two ways of deciding what method of rehabilitation to initiate and that is either **stabilising the problem area and maintaining the present condition** of the wetland or secondly to try and **reclaim the wetland area that has been lost**.

Herbaceous plants with their rapidly spreading capabilities and dense near surface root mat, and surface cover, are also extremely effective firstly against scouring of wetlands, and secondly for enhancing the stability of gentle or shallow banks. Herbaceous plants absorb the energy of fast flowing water rather than reflecting it and its strong regenerative powers, makes them ideal for rehabilitating wetland erosion.

For rehabilitation it is important to be deliberate in both the selecting and placing of plants with vigorous rooting growth characteristics that will accelerate natural plant succession and deal directly with the problem on site. Local plant species native to stream banks and wetlands should be used. The best is to look around and see what indigenous species are growing in the area you are about to rehabilitate.

7.2 DRAINAGE AND FLOODLINE

Appropriate stormwater control and management as well as attenuation measures will have to be implemented as part of the development to limit the impact of stormwater run-off especially during the occurrence of heavy rain or storms. It will also be necessary to put the necessary measures in place to eradicate invader plant species and restore the natural indigenous vegetation along drainage and floodlines.

7.3 ROADS AND STORMWATER RUNOFF

The current road network of the project area will not satisfy the requirements of the proposed development. New roads will have to be constructed to provide access to all the areas of the development.

The main factors influencing **storm water** runoff in the project area will be an increase in the impermeable surface area due to the construction of houses and access roads. An increase in both impermeabilities, which reduce rainwater infiltration into the ground, together with the rapid draining of storm-water from the development sites are likely to result in an increase in storm-water runoff into drainage lines and watercourses. Appropriate storm-water control measures, thus needs to be installed in an environmentally sensitive manner to reduce the flow rate of the stormwater. Insufficient and inappropriate storm-water control measures can result in:

- Increased levels of soil erosion.
- Risk of pollution.
- Detrimental ecological effects in the river catchments downstream of the proposed development site.
- Risk of flooding of dwellings.

Any outlet areas in watercourses that will receive storm-water must be specially protected against degradation and soil erosion. Storm water discharge points into natural watercourses are of particular concern and outlet control structures and water course protection measures that can sustain the magnitude of expected runoff must be installed.

7.4 SOIL EROSION AND EARTHWORKS

The Conservation of Agricultural Resources Act, No. 43 of 1983 (as amended) provides for the control and prevention of soil erosion. Increased runoff during and after rainfall events, especially torrential rainfall events, may result in increased erosion in surrounding areas and water courses feeding into the tributaries and main rivers.

Restoration of excavated areas must be carried out and appropriate erosion control measures must be implemented such as the planting of indigenous grass and other indigenous vegetation found

naturally in the area to prevent erosion. The planted vegetation will have to be monitored to ensure continued growth.

During project implementation, the **re-vegetation specifications for civil engineering construction projects** will have to be adhered to. These specifications provide clear guidelines for:

- Type and source of materials to be used for re-vegetation
- Re-vegetation methods
- Planting guidelines
- Maintenance of re-vegetated areas

7.5 SANITATION AND SOLID WASTE

In terms of the proposed eNhlalakahle Phase 2 Subsidised Housing Development four sewer disposal options will be assessed as part of the Bulk Engineering Report, which include:

- Full water borne sewage - discharge to a municipal plant.
- An onsite package plant that falls within the general authorization for the site.
- Septic tank and soakaways
- Ventilated Improved Pit Latrines (VIP System)

The recommended sewage disposal system will be assessed in detail as part of the Environmental Authorization Application. These four alternatives will be compared in terms of its impacts on the environment, implementation cost, etc.

7.6 PHYSICAL AND LANDSCAPE CHARACTERISTICS

The benefits of the proposed housing development through the provision of housing units and the creation of employment opportunities to the community will have a net positive impact on the physical and landscape characteristics of the development area if mitigation measures and recommendations are implemented.

The impact on environmental sensitive areas such as the river system should be limited as far as possible. Where these impacts are unavoidable, specific management and mitigation measures will have to be considered during the EIA process as part of the detailed planning and implementation process.

7.7 ECOLOGICAL CHARACTERISTICS

It will be necessary to fully rehabilitate and re-vegetate the property as well as to remove alien invasive plants on a continual basis during the construction and operational period of the development. The re-introduction of indigenous vegetation into the area as part of the development should be encouraged. Implementing of these measures will help in the rehabilitation and promotion of the natural ecology of the project area and its surroundings.

7.8 ARCHAEOLOGICAL, HISTORICAL AND CULTURAL SIGNIFICANCE

Since the total development footprint will exceed 10 000 m², Amafa will have to comment on the need for an archaeological assessment as part of the EIA process before environmental authorization for the development is considered by the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs

7.9 POLLUTION

All waste generated during the construction and the operational phase of the housing project should be collected and disposed of at the nearest permitted municipal landfill site. The proposed development may generate some additional noise during the construction phase, but this can be managed if contractors abide by stipulated working hours and other mitigation measures that will be specified in the Environmental Management Plan. Additional noise pollution during the operational phase of the development will mainly be associated with increased traffic volumes in this area.

7.10 SOCIAL AND ECONOMIC IMPACTS

The introduction of appropriate mitigation and management measures can result in a number of positive social and economic impacts resulting from the project:

- Provision of proper housing to a large number of destitute households.
- Ecological revival of road-sides, and clearing of alien vegetation areas through the planting and long-term care of suitable indigenous vegetation.
- Employment of people from the local community during the construction phase of the project.
- Sorting of solid waste for recycling at special designated sites and creation and managing of community compost facilities. The compost can be used in community permaculture vegetable gardens.

8 CONCLUSIONS AND RECOMMENDATIONS

The number of households in need of housing (including those residing in traditional houses constructed of traditional materials, backyard structures or informal structures) is approximately 15.75%. The purpose of this preliminary assessment is to provide a brief overview of the social, economic, biophysical and infrastructural characteristics of the broader area within which this total estimated housing need will have to be addressed.

8.1 SOCIO-ECONOMIC ASPECTS

A number of important aspects and recommendations relating to the **socio-economic characteristics** of the study area include:

- Approximately 29.19% of the total population of the study area is younger than 15 years of age. This implies two important aspects as far as the development and implementation of the proposed housing project is concerned:
 - Sufficient and appropriate education facilities according to accepted national norms and standards will have to be provided.
 - A number of people will be entering the economically active age category over the next five to ten years and will thus be seeking appropriate employment opportunities.
- The study area is characterized as being female dominated with 55.79% being represented by females.
- The figure illustrates the education levels of persons over the age of 20 years and therefore falling into the economically active categories of the population. Approximately 8.63% of the population having no form of schooling. Approximately 13.85% of the population within the study area had undergone some form of primary school education, 4.49% completed primary school, 35.48% completed some form of secondary school and only 38.93% completed matric.
- The most predominant housing type in the project area is the “House/Brick Structure” with 71.99% of houses falling into this category, followed by the “Room/Flat not in backyard” with 10.08%.

- As much as 22.31% of the total number of households within the study area indicated not to have an income. The figures also show that 31.24% of the total number of households indicated a collective monthly household income of less than R1600, with 20.39% falling within the income range of R1600 – R3200 and 12.04% falling between R3200 and R6400.
- As much as 60.65% of the active population indicated to be employed whilst 29.25% of the economically active population within the project area indicated that they were unemployed.

8.2 SERVICES ASPECT

A number of important summary observations regarding the **services characteristics** of the study area population include:

- The figure shows good access to running water in the project area with 43.55% of the total number of households within the surrounding area have access to piped water “inside dwelling” and 46.22% have piped water “inside the yard”.
- Majority of households (79.75%) of households in the surrounding area use flush toilets which are connected to a sewage system while 6.07% use flush toilets which are connected to a septic tank.
- As much as (80.09%) of households within the surrounding areas of the study area indicated that they had access to electricity while 18.11% used candles.
- As much as 87.97% of households within the surrounding area indicated that their waste was removed weekly, whilst 4.52% indicated that they utilised their own dump.

8.3 INFRASTRUCTURAL ASPECTS

A number of important summary observations regarding the **infrastructural characteristics** of the study area population include:

- Additional roads will need to be constructed for the proposed development.

8.4 BIO-PHYSICAL ASPECTS

As far as the **biophysical characteristics** of the study area are concerned, the key aspects can be summarized as follows:

- The project area is currently being used for forestry purposes. These forests will need to be cleared prior to construction.
- Majority of the project area is categorised as “Plantations” and “Plantations – Clear-felled”.
- The slope analysis study indicates that the majority of the project area (33.72%) is characterized by slopes “Between 1:7.5 - 1:5” and 23.46% of the area’s topography has a slope character “Between 1:10 - 1:7.5” while 23.32% of the area has a slope of “Between 1:5 - 1:3.
- There are no CBAs within the project area.
- There are perennial rivers as well as non-perennial streams that occur within the project area.
- There are no FEPA wetlands have been identified on site. However, due to the proximity of the watercourses, there is a probability of wetlands occurring within the project area.
- There are no protected areas within the project area.
- There are no corridors within the project area.

- There are no mineral deposits within the project area and none in close proximity.
- There are no known archaeological, cultural or historical sites or artefacts located within the eNhlalakahle Phase 2 Housing project area. Due to this project area being highly vegetated, should any sites or artefacts of archaeological, cultural or historical significance be located within the project area, it is not expected or anticipated that these will not be impacted upon as a result of the proposed development. The Developer is however aware of his responsibilities with regards to the Amafa Heritage Act.
- No detailed quantifiable information is currently available on various forms of pollution in the study area.

8.5 EXISTING SETTLEMENT ASPECTS

As far as the **settlement characteristics** of the study area are concerned, the key aspects can be summarized as follows:

- The slope analysis study indicates that the majority of the project area (33.72%) is characterized by slopes “Between 1:7.5 - 1:5” and 23.46% of the area’s topography has a slope character “Between 1:10 - 1:7.5” while 23.32% of the area has a slope of “Between 1:5 - 1:3.
- Majority of the project area is utilised for forestry.

8.6 RECOMMENDATION AND CONCLUSION

Based on the desktop assessment, an Environmental Impact Assessment will be required, more specifically, a Basic Assessment Report (BAR). A BAR will be required, as the proposed development will trigger the activity tabulated below.

Table 8:1: Triggered Activities

| Relevant Notice | Activity Number | Description of Activity | Implication of Proposed Development |
|-----------------|-----------------|--|---|
| R. 327 | 19 | <p>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from-</p> <p>(i) a watercourse;</p> <p>(ii) the seashore; or</p> <p>(iii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater but excluding where such infilling, depositing, dredging, excavation, removal or moving-</p> <p>(a) will occur behind a development setback</p> <p>(b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or</p> <p>(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.</p> | Construction roads through watercourse. |

As part of the Basic Assessment Process, the following specialist should be undertaken:

- Biodiversity Assessment
- Wetland Assessment and Functional Assessment
- Heritage Impact Assessment
- Agricultural Potential Assessment

In addition to undertaking the EIA, the Heritage Impact Assessment must be submitted to AMAFA to confirm that the proposed development will not impact upon any graves, historical or cultural sites.

Furthermore, as per the Department of Water and Sanitation (DWS), should there be any development/activity that falls within 500m of a wetland, a Water Use License Application be required, however, if there is potentially no impact to the wetland, DWS will require a signed letter from the

wetland specialist indicating that the drivers of the wetland (surface, interflow and ground water flow) as well as Water Quality, Habitat (physical structure and vegetation) and Biota will not be impacted upon by the activity. Thus, instead of applying for a full WULA, a General Authorisation may then be applied for. However, as per Notice 509 of 2016, General Authorisations will only be applied to low risk activities located within the 500m buffer of the wetlands. Medium and High risk activities will require a Section 21 (c) and (i) water use licence. A wetland specialist will need to undertake a Wetland Delineation and Functional Assessment together with a Risk Assessment to determine if the proposed development/activity will be considered a low, medium or high risk.