Figure 8.7 Risk analysis table.

Risk Description	Risk Assessment			Cost Implications			Risk Class	Proposed Management of High Risk
	High	Average	Low	High	Average	Low		
Planning permission refused		Yes		Yes			5	Contract experienced planner
Construction delays	Yes			Yes			6	Seek compensation clause within contract
Construction accidents			Yes		Yes		2	Ensure insurance policies exist
Unforeseen ground conditions			Yes	Yes			3	Undertake adequate survey of ground conditions

Some examples of risk management strategies that can be developed are shown in Figure 8.8.

It is good practice to closely monitor activities which have a high risk classification. Special attention should be given to exceptional issues, milestones and target achievements. Some monitoring techniques are described later in this chapter. Risk analysis is an iterative process. Therefore, risks are reassessed at least once during the project's life cycle when changes to the likelihood or the seriousness of risks might require amendments to the risk analysis and contingency plans.

The project definition stage provides the framework that enables the effective execution of the project. Issues such as the project brief, organization, control systems, analysis of risk and project interfaces are established. Time and money spent, at this stage, will be repaid in the overall success of the project.

Figure 8.8 Risk management strategies.

- Addition of contingencies; by adding extra budget allocations to cover risks if they arise
- Avoidance of risk; by passing on risks to sub-contractors or the client
- Reduction of risk; by including testing and other project activities that will discover technical risks before the project is completed
- Insurance against risk; by taking out insurance if the risks have a known statistical nature

PROJECT PLANNING STAGE

The objective of the project planning stage is to translate the overall project aims into a series of identifiable activities which can be set out in a logical way that will achieve the desired end. Project requirements such as schedules, deadlines, resources, as well as budget and cost constraints, have to be clearly defined. The ultimate objective of the planning stage is to produce a total project plan. To do this it is necessary to develop in a methodical way the key elements that form the project plan; these are the 'work breakdown structure', the 'project network', the 'project schedule', and the 'cost plan'.

The work breakdown structure is a list of all major activities and sub-activities that form the project. It has built-in levels to allow a clear identification of the actual work that must be performed to meet the project requirements. Each major activity is divided into sub-activities and sub-sub-activities helping in this way to completely define the project scope. The work breakdown structure assists in relating all the elements of work to each other and