NORTHERN ARIZONA UNIVERSITY
EXHIBIT A – SCOPE OF SERVICES FOR DESIGN PROFESSIONAL TO STANDARD FROM AGREEMENT BETWEEN OWNER AND DESIGN PROFESSIONAL (CM@Risk Edition)
December 18, 2025 Edition

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TABLE OF CONTENTS

SECTIONS

SECTION 1
GENERAL PROJECT
1.1 Project Description
1.2 Project Budget

SECTION 2
CM@RISK SERVICES

SECTION 3
PROJECT SCHEDULE/SCHEDULE OF MILESTONES

SECTION 4
PROFESSIONAL SERVICES REQUIREMENTS
4.1 General Information
4.2 Investigation of Existing Conditions
4.3 Meetings and Communication
4.4 Design Responsibilities
4.5 Furniture, Fixtures and Equipment
4.6 Design Review Submittals
4.7 Design Phase Services and Documents
4.7.1 General Information
4.7.2 Program Development Subphase Submittal
4.7.3 Conceptual Design Subphase Submittal
4.7.4 Schematic Design Subphase Submittal
4.7.5 Design Development Subphase Submittal
4.7.6 GMP-Setting Subphase Submittal
4.7.7 Construction Documents Subphase Submittal
4.8 Construction Phase Services and Documents

SECTION 5
FEE PROPOSAL AND CONTRACT MANAGEMENT
5.1 Professional Fees

ATTACHMENTS

ATTACHMENT 1 – CONSTRUCTION DRAWING REQUIREMENTS FOR NORTHERN ARIZONA UNIVERSITY
ATTACHMENT 2 – "AS-BUILT" AND "RECORD DRAWINGS" REQUIREMENTS FOR NORTHERN ARIZONA UNIVERSITY

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EXHIBIT A

SCOPE OF SERVICES FOR DESIGN PROFESSIONAL

THIS EXHIBIT A - SCOPE OF SERVICES FOR DESIGN PROFESSIONAL is an exhibit to the Northern Arizona University Standard Form Agreement Between Owner and Design Professional (Construction Manager at Risk Edition) dated Month Day, Year, for Project No. xx.xxx.xxx – _____.

Section 1 General Project

1.1 Project Description. The project addresses _____

[INSTRUCTION TO DRAFTER - INSERT A DESCRIPTION OF THE WORK HERE. INCLUDE THE APPROXIMATE SQUARE FOOTAGE INVOLVED IN THE PROJECT - NET AND GROSS AS APPLICABLE.]

1.2 Construction Budget. The proposed construction budget for this Project is approximately _____ dollars ($_____). Design Professional fees, land acquisition costs, parking relocation reserve costs and other similar costs are not part of the project construction budget.

[INSTRUCTION TO DRAFTER - INSERT THE ANTICIPATED CONSTRUCTION BUDGET. EDIT LIST OF EXCLUSIONS AND INCLUSIONS, IF NECESSARY.]

Section 2 Construction Manager at Risk Services

2.1 The services of the Construction Manager at Risk (CM@Risk) are anticipated to begin in Date, with a GMP anticipated to be submitted prior to Month Day, Year [OR] TBD.

[INSTRUCTION TO DRAFTER - INSERT THE ANTICIPATED DATE BY WHICH GMP SHOULD BE SUBMITTED, OR INSERT "TBD".]

Section 3 Project Schedule/Schedule of Milestones

3.1 Below is a list of preliminary dates for completion of each subphase of this project. Delivery of all documents and services by DP for each subphase are required as follows:

a) Program Development Subphase — Month Day, Year
b) Conceptual Design Subphase — Month Day, Year
c) Schematic Design Subphase — Month Day, Year
d) Design Development Subphase — Month Day, Year

e) GMP-Setting Documents Subphase Month Day, Year
f) Construction Documents Subphase Month Day, Year
g) Construction Administration Subphase Month Day, Year
h) Closeout Subphase Month Day, Year
i) Warranty Subphase Month Day, Year

3.2 DP shall inform Owner in writing as soon as possible, at any time during the project, of any expected delays to any subphase completion dates.

Section 4 Professional Services Requirements

4.1 General Information.

4.1.1 The proposal for DP services shall include the requirements for all services described in the Standard Form Agreement Between Owner and Design Professional (Construction Manager at Risk Edition), and this "Exhibit A - Scope of Services for Design Professional".

4.2 Investigation of Existing Conditions.

4.2.1 DP shall review any available record documents/as-built drawings at Northern Arizona University offices relative to the existing site, building and adjacent utility infrastructure. Copies of pertinent drawings, if available, will be provided by the Owner for the use of and when requested by the DP.

4.2.2 DP shall review any available record documents/as-built drawings at the City, County, other municipalities, utility companies, and other similar agencies relative to existing site conditions.

4.2.3 DP shall perform site visits to verify adequacy of record drawings/as-built drawings for use in site demolition and design documentation.

4.3 Meetings and Communication.

4.3.1 DP shall be responsible for including ample time and travel in their fee proposal to address the meeting requirements described in the Standard Form Agreement Between Owner and Design Professional (Construction Manager at Risk Edition) and this "Exhibit A - Scope of Services for Design Professional" for this project. This project is an important project for Northern Arizona University and will require a generous amount of meetings for the DP to gain input, and for all stakeholders, as described below, to share information and maintain a clear understanding of project and the process. DP will attend the meetings with the following:

a) Owner Project Management staff and the user department to determine specific user requirements, to review project progress, and to engage in an exchange of ideas for the purpose of developing the project design.

b) Community representatives to continue established inclusive and supportive relationships.

c) Owner Project Management staff, CM@Risk and user representatives for coordination meetings during all project phases, design through construction. Meetings will be held weekly unless waived in writing by the Owner.

4.3.2 All communications on the project shall be with designated Owner Project Manager. Any meetings or communication with other Owner representatives shall be coordinated through the Owner Project Manager. In the event that the Owner Project Manager is not able to attend a meeting between DP and other representatives, the DP shall provide in writing to the Owner Project Manager minutes of the items discussed, actions required, or any other documents reasonably requested by the Owner, to keep the Owner Project Manager informed of any discussions held.

4.3.3 At a minimum, the following meetings shall have DP involvement. Responsibility to lead the meeting or issue meeting minutes is noted. Additional meetings may be required by Owner, or required as a normal course of business, and shall not be additionally compensated by the Owner to the DP unless agreed to in advance in writing by the Owner, and unless the scope of such meetings could not have reasonably been expected given the scope of the project.

[INSTRUCTION TO DRAFTER – FREQUENCY OF MEETINGS MAY BE ALTERED TO FIT PROJECT REQUIREMENTS. OTHER MEETINGS MAY BE ADDED.]

Meeting	Lead	Frequency	Issue Minutes
Kickoff	Owner	One	DP
Partnering	Facilitator	As Needed	Facilitator
OAC – Design Phase	DP	Weekly	DP
Deliverables Format	DP	Once	DP
Presentation of Subphase Deliverables to User Groups	DP	As Needed	DP
Plan Review	Owner	Minimum Four	DP
Commissioning	Comm. Agent	As Needed	Comm. Agent
GMP-Setting	Owner	As Needed	DP
Pre-Construction	Owner	One	DP
OAC – Construction Phase	CM@Risk	Bi-Weekly	CM@Risk
Pre-installation	CM@Risk	As Needed	CM@Risk
Design Related Subject – Before 100% CD Set	DP	As Needed	DP
Design Related Subject – After 100% CD Set	CM@Risk	As Needed	CM@Risk
Closeout	Owner	One	CM@Risk
Others as required by Owner	TBD	TBD	TBD

4.4 Design Responsibilities.

4.4.1 The design of this Project should create an appropriate identity for Northern Arizona

University that _____ while respecting the context of the adjacent campus districts, the surrounding vocabulary of architectural language and the precepts contained in the Northern Arizona University Campus Master Plan.

[INSTRUCTION TO DRAFTER – INSERT PROJECT-SPECIFIC DESIGN INTENT DESCRIPTION OR IDENTIFY PROJECT CRITERIA.]

4.4.2 The DP shall consult with the Owner on all aspects of the design through the Owner Project Manager, as well as with other Owner entities.

4.4.2.1 It is the DP's responsibility to schedule, lead, present, document, and otherwise manage all meetings associated with the design of the project.

4.4.2.2 The design of the project is the responsibility of the DP, based upon its professional expertise, augmented by direction and input received from Owner personnel and the CM@Risk under contract to the Owner.

4.4.2.3 The DP shall be responsible for design conforming to the Owner design standard as follows:

DP shall be responsible for the design conforming to the Northern Arizona University Design Guidelines and Technical Standards found at https://in.nau.edu/facility-services/pdc/dp-contract/. [INSERT VOLUME AND VERSION NUMBER.]

4.4.2.4 The DP shall be responsible for coordination with the governing jurisdiction as follows:

NAU Building Official, in conjunction with the NAU Fire Marshal, will be the governing jurisdiction. NAU will provide design review, permits and construction inspection. Local zoning and ordinances will not apply as NAU has established site development guidelines specific to this project. Interface and permitting with the City of Flagstaff and other government bodies will be limited to street acquisition, right-of-way permits, and utility easements with these entities if these improvements are not owned by the University. Other permits may apply, such as ADEQ or Army Corps of Engineers permits, and it is the responsibility of the DP to verify if such permits would apply to this Project.

4.4.2.5 DP shall design the project in such a manner that the completion of project is in compliance with the following codes. When reference is made to "this code" it shall mean all the codes listed below.

- International Building Code 2021 (IBC)
- International Residential Code 2021
- International Existing Building Code 2021 (IEBC)
- International Energy Conservation Code 2021

- International Plumbing Code 2021 (IPC)
- International Mechanical Code 2021 (IMC)
- National Electrical Code 2020 (NEC) (NFPA 70)
- International Fuel Gas Code 2021 (IFGC)
- International Fire Code 2021 (IFC)
- National Fire Alarm Code 2022 (NFPA 72)
- Installation of Sprinkler Systems 2022 (NFPA 13)
- NAU Fire Code 2025
- Arizona State Fire Code
- 2010 ADA Standards for Accessible Design as approved by the Department of Justice on July 26, 2010 (published in the Federal Register on September 15, 2010) and any more recent related Federal and State requirements with their related standards as they may apply.
- ICC/ANSI, A117.1 – 2017, Accessible and Usable Buildings and Facilities.
    - FYI: Please be advised that where there is a conflict between any applicable accessibility requirements the most restrictive shall apply (e.g., 2021 IBC, 2010 ADA, 2017 ICC/ANSI A117.1, other NAU, State & Federal requirements, etc.).
- 2022 American Society of Mechanical Engineers (ASME) A17.1, Safety Codes for Elevators and Escalators (unless otherwise required)
    - AZ Elevator Act (Title 23, Chapter 2, Article 12)
    - Latest ADOSH Arizona Elevator Rules
- AZ Executive Order 2008-29 (FYI: Reaffirms Executive Order 2005-05. Requires all new state-funded buildings to meet the Silver LEED standard, at a minimum.)
- American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) 55 2023
- ASHRAE 362024
- ASHRAE 62.1 2019
- ASHRAE 90.1 – 2022
- ASHRAE 189.1 – 2023
- ASHRAE 202 2024
- Arizona Revised Statutes (ARS)
- IECC 2021
- Occupational Safety and Health Administration Regulations
- NAU Material Safety Policies (e.g., Program Manuals such as Asbestos, Lead, PCB, etc.) (Most recent edition unless otherwise required) https://www.google.com/search?client=firefox-b-1-e&channel=entpr&q=nau+ehs
- IAQ Guidelines for Occupied Buildings Under Construction (Most recent edition unless otherwise required)
- ACGIH Industrial Ventilation Manual of Recommended Practices (Most recent edition unless otherwise required)
- ANSI/AIHA Z9.5 Laboratory Ventilation 2022
- NAU Design Guidelines and Technical Standards (Most recent edition unless otherwise required)

Compliance shall conform to the requirements of the latest editions of all state regulations and the various codes which have been adopted by NAU at the time of selection of the Design Professional unless otherwise required by Federal or State regulation (such as ADA code compliance which is required at time of bid).

DP will be held to have examined and to have become familiar with these regulations in all ways they apply to the Project.

4.4.3 DP is responsible for obtaining coordination of design by all applicable professional disciplines including, but not limited to:

a) Complete civil (including surveying & drainage analysis)
b) Architectural
c) Acoustical
d) Landscaping (including irrigation)
e) Structural
f) Mechanical
g) Plumbing (including the performance design and specification of the addressable fire sprinkler system along with the architectural control of fire sprinkler head locations)
h) Electrical engineering (including telecommunications)
i) Interior design (including FF&E)
j) Cost estimating services for each phase.

4.4.4 DP is responsible for sustainable and environmentally responsible design.

4.4.4.1 Design shall be responsive to the climate and environment in a way that minimizes energy consumption, yet creates a comfortable environment for staff and visitors.

4.4.4.2 Design shall demonstrate an understanding of the setting.

4.4.4.3 Facility shall be an exhibit of sustainability achievement in this climate.

4.4.4.4 Required sustainability and LEED certification goals are as follows:

Refer to most recent version of "NOAA Technical Memorandum NWS WR-273, Climate of Flagstaff, Arizona" for climate data and description.

This Project shall obtain [Gold [OR] Platinum] LEED Certification.

4.5 Furniture, Fixtures and Equipment Design

[INSTRUCTION TO DRAFTER – SELECT A DESIGN PROCESS BETWEEN THE TWO FOLLOWING OPTIONS: 1) DESIGN OF FF&E BY DP; 2) DESIGN OF FF&E BY DP & TRI-

UNIVERSITY FF&E VENDORS .]

1) DESIGN OF FF&E BY DP:

4.5.1 The DP shall provide interior design services and documentation at each phase of the project for Owner review and approval. This may include the coordination of University logos and proprietary color schemes within the specifications of furniture, fixtures and equipment (FF&E). Unless otherwise indicated, FF&E will be procured and installed under a separate contract independent of the contract for construction.

4.5.2 FF&E may be selected within cost categories given the standard office and modular furniture categories (office system workstation/chairs/files, waiting area furniture, etc.). Within these categories, appropriate selections will be made for the project, in collaboration with the Owner Project Manager. The only competitively bid, performance specification-based FF&E will be that which the DP recommends, and that may be determined appropriate for specific functions not covered by the Tri-University Contract. In such case, the DP shall prepare a complete Bid Package set that will be used by Owner to request proposals from FF&E vendors.

4.5.3 Intentionally omitted.

4.5.4 During the Conceptual Design Phase, the DP shall meet with Owner Project Manager and appropriate user groups to define the project's FF&E requirements and budgetary goals, including assessment of existing FF&E to be relocated and new FF&E to be procured. The DP shall, in collaboration with Owner Project Manager, coordinate with vendors on FF&E selections, availability and pricing. The DP shall provide a conceptual FF&E Budget inclusive of all items required to furnish the building and allow it to be functional (items identified as OPCI (Owner Provided Contractor Installed) or OPOI (Owner Provided Owner Installed). Conceptual level floor plans will be developed reflecting decisions reached with the Owner on relocated and new FF&E, and reflecting the approved FF&E budget.

4.5.5 At the Schematic Design Phase, the DP shall coordinate with vendors on FF&E selections, availability and pricing, and shall provide for Owner's approval preliminary FF&E layout plans, individual FF&E item selection and a Schematic FF&E Budget.

4.5.6 During the Design Development Phase, the DP shall coordinate with vendors on FF&E selections, availability and pricing, and shall be responsible for producing final FF&E layout plans, final FF&E selections, and final FF&E Budget.

4.5.7 During the Construction Documents Phase, the DP shall coordinate with vendors on FF&E selections, availability and pricing. DP shall prepare final FF&E documents for Owner review and approval, as follows:

a) FF&E plans graphically shall show: the scaled relationship of all FF&E for all rooms, room numbers, and individual FF&E Item reference numbers.

b) FF&E Item List and Budget Spreadsheet shall reference: Department, Room Name, Room Number, Item reference number, Item Description, Item Specification Sheet, Vendor, Quantity, Net Price, and Extension of pricing for Items and subtotals for each Room. Provide separate spreadsheets sorting FF&E Item List and Budget by Vendor. Each spreadsheet shall include lines for freight, delivery, installation and tax.

c) Item Specification Sheet (for each category of item) shall list: Vendor, Manufacturer, Description, Model Number, Size, Quantity, Location(s), Special Notes, List Price, Discount, Net Price, Material Finish, and graphic representation of item.

d) Approved material finish samples in acetate sleeves shall list the following information: FF&E Item reference number(s), Vendor, Manufacturer and color or material name or number.

e) Vendor Data Sheet shall list: company names, addresses, phone/fax numbers, and primary contact.

The DP shall ensure that final FF&E layouts are fully coordinated with architectural, structural, mechanical (HVAC devices locations), telecommunication (data jacks), fire alarm and electrical (light fixtures, receptacles and light switches) design to assure the compatibility of the FF&E with the building power, lighting and other systems, prevent conflicts and ensure that all power and telecommunications outlets are provided as appropriate.

4.5.8 During the Construction Administration phase, DP shall prepare final FF&E documents as follows:

a) DP shall review FF&E shop drawings and submittals for conformance with final FF&E Documents.

b) DP shall coordinate with selected vendors to establish a delivery and installation schedule, and DP shall monitor and verify that the CM@Risk is on schedule to reach Substantial Completion as identified in the Contract Documents.

c) DP shall observe, as required, the installation of the FF&E and develop a punch list of incomplete or incorrect work requiring the Vendor's attention.

d) DP shall review the completion of all punch list items to establish the Date of Final Completion.

2) DESIGN OF FF&E BY DP & TRI-UNIVERSITY FF&E VENDORS:

4.5.1 The DP shall provide interior design services and documentation at each phase of the project for Owner review and approval. This may include the coordination of University logos and proprietary color schemes within the specifications of furniture, fixtures and equipment (FF&E).

Unless otherwise indicated, FF&E will be procured and installed under a separate contract independent of the contract for construction.

4.5.2 Furniture system will be selected within the available Tri-University Contracts cost categories given the standard office and modular furniture categories (office system workstation/chairs/files, waiting area furniture, etc.). Within these categories, appropriate selections will be made for the project, in collaboration with the Owner Project Manager, and coordination with such selected Tri-University vendors shall be started as early as possible during design. Other Furnishing and Equipment items will be selected either within Tri-University Contracts, or through a formal RFP process. In such case, the DP shall prepare a complete Bid Package set that will be used by Owner to request proposals from Furnishing and Equipment vendors.

4.5.3 Intentionally omitted.

4.5.4 During the Conceptual Design Phase, the DP shall meet with Owner Project Manager and appropriate user groups to define the project's FF&E requirements and budgetary goals, including assessment of existing FF&E to be relocated and new FF&E to be procured. The DP shall, in collaboration with Owner Project Manager, coordinate with vendors on FF&E selections, availability and pricing. Conceptual level floor plans will be developed reflecting decisions reached with the Owner on relocated and new FF&E, and reflecting the approved FF&E budget.

4.5.5 At the Schematic Design Phase, the DP shall provide for Owner approval preliminary FF&E layout plans, individual FF&E item selection and pricing, and shall coordinate with vendors on FF&E selections, availability and pricing.

4.5.6 During the Design Development Phase, the DP shall coordinate with vendors on FF&E selections, availability and pricing and shall be responsible for producing final FF&E layout plans, final FF&E selections, and final FF&E budget.

4.5.7 During the Construction Documents Phase, the DP shall submit the final FF&E documents for Owner review and approval, and shall coordinate with vendors on FF&E selections, availability and pricing. During the Construction Documents phase, DP shall prepare final FF&E documents as follows:

a) FF&E plans graphically shall show: the scaled relationship of all FF&E for all rooms, room numbers, and individual FF&E Item reference numbers. For Furniture plans, the DP shall incorporate the shop drawings produced by Tri-University furniture vendors.

b) FF&E Item List and Budget Spreadsheet shall reference: Department, Room Name, Room Number, Item reference number, Item Description, Item Specification Sheet, Vendor, Quantity, Net Price, and Extension of pricing for Items and subtotals for each Room. Provide separate spreadsheets sorting FF&E Item List and Budget by Vendor. Each spreadsheet shall include lines for freight, delivery, installation and tax.

For Furniture items, the DP shall incorporate the Item List and Budget Spreadsheet produced by Tri-University furniture vendors.

c) Item Specification Sheet (for each category of item) shall list: Vendor, Manufacturer, Description, Model Number, Size, Quantity, Location(s), Special Notes, List Price, Discount, Net Price, Material Finish, and graphic representation of item.

d) Approved material finish samples in acetate sleeves shall list the following information: FF&E Item reference number(s), Vendor, Manufacturer and color or material name or number.

e) Vendor Data Sheet shall list: company names, addresses, phone/fax numbers, and primary contact.

The DP shall ensure that final FF&E layouts are fully coordinated with architectural, structural, mechanical (HVAC devices locations), telecommunication (data jacks), fire alarm and electrical (light fixtures, receptacles and light switches) design to assure the compatibility of the FF&E with the building power, lighting and other systems, prevent conflicts and ensure that all power and telecommunications outlets are provided as appropriate.

4.5.8 During the Construction Administration phase, DP shall prepare final FF&E documents as follows:

a) DP shall review FF&E shop drawings and submittals for conformance with final FF&E Documents.

b) DP shall coordinate with selected vendors to establish a delivery and installation schedule, and DP shall monitor and verify that the CM@Risk is on schedule to reach Substantial Completion as identified in the Contract Documents.

c) DP shall observe, as required, the installation of the FF&E and develop a punch list of incomplete or incorrect work requiring the Vendor's attention.

d) DP shall review the completion of all punch list items to establish the Date of Final Completion.

4.5.9 Owner FF&E purchasing requirements are as follows:

[INSTRUCTION TO DRAFTER – INSERT UNIVERSITY-SPECIFIC CONTENT BELOW. DELETE OTHER UNIVERSITIES' CONTENT.]

Facility Services, in conjunction with the NAU's Purchasing Department, will write

and issue all Purchase Orders - the majority of which will involve items direct purchased under the Tri-University Contact Pricing process. The Vendor will be responsible for coordinating all orders with the manufacturer and NAU, including product tracking, delivery, offloading, inspecting, installation, and service.

During the Construction Phase, the DP will be responsible for coordinating with the Owner, FF&E Vendor, and CM@Risk, the scheduled delivery of FF&E, the off-loading and inspection of delivered FF&E. The actual offloading and installation of FF&E will be by the Vendor.

4.6 Design Review Submittals.

4.6.1 The DP shall provide the following submittals for review by the Owner: All Design Review Submittals shall be provided to Owner in an electronic format by email or through PMWeb as directed by the Owner Project Manager.

a) Program Development Submittal
b) Conceptual Design Submittal
c) Schematic Design Submittal
d) Design Development Submittal
e) Construction Documents Submittal
f) Final Submittal
g) Reproducible Drawings and Specifications

[INSTRUCTION TO DRAFTER – EDIT PHASES AND NUMBER OF COPIES TO REFLECT PROJECT REQUIREMENTS.]

4.6.2 The Owner will prepare written Plan Review comments, which can be written comments on DP-provided review documents. As part of each project subphase submittal, the DP shall prepare written responses to these comments. To ensure that all issues are fully understood and resolved, responses shall be submitted to the Owner as soon as possible after receipt by the DP. The DP will not be authorized to proceed into the next subphase of the project until all comment responses have been reviewed and accepted by the Owner. Specific Owner review processes are as follows:

Review Process:

a) This project is subject to review by NAU senior management to ensure that the conceptual design(s) presented are in accordance with the NAU Comprehensive Sustainable Smart Campus Master Plan. The DP may be required to make a presentation to the Committee at early Conceptual Design stage (multiple concepts), during Schematic Design, at the completion of Schematic Design, and at the completion of Design Development. Presentations shall address the Committee's comments from the previous submittal. Additional presentations may be required to respond to committee concerns, or to update the committee on significant design changes.

b) These submittals are intended to be of a "work in progress", that is, presentation of the DP's working design drawings and models, appropriate to the stage of completion of the design. Submittal materials must be sufficiently complete and detailed to adequately describe the proposed design, but shall not be of finished "presentation" quality.

4.7 Design Phase Services and Documents.

4.7.1 General Information.

4.7.1.1 DP shall provide thorough coordination and review, and place professional seal on all documents.

4.7.1.2 DP is responsible for production of complete Drawings and Specifications, and assembly of the Project Manual, including a cover for each. Document covers shall include the Owner project name and number and date.

4.7.1.3 Drawings shall be prepared on the DP's own sheets, with Owner Project Number on all sheets. DP shall conform to the Owner drawing requirements listed in "Attachment 1 – Construction Drawing Requirements for Northern Arizona University".

Specifications shall be prepared by the DP using CSI 48 Division format, with Owner Project Number on all pages.

4.7.1.4 Intentionally omitted.

4.7.1.5 As part of Basic Services, project documents will be produced using computer aided design and drafting (CADD) software. Refer to "Attachment 1 – Construction Drawings Requirements for Northern Arizona University" and "Attachment 2 – 'As-Built' and 'Record Drawings' Requirements" for Northern Arizona University" in this "Exhibit A – Scope of Services for Design Professional" for drawing format, plotting requirements and submittal requirements.

4.7.1.6 The DP and CM@Risk shall coordinate the format to be used for each subphase estimating effort (Probable Construction Cost by DP and Estimate of Construction Cost by CM@Risk) to ensure that comparable formats are being used, and to ensure that differences between the two estimates are reconcilable. Differences between the DP and CM@Risk estimates must be reconcilable to the lowest level of detail of the estimate.

4.7.1.7 DP shall provide [OR] coordinate LEED application processing through USGBC. The Owner shall be listed as the "Applicant" under the USGBC website application, and shall have access to the entire submittal form to ensure ownership and access to documentation at all times (including archived documentation).

[INSTRUCTION TO DRAFTER – INSERT EITHER "PROVIDE" OR "COORDINATE" AND THEN DELETE THE OTHER CHOICE.]

4.7.1.8 DP shall cooperate with MEP testing and balancing (commissioning) consultant.

4.7.1.9 Intentionally omitted.

4.7.1.10 The following are Owner personnel for this Project.

DP shall contact the following Owner personnel as required to discuss and agree to the systems appropriate for this project. Please adhere to communications protocol described under paragraph 2 of Meetings and Communication section of this document. Additional contacts will be provided by the Project Manager as required.

PM Name	Project Manager	xxx-xxx-xxxx
Joshua Spear	Director of Planning, Design, & Construction	928-523-6404
Stephanie Bauer	Associate Vice President, Facility Services	928-523-3839
Jeffrey Young	NAU Fire Marshal	928-523-1873
Warren Clifford	Building Official	928-523-9236
NAU ITS	Information Technology Services	928-523-3335
Sarah Ells	Associate Vice President, EH&S	928-523-3961
NAU PD	NAU Police Department	928-523-3611
Work Control Center	Inspections	928-523-4227

4.7.2. Program Development Subphase Submittal - The DP shall provide services/deliverables as follows: [INSTRUCTION TO DRAFTER - EDIT 4.7.2 TO REFLECT PROJECT REQUIREMENTS.]

4.7.2.1 The DP shall review the Project Criteria to ascertain the basic requirements for the Project including but not limited to the following criteria:

a) identified units of facility need;
b) projected enrollment or activity;
c) references to relevant standards appropriate to comparable institutions;
d) discussion of locational determinants;
e) projected utilization for any classrooms or teaching laboratories;
f) estimated net-to-gross ratios; and
g) specified special physical requirements affecting cost.

4.7.2.2 After reviewing the Project Criteria, the DP shall meet with the Owner and identified facilities users to gain an in depth understanding of Project needs and provide initial feedback to all attendees.

4.7.2.3 The Project Program shall consist of a detailed written report on the following subject matter:

a) Required size, use, occupancy, and furnishings/equipment requirements of all spaces.
b) Required relationships of spaces to other spaces.
c) Required utility services for all spaces and investigations into available utilities.
d) Environmental requirements of all spaces.
e) Traffic/circulation requirements within and without the building. Building service requirements.
f) Tabulation of all net assignable areas.
g) Explanation of probable non-assignable required areas.
h) Calculation of probable gross buildings area(s).
i) Code analysis. Describe all area separations, occupancy separations, compartmentation, fire-rated construction requirements, hazard classifications, exiting requirements, general code provisions, and project-specific provisions. Include diagrams describing these issues as applied to the specific project design.
j) Site analysis, including utilities, circulation, service, orientation, adjacent structures, etc.
k) Energy Model for base and alternate building orientation and building envelope materials.
l) Storm Water Management Analysis and Plan.
m) Proposed LEED Score card for the Design (LEED Silver minimum requirement).
n) Life Cycle Cost Analysis for base and alternate design building envelope materials.
o) Life Cycle Cost Analysis for base and alternate design Mechanical / Electrical / Plumbing Systems.
p) Total Cost of Ownership Analysis, based on the Statement of Probable Construction Cost and Life Cycle Cost Analyses;
q) Review of CM@Risk Value Analysis, Constructability and Bidability submissions.
r) Provide budget estimates of FF&E.

4.7.2.4 Provide an estimate of Probable Construction Cost, ASPE "Level One". Assist the Owner in the analysis of the probable cost of the Project, based upon unit costs and/or systems involved, and make mutually agreed changes to the design concept to maintain the cost of the Project within the established budget. The DP shall reconcile the estimate of Probable Construction Cost for the work defined above with the estimate of Construction Costs as developed by the CM@Risk for the work defined above and with the amount within Owner's Project Budget available for costs of construction Work. This reconciliation shall provide an estimate within Owner's Project Budget available for costs of construction Work before the Conceptual Design Subphase as defined below may begin. Design Professional and CM@Risk shall reconcile their Cost estimates with each other and the Owner not later than (7) days after the completion of CM@Risk's estimate or receipt of Design

Professional's estimate to assure the Owner that the project cost is within the designated budget.

4.7.3 Conceptual Design Development Subphase Submittal - The DP shall provide services/deliverables as follows: [INSTRUCTION TO DRAFTER - EDIT 4.7.3 TO REFLECT PROJECT REQUIREMENTS.]

4.7.3.1 A minimum of three distinctly different concepts shall be presented to the Owner before proceeding with final schematic documents. These concepts are to communicate site, functional and massing relationships. The concepts may be presented in diagrammatic form.

4.7.3.2 Include with each concept the approximate net assignable to gross area efficiency factors.

4.7.3.3 Include with each concept a code analysis. Describe all area separations, occupancy separations, compartmentation, fire-rated construction requirements, hazard classifications, exiting requirements, general code provisions, and project-specific provisions. Include diagrams describing these issues as applied to the specific project design.

4.7.3.4 Include with each concept a Probable Construction Cost estimate, "ASPE Level Two". The DP shall reconcile the estimate of Probable Construction Cost for the work defined above with the estimate of Construction Costs as developed by the CM@Risk for the work defined above and with the amount within Owner's Project Budget available for costs of construction Work. This reconciliation shall provide an estimate within Owner's Project Budget available for costs of construction Work before the Conceptual Design Subphase as defined below may begin. DP and CM@Risk shall reconcile their Cost estimates with each other and the Owner not later than (7) days after the completion of CM@Risk's estimate or receipt of DP's estimate to assure the Owner that the project cost is within the designated budget.

4.7.3.5 Include with each concept a Total Cost of Ownership Analysis.

4.7.4. Schematic Design Subphase Submittal - The DP shall provide services/deliverables as follows: [INSTRUCTION TO DRAFTER - EDIT 4.7.4 TO REFLECT PROJECT REQUIREMENTS.]

4.7.4.1 The DP shall review the Project Program with the Owner and the CM@Risk, solicit and receive comments and recommendations from the CM@Risk and the Owner, confirm the Owner's and the CM@Risk's understanding of the subject matter, determine any additional, modified or alternative requirements, and obtain the Owner's approval.

4.7.4.2 The DP shall provide the Owner with a preliminary evaluation of the requirements of the Project based on the Owner's budget.

4.7.4.3 The DP shall review with the Owner and the CM@Risk alternate methods and approaches to the design and construction of the Project and recommend the approach and jointly

decide with the Owner and the CM@Risk the method best suited to the Owner's requirements and the Project.

4.7.4.4 The Owner shall select and employ a competent surveyor or engineer, to provide all necessary surveys and soils reports, and shall provide survey or soils reports to the DP.

4.7.4.5 Based upon the Project Program, the discussions with the Owner and the CM@Risk, the amount within the Owner's Program Budget available for costs of the construction Work, the surveys and the soils reports, the DP shall prepare Schematic Design Documents which will consist of drawings and other documents depicting the scale and relationship of Project components, for review with the Owner and the CM@Risk and for the Owner's approval.

4.7.4.6 The Schematic Design Documents shall consist of at least the following:

a) Preliminary site plan (1" = 20'-0") showing walks, parking drives, landscaped areas, drainage, retention and detention areas.
b) Site survey. [INSTRUCTION TO DRAFTER – DETERMINE IF BY OWNER OR BY DP.]
c) Soil boring data & consultant's foundation recommendations. [INSTRUCTION TO DRAFTER – DETERMINE IF BY OWNER OR BY DP.]
d) Schematic floor plans, 1/4" = 1'-0".
    1) New work, all floor levels including walls, doors, windows, equipment, furniture, location of plumbing fixtures, and structural grid.
    2) Remodeled areas of existing buildings, if any, including demolition.
    3) Existing building drawings for remodeled areas.
e) Reflected ceiling plan (if any special or unique features).
f) Exterior elevations, showing mechanical equipment.
g) Diagrammatic building sections, each direction through building with structure indicated.
h) Typical wall sections to show materials, relationships, and construction intent, including structure.
i) Room materials list and equipment outline.
j) Narrative of design rationale, code analysis, design load assumptions, and proposed structural systems together with justification of selected system.
k) Narrative of design rationale and demand assumptions, and descriptions of proposed mechanical system(s), electrical system(s), landscape irrigation system(s), and special system(s).
l) Preliminary mechanical equipment room layouts (major equipment only).
m) Preliminary one-line HVAC duct layouts and/or preliminary

mechanical piping diagram including preliminary size and location of connection to utility supply.

n) Plumbing water and sewer main sizing with point of connection to public systems.

o) Fire protection hazard classification of system and preliminary size of supply main and identification of source location.

p) Preliminary one-line electrical distribution diagrams with preliminary load and service sources identified.

q) Preliminary Draft of Project Manual including outline specifications.

r) Code analysis. Describe all area separations, occupancy separations, compartmentation, fire-rated construction requirements, hazard classifications, exiting requirements, general code provisions, and project-specific provisions. Include diagrams describing these issues as applied to the specific project design.

s) Structural, mechanical, electrical, and other calculations used by the DP as a basis for design, appropriate to the Schematic Design level.

t) Net assignable and gross area calculations, in conformance with Owner definitions for each category and functional group of space.

u) Schematic presentation shall include a rough model, and sketch perspectives of both the exterior and major interior features.

v) Communications and data transmission system infrastructure.

w) Energy Model for base and alternate building orientation and building envelope materials.

x) Storm Water Management Analysis and Plan.

y) Proposed LEED Score card for the Design (LEED Silver minimum requirement) – shall include checklist and strategy.

z) Life Cycle Cost Analysis for base and alternate design building envelop materials.

aa) Life Cycle Cost Analysis for base and alternate design Mechanical / Electrical / Plumbing Systems.

bb) Total Cost of Ownership Analysis, based on the Statement of Probable Construction Cost and Life Cycle Cost Analyses.

cc) Review of CM@Risk Value Analysis, Constructability and Bidability submission.

dd) Provide budget estimates of FF&E.

4.7.4.7 Provide an estimate of Probable Construction Cost, "ASPE Level Three" based on the foregoing, with area breakdowns (net and gross) and analysis. The DP shall reconcile the estimate of Probable Construction Cost for the work defined above with the estimate of Construction Costs as developed by the CM@Risk for the work defined above and with the amount within Owner's Project Budget available for costs of construction Work. This reconciliation shall provide an estimate within Owner's Project Budget available for costs of construction Work before the Design Development Subphase as defined below may begin. DP and CM@Risk shall reconcile their Cost estimates with each other and the Owner not later than (7) days after the completion of CM@Risk's

estimate or receipt of DP's estimate to assure the Owner that the project cost is within the designated budget.

4.7.5 Design Development Subphase Submittal - The DP shall provide services/deliverables as follows: [INSTRUCTION TO DRAFTER - EDIT 4.7.5 TO REFLECT PROJECT REQUIREMENTS.]

4.7.5.1 Based on the Schematic Design Documents and any amendments approved by the Owner in the Program or the Project Budget, the DP shall prepare Design Development Documents for review with the Owner and the CM@Risk and for the Owner's approval, consisting of drawings and other documents to delineate, and define the general design of the entire Project, including size and character as to architectural, structural, mechanical and electrical systems, materials, and any other Project elements as may be appropriate.

4.7.5.2 The Design Development Phase Documents shall consist of at least the following:

a) Site survey and annotated site survey showing items for demolition, removal or relocation.
b) Site Plan:
    1) Contours/grading
    2) Paving, sidewalk, curb, fence, parking, and other site improvements (showing location and overall dimensions)
    3) Retaining walls
    4) Notation of existing memorial trees, plaques and any other marked items
c) Landscape plan:
    1) Planting plan.
    2) Plant materials schedule.
    3) Point of connection for power and water, and demand for each
d) Seismic Analysis based on IBC Code Requirements.
e) Foundation plans:
    1) Footing and foundation sizes, reinforcing, elevations
    2) Below grade concrete wall thickness
    3) Waterproofing, dampproofing, and drainage
f) Structural framing plans:
    1) Horizontal and vertical member size, sample reinforcing
    2) Typical floor and roof details, thickness
    3) Typical exterior wall supports, bracing, ties, reinforcing
    4) Lateral bracing methods, location
    5) Fireproofing - NFPA designation
    6) Vibration isolation or other special details
    7) Design live and dead loads tabulated for all floors, areas, roofs
g) Exterior wall elevations, all planes.

h) Typical wall sections.
i) Typical roofing and flashing details.
j) Floor plans, all levels and roofs:
    1) Partition type identification
    2) Smoke and fire compartmentation
    3) Built-ins and fixed equipment shown and noted
    4) 1/4" scale furniture and movable equipment layouts, for ALL spaces
k) Reflected ceiling plan:
    1) Lights, diffusers, grilles, sprinkler heads and unusual conditions
l) Stair and elevator details and types.
m) Room finish and door schedules for all areas/spaces.
n) Miscellaneous specialties and equipment schedule.
o) Fixed equipment schedule, locations, and service requirements.
p) Plumbing systems:
    1) Fixture schedule, locations
    2) Equipment schedule, locations
    3) Water piping, locations (sizes for pipes larger than 1")
    4) Waste piping, locations (sizes for pipes larger than 4")
q) Roof drainage system, locations, and key sizes.
r) Fire protection systems:
    1) Location of check valves, building entrance, riser and drain
    2) Provide system performance design criteria
s) Mechanical systems:
    1) Equipment schedule, locations, sizes, types
    2) Chilled, condenser, hot water, steam, and condensate piping systems, locations, riser diagrams
    3) Supply, return, and exhaust duct layout
t) HVAC piping, locations, and sizes for pipes larger than 1"
u) Power distribution diagram:
    1) Power distribution equipment schedule, locations
    2) Feeder sizes
    3) Emergency generator size, location
    4) Uninterruptible power supply equipment size and location, if required
    5) Grounding, standard details
    6) Load calculations
v) Interior electrical plans:
    1) Fixture and switch locations with identification
    2) Typical receptacle and power outlet locations
    3) Special requirements noted
w) Motor control schedule with starter and circuit sizing.
x) Communication, data transmission and alarm systems.

y) Current update of Project Manual including Project specifications .
z) Code analysis. Describe all area separations, occupancy separations, compartmentation, fire-rated construction requirements, hazard classifications, exiting requirements, general code provisions, and project-specific provisions. Include diagrams describing these issues as applied to the specific project design.
aa) Structural, mechanical, electrical, and other calculations used by the DP as a basis for design, appropriate to the Design Development level.
bb) Net assignable and gross area calculations, in conformance with Owner definitions for each category and functional group of space.
cc) Materials and color boards, exterior and interior.
dd) Cut sheets of all plumbing, mechanical, electrical, and other special fixtures and equipment.
ee) Energy Model for base and alternate building orientation and building envelope materials.
ff) Storm Water Management Analysis and Plan.
gg) Proposed LEED Score card for the Design (LEED Silver minimum requirement) – shall include checklist and strategy.
hh) Life Cycle Cost Analysis for base and alternate design building envelop materials.
ii) Life Cycle Cost Analysis for base and alternate design Mechanical / Electrical / Plumbing Systems.
jj) Total Cost of Ownership Analysis, based on the Statement of Probable Construction Cost and Life Cycle Cost Analyses.
kk) Preliminary SWPPP, regardless of site size.
ll) Review of CM@Risk Value Analysis, Constructability and Bidability submissions.
mm) Provide budget estimates of FF&E.

4.7.5.3 The DP shall work in a collaborative manner with the CM@Risk in developing items defined above

4.7.5.4 Provide an estimate of Probable Construction Cost, "ASPE Level Four", for the Design Development Subphase, including all proposed optional price items and cash allowances. The DP shall reconcile the DP's estimate of Probable Construction Cost for the work defined above with the estimate of Construction Costs as developed by the CM@Risk for the work defined above and with the amount within Owner's Project Budget available for costs of the construction Work. This reconciliation shall provide an estimate within Owner's Project Budget available for construction Work before the Construction Documents Subphase as defined below may begin. DP and CM@Risk shall reconcile their Cost estimates with each other and the Owner not later than (7) days after the completion of CM@Risk's estimate or receipt of DP's estimate to assure the Owner that the project cost is within the designated budget. No additional services expenses will be charged to the Owner by the DP to reconcile the CM@Risk's estimate and DP's estimate to within a difference of less than

5%. Efforts to reconcile the CM@Risk's estimate and DP's estimate to within a difference of less than 5% shall not be considered an acceptable Project delay by the Owner.

4.7.6 GMP-Setting Subphase Submittal - The DP shall provide services/deliverables as follows: [INSTRUCTION TO DRAFTER - EDIT 4.7.6 TO REFLECT PROJECT REQUIREMENTS.]

4.7.6.1 The Owner, with advice from the DP and CM@R, will establish the point in the development of the design and the corresponding Probable Construction Cost that the GMP will be established. The DP will provide a set of Design Documents and specifications that represent the current state of design for the project and that the CM@Risk will use to establish the GMP. This GMP-Setting Subphase Submittal shall address the list of deliverables described in the [Design Development] [OR] [Construction Documents] Subphase Submittal. It is anticipated that the GMP-Setting Subphase Submittal will be delivered during the [Design Development] [OR] [Construction Documents] Subphase.
[INSTRUCTION TO DRAFTER – INSERT EITHER DESIGN DEVELOPMENT" OR "CONSTRUCTION DOCUMETNS] IN 4.7.6.1.

4.7.6.2 The DP shall respond to questions and provide design document clarification to the Owner and the CM@Risk as required to ensure accurate GMP assumptions. The DP shall participate in a GMP-Setting coordination meeting with the CM@Risk, and shall validate or identify inconsistencies within the CM@Risk's set of GMP Assumptions.

4.7.6.3 The DP shall prepare additional supplementary instructions (ASIs) as required and shall follow Owner's procedure for providing ASI documentation in PMWeb.

4.7.6.4 Provide an estimate of Probable Construction Cost, "ASPE Level Five", for the GMP Setting Documents, including all proposed optional price items and cash allowances. The DP shall reconcile the DP's estimate of Probable Construction Cost for the work defined above with the Guaranteed Maximum Price (GMP) as developed by the CM@Risk for the work defined in the GMP-Setting Documents and with the amount within Owner's Project Budget available for costs of the construction Work. No additional services expenses will be charged to the Owner by the DP to reconcile the CM@Risk's estimate and DP's estimate to within a difference of less than 5%. Efforts to reconcile the CM@Risk's estimate and DP's estimate to within a difference of less than 5% shall not be considered an acceptable Project delay by the Owner.

4.7.6.5 If the Work is intended to be done in Phases with Multiple Bid Packages and some Phases are intended to start after the GMP is established but before all of the Construction Documents are complete, the DP's stamp shall be affixed to the documents for those initial Phases of the Work only after Owner review and incorporation of all final comments.

4.7.6.7 Permits are required as follows:

DP shall submit all required drawings and obtain all required permits from the NAU

Fire Marshal and Building Official. University shall pay for all required permits.

4.7.7 Construction Documents Subphase Submittal - The DP shall provide services/deliverables as follows: [INSTRUCTION TO DRAFTER - EDIT 4.7.7 TO REFLECT PROJECT REQUIREMENTS.]

4.7.7.1 Based upon the approved Design Development Documents (DDs) and any further amendments of any kind approved by the Owner, the DP shall prepare detailed Construction Documents (CDs) setting forth the requirements for the construction of the entire Project, including complete Bid Documents, Drawings, Specifications and a revised estimate of Probable Construction Cost. The DP must be aware of, and conform with, the order of precedence provisions contained in the CM@Risk Agreement except as provided in this Paragraph. The Construction Documents are subject to review and approval by the Owner. The Construction Documents shall consist of at least the following:

4.7.7.2 The DP shall provide fully updated versions of the deliverable documents listed in the Design Development Subphase Submittal list, reflecting 100% complete drawings, checked and coordinated with all sub-consultants and Owner consultants.

4.7.7.3 Specifications.

a) All sections complete and edited project specific.
b) Written descriptions of all options (alternates) allowances, unit prices, and special construction scheduling requirements.
c) Table of contents for technical sections.
d) Schedule of drawings.

4.7.7.4 Final code analysis. Describe all area separations, occupancy separations, compartmentation, fire-rated construction requirements, hazard classifications, exiting requirements, general code provisions, and project-specific provisions. Include diagrams describing these issues as applied to the specific project design.

4.7.7.5 Final structural, mechanical, electrical, acoustical, vibration, lighting and other calculations used by the Design Professional as a basis for design.

4.7.7.6 Cut sheets for final selection of all equipment.

4.7.7.7 Final material and color boards.

4.7.7.8 Net assignable and gross area calculations, in conformance with Owner definitions for each category and functional group of space.

4.7.7.9 Final Submittal shall include all bidding documents, ready for reproduction, with all final comments from the Construction Documents submittal resolved.

4.7.7.10 DP's stamp shall be affixed to documents only after Owner review of the Construction Documents submittal and incorporation of all final comments.

4.7.7.11 Master plan/expansion information to inform future project planning teams.

4.7.7.12 Provide an estimate of Probable Construction Cost, "Level Five", for the Construction Documents phase, including all proposed optional price items and cash allowances. The DP shall reconcile the DP's estimate of Probable Construction Cost for the work defined above with the Guaranteed Maximum Price (GMP) as developed by the CM@Risk for the work defined above and with the amount within Owner's Project Budget available for costs of the construction Work.

4.7.7.13 Permits are required as follows:

DP shall submit all required drawings for plan review and obtain all required permits from the NAU Building Official and NAU Fire Marshal, in conjunction with the CM@Risk.

4.8 Construction Phase Services and Documents.

4.8.1 Construction Administration Subphase.

4.8.1.1 Although activities in the Design Phase will not be complete and although the Design Phase will not end until the Design Phase activities are complete, the Construction Administration subphase (CA) shall commence with the Owner's acceptance of the final GMP and issuance of a Notice-to-Proceed with Construction or, if the Owner elects to proceed on a different delivery method determined by the Owner, award of the construction contract.

4.8.1.2 The DP shall review the CM@Risk project schedule submittal which reflects Project completion. CM@Risk shall continue to revise and submit said schedule until it is satisfactory in form to DP and acceptable to Owner.

4.8.1.3 Intentionally Omitted.

4.8.1.4 The DP shall have authority to act on behalf of the Owner only to the extent provided in this DP Agreement and the CM@Risk Agreement, unless otherwise agreed in writing. The DP shall not have control or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, for the acts and/or omissions of the CM@Risk, any contractor, any Subcontractor, or any other persons performing any of the Work.

4.8.1.5 At or near the commencement of the Construction Administration subphase, the Owner, CM@Risk and the DP will promptly schedule a Pre-Construction meeting to establish procedures for the Construction Phase of the Work, including, among other matters, expected handling of submittals and Owner Site activities schedules. In addition, the meeting shall include, but not be

limited to, discussions of key contract provisions, unresolved schedule coordination concerns, procedures for paperwork processes, inspections, and acceleration of work and any other items of importance based on the Project's specific attributes and goals.

4.8.1.6 The DP shall attend progress meetings, to address and resolve such matters as procedures, scheduling problems, work deficiencies, submittals, Requests For Information (RFI's), and/or other matters relating to the completion of the Project in accordance with the Construction Documents and the Section 4.8.1.2 progress schedule. Special meetings shall be held as requested by the Owner or deemed necessary by the DP. Written minutes shall be distributed to all attendees within two (2) business days after each regular meeting and any special meeting in accordance with the "Meetings and Communication" section of "Exhibit A - Scope of Services for Design Professional".

4.8.1.7 Upon receipt, the DP shall review the proposed Schedule of Values submitted by the CM@Risk, and promptly provide a written evaluation to the Owner with appropriate comments.

4.8.1.8 The DP shall make visits to the site at least once a week to be knowledgeable about the progress and quality of the Work and to determine if the Work is proceeding in accordance with the construction schedule and particularly the Project schedule set forth in section 2.3.1.2. On the basis of these on-site observations, the DP shall keep the Owner informed of the progress of the Work. Field administration and observation of the Work shall include the DP's Subconsultants. The DP shall require each Subconsultant to provide such field administration and observation as required.

4.8.1.9 Weekly Progress Reports, including an analysis of the quality, and progress of the Work and anticipated delays, shall be submitted by the DP to the Owner during the Construction Administration subphase. DP shall immediately advise the CM@Risk of any anticipated delays reported to Owner. All reports shall be based on the personal first hand observations by DP, its staff, and its Subconsultants. DP shall also review the CM@Risk's Monthly Status Reports to further inform the DP's Weekly Progress Reports to the Owner.

4.8.1.10 Using the Schedule of Values and based on the CM@Risk's progress payment applications in hand, the DP shall determine the progress amounts payable to the CM@Risk and shall certify progress for payments within seven (7) days after receipt of the CM@Risk's Payment Applications. Certificates for Payment will be issued only for Work that has actually been performed in accordance with the Construction Documents. Within seven (7) days after receipt of the CM@Risk's Payment Applications, the DP shall specify in writing to Owner any reasons for withholding Certificates for Payment, in full or in part, as set forth in the CM@Risk Agreement. Owner, along with the DP, will concurrently review CM@Risk's Payment Application and make final determination on withholding Certificates for Payment, in full or in part of Payment Applications.

4.8.1.11 The DP shall interpret the requirements of the Construction Documents. The DP shall render written interpretations within xxxx (x) calendar days of receipt of any written request from the Owner or the CM@Risk. The interpretations shall be consistent with the intent of and reasonably inferable from the Construction Documents. The DP shall review RFIs submitted by the CM@Risk. Submissions of RFIs by the CM@Risk shall be acted on and returned to CM@Risk within

xxxx (x) calendar days of receipt.

4.8.1.12 Within xxxx (x) calendar days following receipt of written notice of a claim or controversy between the Owner and the CM@Risk, the DP shall either request additional information from the Owner and/or CM@Risk regarding their position on the claim or issue an initial written determination. If the DP requests additional information as set forth herein, the DP shall issue an initial written determination within xxxx (x) calendar days after the DP receipt of such information.

4.8.1.13 The DP shall review and approve submittals, shop drawings, product data, samples, other required submissions of the CM@Risk. Such submissions shall be approved only if they are in conformance with the design concept of the Project and in full compliance with Construction Documents. Submissions of CM@Risk shall be acted on and returned to CM@Risk within no later than xxxx (x) days of receipt. If review and approval are not timely, the DP shall immediately notify the CM@Risk and the Owner in writing stating the reason for the delay. Resubmittal shall be acted on and returned to the CM@Risk within xxxx (x) days, except on complex submittals with significant deficiencies, wherein the submittal turnaround time shall be within xxxx (x) days.

Each Submittal and Shop Drawing from the CM@Risk must be accompanied by a transmittal letter containing a list of the titles and numbers of the Shop Drawings. Each series shall be numbered consecutively for ready reference. Each Submittal and Shop Drawing shall be marked with the following information:

a) Date of Submission
b) Name of Project
c) Location of Project
d) Branch of Work (Specification Section)
e) Project Number
f) Name of Submitting CM@Risk
g) Name of Subcontractors
h) Revision Number

Submittals identified by Owner shall be submitted to Owner for its review concurrent with review of same by DP. During Construction Phase CM@Risk shall promptly provide Owner with an electronic copy of all approved submittals.

4.8.1.14 The DP shall promptly review and analyze all requests for Change Orders or Amendments including any documents offered to substantiate such requests. The DP shall fully evaluate the merit and requested costs related to each Change Order Request, submit timely written recommendations to the Owner and assist the Owner in negotiations of those Change Orders. DP shall indicate concurrence within xxxx (x) days by written signature on all final Change Orders or Amendments to CM@Risk Agreement. DP shall perform the foregoing for Contingency Use Authorizations and Allowance Use Authorizations, if requested by Owner.

4.8.1.15 The DP shall not direct changes to the Work without prior written consent of the Owner. The DP may approve and direct minor changes in the Work provided those changes do not affect the project schedule or the GMP, and shall inform the Owner in writing in advance of such approvals or directions. Only the Owner may modify project schedule or make any changes that financially affect the Project.

4.8.1.16 The DP shall reject Work which, in the DP's opinion, does not conform to the Construction Documents, including applicable codes, statutes, or local or national standards, and shall notify the Owner and CM@Risk of the reasons for rejection. Prior to ordering or directing any special inspections or testing to confirm conformity of Work to the Construction Documents, the DP must obtain prior written approval of the Owner. The DP has authority to direct the CM@Risk to uncover portions of the Work, as provided in the General Conditions to the CM@Risk Agreement.

4.8.1.17 The DP shall notify the Owner if the CM@Risk refuses or fails to prosecute Work, or any part thereof, with such diligence as will ensure its completion within the project schedule or fails to complete the Work within the project schedule, or refuses to correct defective Work, the DP shall immediately notify the Owner upon the DP becoming aware of the situation and the DP shall promptly consult with the Owner to resolve design issues, if any, involved in the situation reported on.

4.8.1.18 The DP shall perform all other responsibilities necessary to carry out the general intent and specific provisions of this DP Agreement and to fulfill the DP's role under the CM@Risk Agreement or to obtain the full compliance by the CM@Risk with the CM@Risk Agreement.

4.8.1.19 The extent of the duties, responsibilities and limitations of authority of the DP as a representative of the Owner as defined herein shall not be modified or extended after the date of this DP Agreement without the written consent of the Owner.

4.8.2 Closeout Subphase.

4.8.2.1 DP shall give Owner its best advice as to scheduling of a date for a pre-closeout meeting and participate in such pre-closeout meeting.

4.8.2.2 DP shall promptly review all closeout documents provided by CM@Risk and will advise Owner within seven (7) days of deficiencies ascertained, if any.

4.8.2.3 DP shall promptly review As-Builts provided by CM@Risk for accuracy and will note any changes required in writing. With respect to any changes or corrections in the Work which are made subsequent to Substantial Completion, such revisions shall be submitted to the DP for approval prior to Final Payment to CM@Risk taking place. DP shall deliver Record Drawing/As-Built Drawings documents to Owner as soon as possible upon completion of construction. Final payment will be withheld until final documentation has been received, reviewed and approved by the Owner.

4.8.2.4 When the CM@Risk determines the Work, or a portion or segment of the Work, which the Owner wants to accept separately and make use of, and agrees in writing to do so, is Substantially Complete, the CM@Risk shall notify the Owner and the DP, and submit to the Owner and DP a comprehensive list of items to be completed or corrected as to the Work. Within five (5) business days of receipt of the CM@Risk's notice and list, the Owner, the DP and CM@Risk will jointly make an inspection of the Project to determine whether Substantial Completion has in fact occurred. If it is determined by the Owner that the Work, or the relevant portion thereof, is Substantially Complete, the Owner with the assistance of the DP shall issue the Certificate of Substantial Completion, with attached Punch List generated by the DP, stating the date of Substantial Completion. The Certificate of Substantial Completion shall be executed by the Owner, the DP and the CM@Risk. The CM@Risk shall thereupon proceed promptly to complete or correct Punch List items.

4.8.2.5 DP shall promptly review CM@Risk Operation and Maintenance manual(s) for completeness.

4.8.2.6 DP shall promptly provide a sealed record drawings set incorporating CM@Risk's "As-Builts". DP shall provide professional services to transfer the CM@Risk-supplied as-built information to the original Construction Documents for a final set of record drawings per the requirements in "Attachment 2 – 'As-Built' and 'Record Drawings' Requirements" for Northern Arizona University.

4.8.2.7 Upon notification by the Owner, the DP shall conduct inspections to determine the dates of Substantial Completion and Final Completion, and issue the Certificate for Final Payment, if and as appropriate. The DP shall also assemble and transmit to the Owner a submittal consisting of all manuals, warranties, "As-Built" drawings, "Record Drawings", spares, and other items to be furnished by the CM@Risk under the Contract Documents, and certify to the Owner that the submitted package is complete, correct, and appropriate for the items therein represented.

4.8.2.8 Prior to Final Payment to the CM@Risk, the DP shall review all outstanding claims which have not been settled and shall prepare a written report outlining the background and status of all such claims, including the details of DP's analysis to date, and making recommendations as to the ultimate disposition of each such claim.

4.8.2.9 If the Owner furnishes keys to the DP to provide access to Owner's property, the DP shall assure that no such keys are duplicated, and shall return all such keys upon request of the Owner or prior to receipt of final payment, whichever is earlier. If the DP fails to return all keys furnished to it, the DP shall be responsible for and shall pay all costs (including materials and labor of Owner's personnel or others) associated with rekeying (removal of tumblers and insertion of new tumblers) or replacement of old locks which could be opened with keys furnished to the DP, and the parties agree that such cost may be deducted in full or in part from any funds remaining to be paid under the terms of this DP Agreement with any balance due immediately from the DP to the Owner.

4.8.3 CM@Risk Warranty Subphase.

4.8.3.1 The DP shall participate in a Warranty-Walk-through with the CM@Risk and the Owner at a date ten (10) months after the Date of Substantial Completion.

4.8.3.2 The DP shall coordinate with the MEP Testing and Balancing contractor and Commissioning Consultant.

4.8.3.3 The DP shall participate in a Warranty-Walk-through with the CM@Risk and the Owner at a date twenty-two (22) months after the Date of Substantial Completion.

Section 5 Fee Proposal and Contract Management

5.1 Professional Fees.

5.1.1 See Standard Form Agreement Between Owner and Design Professional (Construction Manager at Risk Edition) - Article 6 and "Exhibit B – Schedule of Payments" for specific information.

5.1.1.1 The proposal for DP services includes the requirements for all services described in the Standard Form Agreement Between Owner and Design Professional (Construction Manager at Risk Edition), and this "Exhibit A - Scope of Services for Design Professional"**.** The DP shall provide individual fees for the following Subphases: Program Development, Conceptual Design, Schematic Design, Design Development, GMP-Setting Documents, Construction Documents, Construction Administration, Closeout and Warranty Subphases as required in "Exhibit B – Schedule of Payments".

5.1.1.2 The DP proposal shall be provided in a format acceptable to the Owner.

5.1.1.3 "Exhibit C – DP Proposal" shall include a fee schedule to list hourly rates for prime and sub consultants, for principals and staff, as a basis for additional services, if required. (Note: Additional services must have prior written approval by Northern Arizona University.

5.1.2 DP shall clearly identify all Subconsultants performing work for this Project in the Fee Proposal. Any Subconsultants not originally identified in the Statement of Qualifications submittal resulting from the Owner's RFQ shall be submitted to the Owner for review and will be included in the project team only upon written approval of the Owner.

5.1.3 Reimbursable Expenses. See Standard Form Agreement Between Owner and Design Professional (Construction Manager at Risk Edition) - Article 4.

5.1.4 Invoices.

NAU: All invoices should be submitted on the NAU standard form FS #98 – Design Professional Pay Application with Continuation Sheet, located under "Forms" at https://in.nau.edu/facility-services/pdc/pdc-forms. All charges

must be detailed using the Continuation Sheet. Additionally, all charges must have appropriate back-up documentation, including but not limited to, completed deliverables, sub-consultant invoices, receipts for reimbursables, and hourly labor rate breakouts.

All invoices must be submitted directly to Facility Services. An e-mailed submission of the payment application is preferred, with all copies sent directly to Shawna Unale at shawna.unale@nau.edu with a copy to the project manager. Should a hard copy need to be sent, it can be sent to the below address:

Northern Arizona University
c/o Shawna Unale
PO Box 5637
Flagstaff, AZ 86011

ATTACHMENT 1

CONSTRUCTION DRAWINGS REQUIREMENTS FOR NORTHERN ARIZONA UNIVERSITY

The intent of the following drawing standards is to provide a set of documents that are consistent with the needs of Northern Arizona University for both current and future construction, and which are consistent from one project to another.

TITLE BLOCKS

The title block should be placed in paper scale, with its insertion point inserted at a coordinate location of (0, 0, 0), and at a scale of 1:1. Depending on the purpose of the drawing, whether it is for facility documentation or construction, the drawing's title block should contain certain essential information that FS needs, to store and retrieve each drawing in its library.

Project Information

- Project Number - assigned by the FS Planning and Development Department
- Project Name - assigned by the FS Planning and Development Department
- Firm Name - representing the drawing author
- Building Name and Building Number - specify only if the project name does not include this information already, and the project is building specific.

Drawing Information

- Drawing Title - indicating the drawing content, e.g. floor plan, section, detail, etc.
- FS Project Number – shall be referenced on all sheets
- Drawing Number
- Date of Drawing – original drawing date including significant revision dates
- Drawing Scale – representing the intended plot of the drawing with title block
- North Arrow
- Electronic File Name and Effective Date

TEXT

- Text size must be legible and appropriate to the graphic information presented and the intended plotted scale of the drawing. Text must be in all uppercase letters throughout the drawing.
- Text usually should not touch other graphic objects and must be placed with enough space around it to be legible when the drawing is plotted and reproduced.

STANDARD SHEET SIZES AND FORMATS

All sheet sizes are to be limited to four standard formats. Required sheet size is specific to each project and is under the discretion of the University. They are as follows:

- A Sized Plot 8 /1/2" x 11"

- B Sized Plot 11” x 17”
- D Sized Plot 24” x 36” (preferred format)
- E 1 Sized Plot 30” x 42”

ELECTRONIC FILE FORMAT

The content of electronic drawings must match the delivered original hard copy set. To ensure the integrity of the electronic drawing set upon delivery the FS:

- Facility documentation drawings and construction project drawings must be submitted to FS in full compliance with AutoCAD software (file extension = .DWG)
- Northern Arizona University shall not accept any drawings in the Drawing Interchange Format (DXF) or any other format than DWG. If any drawing translators are used prior to submittal, the results of such translation shall be 100% complete. It is the responsibility of the Design Professional to cross-check translated drawings for errors and omissions.
- All AutoCAD files shall have a “word file” associated with it. The world file shall have the required coordinate and projection system. This will allow for easier conversion of CAD files into FS GIS System.
    - Spatial Reference Information
        - Projection:
          NAD_1983_StatePlane_Arizona_Central_FIPS_0202_Feet
          Projection: Transverse_Mercator
          False_Easting: 699998.600000
          False_Northing: 0.000000
          Central_Meridian: -111.916667
          Scale_Factor: 0.999900
          Latitude_Of_Origin: 31.000000
          Linear Unit: Foot_US (0.304801)

        - Geographic Coordinate System:
          Geographic Coordinate System: GCS_North_American_1983
          Angular Unit: Degree (0.0174532925199433299)
          Prime Meridian: Greenwich (0.000000000000000000)
          Datum: D_North_American_1983
          Spheroid: GRS_1980
          Semimajor Axis: 6378137.000000000000000000
          Semiminor Axis: 6356752.314140356100000000
          Inverse Flattening: 298.257222101000020000

As part of Basic Services, the DP will provide construction drawings in AutoCAD format on electronic media and in paper format on full-size sheets for all (but not limited to) architectural, mechanical, electrical, plumbing, roof and site plans. All plans of all disciplines are required to

complete the set of accepted deliverables.

The following is a list of the in-house drawing standards for NAU:

- All digital formats delivered on cd-rom.
- Formatted for Windows XP or newer.
- AutoCAD version 2010 or newer, version to be confirmed with NAU at time of submittal.
- All drawings are to be in full scale (1'-0"=1'-0"), on disk.
- **NO** uneditable blocks should be used when in-putting the drawing. This applies to user-defined blocks, and not the pre-defined blocks indigenous to AutoCAD.
- Layering conventions can be originally generated according to DP's in-house standards. For Site Utilities, use NAU's standard color coding (follow Blue Stake colors for identification of each utility type).
- Exterior elevations do not need to concur with any in-house drawing requirements. The DP's in-house standards are acceptable for Exterior Elevation documents.
- Use of the AIA layering standard will be accepted.
- Use of the National CAD Standard will be accepted.

I. Identification

A. Since more layers may be required for different disciplines, further definition is needed to describe that layer and may be added after the discipline identification.

B. Layering should be reduced to small amounts of graphic information.

II. Specific Drawings Required with Suggested Layers

A. Reflected Ceiling Plan

1. Ceiling grid on layer CEILGRID (white).
2. Light fixtures on layer FIXT (yellow).
3. Heating, Ventilation and Air Conditioning (HVAC) equipment on layer HVAC (cyan).
4. Smoke detectors, fire alarm equipment and exit signs on layer FIRE

(red).
5. Sprinkler systems on layer SPRINKLE (blue).
6. Special systems such as Public Address (PA), Audio, etc. on layer PA (magenta).

B. Mechanical Plan

1. Registers on layer REG (yellow).
2. Controls on layer CONTROL (cyan).
3. Diffusers on layer DIF (yellow).
4. Ductwork on layer DUCT (white).
5. Exhaust on layer EXH (green).
6. Vents on layer VENT (yellow).

C. Plumbing Plan

1. Hot water lines on layer HW (red).
2. Cold water lines on layer CW (blue).
3. Sewer on layer SWR (magenta).
4. Fixtures on layer FIXT (green).
5. All process piping on layers befitting material transported through pipe. All process piping layers in cyan [i.e. pipes carrying acids on layer ACID (cyan)].
6. Fire sprinkler lines on layer FIRESPR (yellow).

D. Electrical

1. Telecommunications on layer TELE (cyan).
2. Computer on layer COMP (cyan).
3. Fire Alarms on layer FAL (red).
4. All 120 V power on layer 120 (green).
5. All circuits greater than 120 V on layer 120PLUS (yellow).
6. Intercom on layer INTCOM (blue).
7. Switches and lighting fixtures on layer SX (white).
8. Special systems (including security systems) on layer SS (magenta).

E. Roof Plan

1. Roof drains, overflow drains, scuppers and slope lines on layer RDR (cyan).
2. Slope arrows on layer SLAR (white).
3. Roof vents on layer RVENT (red).
4. Plumbing and exhaust vents on layer PVENT (red).
5. Mechanical equipment on layer MECH (magenta).

6. HVAC on layer HVAC (magenta).
7. Skylights on layer SKLITE (yellow).
8. Walking surfaces on layer WALK (white).
9. Smoke Hatches on layer SMHATCH (blue).
10. Access Hatches on layer ACCHATCH (blue).
11. Antennae and other special equipment on layer SPEQ (green).

F. Site Utilities (Civil)

1. Electric on layer ELEC (red).
2. Telephone on layer TELE (orange).
3. Gas on layer GAS (yellow).
4. Water on layer H_2O (blue).
5. Storm/sewer on layer STRM (green).
6. Fire lines and hydrant locations on layer FIRE (blue).
7. Reclaimed water (purple).
8. Survey lines/ Easement (pink)
9. Steam
10. Hot Water
11. Chilled Water

G. Site

1. Buildings on layer BLDG (green).
2. Sidewalks on layer WALK (white).
3. Miscellaneous structures on layer MSTR (blue).
4. Walls and fences on layer FNCE (yellow).
5. Curb and gutter on layer C&G (cyan).
6. Irrigation on layer IRRI (blue).
7. Vegetation (including plants, trees, shrubs and *all* landscaping) on layer VEG (green).
8. Parking on layer PARK (yellow).
9. Site lighting on layer SITELITE (white).
10. Fountains and any special features on layer FNT (blue).

H. Survey (TOPO)

1. Property/Boundary lines on layer BOUND (cyan).
2. Easements on layer EASE (cyan).
3. Centerlines on layer CL (blue).
4. Index contours @ 10' increments on layer INDEX (yellow).
5. Intermediate contours @ 2' increments on layer INTER (magenta).
6. Spot elevations on layer SPOT (white).
7. Building footprints on layer BLDG (red).

8. Dimensions on layer DIM (white).
9. Other topographic features on layer TOPO (green).

I. The layers listed below are to be used for the Architectural Floor Plans, Structural Plans and Roof Plans as applicable. Enlargements of partial plans are not required.

1. Construction grids on layer KP_GRID (YELLOW).
   a. Including construction lines used to further define building elements (i.e., center lines, major axis lines). Lines of symmetry should be phantom linetype (magenta).
2. Columns on layer KP_COL (COLOR 144).
3. Exterior walls on layer KP_ EXT-WALL (COLOR 252).
   a. Exterior windows, walks and exterior features are to be COLOR 40.
4. Interior walls on layer KP_INT-WALL (COLOR 102).
   a. Interior windows, counters and interior features are to be COLOR 40.
5. All doors on KP_DOOR (COLOR 40).
6. Dimensions on layer DIM (YELLOW).
7. Stairs and elevators on layer KP_STAIR (COLOR 134).
   a. Includes ramps.
8. Lines, arrows and text showing direction of stairway (i.e., UP, DN) on layer KP_STAIRDIR (white).
9. Restroom fixtures, toilet partitions, sinks and drinking fountains on layer KP_BATH (COLOR 214).
10. Fire-Hose cabinets on layer KP_FHC (RED).
11. Room numbers on layer KP_RMNO (white) — per CPM 317.
12. Room use on layer KP_RMNAME (white).
13. Room Net Assignable Square Feet (NASF) on layer KP_SQFT (white) — per CPM 316.

SUBMITTAL REQUIREMENTS

- Ensure the drawings adhere to the guidelines presented in this document.
- Include a transmittal sheet (electronic and hard copy) with all submittals indicating the FS project number, project name and complete listing of all materials submitted, including file names and sheet numbers for each item included in the submittal. File names shall contain the sheet number they represent. This ensures the completeness of the drawing set and assists in archival procedures.
- Electronic data deliverables (.DWG and .PDF format) are required at all submittal stages.

- All submittal documentation forwarded to FS shall be submitted in a timely fashion, coinciding with the needs of the project and the FS Planning and Development Staff. The delivery of submittal documentation during various stages shall be timed appropriately to ensure FS receives the most accurate information available.
- Ensure the FS Project Number is located on all drawing sheets (including the cover sheet) and all other submitted documentation, i.e. Specifications and Operations and Maintenance Manuals. The FS project number should be located in the title block of all drawings, and in the header or footer of Specifications and Operations and Maintenance Manuals, and any other submitted items.
- The documentation requested above shall be delivered to FS at the following project milestones:
    - Review Sets (Programming Package, 100% SD, 100% DD)
    - 100% Construction Documents (final CDs not for review), i.e. Bid Set
    - Completion of Civil Utilities Installation (Utilities As-Builts)
    - Completion of Site Work (Site As-Builts)
    - Record Documents (Building As-Builts)

VALIDATION OF DELIVERED MATERIALS

- FS will validate the CAD data and other materials submitted by Design Professionals. If submittals do not conform to the FS Drawing Numbering Standard Guidelines, FS may return the materials to the Design Professional. The Design Professional is responsible for revising the materials to make them conform to the FS Drawing Numbering Standard Guidelines.
- The NAU Project Manager shall withhold final payment until all closeout documents have been received from all parties.

ATTACHMENT 2

"AS-BUILT" AND "RECORD DRAWINGS" REQUIREMENTS FOR NORTHERN ARIZONA UNIVERSITY

The CM@Risk will deliver a complete set of redlined "As-Built" drawings to the DP who shall review them for accuracy and approval.

The DP will use the "As-Built" drawings provided by the Design-Builder to produce and deliver a set of reproducible Project "Record Drawings" to Northern Arizona University.

The intent of these guidelines is to enable the University to collect, archive, and use at a later date digital copies of Record Drawings for any construction project. These projects include (but are not limited to) new construction, renovations, additions, utility work, and interiors work. Northern Arizona University considers it very important to maintain accurate records of new work for several reasons:

- Accurate information (e.g. underground utilities and tunnels) for future projects.
- Accurate base drawings for future projects, enabling consultants to modify existing drawings instead of creating new drawings from field measurements.
- Accurate data for campus map information system and GIS mapping.

The DP is responsible for verifying the accuracy of all drawings. The digital copies will match the hard copies. Appropriate notation should be attached (Record Drawings) or detached (official stamps) from each drawing. There should be an overall consistency in the format of the Record Drawings as further described below.

FORMAT:

Drawings: All drawings shall be submitted in an AutoCAD .DWG format with defined real world coordinate system. There are two coordinate systems in AutoCAD. World Coordinate System (WCS) and User Coordinate System (UCS) which define the angle of the XY plane you are working in. The WCS should always be used to reference geometry to ensure everything aligns to the center of a file in real-world location. The UCS can be used to orientate the screen to a site. Two geographic reference points are preferred.

Graphics: Preferred formats for graphics (photos, sketches, renderings, etc.) to be .jpg and .pdf.

Geospatial Data: GPS and Coordinate Survey data shall be delivered as a digital excel table or tab, space or comma delimited text document.

CONTENT OF RECORD DRAWINGS DIGITAL SUBMISSION:

In addition to the full-size hard copy of the entire updated "Record Drawings" set, a digital copy of each sheet in the set, and a list of each sheet by page number with the contents of the sheet and the name of any images that are attached shall be provided.

RECORD DRAWINGS LABEL:

- Revision dates should be updated for each submission in the title block (with the last date being the date of the Record Drawings submission).

- "RECORD DRAWINGS" should be clearly seen in bold letters along the bottom of the sheet or near the title block on the right side of the sheet.

DIGITAL RECORD DRAWINGS:

- The electronic copies of the Record Drawings should be usable in AutoCAD 2010 or new, version to be confirmed with NAU at time of submittal. The drawings themselves do not need to be drawn in this release, but should be compiled in AutoCAD 2000 or newer. Usable is defined as being able to easily identify the file needed, open it, select the appropriate layout tab (representing one sheet from the hardcopy set), and send it to the plotter without have to assign proxy graphics, reconnect (and find) External References (referred to as xrefs from here forward) and raster images, or find a missing .ctb or .stb (plot style tables) file.
- Each .DWG file should be named using the following format: sheet number-*xyz* where *xyz* is a job number or job name or other further identifying label as determined by the consultant. Ex: sheet *A1.00* should not be in a file called *A1*, but it should be in a file called *A1.00-xyz.dwg*.
- If more than one sheet is contained in one file, then the file should be composed to only have one sheet per file and then naming each accordingly.
- Each sheet should be set up on a layout tab of its own in paper space. Each layout tab should be renamed with the sheet number represented on it. Any unused layout tabs should be deleted.
- All xrefs should be bound. Any xrefs no longer needed in a drawing should be "detached" and not just "unloaded".
- In order to prevent missing raster images, before burning the digital files to a compact disc, place all raster images in the same folder as the file into which they are referenced.
- When the disc is opened, files should be available either in the root folder or in the first folder. In other words, one should not have to open 2 or more folders to find a file.
- The file with pen weights (.ctb or .stb file) should be included on the disc along with any other non-standard font or shape files.
- Each layout should be set up for either 24 X 36" or 30 X 42" according to the following settings:

  Plotter: None
  Plot Area: Layout
  Pen Assignment: (as per consultant/subconsultant's own .ctb or .stb file)
  Scale: 1:1
  Viewports: Should be zoomed to appropriate scale
  Paper size: Arch D (24 X 36) or E1 (30 X 42) as appropriate for the drawing set

All files should be burned to discs and placed in a cover appropriate for storage in a 3-ring binder. In addition to the disc(s), the binder(s) should contain an index as described below and an 8 ½ X 11" set of the record drawings.

INDEX OF SHEETS IN RECORD DRAWINGS SET:

Included in the binder should be an index created in Excel or Word listing .DWG files, the sheet numbers that each file contains (if more than one), the contents of each sheet, and a list of all raster images and OLE (object linking and embedding) images inserted into a drawing.

Since many images may be used in several drawings, the consultant may provide a coding system listing all images with a corresponding letter or numerical code.

For Example:

Sheet numbers	*Contents of sheet*	*Image References*
A9.01	*Enlarged floor plan, first floor*	
A9.02	*Enlarged floor plan, second floor*	
A9.03	*Enlarged floor plan, third floor*	
A9.04	*Enlarged floor plan, fourth floor*	
A10.01	*Details-Entry*	

The binding of the binder and the disc label should contain the following information:
Northern Arizona University - Building Number, Project Number, and Project Name in the following format:

XX-XXX-XXX-ABCDEF, *XX-XXX-XXX* is the project number, and *ABCDEF* is the project name
Firm name and contact information
Discipline (Architectural, Mechanical, Landscape, etc.)
RECORD DRAWINGS date of the Record Drawings submission