![Los Alamos National Laboratory logo] **Conduct of Engineering
Request for Variance or Alternate Method**

1.0 General

1.1 Document Number: VAR-10016	1.2 Revision: 0

1.3 Brief Descriptive Title: Sketch Requirements

1.4 Affected Program: Engineering Standards	1.5 Request Type: Variance

1.6a Affected Tech Area
                99
	1.6b Affected Buildings
	                Sitewide

1.7 Requestor: Oruch, Tobin H
     Organization: ES-DO

2.0 Affected Conduct of Engineering Program/Documents

2.1 Affected Document:
N/A
 	
If against the P document itself, revision:
              Enter text..
	2.2 Subordinate or related document(s) [AP, master spec, LANL ESM chapter & section; or code, Order, standard, etc.]:
	
	Document Title/No.: CAD Standards Manual Section 200
	
	   Revision 5

2.3 Section/Para: Sections 202 2.0 B-D

2.4 Specific Requirement(s) as Written in the Document(s):
B. Figure 202-3 is an example of the standard Title Block when used for a sketch.

C. A standard LANL Title Block templates (DWT) in AutoCAD format must be used and are available on the CAD Standards Manual webpage immediately below this document.

D. Hand drawn sketches: The standard sketch title block can be filled in by hand or use an improvised title block with the following information provided:
1. Project Identification number if applicable
2. Drawing number with associated document name embedded (DCF, DRN, FCR, etc. See Figure 202-3)
3. Project title
4. Sheet title
5. Sheet number (if applicable)
6. Author's name, signature and date.

2.5 Contractual, preference, or other basis for requirement: LANL preference to drive standardization and quality.	

2.6 Type of VAR from ESM Chap 1, Z10 [*Applies only to standards variances*) Type 1	2.7 Discipline Architectural

3.0 Request Information & Comments

3.1 NCR required (work has occurred)? No
   If Yes, NCR Number: Enter text.

3.2 System/Component Affected OpSystem Acronym & Name N/A System Number or Name N/A	3.3 Highest ML Level ML-1

3.4 Proposal with Justification/Compensatory Measures:

B. Figure 202-3 is an example of the standard Title Block when used for a Technical Baseline Affecting sketch.

C. The AutoCAD Sketch Title Block template is <u>encouraged</u> for all types of sketches (*to reduce redrawing costs when incorporation of modification into Technical Baseline Drawings is anticipated*). The LANL Construction Title Block template in AutoCAD (DWT) is <u>required</u> for formal Construction Drawings.

    1. Both templates are available on the CAD Standards Manual webpage.

D. When graphics are associated with work-directing documents they are sketches (cannot be called diagrams or other to avoid requirements).

E. For <u>hand drawn</u> sketches, the hand-sketch title block (pdf) may be used and filled in by hand (recommended) or another title block used. Alternatively, <u>electronically produced</u> sketches may be produced using a non-standard or even non-AutoCAD title block. In either case, provide title block information in accordance with the following table:

Table 202-VAR-1 Sketch Requirements and Guidance

	Type of Sketch	
	Technical Baseline Affecting*	**Non-Technical Baseline Affecting**
Sketch Title Block Information		
Project or Task Title	Required	Required
Sheet Title	Required	Required
Sheet Number	Required *E.g., SK-X; also integral with Sketch Number (see below)*	Required *E.g., SK-X, along with 1 of 2, 2 of 2…*
Sketch/Dwg number based on associated change document (DCF, DRN, FCR, FCN)	Required *E.g., DCF-CY-TA-BLDG-XXXX-SK-X*	If Applicable *(e.g., if there's a DCF, FCR, etc.)*
Revision Tracking	Required	Required
Author & Checker Name, Signature, and Date	Required	Required
Approval	By FDAR via controlling DCF, FCR, etc.	If/how desired by FDAR *E.g., IBC Program PPD form approval by FDAR*

Project I.D. Number	If Applicable	If Applicable

* Tech baseline defined through use of AP-341-405 and captured by master document listing for facility

Panel Schedule Guidance
When a construction drawing package is being produced (e.g., new building or panel), panels schedules should be shown on a sheet of the package. At turnover to operations, the project, in conjunction with the FDAR, should ensure an 8-1/2 x 11 version is posted.

When modifying existing panels, the design should include a redline of the existing panel schedule. This redline could be a hand-sketch in a work package for a very simple job, a DCF sketch if that's the form of the design, or on a drawing sheet if the project is producing drawings. Again, at turnover to operations, the project/FDAR would ensure an updated 8-1/2 x 11 version is posted.

Letter-sized schedules generally are not technical baseline affecting (NTBA) but should be identified with a date and location of file (if it is technical baseline, refer to sketch requirements for TBA). See ESM Chapter 7 D5010 (Figure 5010-1 in r4) for 8-1/2 x 11 requirements/example. http://engstandards.lanl.gov/esm/electrical/Ch7_D5010-R4.pdf

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3.5 Attachments

Document Title or Description n/a

3.6 Project ID	3.7 Duration:	3.8 Finite Period Start Date:	3.9 End Date:
n/a	Lifetime	Click to enter a date.	[EndDate]

3.10 When finite life, provide the PFITS number for tracking removal/correction: [PFITSNum]

3.11 USQD/USID required (Nuclear, High/Mod Hazard)? No

   If Yes, USQD/USID Number   Click here to enter text.

3.12 QA Review for process change matters potentially affecting LANL's NQA-1 implementation

   Is a QPA Determination required?: No   If **Yes**, then   Choose an item.
   QPA Comments: Enter text..

3.13 POC Determination: Accept

   POC Comments: Enter text..

3.14 Management Program Owner's (SMPO) Approval for P341 and APs; P342, ESM and Contract Matters; and P343

SMPO Determination: Choose an item.

   Comments: n/a

4.0 Participant Signatures   *NOTE: All **name** fields are entered from the* purple People Picker *fields in the **VAR Request Metadata** pane. Use the first name listing if more than one.*

4.1 Facility Design Authority Representative [FDARName] FDAR signature not required ☒	Organization Enter text..	Signature
4.2 LANL Owning Manager (FOD or R&D/Program) [FODorPrgmMgrName] FOD or Program Manager signature not required ☒	Organization Enter text..	Signature
4.3 POC (Management Program Owner's Representative): Richardson, Scott C	Organization Enter text..	Signature
4.4 Quality Reviewer's Name: [QPAName] QPA review/signature not required ☒	Organization Enter text.	Signature
4.5 Management Program Owner's Approval for P341 and APs; P342, ESM and Contract Matters; and P343 [SMPOName] SMPO signature not required for a Type 1 variance ☒ Safety or Security Management Program Owner (SMPO)	Organization Enter text..	Signature