COMMENT	RESPONSE
Mrs Jacoline Mans: Department of Agriculture, Forestry & Fisheries: Chief Forester: 31 October 2012	
The Brach: Forestry in the DAFF is mainly concerned about the potential impact on protected tree species. See the National Forests Act, Act 84 of 1998 (NFA) as amended, section 12(1)(d) read with s15(1) and s62(2)(c). The list of protected tree species was published in GN716 of 7 September 2012.	Noted and described as such in the Final Scoping Report t (FSR).
The DAFF is concerned that a site with a high density of indigenous trees in an otherwise arid region is considered for a project of this nature where vegetation clearance is required. The fact that the trees are protected means the situation even more complicated. The Draft Scoping Report (DSR) indicated that trees reaches a density of 50 trees/ha in the north-eastern section of the site. With a development footprint of 225ha, it means that up to 11 250 trees can be destroyed by the process. Even if fewer trees are destroyed, the impact will be significant. The impact cannot be avoided or mitigated unless if an alternative site is chosen or the area classified as 'high' is excluded from development.	DAFF's concern is noted and reflected in the Final Scoping Report. The tree density on the proposed development site does reach up to a maximum of 50 trees/ha, particularly in the eastern portion of the site. The Applicant will review the development footprint as part of the impact assessment phase of the EIA and the need for an alternative site has not been excluded. Outcome of this consideration (whether to reduce the footprint to lessen the impact on the protected tree species OR the relocation to an alternative site) will be reported on in the Draft Impact Assessment Report (DEIR).
It is imperative that consultation with the relevant officials in the Department of Environmental & Nature Conservation (DENC) be undertaken. The DENC must ensure that the development site does not fall in any sensitive areas earmarked for future conservation as this may cause the application to be rejected irrespective of an Environmental Authorisation.	Noted. The relevant DENC officials did provide their preliminary input which is included in this FSR.
The provincial concernation authority considers the Ghaap Plateau Vaalhes as	Concern noted. A field assessment, with combined desktop and literature review study, were undertaken to identify, map and assess the development site's habitats and ecological sensitive areas. According to the national vegetation map (Mucina & Rutherford 2006), three vegetation types occur within the study area, namely: Ghaap Plateau Vaalbosveld, Southern Kalahari Mekgacha and the Southern Kalahari Salt Pans.
'sensitive' – and therefore this Department does not agree with the statement in the DSR that the site has not been identified as an area of biodiversity significance.	The ecological specialist indicated that no fine-scale conservation planning has yet been undertaken for the area and as such the proposed development site does not fall within formally identified 'Critical Biodiversity Area'. Furthermore, the site does not fall within a National Protected Areas Expansion Strategy Focus Area (NPAES). The EMF of the Siyanda District Municipality (2008) does not indicate the site as belonging to a vegetation control zone. Therefore, based on the existing environmental planning and protection programmes, the ecological specialist did not identify the development site as having a high conservation

COMMENT	RESPONSE
	value. As part of the Botanical Impact Assessment, the specialist will be requested to liaise with the DAFF to obtain any different information regarding the sensitivity and conservation value of the development site, in order for the site, and development proposal, to be assessed as such.
With reference to the vegetation sensitivity map in the DSR, almost two-thirds of the proposed development falls in an area classified as medium-high to highly sensitive. The high sensitivity is attributed to the density of the woodlands cluster. The aerial image (figure 14 on p.11) shows a more barren, open landscape west of the site. It might be appropriate to consider a neighbouring farm for this development where there are not so many protected trees. Different technological alternatives were assessed, but little consideration was given to alternative suitable sites. The DAFF strongly suggests that the assessment of a site alternative be mandatory, especially in light of almost two-thirds of the study site being deemed sensitive. A site with fewer trees would be more appropriate.	The Applicant will review the development footprint as part of the impact assessment phase of the EIA and the need for an alternative site has not been excluded. Outcome of this consideration (whether to reduce the footprint to lessen the impact on the protected tree species OR the relocation to an alternative site) will be reported on in the Draft Impact Assessment Report (DEIR).
The DAFF is aware of another solar project recently authorised in the same area, affecting the same vegetation type and already resulting in a permit application for the destruction of thousands of protected <i>Olea Africana</i> . The developer must take note that both the DAFF and the DENC will assess the cumulative impact of such developments on protected trees when receiving license and permit applications. <i>O. africana</i> is extremely slow-growing and valuable in arid regions and it is advisable to rather avoid the impact on this species.	The cumulative impacts of this and similar developments, specifically on the protected Wild Olive trees, will be considered and assessed by the ecological specialist. Information on the permits already issued (quantity) will be needed from DENC to report on the cumulative impact which another potential development as the Olien Solar will have on the local and regional environment.
The DSR indicated that the development site is the habitat of a number of vulnerable and near vulnerable bird species. It might be attributed to the presence of protected <i>o</i> . <i>Africana</i> as it provides a source of food and shelter. In arid regions, biodiversity is often maintained by large trees. Removal of thousands of trees may have a devastating impact on the associated fauna and flora. Arid regions are sensitive and do not easily recover from disturbance and the whole ecosystem functioning depends on large trees. Trees are a scarce and treasured recourse in arid regions. The presence of the Wild Olive trees on site may poses a fatal flaw.	Concern noted. The Botanical Impact Assessment (EIA phase) will consider the impact of potential removal of the Wild Olive trees in greater detail and the findings will be reported on in the next phase of the EIA process.
The DSR stated that the development will avoid the protected <i>O. africana</i> as far as possible. To what extent can the trees be avoided if two-thirds of the site contains high densities of Wild Olive? The DAFF is of the opinion that avoiding the trees is only possible if the areas classified as medium-high and highly sensitive be excluded from the development.	A preliminary constraints map was developed during the Scoping phase of this EIA. The baseline biophysical and ecological investigations of the site and the site features indicated certain constraints for which avoidance was recommended. The area rated as highly sensitive ito presence of Wild Olives was indicated as a no-go area. In considering the cumulative impacts described in DAFF's comments, and the need to consider medium-high sensitive areas as potentially

COMMENT	RESPONSE
	high sensitive areas, this constraints map will be revised as part of the impact assessment phase of the EIA process.
The DSR stated "where clearance of trees will be necessary, the necessary permits from the Department of Forestry will need to be obtained". Please note that the permit must be obtained from the DENC as the <i>O. africana</i> is protected in terms of provincial legislation. Also, it is not a given that a permit or license will be issued.	Noted and corrected in the Final Scoping Report. The FSR reflects DAFF's comments and the need for assessing the cumulative impact of permits <i>already issued</i> for protected trees. In the upcoming impact assessment phase of this process, DAFF will be contacted for detailed information on the number of permits already issued for the removal of trees in a similar set-up, which will assist in the assessing the cumulative impact of the proposed Olien Solar development.
The fauna & flora study stated that "the presence of the trees within the proposed development area is not seen as a fatal flaw but development within these areas would not be preferred". The DAFF agrees with the latter part of the statement and recommends that the areas classified as medium-high and high be excluded from the development.	Comment noted.
The fauna & flora study pointed out that "there is not enough space within the lower sensitivity areas to accommodate the full required extent of the development". If space in non-sensitive areas is a problem, the DAFF is of the opinion that an alternative site should be considered.	This reference in the fauna & flora study refers to the <i>initial development concept</i> for a solar development of 150mw generating capacity (i.e. the 'full required extent of the development' noted in the report). This development concept could not have been accommodated within the lower sensitivity areas is increased space was required.
The fauna & flora study stated that "it is likely that the higher sensitivity areas associated with a high density of trees will be impacted. Offset measures such as planting trees elsewhere may be requested by the authorities in order to offset the local impact of the development on protected tree species." Please note that off-site mitigation in the form of greening may not adequately address the impact. If the authorities agree to off-site mitigation, a ratio of between 3:1 and 5:1 is used in the Northern Cape. For every protected tree destroyed, 3 to 5 indigenous trees must be planted.	Noted. It is agreed that off-site mitigation in the form of biodiversity offsets should only be seen as the last resort in the mitigation hierarchy, and should only be considered and recommended in cases where avoiding and minimising impacts on biodiversity have already been investigated. DAFF's standpoint is reflected in the FSR.
The fauna & flora report stated that development in the highly sensitive area is "highly undesirable and should only proceed with caution as it may not be possible to mitigate all impacts appropriately". The DAFF fully agrees that development in the sensitive area is undesirable and is of the opinion that it should not even be considered. The fauna & flora report stated that "development within these areas (referring to the areas with the high density of Wild Olive trees) would not be preferred". The DAFF agrees that it is preferable not to develop in sensitive areas.	Noted. The fauna & flora report identified the north-eastern corner of the development site as a no-go area due to high sensitivity (high occurrence of Wild Olive trees in this section of the site). It is however noted that DAFF would like to see the areas rated with a medium-high sensitivity (with a lower density of Wild Olive trees) reflecting an increased sensitivity – i.e. <i>high sensitivity</i> .

COMMENT	RESPONSE
The consultant [ecological] stated that "there do not appear to be any fatal flaws that would prevent the development of the site". As already pointed out, this Department is of the opinion that almost two-thirds of the site is not deemed suitable for development due to the nature of the receiving environment.	Concern noted. DAFF's comments will be taken forward to the impact assessment phase of the EIA during which full botanical and faunal impact assessments will be undertaken and DAFF's comments will receive in-depth consideration.
The DAFF is kindly requesting a copy of the EMP as soon as it is available.	DAFF has been registered as a key stakeholder and commenting authority and all future reports / information (including the EMP) will be provided for your review and comment.
Mrs N Uys & Mrs E Swart: Department of Environment & Nature Conservation (Northern Cape)	
The ecological specialist study was conducted for a PV solar development. If another solar technology should be decided upon, depending on the specific technology, the environmental impacts may differ.	Noted. To date, PV solar is the only development option identified for the site, and two alternative technologies are reported on in the Final Scoping Report. It is anticipated that the Applicant will identify the preferred alternative in due course, following which the specific impacts associated with the chosen technology can be investigated and reported on. This will be reflected in the Draft Environmental Impact Report (DEIR).
The calculated amount of water used for the cleaning of the panels in the technical report, should be elaborated on.	Requested noted and reflected in the FSR. The impact assessment phase of the EIA will provide more detailed information, including specific information on the water requirements.
Will the water used for cleaning the solar panels be cleaned, re-used or recycled? Clarity is needed on the management of the waste water.	Request noted and reflected in the FSR. Response same as above.
What will happen to defective panels during the lifespan of the project? Will they be recycled or disposed of? Up to 90% of the PV panels' weight can be recycled but heavy metals used in the PV panels are toxic substances. All toxic or hazardous waste generated during the lifespan (and at the end of its lifespan) of the project's lifespan must be disposed of on a licensed hazardous waste site. The Northern Cape currently only has one hazardous waste site constructed to deal with low grade nuclear waste, Vaalputs.	The Environmental Management Programme (EMP) to be developed in the EIA phase of the project will deal with the potential decommissioning of the solar facility, as well as waste management as part of all phases: construction, operational, and decommissioning.
There is no mention in the ecological specialist report that the area falls within the Griqualand West Centre of endemism (Van Wyk & Smith, 2001) or to the Baseline study on Woodlands in South Africa (Willis, 2002).	Noted and reflected in the FSR. The ecological specialist will be advised to assess the site's presence within this Centre of Endemism as part of the full Botanical Impact Assessment in the upcoming impact assessment phase of the EIA process.
The Verraux eagle, which is not included in the preliminary bird list, does occur on the Ghaap plateau (Anderson & Hohne, 2007). The avian wind farm bird sensitivity map (Birdlife SA) may be able to complement bird diversity data.	Noted. The referred bird sensitivity map will be referenced as part of the upcoming fauna & flora impact assessments of the development site.
The cumulative impacts of other developments in the surrounding area were not considered. Assess the impact of the proposed development on ecosystem function and specific vegetation units and/or protected species on a local and regional scale (at least).	Concern regarding cumulative impacts noted. Currently, the project is still in the Scoping phase and as such the purpose is for the identification of potential issues of concern. The potential cumulative impact of the proposed solar farm has now been identified as a potential issue of concern and will be assessed during the

COMMENT	RESPONSE
	upcoming impact assessment phase of the EIA. During the impact assessment phase, the specialist / EAP will liaise with the DAFF to obtain more detailed information on the number of permits already issued for similar situations, which will provide insight into the potential cumulative impacts of the proposed development on protected tree species.
Above-ground cables and lighting deterrent devices will have an impact on the local as well as migratory avifauna. It is recommended that below-ground electrical cables be used if a comparative analysis of the advantages and disadvantages of aerial vs. underground cabling reflect that underground cabling will have a lower environmental impact.	Concern noted. Above-ground cables and lighting devices will be assessed in the upcoming faunal impact assessment study.
Tree and ground dwelling species such as rodents, scorpions and snakes will be affected by activities during the construction and decommissioning phases.	Noted. The Environmental Management Programme (EMP) will recommend measures to reduce potential impacts on rodents, scorpions and snakes, and could potentially include 'search-and-rescue' operations prior to the construction phase.
June is not an ideal period for a site visit as insect and reptile activity would have been low. As this is a summer rainfall area, most flora species and certain bulbous species would have been missed.	Noted. The fauna / botanical specialist will consider re-visiting the site during the summer season.
The impact of the development on insect diversity was not discussed or assessed in the study. The reflective surfaces of solar panels attract insects and flying insects can be incinerated when flying too close to solar cell surfaces (Tsoustos et al., 2005). This may have severe impacts on plant species dependent on insect pollination on a logical and regional scale.	Concern noted. The development site's insect diversity and potential impact of the development on the site's insect diversity will be addressed as part of the impact assessment phase of the EIA process. With regards to the reflective surface of solar panels, the purpose of PV panels is in fact to <u>absorb solar rays and not to reflect</u> , as this will make the PV panel less effective. As such, it is standard practice for solar panels to be coated with a non-reflective coating. It is therefore anticipated that such a coating will already significantly avoid the attraction of insects to the panel surfaces.
The microclimatic impacts of solar developments are not well researched. Microclimatic impacts will differ for the different solar technologies used. In the case of the PV grid, microclimatic impacts will include shading in certain areas that did not previously receive shade. Increased temperatures and intense light may have possible effects on certain wildlife biology and behaviour. Species that may be affected include exothermic regulated animals such as some reptile species.	The impact of a solar development on microclimatic factors largely depends on the solar technology applied. Currently, fixed rack structures (stationary solar technology) is the preferred technological option although this will be confirmed in the impact assessment phase of the EIA. The impact of the proposed development on fauna will be assessed, in detail, as part of the Fauna Impact Assessment which will be undertaken in the upcoming impact assessment phase. It is anticipated that potential microclimatic impacts will be better understood as an outcome of the impact assessment and will therefore be reported on in the Draft Environmental Impact Assessment Report (DEIR).

COMMENT	RESPONSE
The six pans identified within the site should be further investigated as recommended by the specialists by conducting a site visit after sufficient summer rainfall. This is important to also identify possible habitat for the Giant Bullfrog <i>Pyxicephalus adspersus</i> that may be impacted on by the development. Juvenile Bullfrogs are the most threatened as they move great distances from their natal sites during their three year maturation phase (Literature references provided).	Noted and reflected in the FSR. The specialist noted that the dry season during which the site assessment was undertaken could have influenced the sensitivity description of these pans. Re-evaluation of the pans during the impact assessment phase of the EIA is recommended and is also supported by the DENC, particularly in light of these pans providing possible habitat for the Giant Bullfrog ( <i>Pyxicephalus adspersus</i> ).
The Ghaap Plateau has been identified in the past by DENC and SANParks as an area of conservation importance. Currently, only less than one percent of the Ghaap Plateau woodland is protected (Reference provided).	The Scoping Report (Draft & Final) pointed out that this vegetation type is poorly protected, yet the formally assigned conservation status is 'Least Threatened'. It is furthermore noted that the proposed development site does not fall within a 'vegetation control zone' of the Siyanda District Municipal Environmental Management Framework. DENC is requested to provide the documentation / plans indicated the Ghaap Plateau's conservation importance, for review and inclusion in this EIA.
The Wild Olive tree is a protected tree species under Schedule 2 of the Northern Cape Nature Conservation Act no. 9 of 2009.	Noted.
Taking into consideration the close proximity of the site to a NFEPA (National Freshwater Priority Area), the presence of sensitive pan habitat system, the possible impact of the development on fauna species, the high density of the wild olive trees in the eastern portion of the site that may be affected by the development, the general conservation status of the Ghaap Plateau and the cumulative impacts of the developments within the region; it is recommended that site alternatives must be investigated and assessed.	DENC's comments are noted. The possibility of a site alternative has not been excluded and will be reported on in the next phase of the EIA process.
Biodiversity offsets will not be discussed before all alternative sites have been assessed and mitigations investigated. Should alternative sites fall within this woodland type, it will trigger a biodiversity offset. Future biodiversity offset discussions with DENC (contact person: Elsabe Swart, tel, 053 807 7430, Elsabe.dtec@gmail.com) & DAFF (contact person: Jacoline Mans, tel 053 338 5909, JaconlineM@daff.gov.za) will have to take place before a RoD may be issued.	Noted. See above response.
It is recommended that the following should be addressed in the final report and environmental management programme: The possible ground and water pollution and mitigation measures associated with the construction, operational and decommissioning phase of the projects, e.g. accidental discharge of diesel, chemical or heat coolants into the environment, heavy metals disposal and other toxic substance disposal.	To be addressed in the upcoming EMP.

COMMENT	RESPONSE
Mitigation measures for alien invasive species under the CARA Act.	To be addressed in the upcoming EMP.
Health and safety of workers e.g. heat resistant clothing and sunglasses (Tsoutsous et al., 2005).	To be addressed in the upcoming EMP (Health & Safety Section).
Clarity regarding social responsibility is needed, clarifying the number of jobs that might be created per skills level, while specifying the type of skills needed. Conservative projections should be made and clearly communicated to the community to not raise expectations that cannot be met.	Noted. The construction phase will allow for a limited number of job opportunities (temporary) and the operational phase will allow for a small number of permanent job opportunities (plant maintenance, security etc.). It will be possible to report on the expected number of jobs, once the plant technology and final capacity have been confirmed.
Fire risk and mitigation measures for both natural fire and electrical fires. For example, electrical fires can be caused in some solar technologies through the loss of heat coolants, causing panels to heat up to 200°C (Tsoutsous et al., 2005).	To be addressed in the upcoming EMP.
Waste disposal and treatment of water used in cooling and washing of panels should be addressed in the final EIA report.	Noted. The Technical Report (included in the Draft and this Final Scoping Report), reported that it is not anticipated that extensive volumes of water will be required for the operation of the plant, and it is calculated that less than one litre of water is required per PV module per year, for the purpose of cleaning the modules to ensure efficient operation.
Possible air pollution impacts should be addressed namely e.g. dust pollution. Dust pollution measures should be implemented during the lifespan of the project. Environmentally friendly dust suppressants should be used i.e. suppressant that do no pollute groundwater and irreversibly change soil properties. Replanting vegetation (e.g. grass species indigenous to the area) can be used as dust-suppressant mechanism.	Dust pollution during the construction phase (and to a limited extent the operational phase) can be expected and appropriate and environmentally sound mitigation measures will be recommended in the EMP.
It should clearly be indicated for who the electricity will be generated (would it be for the Eskom grid?).	The Scoping Report (Draft & Final) confirms that the electricity will be generated for the national Eskom grid with the exception of a small percentage for the operation of the solar plant.
Mrs K Smuts: SAHRA Heritage Officer: 4 October 2012	
<ul> <li>SAHRA issued the following decision:</li> <li>SAHRA supports the recommendations of the authors and requires the following: <ul> <li>The graves should be restored where these are dilapidated, protected and conserved. For this purpose, a proper fence must be built around them, including entry gates to allow visits from relatives and family friends. The fence must be placed 5 metres away from the perimeter of the graves. No development is allowed within 15 metres from the fence line surrounding the graves.</li> </ul> </li> </ul>	SAHRA's decision following the review of the mentioned Studies, are noted and reflected in the FSR. It is confirmed that SAHRA <u>does not have any objection</u> <u>against the proposed development</u> provided that the various recommendations and conditions are implemented throughout the remainder of the process and potential construction phase.

• The ECO (Environmental Control Officer) should be informed that fossil

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COMMENT	RESPONSE
discoveries are possible and should, therefore, monitor substantial excavations into fresh, unweathered bedrock.	
If the recommendations made in the specialist report and in this comment are adhere to, the SAHRA Archaeology, Palaoentology and Meteorites Unit has no objection to the development (in terms of the archaeological and palaeontological components of the heritage resources).	
If any new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found during development, construction or mining, SAHRA and a professional archaeological and/or palaeontologist, depending on the nature of the finds, must be alerted immediately.	
The above decision was copies to the Northern Cape PHRA.	
Mrs Marilyn Kleinhans: Statutory Control: SANRAL: 20 September 2012	
With regards to the Olien Solar facility application, the SA National Roads Agency SOC Limited has no comments as it does not affect the National Road.	Noted. SANRAL was de-registered as a commenting authority.
Mrs Danita Hohne: Department of Water Affairs: 18 September 2012	
Please confirm whether this Scoping Report was sent to the Kimberly DWA office for commenting.	It was confirmed that the Scoping Report was sent to the Kimberley DWA office for review and comment.
Lime Acres does not fall under the Lower Orange WMA, it falls under the Lower Vaal WMA, as such this office will not comment on the application.	
Mrs Justine Wyngaardt: Eskom Western Operating Unit: Environmental Management: 18 September 2012	
Please register me as an I&AP for this project, commenting on behalf of Eskom Western Operating Unit: Environmental Management. Comments will follow after the review of the Final Scoping Report and EMP.	Request noted. Mrs Wyngaardt has been registered as an interested and affected party for this EIA process.
Mrs Lizell Stroh: South Africa Civil Aviation Authority: Aviation Obstacle & GIS: 17 September 2012	
Your enquiry regarding approval from the CAA with regard to PV farms refers. There is a CAA process whereby permission is applied wrt obstacles which could pose an	A formal application for consent was lodged with CAA.
aviation hazard. More information can be obtained at <u>www.caa.co.za</u> .	The Olien facility entails a 75MW solar PV plant using either single axis trackers

COMMENT	RESPONSE
Kindly provide a .kml (Google Earth) file reflecting the footprint of the proposed development site including the proposed overhead electric power line route that will	or ground mounted fixed structures over a site area of approximately 250Ha.
evacuate the generated power to the national grid.	The structures will depend on the technology chosen but will have a maximum
Also indicate the highest structure of the project & the OHEPTL.	height of about 6.5m. The plant will have lightning protection masts about 15m tall and a short (approximately 130m long) overhead power-line also about 15m
Note that there may be other wind farms and PV farms in the area. Unique names are preferable.	high.