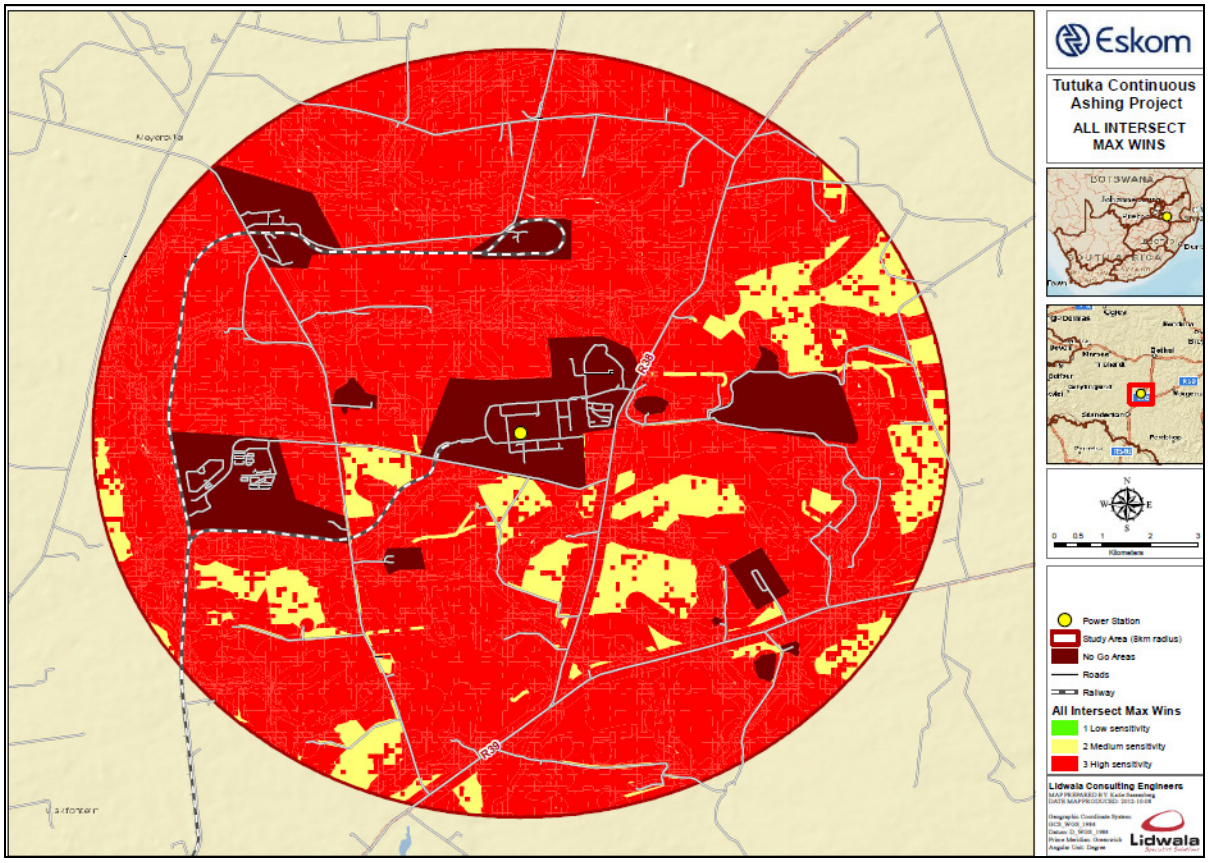

Figure 7.14: Overall Environmental Sensitivity (Max Wins)

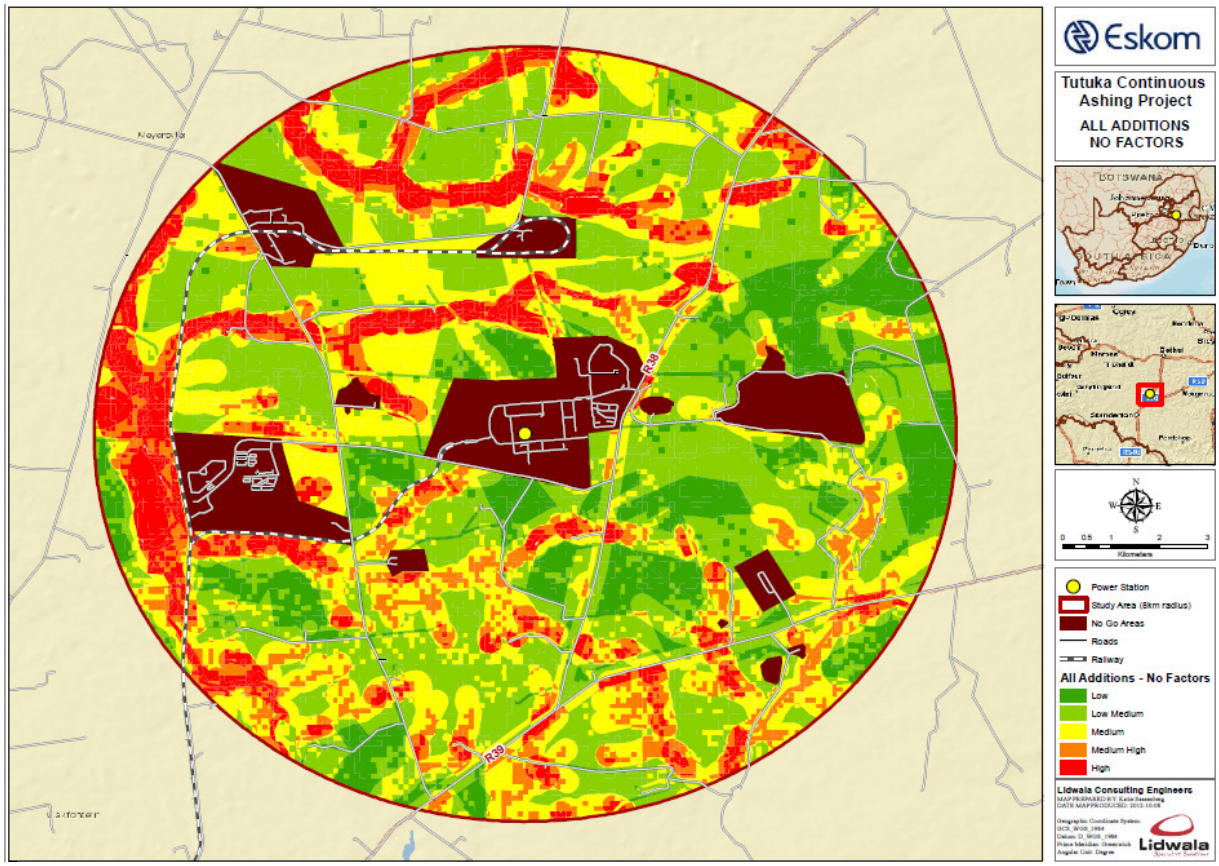

Figure 7.15: Overall Environmental Sensitivity (no factor)

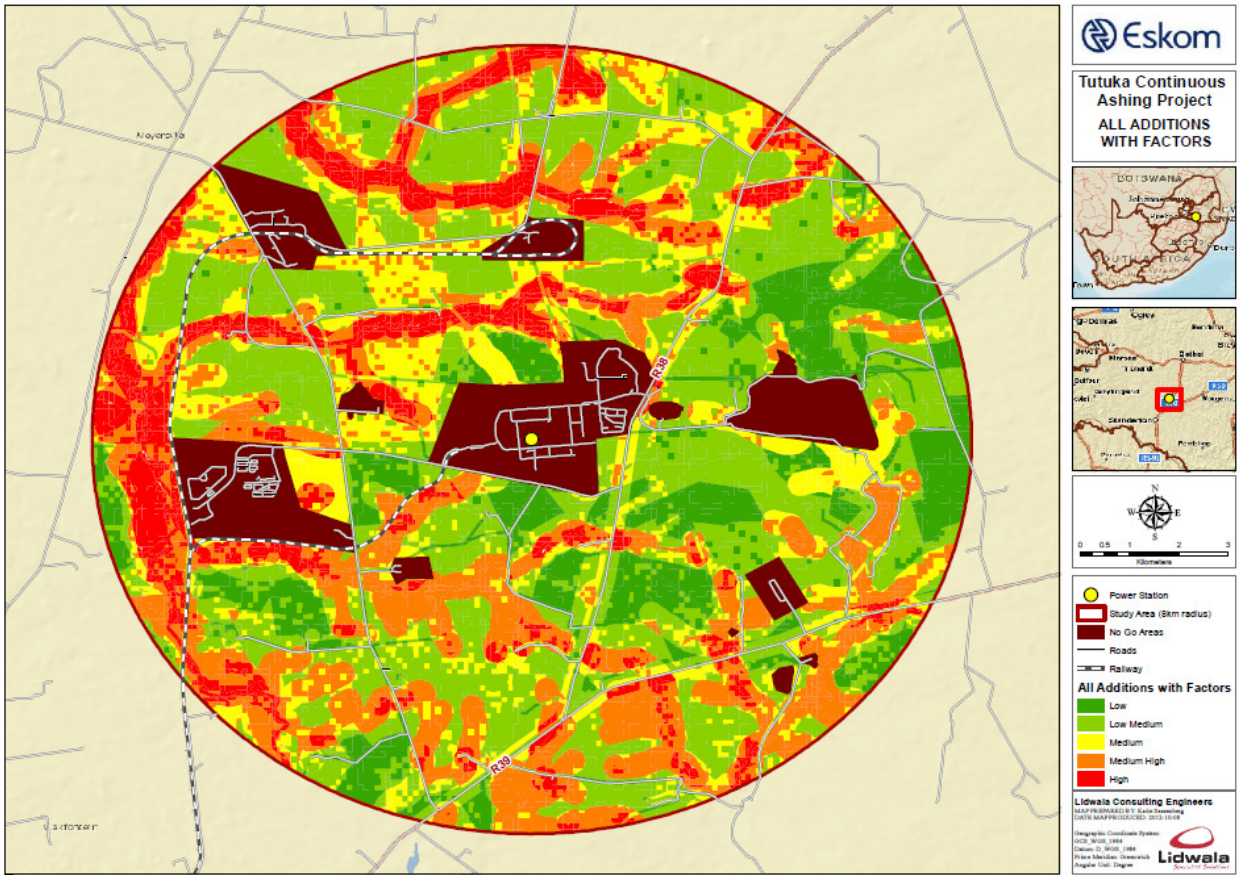

Figure 7.16: Overall Environmental Sensitivity (with adjustment factor)

Utilising the straight forward addition analysis (**Figure 7.15**) it can be concluded that the overall sensitivity of the study area falls within the Low to Medium sensitivity range with only small areas being considered of Medium-High or High sensitivity. However, if one utilises the "max wins" (**Figure 7.14**) mapping technique, where any area marked as sensitive is kept sensitive, it is clear that the majority of the study area can be deemed to be sensitive in one way or form with only a few medium sensitivity areas scattered across the study area.

The above maps were then utilized in order to determine the least sensitive areas of sufficient size that could be considered as alternative sites for the proposed ash disposal facility at Tutuka Power Station. Alternative sites are required to be at least 759 ha in size and are preferably required to fit within the low to low - medium sensitivity areas only and preferably without disturbing any existing infrastructure (**Figure 7.17**).

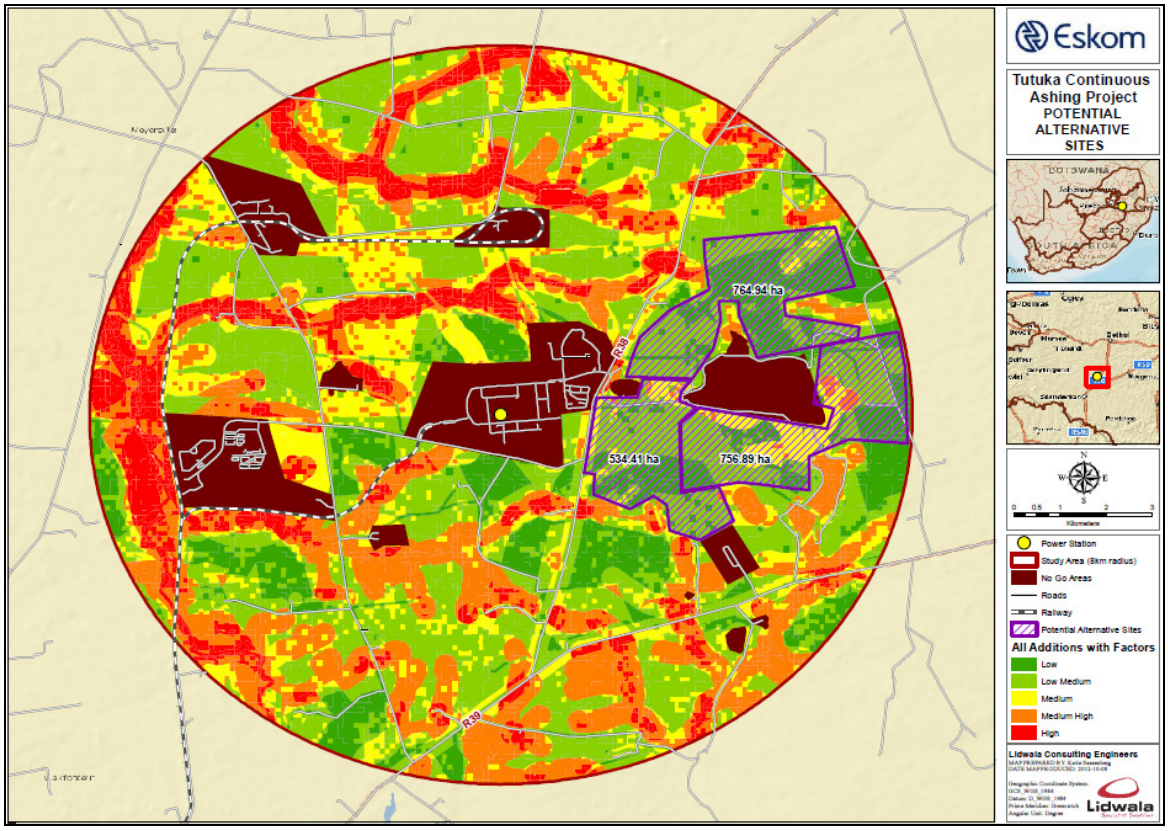

Figure 7.17: The potential areas, within the study area, large enough to accommodate the required area for the ash disposal facility (overlain on sensitivity map).

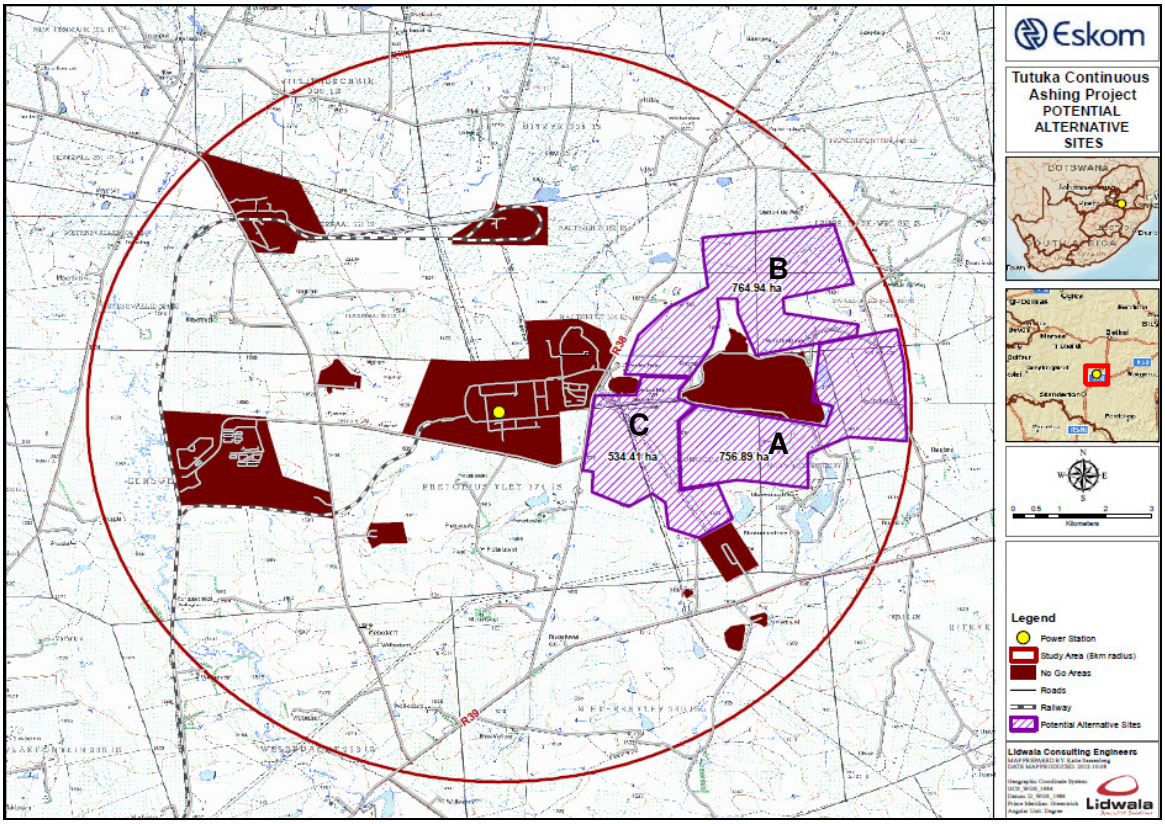

Figure 7.18: The three potential suitable alternative sites that can be evaluated and assessed in the EIA studies (overlain on 1 in 50 000 topographic map).

From the above analysis, three alternative sites can be identified as potentially suitable for the continuous ashing activities required at Tutuka Power Station. It is still noted that the proposed ash disposal facility should be placed as close to the existing ashing activities as possible to ensure that existing impacts are kept together and to limit the impact of associated linear infrastructure such as power lines and conveyor belts.

7.5 Conclusion

This chapter discussed the methodology of how the three potential site alternatives where identified through the use of sensitivity mapping during the scoping phase. These three alternative sites (or combinations thereof) will be investigated and assessed through detailed specialist studies during the EIA phase of the project.

Mitigation and layout alternatives will also form part of the EIA phase, during which a more in depth study will be undertaken as to the optimal mitigation of all potential significant environmental impacts.