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# DISASTER SALVAGE TEAM

Working Towards Saving Cultural Collections

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UNIVERSITY OF CANTERBURY

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# NEWS LETTER

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## Building Projects and Renovations

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## *The joys of dealing with building projects and renovations*

It is important to understand the effect remodelling/renovation is going to have on the building, its contents, staff and users.

If you know how the project is going to proceed you will know to a large extent how it is likely to impact on your institution and its operation and you will be able to minimise risks.

The following suggestions are not exhaustive but may give some idea of what questions to ask and possible problems that may be encountered during building work.

### Some general points to consider and questions to ask

#### **The building work itself**

- What is the schedule for completion?
- Who is to be the designated person the project manager who has oversight of the whole process?  
In the construction team? In the administration of your institution?
- What areas of the building will be involved in the remodelling?
- Where will it begin?
- What is the sequence of work?
- How much of the building will be affected at any given time?

#### **Access**

- Will a construction fence be required? If so, where will it be located?
- How will windows and doors be affected?
- Will the delivery /loading bay entrance be involved?  
What alternative provisions will need to be made?
- Will inside storage areas for building materials be needed? How much, what kind of space and for how long?
- Will there be any conflict between your traffic in and out of the building and construction traffic?

#### **Environment / Utilities**

- Will construction involve loss of utilities for periods of time?  
If so you may need to consider alternatives for supply of power, water and toilet facilities.
- If utilities are to be affected, how much advanced warning will be given?  
Could this affect automated computer equipment?
- How will construction affect the air conditioning system?

How will the temperature and humidity and air quality be affected?

- Will you need to protect stock/artefacts/ displays from dust, water, mechanical damage? How will this be accomplished?
- If products producing fumes are used how will the safety of staff and collections be ensured?
- What provisions need to be made to keep the building weather-tight to protect the contents, users and staff?
- What provisions are being made to keep the building clean and to dispose of rubbish?
- Who will ensure that regular and as needed special cleaning takes place  
How long will that last?

#### **People problems**

- How many construction workers will be in the building at one time?  
What sort of pre work briefing will be needed for the construction/renovation crews?  
No eating /no smoking on site for example?
- What areas of the building are likely to be off-limits to the public?  
To the staff?
- What kind of security will be needed during the remodelling?
- Will a security firm have to be employed at certain stages?
- What security /safety lighting will be provided?
- Noise from the renovations/building  
How will this affect on staff morale?  
Will it also affect the users.  
Can the contractors work at night if need be ?
- Need to ensure that adequate protection is provided for staff and public  
(for example safety netting around scaffolding)

#### **Incidents**

- What mechanism(s) will be put in place to report hazardous incidents?
- Insurance  
Are you and your contractor adequately insured?

#### **Disaster plan**

- Your disaster plan - if you have one -may not be operable during renovations. What short term alternatives do you have?

#### **Fire evacuation**

- As the work progresses evacuation plans may need to be amended to accommodate changes.
- Regular fire inspections may be needed by a safety officer

## Important Hazards

### **Fire**

Some points to consider with regard to fire hazards

- **Electricity supply.**  
Could circuits become overloaded?  
Do fuses and circuit breakers provide adequate protection? Are emergency lights on separate circuits?
- **Concealed Spaces.**  
Are walls fire-stopped between floors? Do fire walls and fire partitions extend through the floors and roof? Can other hidden spaces, such as those created by hanging ceilings where fire may travel, be made safe?
- **Fire prevention**  
Are there adequate terms in the contract with regard to due care in fire prevention? There may be the need to stop work to correct problem situations. Who has the responsibility and authority of enforce such provisions? Builders should NOT prop open fire stop doors or obstruct such exits. (This is almost certain to happen at some stage.)



Fire stop door may be propped open

- **Separation of Construction Areas.**  
Can the work area be cut off by partitions which will resist the spread of fire to other parts of the building. Fire exits should be maintained or supplementary routes provided.
- **Ignition Sources.**  
Cutting and welding operations can cause problems. Paint rags and oily cloths can be subject to spontaneous ignition and should be disposed of appropriately.  
Power tools may overload circuitry.
- **Smoking.**  
Smoking should be prohibited or restricted to designated areas. Cigarette butts can smoulder for hours before bursting flame.
- **Housekeeping.**  
Construction materials should be kept to a minimum within the building.

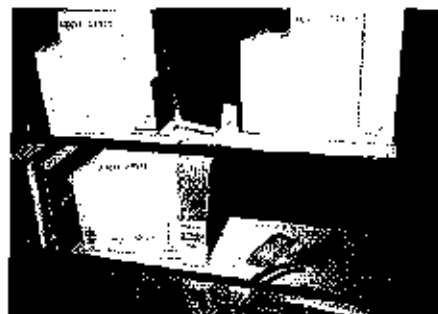
Debris and rubbish should be removed frequently, preferably daily. Ample and safe containers for rubbish, papers, etc. should be provided

Rubbish containers can be fire hazards therefore should be sited away from the building.

- **Flammable Liquids.**  
Petrol/diesel powered engines, (for example compressors) should not be used inside the building.  
Consider what storage arrangements are to be made for such things as paint thinners and other solvents.
- **Fire Protection Equipment.**  
Building work may reduce the ability to control a fire. Automatic sprinkler systems should be kept in working order whenever possible. If disconnected or shut off, they should be turned on again as quickly as possible.  
Fire extinguishers may be removed from walls while alteration are made.  
Appropriate fire extinguishers, in adequate number, should be in and near construction areas.  
Is the water supply adequate?  
Can the Fire Service gain access easily throughout the building if needed?

### Dust / Air conditioning:

Remodelling can result in large quantities of dust and debris. What protection will be needed for collections, staff, users and equipment? Calica under plastic sheets or other sheeting over collections may be needed. Will the building need to be cleaned commercially? Could dust clog the filtering system in the air conditioning? More maintenance may be needed. Has this been budgeted for? Or if under contract does the contract allow for this? If portions of the building are opened to the outside from time to time how will this affect the rest of the air conditioning system. Major repairs or upgrading or replacement of components may have to take place. This may close the system down. What implications does this have?



Concrete dust can be a real problem

## Unsecured building / Security:

There is increased possibility of theft of property and vandalism if security is not adequate. Staff need to increase their awareness of security during renovation and building work. The hours that construction crews work may not be the same as usual institution hours. Keys may be given to a foreman who may be unfamiliar with all of the windows that should be closed and doors to be locked upon leaving.

### **Consider**

- Good security is needed not only while the institution is open but also checks when it is closed
- Doors which are not under supervision should be kept locked, (allowing for emergency exiting). Keys should be kept in a key cabinet. Windows should have locks. Consider unauthorised entry alarms for doors and windows.
- A regular check for problems and potential problems of the building at closing time
- Provision of suitable fences with locked gates as additional protection. Floodlights can also be used.
- Burglar alarms

## Water damage

### **Openings in the building structure**



Water damaged books

Will the building be without some windows / doors at some stage. Will there be openings in the roof? Roof repairs can mean problems with gutters and down spouts. Adequate protection will be needed if parts of the building are to be open to the weather. Collections and furniture may need to be covered if windows are removed and replaced. When exterior doors are being repaired or replaced, the openings should be securely closed with construction materials unless temporary doors are fitted. Industrial plastic sheeting can be used to provide protection. Do you need to have supplies available at short notice? These can be invaluable in minimising damage from water.

### **Concrete, cutting and pouring**

The contractors will need to use significant quantities of water in both cases. How will this be dealt with?

### **Demolition work.**

Breached water supply pipes / sprinklers / drains could be a problem

### **Plumbing work**

Work on water supply and waste disposal can be a potential problem area.

## Impact of building work on ongoing functions:

Almost any building / renovation work can have an impact on ongoing functions. At the more extreme the building may need to close for a period of time to permit work to proceed. This has its own set of problems although work may be faster and be less expensive when the building is vacated. If the building remains open need to anticipate how construction activities will affect each area.

### **Scheduling Interim Moves:**

Will there be a need for interim moves to accommodate building work? Some things to consider include - Will material/collections have to be stored off site/in other parts of the building, when and for how long? What amount of space is required and will there be any special conditions? Will the new area require temporary remodelling before it can be useful? What is the floor loading capacity? What needs to be boxed and how and when that is to be done? What furniture and equipment is to be moved? Will a public service desk(s) be relocated? Will seating and other furniture have to be moved? Will new signs will be needed? Who will do the moving? Staff or contract workers?

### **Public Relations Aspects:**

The public will want to know how, when and in what ways their use of the institution will be affected. Any potential inconveniences need to be addressed. For example a not-too-visible temporary entrance, limitations on access to parts of the collections, limitations on seating, the noise of construction, dust problems etc..

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