PART 1: GENERAL

1.01 INTENT AND BACKGROUND

A. The intent of this Section is to clarify Cornell’s policies and standards regarding the protection of the environment as it relates to design and construction activities on campus. Related environmental health and safety standards include:

1. 115000 – Laboratory Equipment
2. 210500 – Fire Protection Basic Materials and Methods
3. 224500 – Safety Showers and Eyewashes

B. Cornell’s office of Environment Health & Safety (EHS) is responsible for the oversight and coordination of these activities. To effect that mission, EHS assigns “Subject Matter Experts” (SMEs) to major regulatory and safety programs. These SMEs provide guidance and oversight to campus (including project managers) to ensure understanding and compliance with sometimes-complex and overlapping policies, standards, best practices, rules, and regulations.

C. These design and construction standards may be considered “companion” requirements to the Contractor requirements included in the General Requirements incorporated into construction Contracts. This Section includes planning and design requirements and guidance applicable to the following General Requirements Sections:

1. Section 01 35 43 – General Environmental Requirements
2. Section 01 35 44 – Spill Control
3. Section 01 35 45 – Refrigerant Compliance
4. Section 01 41 00 – Regulatory Requirements
5. Section 01 57 13 – Soil Erosion and Sediment Control
6. Section 01 57 23 – Stormwater Pollution and Prevention Plan

D. This Section outlines a pro-active process to be used during planning and design of each project to determine the potential environmental requirements that may be triggered by the project and to enable appropriate planning, design, notification, and construction management actions.

1.02 OBJECTIVES AND REQUIREMENTS

A. Cornell desires infrastructure projects to be designed and constructed in a manner that meets the following objectives:
1. Ensure an appropriate understanding by all involved parties of environmental requirements and risks associated with construction projects.

2. Reduce or eliminate, as appropriate, environmental hazards for construction personnel.

3. Reduce or eliminate, as appropriate, environmental hazards and impacts to the general population (campus and beyond) and the natural environment.

4. Minimize project costs or delays.

B. All projects shall be planned and designed in a manner that meet all applicable regulatory requirements (local, state, and federal) and applicable Cornell policy requirements.

C. Because of the unintended consequences and disproportionate costs that may result, actions that are “beyond regulation” and “beyond policy” may not be recommended for a specific project, and shall only be undertaken where such actions have been approved by the CU Project Manager through consultation with appropriate EHS SMEs.

1.03 ROLES AND RESPONSIBILITIES

A. Cornell staff and consultants who design and manage construction projects (“Project Teams”) shall be responsible to plan, design, and coordinate work in compliance with this Standard and to ensure compliance through the construction process.

B. Unless otherwise specified in writing for specific project teams, the project consultant (designer) shall be responsible to ensure that all requirements of this section are communicated and incorporated into construction documents so that the Contractor is aware of the hazards and can properly protect the environment, Contractor’s workers, and the general public.

C. EHS has an overall compliance role for the University, and provides guidance and/or regulatory interpretations for Project Teams so that requirements can be met without excessive costs or delays. EHS also provides specific SMEs to guide Project Teams in meeting requirements and expectations. These resources are available to all Project Teams, as coordinated through the team Project Manager.

PART 2: IMPLEMENTATION OF GUIDANCE

2.01 PLANNING AND DESIGN WORK

A. At the initiation of each project, the Project Team shall establish the environmental aspects of the project that are subject to regulation and/or policy. This process can be facilitated by utilizing the on-line CU Environmental Checklist:

URL: https://rmps-prod.hosting.cornell.edu/kerb/PMChecklist.cfm
The CU Environmental Checklist is routed to the appropriate EHS SMEs to allow collaboration and support in ensuring environmental compliance as a project is developed. This process is coordinated through the designated Cornell Project Manager.

B. Utilizing the Checklist as a guide, confer with EHS to understand and incorporate design services that are required to conform to EHS policy or regulation.

C. Where regulatory review or modeling is required, such evaluations may result in design changes in order to avoid regulatory burdens and/or provide greater levels of protection. Therefore, such modeling, where needed, shall be conducted as early as practical in the design project (as soon as sufficient information is available to allow such modeling or evaluation) so as to minimize impacts to the planning and design process.

D. Review the applicable General Requirements and gather appropriate information to edit the General Requirements to incorporate appropriate information necessary to ensure compliance and cost-effective work progress. Such information includes, but may not be limited to, the following:

1. Identification of all testing completed with regards to proven or potential environmental hazards for use by the Contractor in determining appropriate requirements for worker and environmental protection.
2. Identification of special hazards (environmental or physical) which may be associated with the project.
3. Identification of any assumptions that Contractor shall make in processing the work. As one example, for buildings with fluorescent lights pre-dating 1980, it is common to assume that all ballasts contain PCBs so that proper handling and disposal is necessary in the project.
4. Clear identification of all known local rules or ordinances that may apply to special circumstances of the project, and any special permits or notifications required. For example, certain municipalities may have special rules (i.e., rules different from more general State or Federal regulations) for stormwater management or asbestos abatement.

E. Confer with EHS to identify any known or suspected hidden conditions associated with the project site. For example, EHS maintains information on past site uses and areas in which sub-surface contamination may be suspected based on prior use or prior work.
F. Confer with EHS regarding recommendations and requirements whenever requirements are unclear or before beginning work that is not specifically required by regulation or written policy. For example, material or ground testing may increase costs and liability for the University in some cases where it may be equally protective and overall more cost effective to assume certain materials may contain hazardous constituents and mandating broader protections or slightly more expensive disposal. Consult EHS first to avoid unnecessary project impacts.

G. Identify and document all asbestos and hazardous materials (whether determined by testing or assumed for safety and/or convenience) that will be impacted by the work (or could reasonably be impacted, depending on chosen means and methods), and specify minimum requirements for its management, including clear delegation of responsibilities (for example, for hazardous waste ownership and management and/or for pre-disposal testing). This requirement is needed for the following reasons:

1. To ensure Contractor awareness, so that appropriate PPE and means & methods may be utilized to protect workers and others in or outside the work zone.
2. So that costs for any activities necessary, from removal or avoidance to disposal, testing, and/or record-keeping, to ensure compliance costs are included in the Contractor’s bid price.
3. So that Contractor can plan necessary time to submit and obtain any Contractor-required special permits.
4. To ensure construction inspection and management personnel are aware of all risks and understand expectations in the field so that they can manage those risks. Documentation especially helps ensure that awareness in cases where the project team personnel change over time.

H. Submit for and obtain environmentally-related special permits where required in advance of construction (except in cases where it is agreed that the Contractor is required to obtain such permits or can do so without excessive project delay).

I. The expectations with regard to appropriate risk avoidance may vary from project-to-project. Specific contractual requirements should be considered for insertion into the services contract of the design team before contract signing whenever non-standard requirements or expectations are anticipated.

2.02 CONTRACT DOCUMENTS

A. Incorporate appropriate Environmental Health and Safety requirements into the Specifications (General Requirements and such Technical Requirements as appropriate) and the Contract Drawings as necessary to clearly communicate EHS risks/issues and requirements to the future Contractor and contract oversight team.
B. Review EHS-related Specifications with EHS staff prior to bidding; modify to incorporate EHS comments until reaching final approval.

PART 3: PROJECT EXECUTION

3.01 PRE-CONSTRUCTION, CONSTRUCTION, AND POST-CONSTRUCTION REQUIREMENTS

A. Review EHS risks and information with Contractors before work starts and ensure appropriate plans (for example, Site Specific Health and Safety Plans; Stormwater Pollution Prevention Plans; Waste Disposal Plans) required by the Contract Documents are prepared, submitted, and accepted prior to work on site that involves these areas of potential risk.

B. Ensure completion of all requirements and documentation required by the Contract Documents prior to final payment or Contract Close-Out.

C. Ensure final documentation (where required by policy or regulation) is submitted in appropriate form to EHS prior to final payment or Contract Close-Out.

D. Ensure appropriate information that may be used to define any remaining environmental hazards for the project or site are provided to the Facilities Inventory Group at the conclusion of the project.

END OF SECTION