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 to 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, taking into account the University’s long term stewardship and facilities management responsibilities.

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

The Guidelines do not diminish or reduce the standard of care owed by a Consultant to the University or relieve in any manner whatsoever a Consultant 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 material that is appropriate to and consistent for 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 used 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 the design and construction.

The intent of this document is to:

1.2.1 Describe the requirements for various building components, assemblies and systems that have an impact on function, use, serviceability and anticipated life cycle of the facility.

1.2.2 Alert consultants to design and construction aspects that are perceived to be problematic.

1.2.3 Identify the functional use and requirements and design criteria of University facilities.

1.2.4 Provide possible solutions and/or problem avoidance techniques that have in the past proven to be practical and effective.

1.2.5 Provide a vehicle for communicating common University facility issues throughout the design industry in an effective and expedient manner.

1.2.6 Encourage the creativity in 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.

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 change 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 cost. Consult with project team members and with Facility Management 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 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 requirements.

1.3 Maintaining the Standard/Guidelines

The Design and Construction Standards and Guidelines are created and maintained by Planning & Infrastructure (P&I) in association with Facilities Management, Environmental Health and Safety and Capital Programs.

Any enquiries about the Guidelines should be directed to Planning & Infrastructure, 4th Floor, General Sciences 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 (www.uofaweb.ualberta.ca/pi/).

1.4 Form and 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 UniFormat™ method of managing construction information. UniFormat™ is an arrangement of construction information based on physical parts of a facility called systems and assemblies. These systems and assemblies are characterized by their function without identifying the products that compose them. Systems and assemblies render a view of a constructed facility different from the view rendered by a breakdown of building materials, products, and activities.

UniFormat™ uses a hierarchical organization to describe systems and assemblies using an alphanumeric numbering system incorporating a number of levels. The Guidelines use the first three levels of UniFormat™ only. Level 1 identifies the major category of construction designation by a letter (e.g. A, Substructure). Level 2 expands on the major category by introducing sub-categories of the major or parent category. Level 2 categories carry the letter of their parent, plus a two-digit number (e.g. B30 Roofing). Level 3 further subdivides the category, using the Level 2 designation plus a further two-digit number for each element (e.g. B3010 Roof Coverings).

The Guidelines use the following Level 1 categories:

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<tr>
<td>A</td>
<td>Substructure</td>
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<td>B</td>
<td>Shell</td>
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<td>C</td>
<td>Interiors</td>
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<td>D</td>
<td>Services</td>
</tr>
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<td>E</td>
<td>Equipment and Furnishings</td>
</tr>
<tr>
<td>F</td>
<td>Special Construction and Demolition</td>
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<td>G</td>
<td>Building Sitework</td>
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Under each Level 1 category (i.e. A, Substructure), the Guiding Principles related to that section are restated. General Design Considerations relevant to that section are also stated. Both the Guiding Principles and General Design Considerations apply to all elements in that section.

The technical information follows the UniFormat™ categories and numbering for Level 2 (i.e. A10 Foundation).

Where appropriate or necessary for clarification Level 3 categories (A1010 Standard Foundation) are introduced and used. The only variance from UniFormat™ is the introduction of Level 2 category “D60, Communication and Security” separate from D50, Electrical Systems”. This was done due to the importance of communication and security systems to the operation of the University. It was therefore felt by the authors of the Guidelines that this section needed a higher level of recognition than Level 3.
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 and Guidelines Exemptions

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

- Technical / Function and Use Section description;
- Requested exemption and rationale;
- Explanation of why this exemption does not compromise the project’s quality (both constructability and operating impacts);
- Implications to the longevity of the building;
- 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 exemption.

If an exemption 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 exemption will become a matter of record.