

AIM OF CREDIT

To encourage and recognise development on land that has limited ecological value and to discourage development on ecologically valuable sites.

CONDITIONAL REQUIREMENT CRITERIA

The Eco-Conditional Requirement is met where the project development footprint

- Is not located on prime agricultural land. Refurbishments/redevelopments that remain within the existing development footprint are exempt from this criterion;
- Is not located on vegetation of high ecological value or within a 100 metre buffer of vegetation of high ecological value. Refurbishments/redevelopments that remain within the existing development footprint are exempt from this criterion;
- Is not located on land with confirmed presence or high probability of threatened red listed species, or within a defined buffer relevant to the specific threatened red listed species or habitat found. Refurbishments/redevelopments that remain within the existing development footprint are exempt from this criterion; and
- Is not located within the required buffer zones of watercourses:
 - The project development footprint must not fall within the 100 year floodplain.
 - Watercourses of 'high ecological value': A project's development footprint can be located on land within 100 metres of a watercourse of 'high ecological value' only if the building is a refurbishment that remains within the existing development footprint and the Watercourse Protection Measures (outlined below) have been completed.; or
 - Watercourses NOT of 'high ecological value': A project's development footprint can be located on land within 100 metres of a watercourse that is NOT of 'high ecological value' only if the Watercourse Protection Measures (outlined below) have been completed.

Watercourse Protection Measures

- A site-specific Watercourse Management Plan has been produced, exhibited and, for an As Built submission, implemented; and
- All points are achieved in Emi-5 'Watercourse Pollution' and in Emi-7 'Light Pollution'.

The project must abide by all measures in the Environmental Impact Assessment for the project if one is required, and the GBCSA reserves the right to provide the final ruling on a project's compliance with this Conditional Requirement.

DOCUMENTATION REQUIREMENTS

The Conditional Requirement requires that there is an official and appropriately dated report from a suitably qualified recognised ecologist confirming that none of the above Conditional Requirement Criteria applies, or applied at the time of purchase, to the site.

Green Star SA – Office Design	Green Star SA – Office As Built
Submit all the evidence and ensure that it readily confirms compliance.	Submit all the evidence and ensure that it readily confirms compliance.
<ul style="list-style-type: none"> • Extract(s) from the environmental impact assessment report (if required for development) • Confirmation from a suitably qualified recognised ecologist if not included with the EIA report or no report is available • Watercourse Management Plan if the development footprint is located within 100 metres of a watercourse. • Letter of confirmation from the building owner if the development footprint falls within 100 metres of a watercourse. 	<ul style="list-style-type: none"> • Extract(s) from the environmental impact assessment report (if required for development) • Confirmation from a suitably qualified recognised ecologist if not included with the EIA report or no report is available • Watercourse Management Plan if the development footprint is located within 100 metres of a watercourse. • Letter of confirmation from the building owner if the development footprint falls within 100 metres of a watercourse.

Extract(s) from the Environmental Impact Assessment report (if required for development) that shows that the site was adequately assessed and that a positive Record of Decision (RoD) was issued for the site. It must also indicate the conditions of the RoD.

The confirmation from a suitably qualified registered ecologist must:

- State whether or not the site is located on or adjacent to any prohibited land types and if so the distance between the development and any vegetation of high ecological value and/or specific threatened red listed species or habitat and/or watercourses
- Where the development is located within 100 metres of a watercourse, describe the watercourse/s, determine the 'present ecological state' or DWAF Ecological Category equivalent of the watercourse/s, confirm whether they are listed as 'high ecological value' or not as defined by this conditional requirement and reference the supporting documentation; and
- Include the curriculum vitae of the ecologist.

A **suitably qualified registered ecologist** is defined as a Professional Natural Scientist currently registered with the South African Council for Natural Scientific Professions (SACNSP) in accordance with the Natural Scientific Professions Act, 2003 (Act 27 of 2003). The SACNSP practitioner may have other specialists produce components of work under his or her guidance, but he/she must sign off the final report.

The Watercourse Management Plan must relate to what can be addressed by the land

owner on his/her own site and be prepared by a suitably qualified and experienced wetland ecologist and include:

- A clearly defined management objective to protect the watercourse;
- A description of the ecological values of the watercourse;
- A list of risks and threats to the conservation of the watercourse values associated with the development;
- The proposed risk-management actions for all construction and operation stages;
- Assumptions and a statement of resources required i.e. budget and specific actions for the management response;
- Requirements for ongoing quarterly monitoring, annual reporting and management of the watercourse ecosystem for a minimum of five years; and
- A statement regarding the operational timeframe of the Watercourse Management Plan (minimum of five years).

The Letter of confirmation from the building owner must state the commitment to the implementation of the Watercourse Management Plan for at least 5 years from project completion (regardless of whether the owner hands over a portion of the project to another entity) and describe the resources that will be allocated over the life of the plan to ensure successful implementation.

ADDITIONAL GUIDANCE

Development footprint

The term development footprint is defined as the extent of all disturbance to the site, including the building footprint, parking areas, roads, landscaping and water detention and treatment areas.

How to determine compliance to conditional requirement

The project team must determine whether an environmental impact assessment was carried out for the site and, if so, refer to the findings of the ecological specialist report. Where there is no such report, the project team must approach a suitably qualified recognised ecologist to undertake an ecological site scan or professional opinion to determine if any of the prohibited land types apply to the site.

Where there is no recent report on watercourses, wetlands and riparian habitats on the site, the project team must approach a suitably qualified wetland specialist to provide a professional opinion to determine whether any watercourses, wetlands or riparian habitats occur on the site.

All specialist ecological assessments must be done by a Professional Natural Scientist currently registered with the South African Council for Natural Scientific Professions (SACNASP) in accordance with the Natural Scientific Professions Act, 2003 (Act 27 of 2003).

Where the project is a building extension it will not automatically meet the Conditional Requirement, as the extension may encroach onto prohibited land types.

Prime agricultural land

Prime agricultural land is synonymous with the term 'high potential soils for agricultural use'. Prime agriculture land is to be assessed in a stepped approach by a registered agricultural/soil

scientist (as required by the Natural Scientific Professions Act (No. 27 of 2003) through the South African Council for Natural Scientific Professions (SACNSP)):

Step 1:

The specialist is to do a visual inspection of the site and top soil, and prepare a short report of his/her findings that either:

- Describes the findings that highlight that the site is not of high agricultural potential including reasons for this conclusion (in this case projects will not need to continue with 'Step 2' of this assessment),

or

- Describes the findings that highlight that the inspection and basic assessment was not sufficient to determine whether the site was of high agricultural potential, requiring a more detailed study (in this case the project will need to continue with 'Step 2' of this assessment).

Step 2:

A detailed study and report must be prepared by the registered agricultural scientist to assess whether the site is of prime agricultural potential. The study must address all criteria of the soil classification relevant to the definition of prime agricultural land, as described below. The report must be conclusive in determining the classification of the site in this regard.

Definition of prime agricultural land

Prime agricultural land is classified for the purposes of this Green Star SA conditional requirement as soils of either Class I or II as defined in the 'Development and Application of a Land Classification for South Africa' report dated April 2002 prepared for the National Department of Agriculture, available for download from the AGIS website (www.agis.agric.za) under AGIS: Natural Resources: Assessments: Land Capability: e-Library).

Vegetation of high ecological value

Vegetation of high ecological value is defined as indigenous natural vegetation that is in its untransformed state. For the purposes of Green Star SA this would include any vegetation identified as a 'Critical Biodiversity Area' in a fine-scale systematic conservation plan. The project team must secure a recent site-specific vegetation sensitivity study that confirms or refutes the presence of vegetation of high ecological value on the site. Where present, the vegetation of high ecological value is to be delineated on the site plan. Vegetation of high ecological value would typically be included with the environmental impact assessment report. Where there is no such report, a suitably qualified registered ecologist should be commissioned to provide a report.

Threatened red listed/threatened species

Threatened species are any species (including animals, plants, fungi, etc.) which are vulnerable to extinction in the near future. Threatened species are also referred to as a threatened red listed species, as they are listed in the IUCN Red List of Threatened Species. Threatened red listed species are protected through national legislation, the *National Environmental Management: Biodiversity Act 10, 2004* and at a provincial level through policy by the provincial authorities mandated to enforce the *National Environmental Management Act, Act 107 of 1998*.

Threatened and protected species lists may be obtained from the local Provincial and National conservation authorities. More information can be found at <http://www.iucnredlist.org>.

In determining compliance with the Conditional Requirement Criteria, a registered ecologist qualified according to currently accepted standards for the threatened red listed species

expected to occur on site should apply relevant methodologies as specified in recent guideline documents and available literature.

Watercourses

The following definitions from the National Water Act, 1998 (Act No. 36 of 1998) (NWA) are to be used to determine the presence of a watercourse on or within 100 metres of the site.

The NWA includes wetlands and rivers into the definition of the term watercourse as follows:

- A river or spring;
- A natural channel in which water flows regularly or intermittently;
- A wetland, lake or dam into which, or from which, water flows, and
- Any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse.

A reference to a watercourse includes, where relevant, its bed and banks.

How to determine the buffer from a watercourse

For the purposes of determining the 100 metre buffer from a watercourse, the edge of a watercourse is defined as the outer edge of the combined footprint encompassing the riparian habitat and/or the temporary zone of a wetland/s on or adjacent to the site.

- The edge of the watercourse must be delineated by a wetland specialist. The 100m buffer is then measured from this line.
- In addition, the development footprint must not fall within the 100 year flood plain.

Riparian habitat is the accepted indicator used to delineate the extent of a river's footprint (DWAF, 2005). The NWA defines a riparian habitat as follows:

“riparian habitat includes the physical structure and associated vegetation of the areas associated with a watercourse, which are commonly characterised by alluvial soils, and which are inundated or flooded to an extent and with a frequency sufficient to support vegetation of species with a composition and physical structure distinct from those of adjacent land areas.”

The temporary zone of a wetland is the outer recognisable edge of a wetland which the National Water Act, 1998 (Act 36 of 1998) defines 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.”

Local government policies require that protective river buffer zones be calculated from the outer edge of the riparian zone and that protective wetland buffer zones be calculated from the outer edge of the temporary zone of a wetland (KZN DAEA, 2002; CoCT, 2008; GDACE, 2009).

High Ecological Value Watercourses

For the purposes of this conditional requirement, a watercourse is considered to be a 'high ecological value watercourse' if it is:

- Deemed significant under a local, provincial or national register;
- A listed wetland under the Ramsar Convention on Wetlands; or
- Rated with a Present Ecological State (PES) of 60% or greater.

How to determine the ecological value of a watercourse

The Ecologist's site assessment must be based on:

- Local, provincial and national watercourse mapping where available;
- The Ramsar Convention on Wetlands;
- Aerial photography;
- Topographic mapping (to identify catchment areas and drainage patterns); and
- A site survey including an assessment of the 'present ecological state' of watercourses in terms of the vegetation, soil and hydrological regime, against the definitions of watercourses of 'high ecological value' using recognised South African functional assessment methodologies.

How to determine the Present Ecological State (PES) of a watercourse

A suitably qualified and experienced wetland ecologist must apply the appropriate methodologies to assess the ecological integrity of the watercourse/s on or adjacent to the site to determine their PES or equivalent DWAF ecological category.

Several assessment methodologies have been developed in recent years which describe the relative integrity of wetlands and rivers. In deciding which rating system is the most appropriate at a given time, it is important to take into consideration the following:

- The particular type of wetland or river conditions present on the site will determine which methodology is best suited for an evaluation;
- Methodologies developed for South African biophysical conditions should take preference to non-South African methodologies;
- Where possible, recent, updated methodologies should be followed;
- Methodologies should be generally accepted by specialists in the field; and
- They should be rugged and scientifically defensible.

The following methodologies have been developed for the assessment of the ecological state and by implication the value of watercourses according to their hydro-geomorphic categories:

- The Riparian Vegetation Response Assessment Index (VEGRAI) (Kleynhans et al, 2007);
- The Wetland Index of Habitat Integrity (WETLAND-IHI) developed by DWAF (2007);
- The WET-Health tool designed to assess the health or integrity of a wetland; and
- The WET-EcoServices tool designed to assess the ecological functionality of a wetland.

Watercourse protection measures

The watercourse management plan must be incorporated on the project for the areas within the owner's control. The owner must remain responsible for implementing the watercourse management plan for 5 years from project completion, regardless of whether the land will be donated or handed over to another entity.

All points in Emi-5 'Watercourse Pollution' and in Emi-7 'Light Pollution' must be achieved, regardless of the areas of the watercourse under the owner's control.

Excluded drainage systems

Man-made drainage features such as stormwater channels and swales are not included in the National Water Act, 1998 (Act No. 36 of 1998) definition of a watercourse and are therefore not considered to qualify as watercourses in terms of the Eco-Conditional Requirement.

However, care should be taken in the interpretation of this definition due to the fact that natural streams, wetlands and rivers may in some instances become transformed so as to resemble artificial features over many years of human disturbance. Similarly, over time, man-made systems may resemble natural systems. A suitably qualified specialist should be approached to determine the status of these systems according to the National Water Act should any doubt arise based on soil moisture, position in the landscape or vegetation characteristics present on the site.

BACKGROUND

The principal aim of this conditional requirement is to minimise ecological degradation by encouraging the selection of sites for development that have low ecological value. Site selection is one of the easiest ways to gain positive environmental outcomes within the building industry. Following is more information on parameters that are considered to be ecologically sensitive.

Prime agricultural land

Prime agricultural land is potentially a critical ecological resource for food production and must be protected from loss due to development. Schoeman *et al* compiled a report entitled, 'Development and application of a land capability classification system for South Africa' (Schoeman *et al.* 2002) for the National Department of Agriculture. This report is the basis for the categorization of prime agriculture land.

Vegetation of high ecological value

All over South Africa, very little vegetation exists that is in an undisturbed and untransformed state. Where this vegetation does occur, it is often inadequately protected. Mucina and Rutherford (eds) completed a revised study of the vegetation of South Africa, Lesotho and Swaziland (Mucina and Rutherford, 2006). The book includes descriptions of each vegetation type, including a general introduction to each biome, followed by descriptions for each vegetation type in the Biome. This book is the basis for the calculations contained in the Change of Ecological Value Calculator.

Threatened red listed/threatened species

The World Conservation Union (IUCN) is the foremost authority on threatened species, and treats threatened species not as a single category, but as groups of categories such as vulnerable, endangered, and critically endangered, depending on the degree to which they are threatened.

Watercourses

Watercourses include wetlands and rivers with their associated riparian zones. Wetlands range from springs to seeps, mires and bogs in the mountains, to midland marshes and floodplains, to coastal lakes, mangrove swamps and estuaries. By definition, they are areas of land where saturation with water is the dominant factor determining the nature of soil development and the types of plants and animals living in the soil and on its surface.

The primary task of a wetland is to manage water. It fills with water during floods and releases water during dry periods, thus playing an essential part in the regulation of river flow. It also filters pollutants and fertilizers and provides a habitat for plants, insects and birds.

Maps, photographs or other documentary evidence showing the site's location and past uses may be requested, to confirm proximity to natural wetlands. The South African Wetland

Database contains a list of all wetlands listed under either the Ramsar Convention (<http://ramsar.wetlands.org/>) or the South African National Wetland Inventory Directory of Important Wetlands in South Africa.

REFERENCES & FURTHER INFORMATION

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http://www.agis.agric.za/agismap_atlas/

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SACNASP Act (Act 27 of 2003)

<http://www.sacnasp.org.za/sacnaspact.htm>

The Ramsar Convention on Wetlands

<http://www.ramsar.org>

http://www.ngo.grida.no/soesa/nsoer/resource/wetland/inventory_classif.htm