



**Proposed expansion of the tented camp at
Nkomazi Game Reserve, near Emanzana,
Mpumalanga Province**

**Draft Environmental Management Programme
Nkomazi Game Reserve (Pty) Ltd**

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1 Introduction

Nkomazi Game Reserve constructed a tented camp along the Komati River in 2007 and 2008 and as no Environmental Authorisation was received prior to construction, Aurecon South Africa (Pty) Ltd was appointed to conduct a Section 24G Environmental Authorisation process in terms of the National Environmental Management Act 107 of 1998 (NEMA 107, 1998) to obtain the required Environmental Authorisation for their existing tented camp. During September 2018, the Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) issued an Environmental Authorisation for the existing tourism facilities.

In 2019, Nkomazi Game Reserve explored the possibility of expanding the existing tented camp and subsequently consulted with Aurecon South Africa (Pty) Ltd, to apply for the required Environmental Authorisation for the expansion of the facilities. Nkomazi Game Reserve is proposing to expand the tented camp by adding an additional ten tents. The Nkomazi Game Reserve tented camp will ultimately consist of the following:

- Five tents accommodating four people each;
- 17 tents accommodating two people each;
- Two dining rooms; and
- One spa and gym tent.

According to the NEMA 107, 1998, an Environmental Authorisation is required by means of conducting a Basic Environmental Impact Assessment Process for the expansion of the tented camp. Nkomazi Game Reserve subsequently appointed Aurecon (Pty) Ltd, as independent environmental consultants and impact assessors to conduct the Basic Assessment process which includes the requirement for an Environmental Management Plan.

This application is therefore made to obtain approval for the expansion of the tented camp at Nkomazi Game Reserve as described above.

1.1.1 Contact person and correspondence address of the EAP

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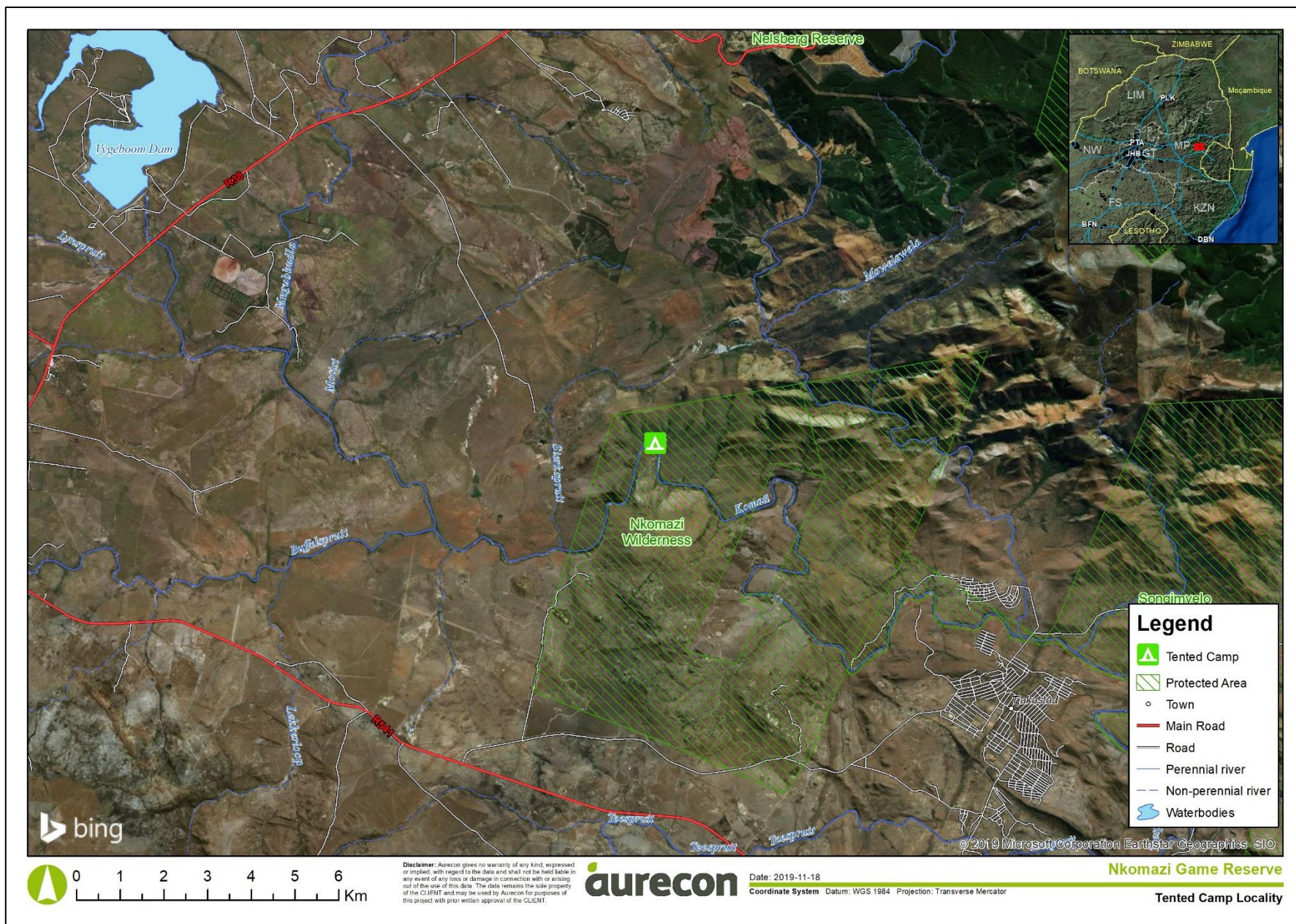


Figure 1 | Location of the tented camp at Nkomazi Game Reserve, Mpumalanga Province.

1.1.2 Expertise of the EAP

The Environmental Impact Assessment process is managed by Ms Anne-Mari White, an environmental project leader with Aurecon. She is responsible for the overall management of the project, including client liaison, financial management and progress reporting. Ms White is an Environmental Consultant, who started her studies at the North-West University (NWU) and completed her Bachelor of Science: Environmental Management at the University of South Africa (UNISA) in 2007. In addition to her qualification, she completed short courses in soil classification and wetland delineations (Terrasoil Science), Geographic Information Systems (University of KwaZulu-Natal), and Environmental Impact Assessments (NWU). Ms White's Curriculum Vitae is attached as **Appendix E of the Basic Assessment Report**.

1.2. Description of the aspects of the activity

The aspects of the activities covered in this EMP are discussed in this section according to listed activities and all other relevant activities.

1.2.1 Listed and Specified Activities

Table 1 | Listed and specified activities triggered with the expansion of the tented camp

GN No.	Listed Activity	Relevant to
R 985 of 2014, Activity 12	<p><i>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan:</i></p> <p><i>(f) Within Mpumalanga, (iii) On land, where at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning or proclamation in terms of NEMPAA.</i></p> <p><i>(i)</i></p>	<p><i>The construction and establishment of ten additional tents will require some clearance of indigenous vegetation. However, clearance will be limited as the tents are positioned to ensure minimal visibility from adjacent tents and in addition to this, tents area constructed on wooden stilts which minimised the impact on soil surface level.</i></p>
R 985 of 2014, Activity 14	<p><i>The development of—</i></p> <p><i>(ii) infrastructure or structures with a physical footprint of 10 square metres or more;</i></p> <p><i>where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse;</i></p> <p><i>f. Mpumalanga</i></p>	<p><i>Some of the additional tents will be located within 32m from the edge of the watercourse. Although the tents are proposed on stilts, and the impact on the soil surface (footprint) is minimised, it is likely that the impact on the soil surface would be 10m².</i></p>

	<i>i. Outside urban areas in (aa) Protected area identified in terms of NEMPAA</i>	
R 985 of 2014, Activity 17	<p><i>The expansion of a resort, lodge, hotel, and tourism or hospitality facilities where the development footprint will be expanded.</i></p> <p><i>(f) Within Mpumalanga: (ii) Outside urban areas in (aa) a Protected Area identified in terms of the (NEMPAA)</i></p>	<i>The tented camp will be expanded by adding an additional 14 tents to the current tented camp at Nkomazi Game Reserve.</i>

1.3. Description of Impact Management Outcomes

The impacts and risks that are to be avoided, managed and mitigated as identified in the Environmental Impact Assessment (EIA)-process are discussed in this EMPr for the construction and operation activities of the tented camp.

1.3.1 Impact Management Outcomes

The impact management measures described in this section have been informed by the independent environmental assessment for the activities proposed. These measures have been proposed to mitigate negative impacts and enhance the positive benefits of the project and to, ultimately, achieve the impact management outcomes:

1. The construction and operation are operated in an environmentally and socially responsible manner;
2. The EMPr prescribes practical measures for the mitigation of impacts identified during the EIA-process;
3. Roles and responsibilities for the environmental management and monitoring of the proposed activities are defined;
4. All employees and its contractors are aware of the environmental impacts of the activities at the site, thus enabling them to take timeous precautions against environmental damage;
5. Pollution or similar events are mitigated effectively; and
6. Regulatory requirements are complied with throughout.

The applicant has a legal obligation to comply with the EMPr and to ensure compliance by its contractors and agents, where applicable.

The EMPr describes mitigation measures designed to minimise or eliminate the significant adverse impacts that may be caused by the construction activities of the lodge. This EMPr should be considered dynamic, as it should be amended if conditions change or more information becomes available.

1.3.2 Management Statement

A commitment is required from the applicant and its contractors in that they shall:

1. Take into consideration the surrounding environment;
2. Always behave professionally on and off site;
3. Ensure quality in all work done, both technical and environmental;
4. Resolve problems and claims arising from damage immediately to ensure an uninterrupted flow of operations;
5. Read and understand this EMPr and use it for the benefit of all involved;
6. Preserve the natural environment by limiting destructive actions on site and by using resources efficiently; and

Continually improve their environmental management strategies.

2 Impact Management Actions

This section forms the core of the EMPr. It provides a description of the proposed impact management actions by identifying the manner in which the impact management outcomes contemplated in section 1.3 will be achieved. These actions, outlined in Table , are shown for the construction phase throughout the project. It is the responsibility of the applicant to ensure that adequate resources are allocated to the achievement of these actions. It is the responsibility of the Environmental Control Officer (ECO) to ensure that these actions are implemented on a day-to-day basis and to verify contractors' compliance to the EMPr. The time period for the implementation of the EMPr will be throughout the lifetime of the project, or until such time as the EMPr is amended as a result of an environmental audit or if significant activity-changes take place.

Table 2 | Mitigation measures required for activities associated with construction activities

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
Ecology	Loss of vegetation and fragmentation of habitat; Loss of important flora communities and individuals; Increase in alien invasive species Loss and fragmentation of optimal habitat	Site disturbance	Objective(s): Limited disturbance of local ecology, loss of fauna and flora; Limit fragmentation of habitat. Target(s): <ul style="list-style-type: none"> Limit the development footprint by protecting large trees and incorporate such species into the design of the tents; An Ecologist must conduct a walkthrough of the affected areas prior to the clearance of vegetation and should any protected trees be affected; a permit must be obtained from the Department of Forestry and Fisheries; Woody vegetation may not be collected by construction personnel for firewood; No fires are allowed by construction personnel during the construction timeframe; Employ an alien invasive management plan to ensure that invasive vegetation does not establish on site or the surrounding area; Use only locally available indigenous flora for landscaping purposes; The potential presence of fauna that may be present on the development footprint must be investigated before construction and if present, these must be managed or relocated; Snakes, dangerous- and problem animals that may move onto the development area may not be interfered with but must be managed upon the Wildlife Manager's recommendation; Wild animals may not be fed at or near to the Lodge; 	Site inspections	Monthly	Limited disturbance to the ecology within the project site Management of alien invasive species.

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<ul style="list-style-type: none"> No artificial methods may be used to attract animals; Waste bins must be scavenger proof; Domestic waste may not be stored for prolonged periods of time; No illumination with bright lights at night outside of the buildings will be allowed as this may disturb animals and will attract insect; 			
Storm water management	Erosion Sedimentation	Clearance of vegetation on areas prone to erosion	<p>Objective(s): Prevent erosion and sedimentation within the construction site.</p> <p>Target(s):</p> <ul style="list-style-type: none"> The contractor must monitor the site and manage drainage of the construction site to avoid standing water and soil erosion. Sand bags must be used in areas that are prone to erosion; Any run-off from the development area may not discharge into the Komati River located west of the proposed development area. The time that stripped areas are exposed must be minimised where ever possible; and Top soiling and revegetation must commence immediately after the completion of an activity 	Site inspections	Monthly	<p>No erosion within the development site</p> <p>Storm water control measures are implemented to divert storm water away from the development area. (should the need arise, and construction take place within the rainfall period)</p>
Ground and Surface water	Ground and surface water pollution	Spillage of hazardous substances Sanitation and waste management	<p>Objective(s):</p> <ul style="list-style-type: none"> To prevent any pollution of ground and surface water resources. <p>Target(s):</p> <ul style="list-style-type: none"> Spillages of any potentially hazardous materials should be cleaned immediately to avoid contamination of runoff; Mixing or decanting of all chemicals and hazardous substances must take place either on a tray or on an impermeable surface; Chemical toilet facilities must be provided to contractors (1 for every 15 workers). These facilities must be located at least 50m from any water resource and must also be placed along the outer edges of the development site area (where altitude is higher); These facilities must be cleaned regularly and be provided with toilet paper; No washing of any equipment, utensils or tools are allowed within any water resource. Drip trays must be provided for all stationary construction vehicles and/or mechanical equipment which contains hazardous substances; 	Site inspections	Daily	No contamination of water resources

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<ul style="list-style-type: none"> The conditions contained in the Water Use Licence must be adhered to. 			
Heritage resources	<ul style="list-style-type: none"> Destruction and/or disturbance of heritage resources 	Excavation and clearance activities	<p>Objective(s):</p> <ul style="list-style-type: none"> To prevent the destruction/disturbance on heritage or resources <p>Target(s):</p> <ul style="list-style-type: none"> Should any graves, heritage resources, archaeological sites or palaeontological finds (fossils) be uncovered during excavation activities, excavations within the immediate vicinity must be stopped, and reported to the ECO immediately, after which a heritage specialist should investigate the find. 	Site inspection	Continuous	No impact on heritage resources
Waste	<ul style="list-style-type: none"> Soil pollution Littering 	General construction activities	<p>Objective(s):</p> <ul style="list-style-type: none"> To prevent any soil pollution and littering at the site <p>Target(s):</p> <ul style="list-style-type: none"> Spillages of any potentially hazardous materials should be cleaned immediately to avoid soil contamination; Spill kits must be available on site; Mixing or decanting of all chemicals and hazardous substances must take place either on a tray or on an impermeable surface; Sufficient waste bins must be provided and must be scavenger proof; Waste must be disposed of at a permitted site and not on any of the nearby properties; The temporary storage of waste, until it is removed to a registered landfill site, must not be accessible by any wildlife; Daily litter patrol must be done to ensure that all litter is placed within scavenger proof waste bins. 	Site inspection	Daily	No littering on site and no hazardous soil contamination
Staff conduct on site	<ul style="list-style-type: none"> Inappropriate behaviour of staff 	During construction activities on site	<p>Objective(s):</p> <ul style="list-style-type: none"> To prevent any unacceptable behaviour from construction employees. <p>Target(s):</p>	Daily observation.	Daily	No complaints received regarding the behaviour of construction workers

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<ul style="list-style-type: none"> A general regard for the social and ecological well-being of the site and adjacent areas (especially the untransformed areas), is expected of the site staff. Workers need to be made aware of the following general rules: <ul style="list-style-type: none"> No alcohol / drugs to be present on site. No firearms allowed on site or in vehicles transporting staff to / from site, (unless used by security personnel). Prevent excessive noise. Prevent unsocial behaviour. Bringing pets onto the site is forbidden No harvesting of firewood from the site or from the areas adjacent to it Construction staff is to make use of the facilities provided for them, as opposed to ad-hoc alternatives. (e.g.: fires for cooking; the use of surrounding bush as a toilet facility; are forbidden). Trespassing on private / commercial properties adjoining the site is forbidden Driving under the influence of alcohol is prohibited. Capture/snaring of fauna is strictly prohibited 			
Socio-economic impact	<p>Social unrest due to use of non-local resources</p> <p>Economic impact on local community if local labour is not used</p>	Employment of non-local resources during the construction phase	<p>Objective(s): To reduce the risk of social unrest due to employment not being sourced locally.</p> <p>Target(s):</p> <ul style="list-style-type: none"> The contractor should use local suppliers and labour for the construction of the proposed lodge 	Continued validation	Continuous and audited monthly	No social unrest.
All environmental Health and safety	Various environmental Health and safety impacts	Personnel conduct	<p>Objective: To ensure that personnel adhere to EMP requirements.</p> <p>Target:</p> <ul style="list-style-type: none"> Induction and/or environmental awareness training must be attended by all parties involved in construction activities. Such training must include the requirements of the EMP as well as the location of sensitive areas of which workers must be aware. A signed register of attendance must be kept as proof. 	-	Whenever new resources enter the site Toolbox talks to take place whenever it is observed that EMP	Records of toolbox talks undertaken regularly or as necessary Firefighting equipment functioning

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<ul style="list-style-type: none"> • Firefighting equipment must be available in appropriate locations onsite. • The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act, 1993 (Act No.85 of 1993) and the National Building Regulations. • Ensure that the handling of equipment and materials is supervised and adequately instructed. • Adequate facilities must be available on site for the emergency treatment of staff • All environmental incidents should be reported to the ECO, investigated, documented and kept on file. 		requirements are not adequately adhered to by personnel	

As part of the Section 24G Environmental Authorisation process conducted in 2018, a maintenance Environmental Management Plan was approved for the operational process of the tented camp. The client must ensure that the already approved Environmental Management Plan is followed during the operational phase of the project.

2.1. Environmental Awareness Plan

2.1.1. Manner in Which the Applicant Intends to Inform His or Her Employees of Any Environmental Risk Which May Result from Their Work

Environmental Awareness on Site

All employees of the applicant, as well as contractor teams involved in work at Nkomazi Game Reserve, are to be briefed on their obligations towards environmental controls and methodologies in terms of this EMPr. It is recommended that the briefings take the form of an onsite talk and demonstration by the Contractor's Environmental Control Officer (ECO). The education/awareness programme should be aimed at all levels of management and workers within the contractor team. All new employees arriving on site shall undergo this training. Environmental induction must be done according to the applicant's Environmental Management System (EMS) and must include all aspects of the site specific EMPr.

Toolbox talks are to be used as a tool for continuous training of employees. Toolbox talks must be conducted in an interactive way to ensure that employees understand the content and purpose of the specific EMPr requirements. Relevant environmental site matters, incidents and issues shall form part of the Contractor's toolbox talks. The Contractor shall record the environmental subjects discussed.

An effort must be made by the applicant/contractor to assess the training needs of workers on site. Cognisance must be taken of the specific work to be undertaken at the time and, if necessary, additional training on environmental requirements must be conducted to ensure all workers understand the risks involved as well as how to adequately implement mitigation measures.

A signed register documenting all employees' environmental training and awareness programmes must be kept on record for verification purposes.

Recordkeeping

The contractor is responsible for maintaining all records in relation to the EMPr requirements on site. Such records must be made available to the ECO on request during monthly audits, as well as at any time as requested by the ECO, auditor or project managers. Recordkeeping must be done in an orderly fashion with the intent of ensuring easy reference.

2.1.2. Manner in Which Risks Will Be Dealt with in Order to Avoid Pollution or Degradation of the Environment

The following documents will be used as reference for identifying and managing impacts:

- Approved EMPs; and
- Approved EAs and WUL's;

The applicant and contractors will be responsible for the implementation of the required mitigation measures in order to avoid pollution or degradation of the environment. Appropriate implementation of the recommended mitigation measures specified in the EMPr will be monitored through regular site audits by an ECO.



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