



INTRODUCTION AND USER GUIDE

DESIGN GUIDELINES AND TECHNICAL STANDARDS

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Purpose of Design Guidelines and Technical Standards

The NAU Design Guidelines “DG” DG and Technical Standards “TS” (together “DGTS”) are viewed as one complete document, to be used complimentary and holistically. The DG highlight areas for programming and conceptual design, while the TS cover schematic design through construction documents, as well as products and execution. Design Professionals, Contractors, subcontractors and subconsultants are to be aware of all content within the DG and TS as there is important content that may affect a specific division that may appear in a different division.

The DGTS cover all NAU construction and renovation projects. They are intended to assist architects, engineers, other design professionals, contractors and university staff in understanding the preferences of the University in the development, maintenance and repair of its facilities:

- Those persons at Northern Arizona University who manage projects, to assure that the standards and procedures outlined in this manual are implemented in the projects that are built on campus.
- Those persons involved with facilities on NAU Campus. Such persons can include, but are not limited to, administrators, user-groups, faculty, staff, trades-people, suppliers, vendors, University construction and maintenance shop personnel, etc.
- The Design Professionals, to use as their guide in preparing all necessary documents and submittals.
- The CM@R’s, General Contractors, Trade Contractors, Subcontractors, Suppliers, to use as a cross-reference with DP provided Specifications and as their guide in procuring all materials for the project. In case of conflict between these Design Guidelines and Technical Standards, these entities shall raise the matter with the NAU Project Manager to be evaluated with the Construction Project Team.
- The Design Professionals are advised to refer to those sections of the manual that relate to their projects and to adhere to its guidelines.

These Design Guidelines and Technical Standards are intended to create a common basis for the design, construction, maintenance, renovation and general care of facilities on NAU campus. The standards are the result of years of experience in designing, building, and operating facilities on the campuses, with a historical knowledge of what has served the University well. As such, they form the preference and knowledge base for all facilities on the campus. It should be clearly understood by all persons using these standards that they are not specification documents, nor are they procedures for construction. Design and document preparation continue to be the design professional’s responsibility. Means, methods, techniques, and procedures remain the Contractor’s responsibility.

These standards represent the preferred construction products, materials, details and systems to use in the development of programs, plans, specifications and construction documents. Components shall be selected through pre-qualification guidelines including, but not necessarily limited to, performance characteristics, code/regulatory compliance, maintenance control, and inventory standardization.

These standards represent the intent of the University to address the following primary criteria while providing optimal life cycle cost benefit to the University:

- Safety,
- Reliability,
- Maintainability,
- Efficiency,
- Sustainability.

Building Codes

The requirements in this document do not supersede any applicable building codes. These requirements are in addition to all applicable codes, ordinances, statutes, regulations, and laws. If there is a conflict with any requirements in the Design Guidelines or in the Technical Standards, the more stringent applies.

Refer to Div. 1 Section 01 41 13 for all applicable codes adopted by Northern Arizona University.

Building Code Variance Requests

Requests for variance shall be evaluated by the NAU Fire Marshal (NAUFM) staff and NAU Building Official (NAUBO) staff, to ensure the proposed design, use, or operation satisfactorily complies with the intent of the IFC, IBC, and with related codes and NAU Technical Standards, as adopted by Northern Arizona University.

Substitution to the Design Guidelines: Substitution Request

The Design Guidelines are a set of minimum requirements for design and construction at NAU. When these Design Guidelines and Technical Standards refer to a single manufacturer, it is not intended to exclude all other alternatives for all projects, proven to be equal or better, *unless specifically stated*. Design Professionals and Contractors must adhere to the Design Guidelines and Technical Standards in all cases, however, the intent of these Design Guidelines and Technical Standards is *not to limit creative solutions*. In order to deviate from these Design Guidelines and Technical Standards, a written substitution authorization must be obtained from NAU.

Substitutions to the Design Guidelines and Technical Standards must be requested in writing by the Design Professionals to the NAU Project Manager.

The NAU Project Manager must then obtain written approval for the substitution from Associate Vice President, Facility Services with recommendations from NAU Trades, as necessary. The University will consider requests for substitutions in order to provide the best benefit to the University and will typically require a life cycle cost analysis to be completed as part of the substitution process.

Written authorization shall be received prior to incorporation of the proposed substitution into the documents. The substitution must be made as early as possible but no later than completion of the design development phase.

Refer to Section 01 62 00 for Product/Material Substitution Form.

Updates

These Design Guidelines and Technical Standards are intended to be a continually evolving document. As new systems, components and techniques become available and they are deemed appropriate for use as a standard, they will be incorporated into these documents.

The technical content of this manual represents the culmination of input from many design, construction and maintenance professionals, included but not limited to NAU Trades Supervisors, NAU Project Managers and DP/CMARs/Contractors who performed projects for the University in the past. Although it is felt that this effort produced a more up to date listing of NAU Technical Standards, it is realized that improvements are always possible and that many iterations may be required to achieve perfection.

To pursue this goal, please feel free to submit any recommendations for improvements via email to NAU, addressed to stephanie.bauer@nau.edu.

This manual will be updated as requirements and procedures of NAU and the Arizona Board of Regents (ABOR) change.

Important Information

- Specifications are intended to be performance specifications, which are not limited to a specific manufacturer's proprietary specifications, unless there is an approved sole-source waiver on file with Owner. Identification of material or equipment by manufacturer's name or trade name is not meant to give preference to any manufacturer but merely to establish a standard. In some cases, the specified product is required as it is used campus wide and is the only product stocked for repair and maintenance reasons.
- The following DG and TS criteria are to be adhered to at a minimum.
- The TS are created in the Construction Specification Institute (CSI) format. Any missing CSI divisions within the TS are due to a lack of specific content from the Owner. The DP team shall add missing content as needed for the project.
- There are defined terms throughout the Design Guidelines and Technical Standards. Defined terms may also be incorporated from the applicable construction agreements.
- DG cover primarily Programming and Conceptual Design, while TS cover Schematic through Construction
- These DGTS apply to Flagstaff Mountain Campus – Satellite campuses may conform to other standards. Consult with Owner for applicable standards for projects not occurring on the Mountain campus.
- The provisions of these standards and guidelines shall not be deemed to nullify any provisions of local, state or federal law. In the event that any part or provision of these guidelines is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.
- Design Professional and/or Contractor shall notify Owner of any discrepancies within these *DGTS* or discrepancies between the *DGTS* and code or the Project Plans and Specifications. Discrepancies shall be resolved by Owner.

DP & Contractor Acknowledgement

Design Professional's and Contractor's acknowledgement of receiving NAU Design Guidelines and Technical Standards

On each project, the DP and the Contractor shall acknowledge receiving, reading and following NAU Design Guidelines and Technical Standards by completing and signing below.

In the event of a conflict between NAU Design Guidelines and NAU Technical Standards, please contact Owner for clarification on how to proceed with the design.

Project #: _____

Project Name: _____

DESIGN PROFESSIONAL:

Design Professional Firm: _____

Name of DP Signatory: _____

Signature: _____

Date: _____

GENERAL CONTRACTOR:

General Contractor Firm: _____

Name of Contractor Signatory: _____

Signature: _____

Date: _____

TO BE RETURNED TO OWNER PRIOR TO START OF DESIGN FOR DESIGN PROFESSIONALS AND PRE-CONSTRUCTION FOR CONTRACTORS. IF NO PRE-CONSTRUCTION PHASE, THEN PRIOR TO CONSTRUCTION FOR CONTRACTORS.

Design Guidelines

See separate Design Guidelines document.

Technical Standards

See separate Technical Standards documents, organized by CSI division.