

# SO YOU WANT TO BE A VOLUNTEER AFTER AN EARTHQUAKE? – THE UNCUT VERSION

## INTRODUCTION

This advice is based on the experiences of a volunteer who was involved in Building Assessments as a Chartered Professional Engineer following the Christchurch Earthquakes of 4 September 2010 and 22 February 2011.

## PREPARATION BEFORE THE EARTHQUAKE

Ideally you should be involved with your local Civil Defence organisation if you can. (The writer is the Dunedin City Council Engineering Manager along with two others).

Preferably, you would have undergone training in building assessment. At the very least you would have read the relevant Earthquake Engineering papers.

If none of the above apply; volunteer anyway if you believe that you have the required skills – listen carefully at the briefing sessions you will go to and after half a day of direct experience you will be as good as gold. I also found the principles that I learnt at a RedR (Register of Engineers for Disaster Relief) “Essentials of Humanitarian Practice” training module useful. (The earthquake has motivated me to try and complete the required RedR “Personal Security and Communications” course in 2011).

## EARTHQUAKE NOTIFICATION

Earthquakes are rude (worse even than unruly teenagers) – they come uninvited without any advance notice or warning and are devastating. Having heard about the earthquake on the news or felt it you then wonder what you should do. I believe that if you are trained or have earthquake assessment experience you should immediately prepare to get moving – pack, contact some friends in the affected area (text to minimise cell phone usage) to see if they are OK and ask if you can stay. My reason for saying this is that the locals probably will run on nervous energy and adrenalin for two to three days and then crash. If you are there before this happens you are in the position to provide continuity of action.

## PREPARATION BEFORE YOU GO

You must plan on being self contained at all times. The first thing you do is check the weather forecast for the next week. You should then pack for at least five days (not three – I believe that is too short a period of time):

- Safety gear – hard hat / hi viz vest / boots / gloves
- Picture ID (I had a Dunedin Civil Defence card)
- Appropriate clothing for inspections (Jeans / merino / comfortable socks)
- Binoculars – good for looking at the upper levels of buildings from street level
- Book to read (for “hurry up and wait”)
- Business cards (It’s amazing how many you will hand out)
- Camera including USB cables / charger
- Cash
- Cell phone and chargers (mains charger and car charger as you should assume that the power supply will be unreliable)
- Elastoplasts for blisters
- Petrol / Diesel if driving

- Medication (if required, panadol for others if not you)
- Radio to catch up on the news

Small backpack containing water / snacks / torch (headlight type is preferable as it leaves your hands free) / gloves / face masks / (tape measure and spanners are optional but would have been handy in September 2010)

- Sun-block if required
- USB Memory sticks
- Water
- Wet / cold weather gear if required

### **WHEN YOU GET THERE**

There may be a fair bit of “hurry up and wait”. Report in to the Civil Defence base early to get your details loaded / sign off volunteer forms. Then wait about – read the book you bought / do Sudoku etc.

You will be a small, but vital, cog in a vast machine that may appear to be going nowhere. Do not expect to know what is going on – you will get more information about what is going on by watching the TV news at night and listening to the news on the radio during the day. (Make sure that you do).

You must remain self contained at all times – don’t leave your stuff with anyone else – such as in someone’s car during a break. They could be immediately tasked to do something else and your gear ends up being out of reach on the far side of town making you not fully effective. You must also remain hydrated – if you have had a decent breakfast you can go for a long time with water – I made a point of ensuring team members were hydrated before we went out in the field once I realised that some were suffering from not doing so.

Lack of sleep is a real issue – the effects of the aftershocks on people cannot be over-emphasised. The resulting fragility of some people needed careful attention.

The effects of adrenalin are interesting – on one day in September after a few aftershocks I noticed that my hands shook as though I had a good dose of the DT’s for about half an hour.

### **THE STATUS OF A CHARTERED ENGINEER**

This is high – your opinion in these circumstances will be accepted – if you say “that building should be yellow carded because ...” then it will be. However, make sure that you have buy in from the Building Inspectors and say out loud why you have a particular point of view. The Building Inspectors will have knowledge that you don’t – work together. The non- building specialists in the inspection teams will view things from a naive viewpoint – which is valuable – listen to them and respect their concerns – if these are not an issue explain why – if they are a potential concern, thank them for pointing out something before you saw it.

The public will respect your opinion. Take a few minutes to re-assure them – you will have to politely refuse cups of tea, coffee or something stronger and keep on task!

Lead by example – your status is high – keep on task – encourage others to do the same. Work rate is all important – once buildings are assessed, then subsequent activities can start – it is far better to assess 10 buildings in a given time frame rather than one to the nth degree – “Level 1” and “Level 2” building assessments are meant to be rapid. By taking control of the group you are with you reinforce your expert status.

If you get a chance to shut down panicking texts then do so. In September, one of our helpers was getting texts from friends predicting all sorts of rubbish. The result was a terse text response in reply which seemed to quieten things down.

You may get things wrong. In September a building that my team “yellow carded” on the Monday after the earthquake was evacuated and demolished on the Wednesday two days later. I will never know whether my / our initial assessment was wrong or whether the Wednesday aftershocks were the straw that broke the camel’s back. Do not be conservative. The consequences of red carding a building are many and include:

Immediate lack of legal access to contents – this could be the last straw that leads to a small business collapsing.

Tying up of people such as Engineers, Building Inspectors and Search and Rescue personal to allow access that could be better used checking other buildings / completing other tasks.

People will ignore the card system as they see buildings remain standing after after-shocks.

A ripple effect tying up additional resources and so causing time delays then occurs as activities such as barricade assessment, utilities repair, and road reinstatement are organised to cater for a needlessly higher perceived risk.

### **GENERALISTS OR STRUCTURAL SPECIALISTS REQUIRED?**

I believe that generalists are of more value overall than specialists. (This will start a debate! Note that I am not saying that specialists have limited value!)

A generalist, such as me with a background of structural design / heavy civil construction / local government experience / RMA experience / Civil Defence training, should be more practiced in thinking about the wider ramifications of why and what you are doing than a purely structural engineering specialist. Notwithstanding, be willing to call in a specialist if you are unable to resolve what you observe to your own satisfaction.

For example, in September at the initial briefing I was sitting behind a structural specialist who was rabbiting on about wanting to see buildings “x” and “y” because of “a” and “b”. Volunteers are not there for their hobby horses – they are a resource to be used as widely as possible on whatever task Civil Defence want done, bringing some order and reassurance to as many people as possible in a short period of time whilst the affected local engineers can regain strength and recover from exhaustion.

The chances are that local specialists will be attending to their clients’ needs and so may not be available to act as volunteers anyway. Thus experienced generalists from out of town are valuable and should not be shy in volunteering.

### **NO TASK IS TOO SMALL**

Two days after the February earthquake a lot of Chartered Engineers were assigned to “Operation Suburb” for a day. This may have seemed to be a waste of resources as we were looking at houses and not buildings in the CBD but it was important. Most people’s biggest asset is their home and the eastern suburbs were hit badly with liquefaction and associated damage. Initially saturating this area with engineers was a good idea as at the very least you would have been able to give people comfort. Also if you inspected one house while your Building Inspector did another then more data was being gathered in a short period of time. The expected inspection rate for houses from a building inspection team, with a Chartered Engineer on call, is 6 – 8 per contact hour. In our case we inspected houses separately and discussed issues as they arose – we achieved an average inspection rate of twelve houses per hour by doing this.

## **THOUGHT PROCESSES IN ACTION**

Once initial rescue safety issues are under control, the main priority should be getting the economic heartbeat pumping as strong as possible as soon as possible.

Think of icons that can be cleared for use – for example on Friday 10 September we cleared the trams so they could start running as the very first priority of the day – with the proviso that people had to stay on them within the CBD cordon. The tram is a Christchurch icon so by getting it running we were getting a good news story into the public domain. It also kept Headquarters off our backs so we could inspect the barricade works street by street and start lifting the cordon.

Thinking about others needs during the barricade specification process must be done. At one lane I was insistent that the barricades be low ones at one end so the lane could still be a fire egress and that people could therefore re-occupy buildings and get back to work. We had a Fire Brigade Officer with us the next day and he could not fault the logic – he was delighted that we had thought of such issues.

The choice of barricade was interesting. Where some buildings were in imminent danger of collapse containers or water filled crash barriers were used to prevent debris bouncing across the road. The Police were paranoid about drunken idiots within the CBD so we standardised on high mobile mesh fencing as the barrier of first choice. I figured that the chances of someone being hurt if the fencing gave way due to falling debris was minimal so I deferred to the Police viewpoint. Their concerns have since been justified as people have since thought it was an excellent idea to climb barriers and run past unsafe buildings. This fencing has the virtue of needing minimal man-hours to erect, it can be shifted in a jiffy, it is not dependent on other services such as water being available, and only one crew is needed. Water filled crash barriers often needed another high fence adjacent to them to cater to the lowest common denominator of human behaviour. (I believe that this was not an issue in Gisborne).

These fences proved their worth in the February earthquake. I saw lots of examples where the fences had contained the rubble created by the earthquake.

Do not under-estimate the value of reassurance that you can give. It takes less than a minute or two to give peace of mind or a degree of certainty to someone needing it. This is time well spent.

## **HOW LONG SHOULD YOU VOLUNTEER FOR?**

I believe that 3 days is too short a period of time to plan on being a volunteer. Plan on being in action for 5 days and then pass the baton to someone else. You are not irreplaceable, the Territorial Authority should use you until you are exhausted, and you should go so others can take your place.

Once you are there if you find that you cannot handle it then say so – maybe you can do a different role than that first assigned to you. If not, there is no shame in saying that it is not for you and getting out.

## **ACCOMMODATION**

I was able to stay with friends during my time in Christchurch. This was valuable both to me and for them. They provided a safe haven at night for two of us and were tangibly helping the recovery efforts by doing so.

## **FATIGUE**

Do not under-estimate the effects of aftershocks and lack of sleep. I found the regular nightly aftershocks in September 2010 to be far worse and thus more debilitating than those in February 2011.

## **PAYMENT**

This is a vexed issue. Be prepared to be out of pocket as your personal donation to a good cause. You are not there to profit from others' misery but you should not be out of pocket. Keeping receipts is problematic so I believe that it would make sense for Territorial Authorities to set levels of daily allowances – one level if you provided your own accommodation and another if you did not.

## **NATIONAL OFFICE EDITOR'S NOTE**

*In saying that, at the moment, the Memorandum of Understanding which volunteers who provide support under the Civil Defence Emergency Management Act need to sign before they are "activated", apart from ensuring the volunteer is covered for Professional Indemnity, on page 2, point 3 under Notes to Agreement states: "It is understood that these Services are provided in a voluntary capacity for the duration as specified above, under conditions of a local or national Emergency as defined by the CDEM Act. There will be no remuneration for this work. Expenses incurred for travel and accommodation will be met by the authority."*

*Post both Christchurch events, the Local Authority also considered and paid some "reasonable expenses incurred in good faith in the course of providing volunteer engineer support".*

## **BACK AT HOME**

Don't be surprised if you take a while to wind down once you get home. In my case I work in a building that shakes every time a truck goes past. In September for about a week, I noticed that I would stop work / talking and wait for the vibrations to cease. Other common effects are lack of sleep as you are anticipating aftershocks and getting frustrated with the trivia of ordinary life. In March 2011 I found these effects to be less, despite seeing more damage and places where life had obviously been lost. I attribute this to the fact that I got more sleep each night after the February 2011 earthquake compared to the September 2010 one.

## **CONCLUSION**

Having the chance to effectively use your skills and experience in a Civil Emergency is something that you should not forego.

I found the experience to be rewarding on both a professional and personal basis as I was able to use my training and work experience to make a small but tangible difference in Christchurch after the earthquake(s). I hoped that after the September 2011 I would never have to use this knowledge again but tragically I had to in February 2011.

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