

Figure 4.5 Sensitivity map showing areas that are acceptable, less acceptable and sensitive in terms of noise impacts.

4.2.3. Social

- *Demographic Processes*

The study area is sparsely populated. The closest town is Amersfoort on the northern border of the study area. The informal settlement to the west of the town, north of the N11, is growing. It does not appear as if formal structures in the town are on the increase. Isolated farm houses occur in the study area, and these are depicted on the sensitivity map. The total number of farm houses observed in the study area was approximately eight (8) and four (4) clusters of traditional huts / workers' huts were observed. There are on average 4-5 houses/huts in these clusters.

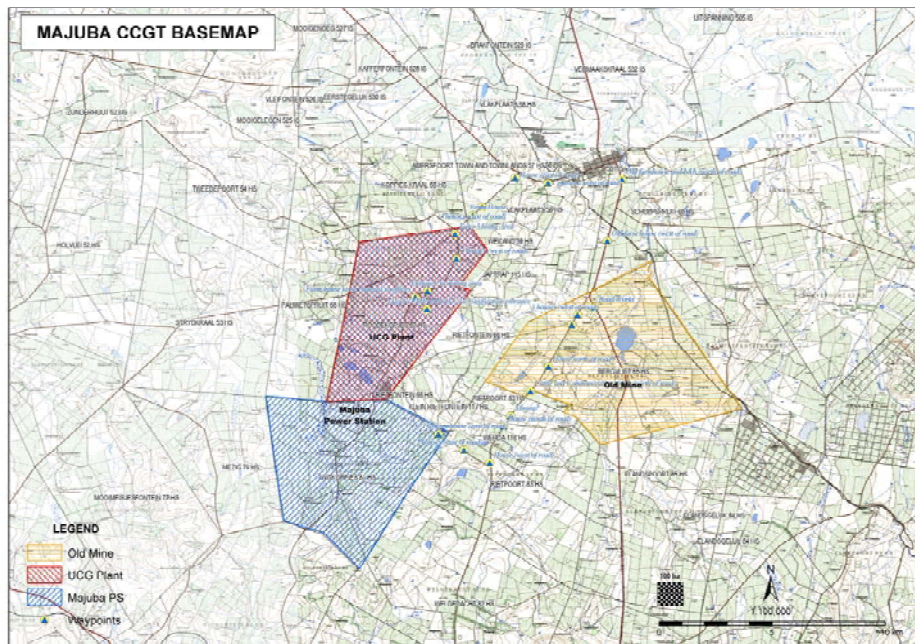


Figure 4.6 Map indicating the location of farmhouses in the study area.

- *Economic and Land Use Processes*

The UCG pilot plant, Majuba power station and an old mine are located in the study area. Farming activities consist of the grazing of cattle and cultivation of mealies. The Department of Land Affairs plans to purchase grazing land in the area. The IDP lists the Majuba Mining Complex as an opportunity for growth, as well as the availability of agricultural land. This gives an indication that the agricultural activities are important for the economic development of the area.

- *Socio-Cultural Processes*

There are plans to develop the Amersfoort Dam to the north of the study area into a recreational area. A private developer has plans to develop an exclusive residential development for city dwellers to the north of Amersfoort. At this stage, more information on planned tourism and residential development in the area is not available. Not enough information about the cultural landscape is available at this stage, as this will have to be informed by the affected parties. Therefore at this stage, the results of the Visual Assessment are considered sufficient to address potentially sensitive areas.

- *Institutional Processes*

The local municipality will have to extend existing infrastructure (water and electricity) to service the CCGT. If construction workers and permanent workers are housed on site, this

may necessitate the development of infrastructure for the provision of services. The municipality already lacks capacity and finance to provide services to its current inhabitants. For example, the water demand exceeds the water capacity. In view of the fact that the municipality is already over burdened in terms of service delivery, it is preferable that a site be selected which will somewhat relieve this burden.

The sensitivity map for social impacts is largely informed by the visual sensitivity map (see Section 4.2.6, Figure 4.7) for this screening exercise. The visual sensitivity map can therefore be used as a reference.

4.2.4. *Heritage*

Without a detailed survey, it is difficult to describe specific issues with regard to sensitivity. However, based on experience, some generalised sensitivities can be identified:

- In the past, people used to settle near water sources. Therefore, riverbanks, rims of pans and smaller watercourses should be avoided as far as possible.
- In this particular part of the country, Iron Age people also preferred to settle on the saddle (or neck) between mountains (hills/outcrops), outcrops and the foot of hills. These areas should also be avoided.
- Avoid all patches bare of vegetation unless previously inspected by an archaeologist. These might be old settlement sites.
- Rock outcrops might contain rock shelters, engravings or stone walled settlements, and should therefore be avoided unless previously inspected by an archaeologist.
- Communities living close to the proposed corridor should be consulted as to the existence of sites of cultural significance, e.g. graves, as well as sites that do not show any structures but have emotional significance, such as battlefields, etc.
- All graves or cemeteries should be avoided, where practically possible. The correct procedure, i.e. notification of intent to relocate them, consultation with descendants and permit application, should then be followed in relocating the graves. If any of the graves are older than 60 years, they can only be exhumed by an archaeologist. Graves of victims of conflict require additional permits from SAHRA before they can be relocated.

4.2.5. *Risk*

The sensitivity analysis was based on the catastrophic failure of a single 1.8 diameter pipeline from the gas cleaning unit to the CCGT plant. The process conditions of the pipeline used in the study were:

- Pressure: 15 bar (g)
- Temperature: 40 °C