1.0 INTRODUCTION

1.1 GENERAL

The University of Alberta Design and Construction Standards and Guidelines (Guidelines) are intended to provide assistance during the planning, design, construction, maintenance and operation of University facilities.

The Guidelines presented are to emphasize performance wherever possible and avoid restricting creative thinking. It is intended that the information provided will help facilitate the development of facilities that represent best value for expenditure while creating the most appropriate possible environment for learning, research, administration and community services. The use of the Guidelines must understand and take into account the University’s long term responsibilities in stewardship and management of facilities.

The Guidelines are intended to establish standards/guidelines for Consultants, Contractors, Facility Managers and users who provide services for the University.

The Guidelines do not diminish or reduce the standard of responsibility owed by a Consultant to the University or relieve in any manner whatsoever a Consultant or others from any professional responsibility, duty or due diligence required towards the work.

1.2 PURPOSE AND SCOPE

The purpose of this document is to provide standards and guideline materials that are appropriate to and consistent for all University facilities.

It is intended to provide a framework for new facilities, for renovation projects and for ongoing maintenance.

The standards and guidelines presented relate to the design and use of facilities and need to be referenced in conjunction with professional judgment to ensure they are followed to the extent that they are appropriate. It is intended that University and their Consultants retain control and ultimate responsibility for regulatory compliance, quality and longevity in designs produced and executed for renovation and new construction projects.

The intent of this document is to:
- Describe the requirements for various building components, assemblies and systems that impact on: use, function, serviceability and expected life cycle of facilities.
- Alert consultants to aspects of design and construction that are perceived to be problematic from the University’s perspective.
- Identify the design criteria, functional use and requirements for University facilities.
- Provide problem avoidance techniques and/or possible solutions that have in the past proven to be practical and effective in projects executed for the University.
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- Provide a vehicle for communicating common University facility issues to the design community in an expedient, organized and effective manner.
- Encourage creativity in the development of solutions to design and construction aspects within the context of the Guiding Principles.

The Guidelines are written as a performance document. Prescriptive requirements, where included, identify specific University requirements that must be followed. The word “must” indicates a mandatory requirement. Guidelines using the word “should” put the onus on the Consultant to provide a reason why such Guidelines are NOT followed. (Such as a better way of achieving the same end or even an improvement over the intention stated.) These will need to be agreed/accepted by the University prior to inclusion in the design. A Variance Request form is provided on the University website (refer to Section 1.5 for additional information).

It is not intended that this document address every conceivable condition. Rather, it attempts to apply common sense to provide solutions where experience has indicated that problems commonly arise. **These guidelines must** be applied to new facilities and to existing facilities undergoing renovation in order to address the design and construction issues identified within this document.

Where issues arise that are not addressed within this document, or where it is determined that the specific item is not appropriate for the project, it is anticipated that the decision-makers will apply due diligence in determining appropriate measures.

Incorporate innovative design approaches only after thorough consideration is given to potential benefits and risks, value analysis and life cycle costs. Consult with project team members and with Facilities and Operations for advice based on their expertise in facility operation and maintenance.

It should be understood that when these standards and guidelines apply to renovation projects, there is the need for flexibility in their application, due to the need to respect existing systems and conditions, and available funding and economics.

Although the University is a self-accredited corporation under the Safety Code Act all work is required to comply with all applicable codes and regulations. The Guidelines are intended to be read in conjunction with the Alberta Building Code (ABC) and in no way are to be construed as a replacement for the ABC. The ABC (and other codes and standards) represent the minimum acceptable standard, the base upon which these Guidelines are constructed. Where the technical design requirements contained herein differ from the building codes and other applicable codes and standards, apply the more stringent
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1.3 MAINTAINING THE STANDARD/GUIDELINES

The Design and Construction Standards and Guidelines are created and maintained by Facilities and Operations in association with Planning and Project Delivery, Operations and Maintenance and Environmental Health and Safety.

Any enquiries about the Guidelines should be directed to Facilities and Operations, 4th Floor, General Services Building.

The Guidelines will be updated and maintained on a regular basis. Sections will be revised and re-issued as deemed necessary. The date of issue of each section is noted in the footer.

The design community and other interested parties are encouraged to provide comment and suggestions as to form and content based on their experience as users of the Guidelines. Informal review of the Guidelines as applicable to specific projects will be done during each project, at completion of design and upon project completion. This information will be used to update and maintain, as appropriate, the Guidelines.

The Guidelines are available online at the University website.

1.4 FORM & CONTENT

The Guidelines are not a specification master. The text should not be copied verbatim into project specifications except where directed by the University Project Manager.

Section 2.0 “Process” introduces the process of design and construction at the University.

Section 3.0 “Principles and Design Considerations” introduces the general over-reaching principles and considerations that each design must embody.

Section 4.0 “Technical Guidelines” uses the MasterFormat® system of managing construction information.

The MasterFormat® is a master system of numbers and titles classified by work results or construction practices, primarily used to organize project manuals, organize detailed cost information, and related drawing notations to specifications.

Construction projects use many different kinds of delivery methods, products, and installation methods, but one thing is common to all – the need for effective teamwork by the many parties involved to ensure the correct and timely completion of work. The successful completion of projects requires effective communication amongst the people involved, and that in turn requires easy access to essential project information. Efficient information organization and retrieval is
enhanced significantly when a standard filing system is used by everyone. MasterFormat® projects such a standard filing system that can be used throughout the construction industry.

MasterFormat® is produced jointly by the Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC), and is reviewed and updated on a 5-7 year basis.

Over the past 50 years, the system of numbers and titles incorporated in MasterFormat® has been used increasingly by the construction industry. Today, MasterFormat® is by far the most widely used system for organizing construction project manuals in North America; its system of organizing construction information into Procurement and Contracting Requirements, and technical Divisions of activities and work practices has been applied in every information resource used in design and construction.

The principle application for MasterFormat® is for titling and arranging the parts of project manuals that contain any combination of procurement requirements, contracting requirements, or construction specifications. Participants in the construction process may use MasterFormat® for other applications by adapting the organizing principals to those applications, such as organizing construction cost databases, drawing notations in coordination with specifications, collections of technical data, construction market data, facilities management data, and others. Although it provides a detailed and ordered listing of potential titles, MasterFormat® is designed to maximize flexibility for individual users. For any given project, a user is free to assign new numbers for new titles in appropriate locations as required.

Groups and Subgroups:

Procurement and Contracting Requirements Sub Group: Division “00”. The contents of this Division are usually compiled by the University and not the Consultant.

Specifications Group: This Group contains the following five Subgroups. Each Subgroup is broken down into Divisions as listed.

General Requirements Subgroup: Division “01”. The content of this Division includes the administrative requirements for the on-going management of a construction project (of any size): administrative forms (UA Standards), contract and payment procedures, quality control, temporary facilities, execution and closeout requirements, performance requirements, life cycle activities, etc. Confirm current status of all UA Standards & Administrative forms.

Facility Construction Subgroup: Divisions 02-19.
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Facility Services Subgroup: Division 20 – 29.

Site and Infrastructure Subgroup: Divisions 30 – 39.

Process Equipment Subgroup: Divisions 40 – 49.

Groups are not numbered, but are divided into Subgroups. Subgroups are not numbered, but are divided into numbered Divisions. Divisions are the top Level (Level 1) in the hierarchy of the classification system. The Divisions include sets of numbered Titles (Levels 2-4). In a project manual application, the titles are called Sections that specify “work results” (Levels 2-4). Work results are permanent or temporary aspects of construction projects achieved in the production stage or by subsequent alteration, maintenance, or demolition process, through the application of a particular skill or trade to construction resources.

A complete listing of the Divisions is provided in Section 4.0, “Technical Guidelines”.

Section 5.0 “Function and Use” presents items that do not fit within the Technical Guidelines presented in Section 4.0. Where Section 4.0 is primarily oriented towards building systems and assemblies, Section 5.0 presents primary function and use (i.e. classroom design requirements).

1.5 STANDARDS & GUIDELINE VARIANCE

All design and construction at the University must comply with the Standards and Guidelines herein. However, there are instances when a variance may be appropriate. If a Consultant would like a variance to the Standards and Guidelines to be considered, a formal variance request must be submitted to the Project Manager for review. In requesting the variance the following background information must be included:

- Technical / Function and Use Section description;
- Requested variance and rationale;
- A description of the effect of the variance to enhance the project;
- Explanation of why this variance does not compromise the project’s quality (both constructability and operating impacts);
- System reliability;
- Safety;
- Operability;
- Maintainability;
- Implications to the longevity of the building;
- Life cycle cost analysis;
- Implications on capital and operating budgets.

This information will be reviewed by the Project Manager who will advise as to acceptability of the request for variance.
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If a variance is given, this information, including the rationale should be noted in any formal submissions to the University (i.e. Design Development Report, Pre-Tender Report) such that the variance will become a matter of record.

A variance request can be made by filling out the Variance Request form found on the Facilities and Operations section of the University of Alberta website.