

VANDERBILT UNIVERSITY

Capital Project Documentation Policy

Facilities Information Services Library

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Capital Project Documentation Requirements of the Facilities Information Services Library

at

VANDERBILT UNIVERSITY



In Cooperation with the following departments:

Campus Planning and Construction

Medical Space and Facilities Planning

Plant Operations

Office of Real Estate

Medical Plant Services

Vanderbilt Dining Services

Office of Housing and Residential Education

VUMC Business Development

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I. Introduction

This document is for the use of Project Managers, Architects, Engineers, and Contractors working on Vanderbilt capital projects such as construction projects, land and facility acquisition, Utility or other infrastructure study, facility study and provides a description of:

- 1) **Architect and Engineering Deliverables** (insert information about reference to deliverables in the AIA contract) in the Vanderbilt Attachment to the B151 Agreement between Owner and Architect
- 2) **Contractor Deliverables** (insert information about reference to deliverables in the A201 General Conditions of the Contract for Construction (Agreement between Owner and Contractor)).

Specific documentation of project is required throughout the project for monthly progress payments to be rendered. Record Set documentation, must be received and approved, for final payment to be rendered.

Documentation Required by the FIS Library

The Facilities Information Services (FIS) Library has specific requirements for Project Documentation. Specific documentation must be submitted at particular phases, intervals, or at closeout of the project. The required documentation is specified in the Project Documentation Requirements Section (see section II).

- A. Active project documentation requirements are submitted at the beginning of the project and throughout the project (see section II part A).
- B. Archived project documentation – Record Set requirements are specified in the record set deliverables requirements and submitted at project closeout (see section II part B).

Materials submitted to the FIS Library should be coordinated with the Vanderbilt Project Manager or designated VU contact person and delivered to the FIS Library. The adequacy of the documentation will be reviewed by the VU project manager and/or VU contact person and FIS staff before a sign-off is completed. Active project documentation submittals must be accompanied by the “Transmittal for Active Project Documentation Materials Required by the FIS Library” (section IV template A). Record Set Submittals must be accompanied by the “Transmittal for Record Set Documentation Materials Required by the FIS Library” (section IV template B), “Record Set Quality Assurance Checklist” (see section II part B), and “Record Set Closeout Manual Quality Assurance Checklist” (section II part B). For approved “examples of the Record Set Deliverables” (see section II part B), refer to these examples that meet the requirements and for general reference purposes only. Contact FIS library for individual project needs.

Project Manager Responsibilities

Individual faculties may have requirements in addition to FIS’s requirements; Project Managers should convey these additional requirements to the architect or contractor and may alter the number of required copies in the additional copies column of the Materials Checklist.

All documents required as part of project close-out must be submitted in the formats described in the Record Set Deliverables Requirements. To ensure consistency of data, the Project Manager should confirm that the following standards are used (see Sections I & II).

II. Project Documentation Requirements

A. Active Project Documentation

- Active Project Documentation – Materials Checklist (see section III, Checklist A)
This document requests the design and construction documents from the architect, engineer and/or contractor. The request form provides a list of the construction documents required during the construction phase of the project. This request form accompanies the Capital Projects Documentation Requirements document. See attached Capital Project Active Documents Request Form. Documenting the project starts when the project is conceived. Specific project documentation is required when the request form is sent at the project kick off.
- Transmittal for Active Project Materials Required by the FIS Library (see section IV, Transmittal A)
The architect or contractor should use this transmittal, which lists all materials required during the project. The completed transmittal form must accompany the submission to the FIS Library.
- Transmittal for Active Project Materials Required by the Project Manager. The architect or contractor should use this transmittal, provided by the Project Manager, which lists all materials required by the Project Manager during the project. The completed transmittal form must accompany the submission to the Project Manager.
- Facilities Room and Space Numbering Standards (<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/Room%20and%20Space%20numbering%20system.pdf>)
The architect or contractor should use this document as a standard for numbering all the rooms and spaces within this project. The floor plan file(s) should be sent to FIS for approval of space numbering, prior to construction documents being issued, in order that all base floor plans can be consistent throughout disciplines. All floor plans must follow the approved VU room numbering standard. All final record drawings and shop drawings (all disciplines) should reflect the approved room numbering plans for the particular project.
- Facilities Management Drawing Standards (Line Drawings) (<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/Facilities%20Management%20Drawing%20Standards%200.pdf>)
This document provides guidelines for producing and delivering CAD drawings of the building's basic floor plan(s). This floor plan will reflect the approved room and space numbered floor plan from above and is submitted at the beginning of the Construction phase. This floor plan(s) is/are not the record drawings, typically this a copy of the design floor plans.
- Survey Specifications (<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/Survey%20Standard.pdf>)
This document describes the coordinate system used by Vanderbilt University and the minimum standards that need to be followed to insure compatibility with the University geographic information system.
- As-Built Drawing Quality Assurance Standards and Guidelines
These documents describe the minimum, yet not limited to, standards and guidelines used by Vanderbilt in determining as-built conditions as described on drawings. These are minimum standards and guidelines that need to be followed to insure that the as-built conditions are reflected on each as-built drawing and is recorded on each record drawing provided by the architect, engineer, contractor, and sub-contractors. As-Built Drawing Quality Assurance Checklists are provided as a guide to insure the minimum requirements are being met (see items below).

- As-Built Drawing Quality Assurance Checklists

Architect/Engineer

<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/As-Built%20Documentation%20checklist%20-%20Architect-Engineer.pdf>

Construction Manager

<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/As-Built%20Documentation%20checklist%20-%20Construction%20Manager.pdf>

Contractor

<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/As-Built%20Documentation%20checklist%20-%20Contractor.pdf>

The Architect, Engineer, Construction Manager, Contractor and/or Sub-contractor must sign and submit the appropriate checklist above, which ensures that the as-built documentation adheres to the minimum, yet not limited too, the standards and guidelines set forth in the Vanderbilt As-Built Drawing Standards and Guidelines.

B. Archived Project Documentation (Record Set – Project Closeout)

- Archived Project Documentation – Materials Checklist (see section III, Checklist B)

This document requests the final as-built record documents from the architect, engineer and/or contractor. The request form provides a list of the official record documents required at project close for the final payment to be rendered. See attached Capital Project Record Documents Request Form. Specific documentation is required when the Record Documents request form is sent at the closeout of the project.

- Vanderbilt Facility/Building Number (<https://cpc-fis.vanderbilt.edu/report/facsump.php>)

The architect, engineer, and or contractor should use this link to determine the facility number of existing and new facilities, then contact FIS or S&FP to confirm the number is correct (in some case changes in building name or building number may occur that differ from the list, please contact to confirm name and number).

- Transmittal for Record Materials Required by the FIS Library (see section IV, Transmittal B)

The architect or contractor should use this transmittal, which lists all materials required at project close. The completed transmittal form must accompany the submission to the FIS Library.

- Transmittal for Record Materials Required by the Project Manager

The architect or contractor should use this transmittal, provided by the Project Manager, which lists all materials required at project close. The completed transmittal form must accompany the submission to the Project Manager.

- Record Set Deliverables Requirements (<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/Record%20Set%20Deliverable%20Requirements.pdf>)

The architect, engineer or contractor should use this document, which lists all material formats required at project close. This document provides specifications for producing and delivering the Record Set Deliverables for the project's record as-built documentation.

- Record Set Quality Assurance Checklist (<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/Record%20Set%20Quality%20Assurance%20Checklist.pdf>)

The architect or engineer must sign and submit this checklist, which ensures that all Record Set materials adhere to the standards and guidelines set forth in the Facilities Information Services *Record Set Deliverables Requirements*.

- Record Set Quality Assurance project examples (<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/Project%20Example.pdf>)

The architect, engineer, or contractor should use this document as a guide for examples of the directory file structure, sheet and file naming conventions, and the project manual and closeout manual bookmarking.

- Record Set Closeout Manual Quality Assurance Checklist (<http://cpc-fis.vanderbilt.edu/pdf/CapitalProjectDocumentation/Closeout%20Manual%20Checklist.pdf>)

The contractor should use this document, which provides requirements for producing and delivering the Closeout Manual. The completed document form must accompany the submission to the Architect and a copy sent to FIS Library.

All templates, CAD Standards, and Surveying Standards can be found at: <http://cpc-fis.vanderbilt.edu> or by contacting the FIS Library (contact information on FIS home webpage).

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III. Project Documentation - Materials Checklists

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A. Active Project Documentation - Materials Checklist

All architects, engineers or contractors and sub-contractors constructing capital projects must provide the following materials, to the Facilities Information Services Library via the Architect of record, during the specified phase of project as indicated below.

Materials		FIS Library Copy(s)
Design or Planning Phase		
UPON COMPLETION OF DRAWINGS	<i>If a land survey has been completed as part of a project, the following submittals are required:</i> The preliminary land survey does not need to reflect all revisions at this phase for FIS use. The Record Land survey should include all revisions.	
	CAD file(s) of survey Must comply with all requirements in <i>Survey Standards</i> In particular, X-refs must be bound,merged or fenced. Must be in the NAD 83 state plane coordinates.	1
	Plot file(s) of survey Must comply with all requirements in <i>Survey Standards</i>	1
UPON COMPLETION OF DRAWINGS	<i>If a floor plan has been created or altered as part of a project, the following submittals are required:</i> The design floor plan at this phase for FIS room/space numbering and approval. The Record floor plans (all disciplines) should include the approved VU room numbering.	
	CAD file(s) of facility floor plans - Room Numbering of Floor plans All University floor plans must be submitted to FIS for VU room numbering approval prior to construction drawings being issued. All disciplines must use the approved VU room numbered floor plans. All room numbering must comply with all requirements in <i>VU Room Numbering Standards</i> .	1
Pursued Continuously Throughout Project		
UTILITY UPDATE(S)	<i>If Utilities are being installed or modified as part of a project the following submittals are required:</i> A <u>copy</u> (copies can be reproduced at FIS library at time of submission) of the construction drawing(s) that reflect utility, (primary, secondary or branch liines) with as-built mark-ups at time of installation, modification or completion of utility. The final Record as-built drawing(s) should include all revisions as marked and noted on these drawings; Refer to Record Set Deliverables Material Checklist. All disciplines affecting utilities are required to submit copies to FIS and architect, engineer or other designers for records.	
	Utility as-built drawings Submit a <u>copy</u> of Blacklines printed on bond paper with contractor mark-ups at time of installation, modification or completion of utility. The mark ups should be made in a color other than black. Must comply with all minimum requirements in <i>As-built Standards and Guidelines</i> , Drawings reflect all disciplines and corresponding utility(s). Including but not limited to irrigation, underground fire protection, fiber optics, and all other disciplines are required. including primary, secondary, or branch line(s)	1
	Transmittal Use FIS Transmittal Template	1
	Checklist Utility As-built Quality Assurance Checklist Template	1
Construction Phase		
WITHIN 30 DAYS	CAD files of Facility Floor plan Line Drawings (these are not as-built or Record Drawings) Must comply with the minimum requirements in Facility Management CAD Guidelines (use as a guide to include the minimum information to reflect a floor plan, the file need not be altered to meet the Record set standard, only - include necessary drawings to reproduce the floor plan as accurate as possible.) In particular, X-refs should be included; <u>NO</u> naming convention is required of these drawings, no changes needed unless floor plan updated.	1
	Construction Documents Complete set of construction drawings	1

B. Archived Project Documentation - Materials Checklist. (Record Set Documentation “The Record Set Deliverables” - Materials Checklist)

All architects, engineers or contractors and their sub-contractors completing capital projects must provide the following close-out materials, as specified below, to the Facilities Information Services Library via the Architect of record.

Materials		FIS Library	Additional Copies	Total Copies
A. ADMIN DOCS	Transmittal Use FIS Transmittal Template Closeout Manual Checklist Template Record Set Quality Assurance Checklist Template	1	0	1
B. CONSTRUCTION DWGS.	Cal scans of Record drawings Scanned at 400 dpi resolution at hard copy dimensions. Scanned .cal files – only file format acceptable when no original cad file (hand drawn construction drawings). Must comply with all requirements in <i>RSDR Standards</i>	1	0	1
	Plot files of Record drawings Must comply with all requirements in <i>RSDR Standards</i>	1	0	1
	CAD files of Record drawings Must comply with all requirements in <i>RSDR Standards</i> In particular, X-refs must be bound,merged or fenced; naming conventions must be followed	1	0	1
C. CONSTRUCTION DOCS.	Project Manual Pdf file (Specifications) Design Specifications in Pdf format	1	0	1
	Close-out Manual Pdf file Must comply with all requirements in <i>RSDR Standards and Closeout Manual Checklist</i> In particular, CSI division and sections bookmarked and naming convention must be followed. Includes the Operations and Maintenance manuals.	1	0	1
	Associated Reports and project files not included on the Record Set CD or drawings	1	0	1
D. LAND SURVEYS	<i>If a land survey has been completed as part of a project, the following submittals are required: Refer to Surveying Standards and Recovery Notes³</i>			
	Plot files of as-built² drawings Must comply with all requirements in <i>RSDR Standards</i> . naming conventions must be followed	1	0	1
	CAD files of as-built² drawings Must comply with all requirements in <i>RSDR Standards</i> In particular, X-refs must be bound,merged or fenced; naming conventions must be followed	1	0	1
	Associated Reports	1	0	1
E. IRRIGATION	Cal scans of Record drawings Scanned at 400 dpi resolution at hard copy dimensions. Scanned .cal files – only file format acceptable when no original cad file (hand drawn construction drawings). Must comply with all applicable requirements in <i>RSDR Standards</i>	1	0	1
F. FIRE PROTECTION	<i>If fire protection drawings have been completed as part of a project, the following submittals are required: Refer to <i>RSDR Standards</i></i>			
	CAD files of Record drawings Must comply with all requirements in <i>RSDR Standards</i> In particular, X-refs must be bound,merged or fenced; naming conventions must be followed	1	0	1
	Plot files of Record drawings Must comply with all requirements in <i>RSDR Standards</i>	1	0	1

The term “Record” in the B151 and A201 contract documents defines drawings that incorporate the changes made during construction. These drawings should accurately record the actual construction of the building, as opposed to the initial construction documents.

IV. Templates

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Transmittal for Active Project Documentation Materials Required by the FIS Library

Project Name:

Date:

Vanderbilt Project Manager:

Submitted by:

Vanderbilt Capital Project number:

Local Project Number:

Building Number(s):

All materials below must be accompanied by this form and provided to the FIS Library at or during the construction phase of the project. Refer to Record Set Documentation Requirements for Final copy of record as-built documents submitted at project closeout.

# To FIS	Materials	Notes	Initials of submitter	Date of Submittal
1	CAD file(s) of land survey	Submit to FIS upon completion of survey. x-refs bound, merged or fenced. Meets RSD naming convention. Refer to survey requirements for additional requirements		
1	Plot file(s) of land survey	Submit to FIS upon completion of survey. Meets RSD naming convention		
1	CAD file(s) of facility floor plans drawings – room numbering	Submit a cadd file(s) of each floor plan to FIS for room/space numbering approval at design/planning phase. x-refs must be included		
1	CAD file(s) of facility floor plans drawings	Submit a cadd file(s) of each floor plan to FIS at Construction Phase. x-refs bound, merged or fenced		
1	CAD file(s) of building perimeter- construction drawings	Submit a cadd file of each drawing that contains a building outline to FIS at Construction Phase. x-refs bound, merged or fenced		
1	As-built Utility drawings on bond paper	Submit a copy of each as-built drawing that reflects utility (primary, secondary, or branch) line(s) and locations at time of installation, modification or completion of utility to FIS. All disciplines required. Note this is in addition to any copy sent to designers for updates to record drawings.		

Transmittal for Record Set Documentation Materials Required by the FIS Library

Project Name:

Date:

Vanderbilt Project Manager:

Submitted by:

Vanderbilt Capital Project number:

Local Project Number:

Building Number(s):

All materials below must be accompanied by this form and provided to the Project Manager for submission to FIS prior to project closeout. All Record electronic/digital files must be submitted on one CD. Refer to the Record Set of Deliverables for record set submittal requirements.

# To FIS	Materials	Notes	Initials of submitter	Date Submitted
1	Reports associated with land survey, if applicable	Submit with Project Files at time of project closeout		
1	.cal scans of as-built Record drawings	Submit on Record Set CD		
1	CAD files of as-built Record drawings	Submit on Record Set CD		
1	Plot files of as-built Record drawings	Submit on Record Set CD		
1	Quality Assurance Checklist(s)	See Record Set Quality Assurance Checklist		
1	Project Manual pdf file	Submit on Record Set CD		
1	Closeout Manual pdf file	Submit on Record Set CD		
1	Reports associated with building, if applicable	Submit with Project Files at time of project closeout		
1	All Project related files not included in the Record Set	Submit at time of project closeout		