



CORPORATE CAD DRAFTING TECHNICAL STANDARD

SPECIFICATION FOR TECHNICAL
DRAWINGS PRODUCED BY CAD

APPENDIX – SAMPLE ELECTRICAL
DRAWINGS

JOINTLY AUTHORED BY KEITH CHILDS & ROHAN PARKER

Callide B Power Station
Application | For use in EPC Clauses relative to supply of Drawings

Drafting Technical Specification

Version 0.3- 10/9/2003 kc add mechanical symbolisation to AS1100 , Added sample drawings @ section 6.3 & 6.4 Version 0.4 – 24/2/2004 kc added preferred Layer naming for electrical @ pg 12

1 Scope

This specification covers the production or modification of drawings for the Callide Power Stations. All such work shall comply with this specification unless otherwise approved by the Callide Power Stations site drafting officer.

2 Standards

Drawings shall comply with the latest version of all relevant Australian Standards, including but not limited to:

- AS1100 Technical Drawing
- AS1101 Graphical Symbols For General Engineering
- AS1102 Graphical Symbols For Electrotechnical Documentation
- AS1104 Informative Symbols For Use On Electrical And Electronic Equipment
- AS1000 The International System of units (SI) and its application
- AS1657 Fixed platforms, walkways, stairways and ladders – Design construction & Installation

3 Drawing Format and Content

3.1 Identification

3.1.1 Drawing Numbers

Drawings shall be identified with Callide Power Station drawing numbers. The Callide Power Stations drafting officer shall allocate drawing numbers.

3.1.2 Drawing Titles

Drawing titles shall identify the drawing in the context of the whole Callide Power Stations site. The title shall include the site and functional area to which the drawing refers, as well as the specific detail of the drawing's content.

eg

<line 1> CALLIDE B POWER STATION
<line 2> STEAM TURBO-GENERATOR
<line 3> GEN LP & HIP / LP COUPLING SPRAY COVER
<line 4> TAB WASHER FABRICATION

3.2 Format

3.2.1 Drawing Medium

Drawings shall be produced in electronic form, in one of the following formats:

- Microstation version 8 .dgn format
- AutoCAD version 14 .dwg format
- AutoCAD version 2000 / 2002 .dwg format
- AutoCAD version 2004 .dwg format

Microstation version 8 .dgn format is the preferred format.

3.2.2 Scanned Images

- In exceptional cases drawings containing legacy data may be produced as scanned images, provided that the prior approval of the Callide Power Stations drafting officer has been obtained. Scanned images shall be in Tagged Image File format (.tif) using Group 4 compression.
- Any drawing that is scaled, contains dimensions, or is likely to be used as a building block in another drawing shall not be produced as a scanned image.

3.2.3 Sheets

- Each drawing file shall contain only one drawing page - multiple drawing pages may not be placed on a single drawing sheet, or within a single drawing frame.
- The drawing sheet size and orientation shall be selected to meet the needs of the drawing information content, with the prior approval of the Callide Power Stations drafting officer.

3.3 Drawing Setup

3.3.1 Drawing Prototypes / Templates

Drawings shall be created using the Callide Power Stations standard drawing prototype or template files, which are available from the Callide Power Stations drafting officer. The drawing frames, layers, line types, colours, and text fonts contained in these prototypes or templates shall not be modified.

3.3.2 Scales and Units

Drawings shall use SI units (in other words, metric units, not imperial.) Physical items shall be drawn at full scale. Schematics and other diagrams shall be drawn on a 5 millimetre grid. For drawings of large objects (eg architectural or civil drawings) the base unit shall be 1 metre. For all other drawings, the base unit shall be 1 millimetre.

An exception may be made, on approval from the Callide Power Stations drafting officer, where the purpose of the drawing is the reverse engineering of pre-metrification mechanical parts (i.e. Callide A pump shaft for example) based on wholly imperial measurements. In these cases it is preferred to show BOTH units on drawing dimensions (IMPERIAL On Top & Metric equivalents below the dimension rule lines) for clarity.

3.3.3 Layers

- Drawings shall contain the following layers:

Layer Name	Colour	AutoCAD Pen	Line type	Use
0	White	7	Continuous	Not used (for construction of blocks)
BASE	Red	1	Continuous	Outline for General Details / Layout of New Construction Work
DETAIL	White / Magenta	7 / 6	Continuous	To highlight part of existing structure Eg Belt line on Conveyor Transfer Tower GA
CENTRE	White	7	Centre or Centre 2	Centre lines
HIDDEN	Blue	7	Dashed or Hidden	Hidden detail lines
DIM	Cyan / Magenta	7	Continuous	Dimensioning
TEXT	Yellow	2	Continuous	All text irrespective of height
BORDER	Blue / Yellow	7	Continuous	Border plus Title, Revision and Reference Blocks
EXIST	Grey	8	Phantom 2	Existing background structures

Additional layers may be used with the prior approval of the Callide Power Stations drafting officer.

- AutoCAD layer names shall be limited to 10 characters.
- AutoCAD section call-ups shall be labelled alphabetically, and detail call-ups shall be labelled numerically.

3.3.4 AutoCAD Pens

AutoCAD pen settings shall be as follows:

AutoCAD Colour No	Colour	Pen Thickness (mm)
1	Red	0.18
2	Yellow	0.35
3	Green	1.0
4	Cyan	0.25 (0.13 for Hatch)
5	Dark Blue	0.7
6	Magenta	0.5
7	White	0.25
8, 254	Grey	0.18

3.4 Drawing Content

3.4.1 Model and Paper Space

Objects shall be drawn in model space, and annotated in paper space.

3.4.2 Line Types and Entity Colours

Line types and entity colours shall be according to their layer (ie use the BYLAYER method).

AutoCad users developing specialised line styles for CSE projects shall transmit the relevant *.lin file with the drawing.

The following extract from Australian Drafting Standards shall form the basis for line type selection.

Line Application	MicroStation Line Codes	AS1100 Reference	AutoCAD Label	Layer (default MicroStation level if applicable)
Visible outlines typical, wiring, general detail	Line Code = 0	AS1100 group A (Continuous – Thick)	Continuous	As per BY LAYER method (Default Layer 0 / LV=1 All Text Layer TEXT / LV=21; Default text level)
Dimension rule & extension lines, projection lines, leader, hatching lines	Line Code = 0	AS1100 group B (Continuous – Thin)	Continuous	DIM25, DIM35, DIM50 (Dimensions LV=31; Default dimension level)
Hidden detail	Line Code = 3	AS1100 group E, N, F (One use per drawing recommended)	Dashed	By discipline (i.e. Civil, Electrical or Mechanical / Structural)
Centre lines	Line Codes = 4, 7	AS1100 group G (Chain – Thin)	Centre	By discipline (i.e. Civil, Electrical or Mechanical / Structural)
Annotation of existing features, Extreme position of moving parts	Line Code = 6	AS1100 group K Dash-Dot-Dot-Dash etc Spacing as Grp G	Phantom	By discipline (i.e. Civil, Electrical or Mechanical / Structural)

3.4.3 Text

- Drawings shall use the iso3098b font, or its True Type equivalent, with a width factor of 1. Drawings containing text for special purposes (such as surveying or labelling standards) may use other fonts as required.
- All text shall be placed on the layer “TEXT”.
- The following heights and colours shall be used for text:

Height	Colour	AutoCAD Pen	Use
2.5mm	White	7	Title block author, revision, and reference details
3.5mm	Yellow	2	Dimension text, notes
5.0mm	Green	3	Item / Section titles and headings
7.0mm	Blue	5	Drawing Title, Number, and Headings

3.4.4 Annotation

- Annotation (including hatching, symbols, revision, dimensions, notes, etc) shall be drawn in paper space only.
- Notes specific to a drawing shall appear under a heading, and should be placed at the bottom right corner of the drawing.
- Where other drawings are referenced in the current drawing, or should be read in conjunction with the current drawing, then these drawings shall be listed in a note with the heading “Reference Drawings”.

3.4.5 Company Logos

Contractors and sub contractors may add discretely sized company logos and information to the drawing.

3.4.6 Drawing Housekeeping

- Drawing shall be saved in “zoom extents” format.
- Drawings shall be purged of all unused layers, blocks, xrefs, etc.
- AutoCAD drawings shall have an “audit” command performed on them.

3.4.7 Specifics for Electrical Drawings

3.4.7.1 Drawing Prototypes / Templates

Prototype files available include:

- Fonts.dwg – refer Section 6.1
- Helec_Power.dwg– refer Section 6.2
- Example Control_Circuit (CB Numbering).dwg– refer Section 6.3
- Logic_Sample.dwg– refer Section 6.4

3.4.7.2 Sheets

Electrical drawing sheets shall be of A3 size, with landscape orientation.

3.4.7.3 Drawing Types

When documenting electrical equipment, the following drawings shall be produced as a minimum:

- Drawing Schedule
- Schematic diagram
- Termination Diagram
- Cable Block Diagram
- Cable Schedule
- General Arrangement

3.4.7.4 Cross References

Where objects on the drawing are related to other objects that are drawn in a separate area, either on the same drawing or on another drawing, a cross-reference annotation shall be placed next to the object.

The cross reference shall include:

- The drawing grid references of the other objects

- The drawing and sheet numbers of the drawings showing the other objects, if they're not on the current drawing.

Typical objects requiring cross-references are:

- Coils or contacts of relays or contactors.
- Cables or signal paths that carry on to another drawing.

3.4.7.5 Component Ratings and Settings

Components shall be annotated with their ratings and settings, including:

- Fault levels
- Fuse and circuit breaker ratings
- Trip settings

3.4.7.6 Component and Cable Identification

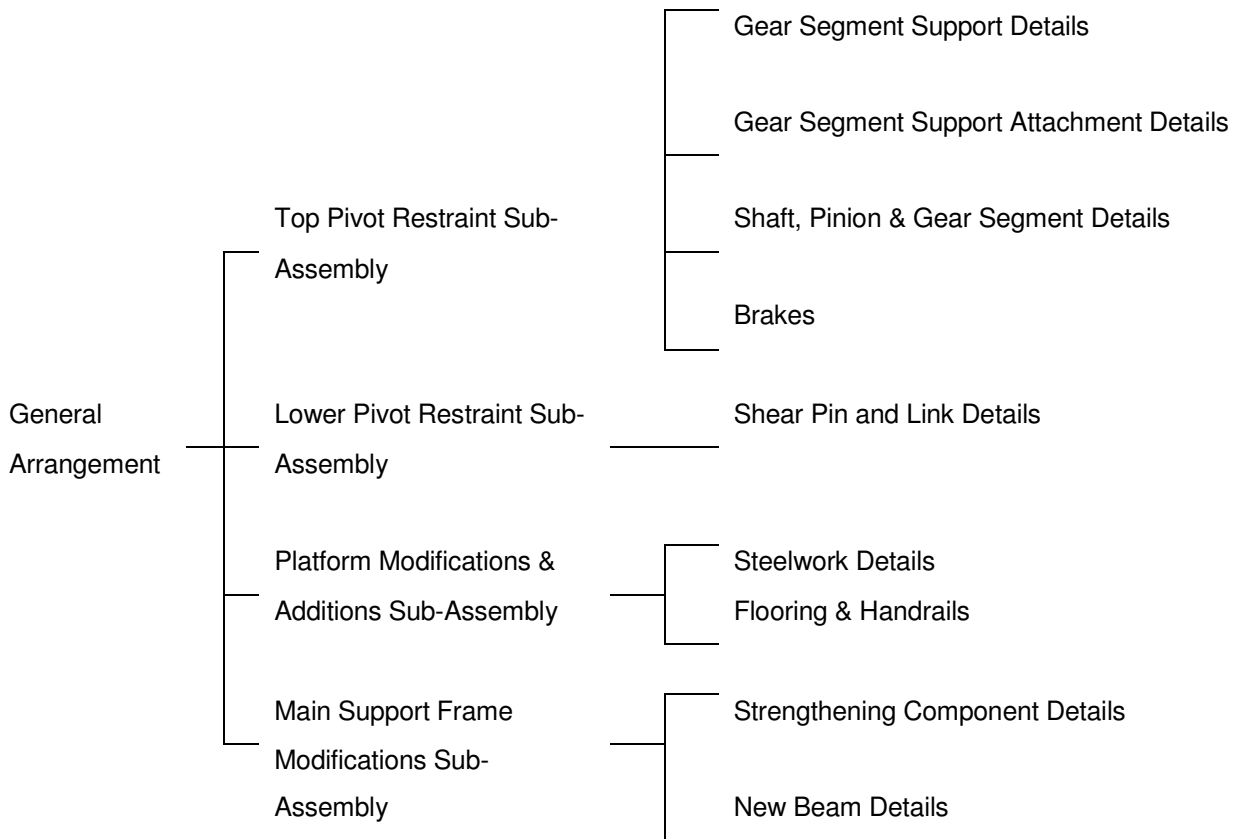
All components, cables, and cores shown on drawings shall be labelled clearly to enable their identification.

3.4.8 Specifics for Mechanical and/or Structural Drawings

3.4.8.1 Schedule of Drawings

A drawing schedule (or index) shall be prepared for each project or set of drawings, starting with a General Arrangement, moving down through Sub Assemblies then to the Details sheets. Titles shall reflect these groups and be worded to concisely describe the drawing, but also to allow ease of identification from the drawing management system in the future (refer also Section 4.6). The following is an example;

3.4.8.1.1 Example Drawing Schedule Layout



Footnote: Where possible, a list of Reference Drawings applicable to the ‘at hand’ drawing file shall be shown near the drawing title block.

3.4.8.2 Plot / Viewport Scales

The following scales shall be used:

3.4.8.2.1 Mechanical Engineering Drawing Scales (Note 1:20 & 1:25 scales not to be used on the same sheet)

Master unit – millimetre				
Full Size & Enlargement ratios	5:1		2:1	10:1
				1:1
Reduction ratios	1:2	1:2.5	1:5	1:10
	1:20	1:25	1:50	1:100
	1:200	1:250	1:500	1:1 000
	1:2 000	1:2 500	1:5 000	1:10 000
		1:25 000	1:50 000	1:100 000

3.4.8.2.2 Architectural and Structural Drawing Scales (Note 1:20 & 1:25 scales not to be used on the same sheet)

Master unit – millimetre				
Full Size				1:1
Reduction ratios	1:2	1:2.5	1:5	1:10
	1:20	1:25	1:50	1:100
	1:200	1:250	1:500	1:1 000
	1:2 000	1:2 500		

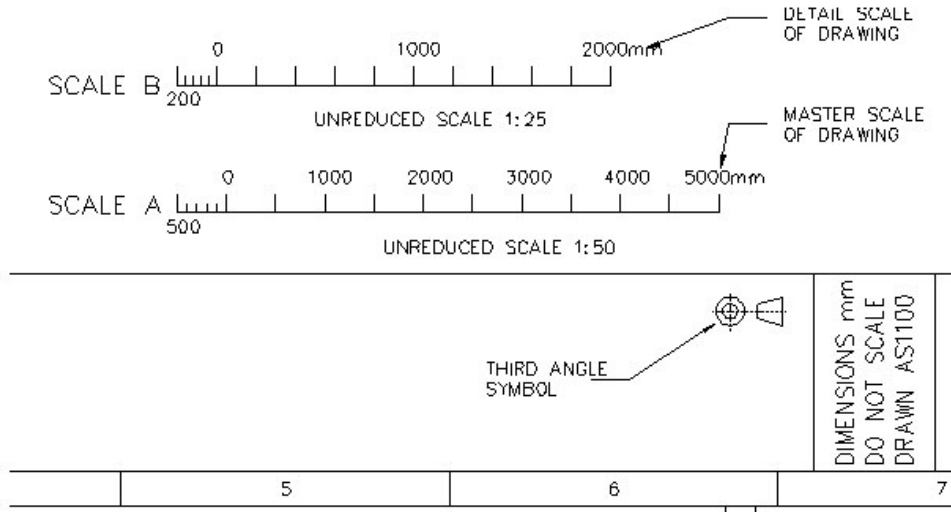
3.4.8.2.3 Surveying and Mapping Drawing Scales (Note 1:200 & 1:250 scales not to be used on the same sheet)

Master unit – metre				
Reduction ratios			1:50	1:100
	1:200	1:250	1:500	1:1 000
	1:2 000	1:2 500	1:5 000	1:10 000
		1:25 000	1:50 000	1:100 000
		1:250 000	1:500 000	1:1 000 000

3.4.8.3 Denotation of Multiple scales on detail mechanical or structural work

Where more than one scale is used on a drawing, the scale used shall be clearly shown adjacent to the view or detail concerned. The ratio of the larger to the smaller of any two scales used in a drawing shall not be less than 2. The title block section of a drawing that uses multiple scales shall include an alphanumeric listing of the scales together with a graphical representation (BLOCK) of the relevant scale appearing beside the title. Please see the example below (extension to this principle can be applied to cases of more than two scales per sheet);

3.4.8.3.1 Figure - depicts method of showing multiple scales on drawings



3.4.8.4 Coordinates and Levels

- Coordinates shall be expressed in metres to three (3) decimal places, prefixed by E or N (eg E 7820.242)
- Easting shall precede Northing in listing of coordinates.
- Levels (Reduced Levels (RLs) and invert Levels (ILs)) shall be expressed in metres to three (3) decimal places.
- Coordinates or levels less than one (1) metre shall be prefixed with zero (eg RL 0.940).
- Australian Height Datum (AHD) shall be used as the reference system.

3.4.8.5 Hatching

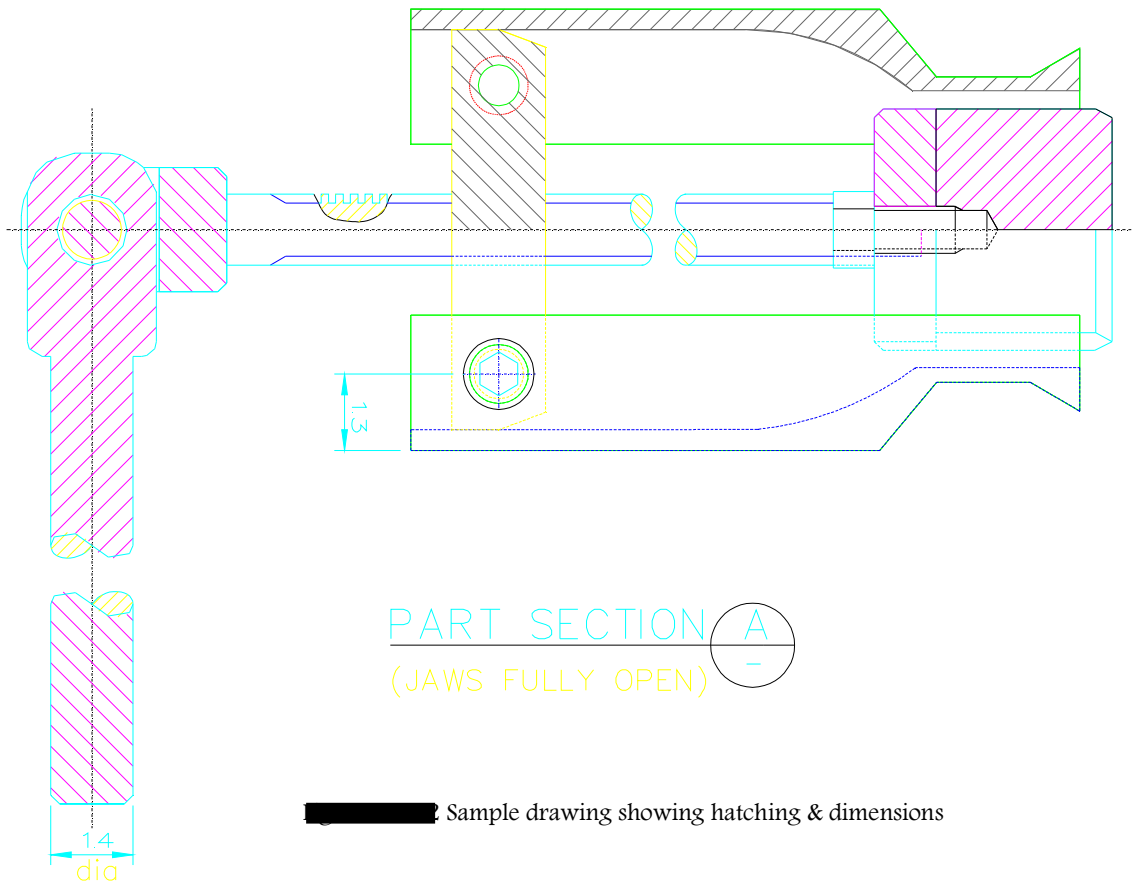
- Where cut lines are used to show fabrication details or to show details of a drawn item, the faces cut by these lines shall be hatched.
- Hatching shall be placed on the layer HATCH.
- Where two hatched areas are adjacent, the two areas shall have different hatch line spacings and/or angles so that the two areas can be easily differentiated.
- Hatch line angles shall be 45 degrees or 135 degrees.
- Hatch line spacing shall be an integral number of millimetres, and shall be greater than or equal to the height of the smallest text used in the drawing.
- For scaled drawing representations other than full size (1:1), the hatch line spacing shall be multiplied by the Master Scale.
- Hatch line types shall be:
 - CO=7, WT=0, LC=0 (Microstation)
 - Cyan, 0.13mm continuous (AutoCAD)

3.4.8.6 Dimensions

- All dimension entities shall retain their associative attribute and shall not be exploded to primitive graphics.
- Dimensions shall be produced in paper space.
- Dimensions shall be placed with LV=31 (Microstation) or on layer x-DIM (AutoCAD).
- Leader and dimension arrows shall be filled, and should have an aspect ratio of 0.4 : 1 (height to width.)
- Dimension rules and extension lines shall have WT=0 and LC=0 (Microstation), or be 0.18mm continuous lines (AutoCAD).
- Allowable dimension tool variants are Dim Element, Dim by 3 Points, Dim from Datum, Dim Stacked, and all standard Radial and Circular Dims.
- For AutoCAD drawings, a DIM block entity shall be created in the drawing file for each dimension.

3.4.8.7 Dimension and Hatching sample detail drawing

3.4.8.7.1 Figure – Sample CS Energy hatching and dimensions



3.4.8.8 Other Information

3.4.8.8.1 Drafting Symbol, Out of Round, eg allow 0.25mm in diameter of 25mm

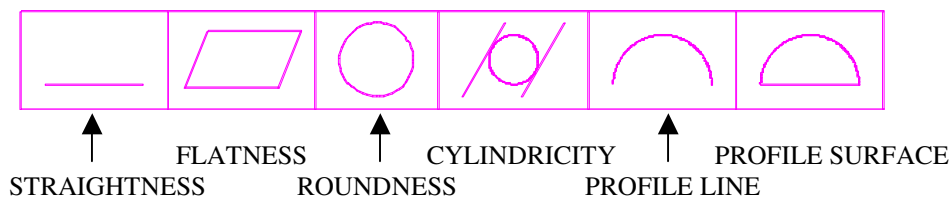


OUT OF ROUND (CYLINDRICITY – TOLERANCE ALLOW – IN DIAMETER SPECIFIED)

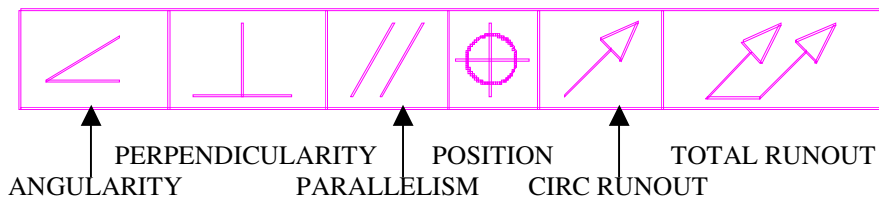
3.4.8.8.2 General symbol for Indication of Surface Textures (or similar to AS1100)



3.4.8.9 Other Mechanical Symbols (Form – Profile to AS1100)



3.4.8.10 Other Mechanical Symbols (Orientation – Location - Runout to AS1100)



4 Drawing Transmittal

4.1 Transmission of Drawings to CS Energy

- Drawings shall be supplied to Callide Power Stations as electronic files recorded on CD-ROM.
- Each drawing sheet shall be contained in a separate file.
- Additionally, the CD-ROM shall contain a second copy of the drawing sheet in Adobe Acrobat .pdf format.
- Each CD-ROM shall also contain a drawing index in the format specified below.
- All transmitted files shall be free from computer viruses or other malicious software.
- Files should be uncompressed. Where files are compressed, they shall be compressed in .zip format.

4.1.1 Transmittal via Email

In the case that a drawing is sent to Callide Power Stations as an interim measure (eg for checking), the drawing may be sent via email. Any drawing sent via email shall be accurately labelled - no email attachments may be untitled. The size of the email, including attachments, shall be less than 2 Megabytes.

4.1.2 Drawing File Names

The filename of a drawing file shall consist of the following information:

- The site code (prefixes applicable to the Drawing Numbering Convention are as follows; F – Callide A, R – Callide B, and C – Callide Power Plant, i.e. Callide C)
- The drawing number,
- The sheet number,
- The sheet revision, and
- The file type extension

As follows:

CODE-NUMBER-SHEET-REVISION.EXTENSION

Eg R-580121-001-A.dgn (an example of a MicroStation format file on Revision A unique to Callide B)

4.1.3 Media for Drawing File Transmittal

CD-ROM media used for transmittal of drawing files shall:

- Be of reputable brand, and
- Be clearly labelled with:
 - o the Contractor's name
 - o the project title
 - o the date of transmittal
 - o the CS Energy representative for whom the drawings are intended, and
 - o a brief description of the contents.

4.1.4 Drawing Transmittal Index Format

The index supplied with drawings shall be a Microsoft Excel 2000 file, formatted as follows:

- Row 1 - Column headings
- Row 2 - Column codes

- Row 3 and on - drawing details, with one drawing sheet listed per row. (Note that for a drawing consisting of 45 sheets, there shall be 45 rows - the details of each sheet shall be listed separately.) The columns of the spreadsheet shall be as follows:

4.1.4.1.1 *Drawing Transmittal Index Format*

Column	Heading	Code	Column width	Contents
A	Document	DOKNR		Drawing number
B	Part	DOKTL		Sheet number
C	Version	DOKVR		Sheet revision code
D	Doct Status	STABK		“FR”
E	(Short) Description	DKTXT	40	Short description
F	Long Text 1	TXLINE_01	64	Line 1 of long description
G	Long Text 2	TXLINE_02	64	Line 2 of long description
H	Long Text 3	TXLINE_03	64	Line 3 of long description
I	Long Text 4	TXLINE_04	64	Line 4 of long description
J	Contractor	MWERT_02		Company name of Contractor supplying the drawing
K	Contractor Drawing Number	MWERT_03		Contractor’s drawing number
L	Sub Contractor	MWERT_04		Company name of Sub Contractor supplying the drawing
M	Sub Contractor’s drawing number	MWERT_05		Sub Contractor’s drawing number
N	Document Status	MWERT_06		“A”
O	Applic.	DAPPL		File extension of the drawing sheet, eg “PDF”, “DGN”
P	Data Carrier	DTTRG		Directory containing the file, eg “D:\CB_PDF\580 or \CC_PDF\ (callide C)”
Q	Original	FILEP		File name of the drawing sheet, eg “R-580121-001-A”

4.2 Supply of Information by CS Energy

- Drawings and documents supplied by CS Energy will generally be in electronic form (tiff, pdf, and/or CAD).
- Data measuring over 2 Megabytes will stored on CD-ROM and sent by post, or may be collected from site. Smaller quantities of data may be sent by email.
- Where large numbers of documents are involved, CS Energy may prepare a drawing index and supply it with the drawings.
- CS Energy will make all reasonable effort to ensure drawings and documentation are accurate, however responsibility rests with the Contractor to check the validity of information contained therein.

5 Intellectual property and Commercial Terms

- All information contained in drawings and other documentation supplied by CS Energy is commercial in confidence.
- Intellectual property owned by CS Energy and contained in drawings or other documentation remains the property of CS Energy at all times.
- Documentation shall not be forwarded via a third party without prior approval from CS Energy.
- Electronically produced drawings NOT conforming to these standards shall be rejected and sent back to the originator for re-drafting.

SAMPLE DRAWINGS – Follow (Electrical Discipline samples only)

Specific Electrical user (Layers) Levels – Layers in Red are annotations

Layer Name	Colour	AutoCAD Pen	Line type	Use
0	White	7	Continuous	System Generated (can not be deleted)
0_1	Any colour	-		System Generated (can not be deleted)
BASE	Red	1	Continuous	Outline for General Details / Layout of New Construction Work
CENTRE	White	7	Centre or Centre 2	Centre lines
Corner Points	Blue	7	Continuous	PLTCNR Block for batched mode printing
D1C	Red	1	Continuous	Detail 1.8 pen
D2C	White	7	Continuous	Detail 2.5 pen
D3C	Yellow	2	Continuous	Detail 3.5 pen
D5C	Magenta	6	Continuous	Detail 5.0 pen
Default	White / Magenta	7 / 6	Continuous	To highlight part of existing structure Eg Belt line on Conveyor Transfer Tower GA
DEFPOINTS	Any colour	-	Any style	System Generated (can not be deleted)
DFT0	White	7	Any style	Primary Slot for AutoCAD layer 0
DRAW NO	Cyan / Magenta	7	Continuous	Drawing number
DWG Annotate	Any colour	-	Continuous	Signatures, Scales etc
Dimensions	Cyan / Magenta	7	Continuous	Dimensioning (Layer Name DIM acceptable also)
EXIST	Grey	8	Phantom 2	Existing background structures
HATCH	Cyan	4	Continuous	All Hatching
HIDDEN	Blue	7	Dashed or Hidden	Hidden detail lines
Linework	Any colour	-	Continuous	All linear elements
LOGO	As per Block	As per Block	-	CS Energy Logo
Misc	Any colour	-	Continuous	All miscellaneous items
TEXT	Yellow	2	Continuous	All text irrespective of height
T18	Red	1	Continuous	Text at 1.8mm high
T25	White	7	Continuous	Text at 2.5mm high
T35	Yellow	2	Continuous	Text at 3.5mm high
T50	Green	3	Continuous	Text at 5.0mm high
T70	Blue	7	Continuous	Text at 7.0mm high (use on B1 or A0 only)
T140	Orange		Continuous	Text at 14.0 mm high (use on large sheet only)
T200	Grey	9	Continuous	Text at 20.0 mm high (use on large sheet only)
TITLELINE	Any colour	-	Continuous	Text height dependant on sheet template in use
THIRDANG	Cyan	4	Continuous	Third Angle Projection Symbol

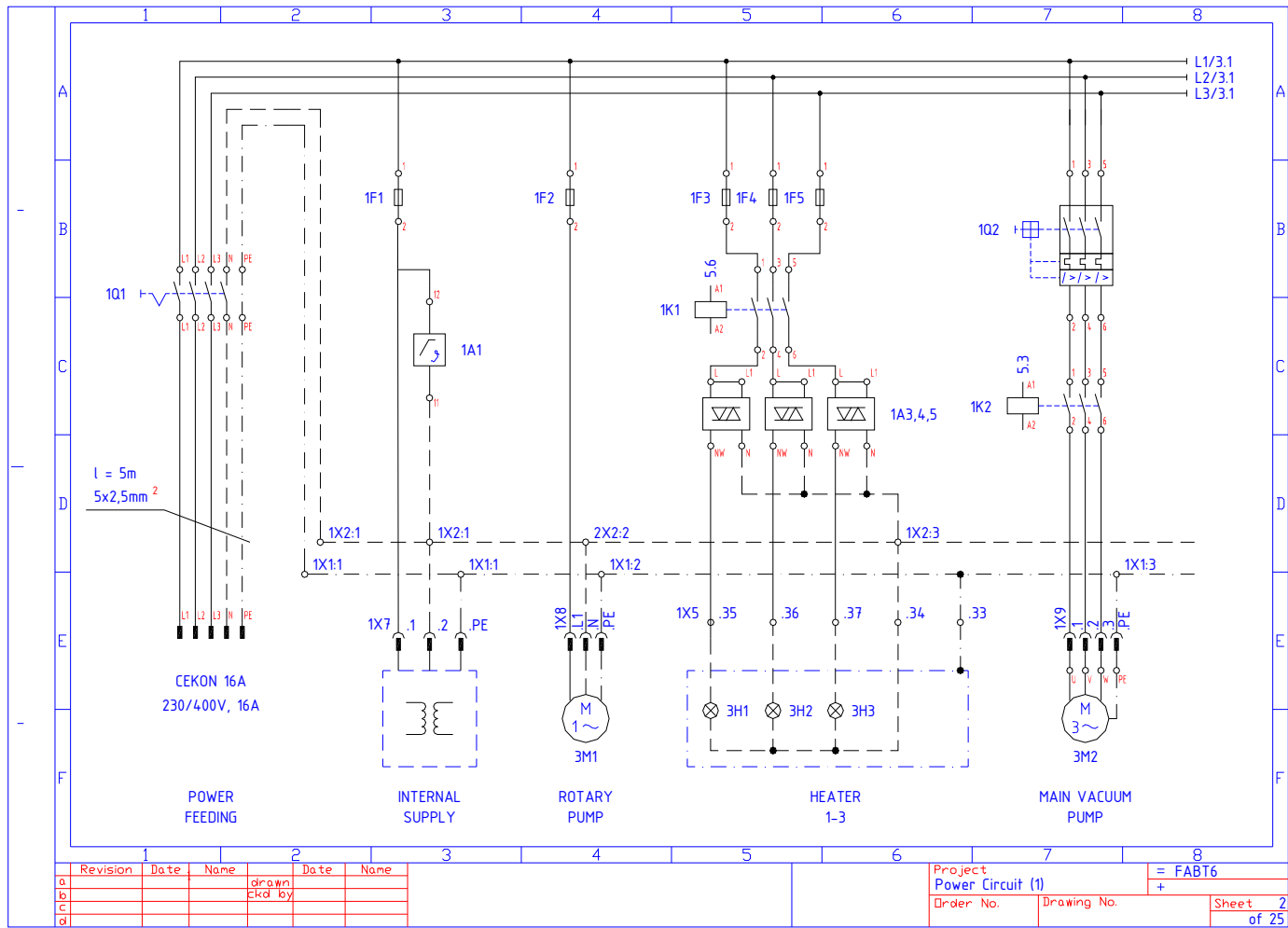
nb Layers shown above not an exhaustive list, CSE Callide seed file standards, not including frame

APPENDIX

6 Sample Electrical Drawings

6.1 Fonts (Sample DWG File)

	1	2	3	4	5	6	7	8																																													
A	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t t u v w x y z A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ τ υ φ χ ψ ω ! ? " # \$ % & ' () * + , - . / : ; < = > [\] ^ _ ` { } ~																																																				
B	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> AS1100 NON - PREFERRED </div>																																																				
C																																																					
D	0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ τ υ φ χ ψ ω ! ? * # \$ % & ' () * + , - . / : ; < = > [\] ^ _ ` { } ~																																																				
E	QUOTE FROM AEDH CLAUSE 4.2.2 - Upper Versus Lower Case UPRIGHT, UPPER CASE CHARACTERS ARE PREFERRED. LOWER CASE CAN BE USED FOR SI UNITS NORMALLY USING SAME																																																				
F	<table border="1"> <tr> <td>Revision</td> <td>Date</td> <td>Name</td> <td>drawn</td> <td>Date</td> <td>Name</td> <td colspan="2">Project</td> <td>=</td> </tr> <tr> <td>a</td> <td></td> <td></td> <td>ckd</td> <td></td> <td></td> <td colspan="2">Electrical - Part IEC</td> <td>+</td> </tr> <tr> <td>b</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Order No.</td> <td>Drawing No.</td> <td>Sheet</td> </tr> <tr> <td>c</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>d</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>								Revision	Date	Name	drawn	Date	Name	Project		=	a			ckd			Electrical - Part IEC		+	b						Order No.	Drawing No.	Sheet	c									d								
Revision	Date	Name	drawn	Date	Name	Project		=																																													
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b						Order No.	Drawing No.	Sheet																																													
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6.2 - Heavy Electrical & Power (Sample DWG File - IEC symbolisation)

6.3 Example Control Cct (Shows CB Wire Numbering)

