

LANDSCAPE GRAPHICS - AUSTRALIAN STANDARDS

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All designers need a wide range of knowledge, skills and abilities to understand a site, a client's brief and then to create a design that best resolves the two. They then need to be able to communicate the design so it can be implemented as designed by the contractor. To achieve this, simple, effective documentation is required.

Landscape Plans and Construction Documents define the extent, arrangement and, in some cases, the material and quality expected in a landscape project. Most of the time, this information is expressed graphically as well as in writing and forms the basis for agreements between clients and contractors or landscape designers and contractors.

As a designer develops a design from Concept, through to Preliminary Plan and then on to the Construction Documents, a gradual increase in precision of the graphics and the description is required. Just as using a uniform botanical language communicates clear information about plants on a Planting Plan, using a consistent graphical representation of materials helps designers in the same way.

Many designers start a project by undertaking a site analysis. This results in a drawing that is sometimes shown or given to a client to communicate problems with the site and help with the development of the project brief. Generally, in a site analysis drawing the graphics are abstract. The drawing may be used solely by the designer to work out problems before commencing the concept plan and never shown to the client.



1. Concept Stage Perspective showing the main features of the area.

The Concept Stage is generally the next step in the process. There are no definite rules as to what must be included in a concept plan. Typically, the main features of the landscape design are shown - for instance the different garden areas and their relationship to neighbouring areas, main features and main trees. This is typically the initial design response. Plans are often to scale and include a basic indication of materials. The drawings are often illustrative. Sometimes, on smaller projects or where an architect will prepare the Tender and Construction Drawings, this is the last step in the process for the landscape designer. Clients should be made aware of the problems that can arise if Concept Plans are used to obtain



quotes and it is recommended that the drawings state that they are not meant for tender or construction purposes.

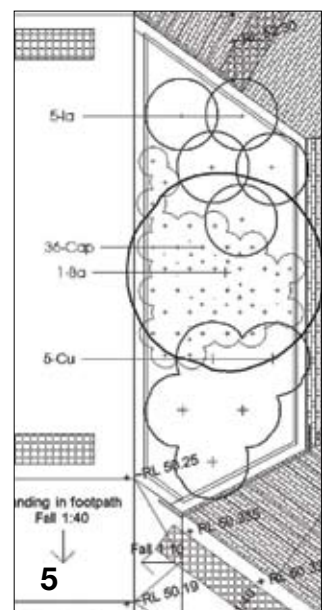
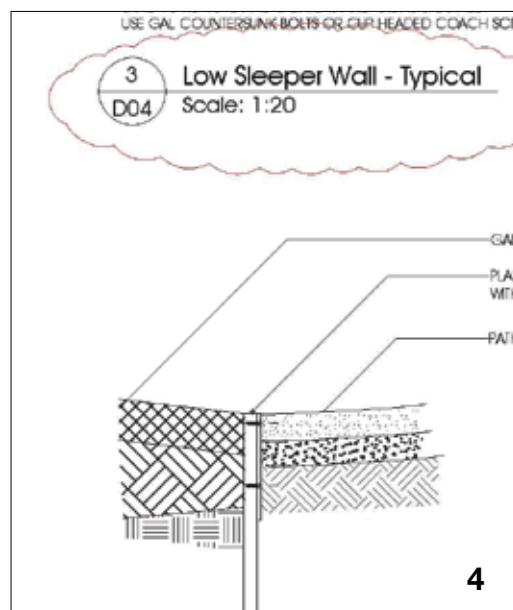
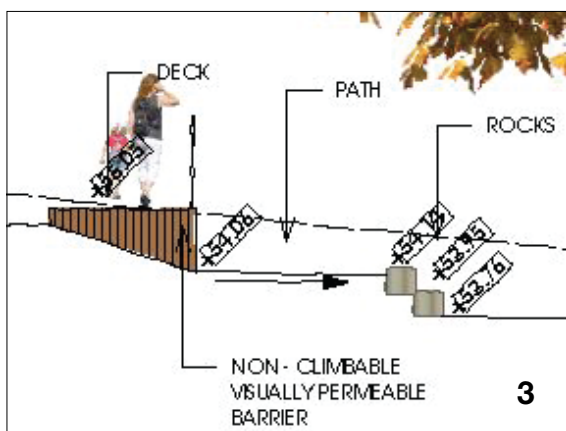
Then we have the Preliminary Drawings. Sometimes Preliminary Designs are produced if a Concept needs further resolution but the client does not want to progress to full tender or construction documents.

Depending on the project, there also may be no middle step between the Concept Plan and the Tender Issue Plan. The Tender Issue Plans are used to obtain quotes from contractors. These drawings must communicate the fully resolved design to the contractors, and include all details the contractor will need to provide an accurate quote.

In Australia, the accepted graphics to use on many different types of drawings are outlined in AS 1100. This Standard is for engineering, architecture, surveying and drafting. AS 1100.101

specifies requirements for the set up of standard drawing sheets. For example, it specifies that sheet sizes should conform to ISO-A, the size of borders, print trimming lines, fold lines and title block information and location. It also discusses text and spacing of characters, standard scales and dimensioning. Section 201 of the Standard specifically covers mechanical engineering drawing. Section 301 and 401 are our most useful as they outline architectural drawing and engineering survey drawing. These drawings are detailed, and show the typical materials used in construction and their corresponding graphic symbol in plan and section. The standard also defines the graphics for a proposed contour or spot level and compares this to the graphics used for an existing spot level or contour.

It is often around the Tender stage that the documents become authoritative and official. Authoritative, as they are prepared or overseen by someone who is professional, trained and experienced



- 2. Concept Stage Section using illustrative graphics.
- 3. Tender Issue Section.
- 4. Construction Issue Detail.
- 5. Tender Issue Planting Plan.



and official because they become part of a contract in an Agreement recognised by law.

The drawings must give the contractor enough information to determine the scope of works to be done, all the required components, and the ability to estimate labour requirements. It is often best to use the graphics outlined in the Australian Standard, as well as a legend. If the standard symbols are not used and there is a dispute it is much harder for you to defend a claim. For example, I recently received a drawing from an architect where the proposed and existing contours were shown in the opposite manner to what is outlined in the Australian Standard. A contractor could be confused by this, leading to misunderstandings and disputes.

It is good practice to reduce as far as possible any change from the Tender Drawings to the Construction Set. This will prevent delays and a budget blow out.

Typically the drawing set at the Tender stage will include the following:

Site Plan/Layout Plan
Grading Plan and Sections
Irrigation Plan
Planting Plan
Details
Specifications
Schedules

Some of these drawings are used before the Tender stage to obtain the required statutory approvals – for example a Planning and/or Building Permit. Once stamped by the Council or private building surveyor, these drawings become legal documents. Any changes to the design will require an amendment – and usually an associated fee and possible delays.

The first four drawings listed above will be known to many designers. The last three documents are less known but just as important.

Details provide further clarification about specific parts of the construction to the contractor to achieve the design intent. An

LANDSCAPE GRAPHIC STANDARDS

- Site Analysis – abstract graphics to show site problems
- Concept Plan – illustrative to reflect main features of the design
- Preliminary Drawings – further resolution of concept design
- Tender and Construction Drawings – communicate fully resolved design; using standard graphics helps avoid misunderstandings and disputes
- Tender stage set of drawings includes: Site Plan/Layout Plan; Grading Plan and Sections; Irrigation Plan; Planting Plan; Details; Specifications; Schedules
- Refer to Australian Standard AS 1100, Section 301 and 401

6. Concept Stage – illustrative graphics.

area of construction is drawn at a larger scale in order to show clearly the materials, dimensions, desired joint or attachment, and so on. They are most commonly drawn as sections - as if a cut has been made through the object to make specific materials and components visible. The complexity of the project will determine the number of details required.

It is not good practice to include details obtained from sources such as construction manuals or associates unless you understand the methods behind the construction techniques and are able to answer questions from contractors. If you are using details you do not fully understand then you shouldn't be detailing up that work and need to seek professional advice from a more qualified individual. It is also not good practice to use typical details without making them specific to the project they are being used in.

According to *AS 1100*, a **Specification** is the 'precise description of materials and workmanship of a project or parts thereof which are not shown on the drawings or in schedules'. A specification generally includes the minimum standard of materials and completed works. It also sets the performance parameters in which the contractor operates.

Many firms use standard specifications but I prefer a combination of a standard and specific specification. Some computerised

drawing programs come with databases specifically for this purpose, and with Microsoft Word you can utilise the Master Document function to create a specification.

Schedules are lists of items required for a project. For example, Plant Schedules and Schedule of Works which may be used in the Tender process to obtain prices from contractors.

As computer programs advance we will see the use of 3D drawings and animations in the illustrative Concept Plans and the Construction Set. Computer programs now generate such realistic illustrations they can be mistaken for photographs. These all play a part in the communication of the design to client and contractor.

It is now very common for contracts by Councils and commercial organisations for Landscape Architectural Services to require Graphics according to the Australian Standard. A working knowledge of the graphics in the Standard will help you read plans prepared by others, as well as limit confusion in your own drawings. 

References:

- Standards Australia 2008, *AS 1100.301- 2008*, Technical, Standards
- Association of Australia, Homebush.