Protection Works - Tips & Traps

Key Points

Problems and disagreements regarding protection works are common causes of building damage and disputes. Most can be avoided with due consideration, particularly at the design stage. There are traps to avoid for the designer, builder and inspector.

Inadequate protection can lead to regrettable results

What are Protection Works?

Regulatory definitions may vary from state to state but for this discussion and for practical purposes, protection works are permanent or temporary works intended to protect an adjacent property from damage. Examples include hoarding, shoring, underpinning, methods of excavation and control of site drainage. Protection works are not merely what is specified but include construction methods, materials handling, temporary, and in some cases, permanent support systems. Protection of the property, not merely the building is required.

Why is this an issue?

Inappropriately specified or executed protection works are common and can lead to major damage and to expensive and time consuming disputes. Many of these disputes occur up front and delay projects. Building designers thus need to be careful when specifying or reviewing protection works and, if they have builder clients, can be at risk of being drawn into disputes or of being a party to litigation.

In what circumstances are protection works required?

There are no hard rules for this. Proximity to a boundary, significant differences in levels between sites and height of the proposed construction are all guides. In some cases projection works may be required for properties not immediately adjacent if the project is of large scale or there are far reaching influences such as vibration. If major excavation is proposed immediately adjacent a boundary it is likely that protection works are required.

Specifying Protection Works

Many major protection works are structural and should be referred to the project structural engineer. Examples include retaining structures adjacent boundaries, shoring and propping systems and ground anchors. For designers it will typically be appropriate to refer this scope off to the project engineer and to avoid any incidental or implied endorsement of the engineering. Unfortunately engineering of projection works is not entirely reliable as it is not well covered by standards or regulations so problems can occur. Examples include deflection of retaining walls and foundations being adversely effected by basement de-watering.

It is useful to consider protection works from the adjoining owner's perspective. Visualise the works from the adjoining site and ask yourself *what needs to be done?* Common examples include hoardings, debris screens and small scale retention. Consideration also needs to be given to how the works are to be constructed. For instance, if there is rock breaking, some form of vibration control may be required. This is another good one to refer off to the project engineer. Site drainage is an issue that can easily be missed. Most projects are designed to contain stormwater discharge to adjacent sites in their competed condition but may require protection works to ensure this during construction.

What About Houses?

If there is no significant below ground construction or retention, the issues will generally be minor and should be easy to resolve. Most residential scale footing excavation should not require formalised protection works, even on the boundary but there will be exceptions to this. Factors that may trigger protection works for housing include cross fall between sites, cuts or retention near the boundary and construction of two or more levels adjacent the boundary.

Home owners are notoriously sensitive so neighbours may be more challenging to deal with than in a commercial context.

The Need for a Programme of Works

Whether of not this is a regulatory requirement is is prudent to document when projection works are to be conducted in the context of the construction works. For instance, a debris screen may only need to go up once works reach a certain height and may come down again once the building is locked up. It is insufficient just to specify the debris screen without this context.

Dilapidation Reporting and Monitoring

Whether a regulatory requirement or not, a dilapidation inspection and report of the properly to be protected is a sensible precaution. Such a report may serve as an essential reference if damage is perceived to have been caused by the works in question. This won't prove causation but should establish if the damage has occurred since the inspection. It will *disprove* causation if it shows the damage was pre-existing. A sensible criteria and a regulated one in some jurisdictions is for the content of the dilapidation report to be agreed between the property owners or their representatives.

Most dilapidation reports are largely photographic, perhaps annotated with sketches of damage features. In cases of major in ground works a level survey, or at least some level measurements, should be included. Thus if foundation movement is suspected, it can be quantified.

Displacement and vibration monitoring are commonly employed for large scale projects. Monitoring points are established on adjacent buildings. Strictly this is neither protection works nor dilapidation reporting but can be an important precaution. There are survey firms who specialise in the provision of these services.

Keeping Track of Documents

In negotiated matters, particularly complex cases, there is often extensive documentation exchanged. All documents of practical relevance should be scheduled or listed so they can be referred to later if necessary. This can be of legal importance in cases where the consequences of the protection works need to be distinguished from those of construction works.

Keeping Track of the Works

In Victoria there is a requirement for documentation of protection works actually carried out (as opposed to intended). This is poorly enforced and commonly ignored. If you are involved with such works it is important to check if such an obligation exists or is required. This is particularly important in cases where the scope of protection works has been varied during works.

Dispute Avoidance

Ideally disputes between adjacent property owners are to be avoided. An initial meeting between the parties can help diplomatically but is unlikely to finalise a complex matter. If you have a role in designing, documenting or assessing protection works you may find yourself attempting to broker peace, sometimes between owners who fell out during the town planning phase of the project. This is a good role to take on on your own terms rather than getting drawn into it. Provided the builder or developer takes his protection obligations seriously and the adjoining owner is not unreasonable, there is no reason for conflict.

Major excavations close to other buildings can be a challenge

Dispute Resolution

In Victoria most dispute resolution fits a regulated process under the Building Act, other jurisdictions vary and it is outside the scope of this article to cover this. The key point is to check if the regulated system can assist before embarking on other legal process. Legal advice should be sought but if a dispute fits neatly into a regulated process it may not be necessary to engage legal representation.

Related issues

Issues that often arise during projection works are many and varied from OH&S, noise, dust, compensations for loss and damage ect. If you are working within a regulatory or dispute resolution framework limited to projection works it is good practice to isolated these distractions which may be resolved by other avenues.

Regulation & Enforcement

Where there is specific protection works regulation this will generally by under the state or territory building control regime. I is outside the scope of this article to cover this, the key point is to do your homework on your local regulatory requirements and resources.

Designer's Contracts and Services

As protection works can be more complex than it appears and the input from other parties unpredictable it may be prudent to provide services on a time charged basis rather than part of any fixed or percentage fee.

Further reading

Look for practice notes or information sheets from your state or territory's building regulatory authority. If in doubt, seek professional advice.

The author, Patrick Irwin is a forensic Structural Engineer and a member of the Victorian Building Appeals Board. He has extensive experience in reviewing and resolving protection works issues and recently provided a presentation to Design Matters on the subject.