

Surveying safely in the outback

18 April 2019

Inspecting buildings in remote or hazardous environments will proceed much more smoothly and safely with a full assessment of the risks faced, as a schedule of visits to schools across Western Australia demonstrates

The second edition of the RICS *Surveying safely* guidance note, which became effective in February, contains valuable lessons for all surveyors (see p.12 of this issue and the [Surveying safely](#) guidance note).

KPMG's property due diligence team, for which I work, operates across Australia in all sectors and on all building types, and every time the risks are different. We could be inspecting a roof-level plant room in a 30-storey building, or travelling to an asset someone owns in the middle of nowhere.

Take for example a job I found myself doing: inspecting remote schools in the outback of Western Australia. The fact that the guidance note does not comment on certain aspects of working in this environment does not permit inadequate consideration of the risks. On the contrary, when there are such unknowns we use the tools and advice at our disposal to ensure as many of the risks are identified as possible, so we can manage or mitigate them. As property professionals, we are expected to have a level of competence sufficient to enable us to take personal responsibility for managing health and safety.

In order to begin the risk assessment at these schools, I chose to determine the itinerary first so I would have something I could sound out with a colleague. The isolated inspection schedule included 11 of the schools to be visited, with an estimated driving distance of 2,000km over 9 days. Although some days would involve no driving, other days would be nothing but.

Part of confirming the itinerary included contacting each school. This was more than just a case of confirming the time and date of my attendance; it was also an opportunity to gather as much information as possible. The buildings themselves weren't considered special or unique, and the majority were transportables or those constructed as part of the Building the Education Revolution initiative for new cavity-walled classrooms. Apart from ensuring access to all structures, gathering details about local conditions was a priority. It included details you wouldn't be able to find online ? first-hand accounts of conditions, accommodation, phone signal and, in 1 instance, an Aboriginal funeral that would be taking place.

Once we had determined that the inspection schedule could not be fulfilled by flying to each location, a driving route was established and journey times estimated. With my itinerary to hand, a risk management exercise could be performed by considering how my plan of action might deviate from expectations.

What are the hazards?	How could you be harmed?	What action are you taking?	What further action is necessary?
No access to phone signal, wifi etc.	Unable to contact anyone in an emergency	Rental of satellite phone for emergency use only	None
Driving terrain requires a 4x4 vehicle	Not being prepared for road conditions by having the wrong type of vehicle, or not being trained properly to negotiate such terrain with the correct vehicle	<ul style="list-style-type: none"> • Check that rental insurance covers the route and use of vehicle on unsealed roads • Complete 4x4 driving training course 	<ul style="list-style-type: none"> • Check road reports before this part of drive • Consider travelling with an air compressor to re-inflate tyres after driving on sand • Consider travelling with 4x4 recovery tracks in case of getting bogged down in sand
Weather events e.g. flash flooding, river crossings	Sudden change in road conditions could cause a vehicle accident or stranding	<ul style="list-style-type: none"> • Plan inspection schedule for a time of year outside the wet season • Monitor weather reports on ongoing basis • Confirm road conditions with local school contacts 	Confirm phone numbers for all relevant shire road report lines, and check before relevant portions of the route while in signal range
Animals and other fauna	Kangaroos, emus, goats, cattle and large monitor lizards are commonly found on the route or crossing the road. All could collide with vehicle	<ul style="list-style-type: none"> • Train in first aid, with specific focus on the outback e.g. dealing with snake bites and bandaging • Avoid driving at dawn and dusk, the highest-risk period for encountering kangaroos and wallabies on the road • Take satellite phone for emergency use 	Ask local school contacts about frequency of animals in their areas, and their experiences driving in and out of the communities
Lone working	No one would know if an accident occurred or I didn't return from a property or community	<ul style="list-style-type: none"> • Agree to check in with nominated colleague by text, email or phone at key waypoints where phone signal is available • Copy of trip itinerary left with nominated colleague 	None
<ul style="list-style-type: none"> • No fuel stations • Vehicle tank size not big enough 	Vehicle running out of fuel and becoming stranded in outback	<ul style="list-style-type: none"> • Check tank size of rental 4x4 is greater than 70 litres • Identify fuel locations and plan stops 	Obtain and fill extra 40-litre can of fuel following collection of rental 4x4

Table 1: Examples of hazards specific to the high-risk environment of driving through the outback

Table 1 provides information on hazards specific to the high-risk environment of driving through the outback, while hazards associated with the inspections themselves are detailed in Table 2.

What are the hazards?	How could you be harmed?	What action are you taking?	What further action is necessary?
Working in the sun	I could become sunburnt	<ul style="list-style-type: none"> • Use of sunscreen and sunglasses • Seeking shade • Wearing long-sleeved breathable clothing and broad-brimmed hat 	None
Snakes, flies, mosquitoes etc	Bites and stings ranging from uncomfortable to life-threatening	<ul style="list-style-type: none"> • Application of repellents, use of nets • No opening up of concealed spaces or entering rooms without lighting 	None
Roof access	Slips, trips and falls from height causing injury or death	Roof photography subcontracted to a licensed drone operator	None
Repetitive strain injury	Use of tablet to collect and record survey data, causing strain on neck, arm and wrist	<ul style="list-style-type: none"> • Take regular breaks • Determine which portions of the data collection could be completed as a desktop exercise, also meaning less time spent on high-risk sites, more effective use of travel and less accommodation 	None
Not drinking enough water	Dehydration, sunstroke	Ensure always travelling with a crate of bottled water and restocking at each population centre	None
Contact with local community	Threat of violence, bodily harm	Obtain local advice from school contacts on further mitigation such as meeting at vehicle on arrival	None

Table 2: Examples of hazards associated with the school inspections in the outback

The *Surveying safely* guidance note mentions at the outset that, from an international perspective, it is important to consider cultural differences in terms of health and safety. Aboriginal communities, for instance, treat deaths and funerals with a high level of cultural sensitivity and respect. In such cases, the risk level for outsiders varies with each community for several reasons, including the seniority of the community member who has passed away and whether or not alcohol is prohibited in the region.

Often a ceremony will not commence until most of the affected tribe members have travelled to the community, which can take days or weeks. In the interim, unrest and violence is known to break out in certain communities, creating an especially high-risk environment for outsiders; this period of mourning is known to Aboriginals as 'sorry business'. While I was confirming access arrangements to a remote Aboriginal community school, the principal advised me that the community was observing sorry business, and I therefore had to update my risk assessment (see Table 3).

What are the hazards?	How could you be harmed?	What action are you taking?	What further action is necessary?
Aboriginal 'sorry business'	Violence, risk to personal safety	Liaising with site contact in the community to provide personal escort and updates	<ul style="list-style-type: none"> • Consider revising itinerary so as not to stay overnight in the community, and resultant impact of distance driven in one day • Consider rescheduling the inspection

Table 3: Addition to risk assessment

So long as you take the time to go through your itinerary and your scope of work step by step, you should identify all the hazards. But do be certain to review the document with a fresh set of eyes, or pass it to other colleagues who have experience relevant to the job.

Most of the risks being considered concern life safety or well-being; however, something I have not touched on that we must all consider frequently are the commercial risks associated with our day-to-day roles, which still apply in the context of working remotely. These include reputational risk should something go wrong or be mismanaged, or financial risk if data for a remote site is lost and a fresh visit is required, which not only entails further costs but also subjects a person to all the previously identified hazards once more.

In today's agile working environment, we are less often limited to 1 project at a time. For example, while he was working on the same school project elsewhere in Western Australia, a colleague found himself taking a conference call about the sale of an A\$250m office asset that patched in a Sydney client and Canadian investors ? all of this on a dirt track after an inspection at a remote community school.

This blurs further the definition of the workplace, and underscores the importance of assessing risk. It is assumed that the basic requirements of making our place of work comfortable ? such as access to water and temperature control ? are being met, but inside a vehicle this will not always be possible. We are each responsible for assessing our own environments.

Bear in mind that other areas of the world will have altogether different considerations. For example, working in Papua New Guinea it is necessary to take medication to prevent malaria infection, and appoint a security guard detail to escort oneself between sites in rural areas. Such considerations are also likely to entail increased fees for the client.

Craig MacDonald MRICS is a senior building consultant at [KPMG SGA](#) and co-founder of automated reporting tool [Beyond Condition](#)

Further information

- Related competencies include: [Health and safety](#) , [Inspection](#)
- This feature is taken from the [RICS Built Environment journal](#) (April/May 2019)
- Related categories: [Health and safety responsibilities](#)