DIVISION 0 USU GENERAL DESIGN CRITERIA

THE CRITERIA ARE GENERAL GUIDELINES BASED ON PAST EXPERIENCES AND MATERIALS THAT USU HAS FOUND TO BE SUCCESSFUL.

WHERE SPECIFIC PRODUCTS ARE IDENTIFIED HEREIN, THE PRODUCTS ARE TO BE IMPLEMENTED AS A BASIS OF DESIGN. ANY SUBSTITUTION OR DEVIATION FROM BASIS OF DESIGN PRODUCTS REQUIRES APPROVAL BY THE USU PROJECT MANAGER.

00 00 10 SUMMARY

A. Section Includes:

1. Campus Master Plan Compliance
2. Sustainability Requirements
3. Delegated Projects
4. Sound Control
5. Climate Conditions
6. Materials Selection
7. Service Access
8. Exterior Equipment
9. Roof Access Requirements
10. Design Review
11. Room Numbering
12. Space & Room Requirements
13. Access Control (Also see Division 27)
14. Owner Furnished Items
15. Window Maintenance
16. Fire Marshal Coordination
17. Project Signs
18. Recycling
19. IT Specifications

00 00 20 CAMPUS MASTER PLAN COMPLIANCE

A. All new facilities must meet USU Master Plan objectives as required by USU Facilities Planning and Design.
00 00 30  SUSTAINABILITY REQUIREMENTS

A. New buildings on USU campuses are required to be LEED silver or higher.
B. New buildings on USU campuses shall incorporate bird friendly design strategies, as outlined in the Bird-Friendly Building Design guidelines available from the American Bird Conservancy.

00 00 40  DELEGATED PROJECTS

A. Where DFCM delegates building projects to USU for administration, USU contract forms shall be used.
B. Bidding shall be administered through the USU Purchasing Department and coordinated by a designated USU project representative.

00 00 50  SOUND CONTROL

A. Bid documents shall include the details and specifications necessary to ensure the project meets sound control and acoustic requirements identified during design.
B. Review neighborhood sound ordinances. Identify any special measures or conditions required.
C. Specify any sound control measures required of the Contractor during construction.

00 00 60  CLIMATIC CONDITIONS

A. Project designs must identify and address any special requirements regarding solar orientation, wind, rain, snow, and temperature conditions.
   1. Wind: Canyon winds are of particular concern. Design for 110 mile per hour winds (3 second gusts),
   2. Snow: Design for 37 lbs. per square foot snow load.
   3. Temperature: Design for -20 degree Fahrenheit outdoor temperatures.

00 00 70  MATERIALS SELECTION

A. USU Facilities Planning and Design will review all material selections early in the Design Development phase.
B. Select building materials that are low maintenance, economical, and have lasting value.
C. Material selection should take into account, and be compatible with, the finish materials of the adjacent existing facilities and site.

00 00 80 SERVICE ACCESS

A. Design adequate access to mechanical and electrical rooms for installation, future maintenance and/or replacement of equipment.

B. Loading docks and exhaust outlets shall not be located near air intakes; take into consideration prevailing winds.

C. Provide adequate access for garbage and recycling collection.

00 00 90 EXTERIOR EQUIPMENT

A. Locate underground, or screen, any emergency generators, electrical transformers, and garbage dumpsters.
   1. Screens shall be an integral part of the facility design.
   2. Design measures shall mitigate noise, fumes and odors.

00 01 00 ROOF ACCESS

A. All roofs must have stair, ladder, or roof hatch access.
   1. Size roof hatches to accommodate any service or maintenance equipment required.
   2. Roof hatches must be lockable.

B. Major mechanical equipment on a roof shall have stair and elevator access.

C. Avoid exterior ladders extending to the ground level as they pose a security risk. Where necessary, such ladders must be equipped with a locking cage to restrict access.

00 01 10 DESIGN REVIEW PROCESS

A. USU requires 10 working days for design review at each design phase.

B. Programming: the Design Professional shall include the following:
   1. Room diagrams, including attic stock rooms, mechanical rooms, IT rooms, electrical rooms, janitorial closets, storage rooms, equipment rooms, utility spaces, and all other support spaces.
   2. All room diagrams and specifications shall include programmed permanent equipment as well as furniture, fixtures, and specialized non-fixed equipment (FF&E), both existing and new.
3. All room specifications shall include AV and IT requirements and equipment.
4. A project construction cost estimate, including a budget for FF&E.
5. The site plan shall include location of the utility tunnel (if applicable) and other campus-wide utility connections. The budget for utilities and tunnels shall be included in the project estimate.
6. Identify potential exterior finishes and styles that are appropriate to the site context.

C. Review meetings with USU personnel and the Design Team shall occur at Programming, 25% (Schematic), 60% (Design Development), and 100% (Contract Document) intervals. The Design Team should anticipate these meetings will be a 1-day, on-site review at each phase.

D. The architect is required to present the schematic design to the Architectural Review Committee at the end of schematic design, for formal approval to proceed with the design concept.

E. Drawings and specifications provided for review at each design phase shall demonstrate adherence to the Project Program. The Design Team must identify and justify any modification or departure from the Project Program from one design phase to the next.

F. The Architect shall provide an exterior and interior materials palette, including physical samples, at each design submittal interval.

G. Show furniture layouts on floor plans at each design submittal interval.

H. Provide basis of design and design calculations for all major HVAC and plumbing systems as part of each design submittal interval.

I. The Primary Design Profession shall obtain approval, in writing, from USU Facilities Planning & Design before proceeding to the next design phase.

J. The Design Team shall respond, in writing, to all review questions and comments before USU will authorize the Design Team to proceed with the next design phase.

K. USU will not approve progress payments to the Design Team until all design review requirements for each design interval are satisfied.

00 01 20 ROOM NUMBERING

A. In the schematic drawing phase, submit preliminary room numbering to the USU Space Coordinator for review and approval.
B. Utah State University (USU) follows procedures put forward by the National Center for Education Statistics (NCES) 2006 Postsecondary Education Facilities Inventory and Classification Manual (FICM) for assigning room numbers. Adhere to the following listed procedures for room numbering at USU.

1. Numbering Floors: The first digit indicates the floor on which the room is located. The level bearing the number 1 as its first digit should be the uppermost floor entered at grade or one-half flight above grade.

2. Numbering Flow Pattern: In a building with only one dividing corridor: room numbers should flow in ascending order from one end of the building to the other. In a building with a more complex corridor system: numbers should flow in ascending order, in a clockwise direction from the main entrance from plan view.

3. Odd & Even Number Placement: Assign room numbers so that odd numbers are on one side of the corridor and even numbers are on the other; whenever possible. Odd and even room numbers should correlate with each other and numbers should be skipped, if need be, to keep numbers close in proximity. See Figure 3.

4. Room Number Types: All spaces should be assigned a room number or a circulation number. Room numbers are to be assigned as described in paragraphs 1, 2, & 3 above. All corridors, vestibules, lobbies, stairs, elevators, pipe chases, and circulation area covered patios are to be assigned circulation numbers. Circulation numbers are assigned as described in Paragraph 6.

5. Numbering Suites & Nested Rooms: Each room must have only one number regardless of the number of doors opening into it. Rooms entered from a main corridor or lobby receive numbers with no suffix (101, 502, 331, etc.). Rooms that are part of a suite, but also have a doorway from the corridor, are likewise given a room number with no suffix (except in cases where the room is an office and part of a larger office suite). Rooms within a suite are always numbered with the entrance room number and an alpha suffix (101A, 101B, 101C, etc.) beginning with the room closest to and clockwise from the main entrance and proceeding in a clockwise direction as viewed from a plan view. See Figure 1. To avoid confusion with the numbers 1 and 0, skip the alpha suffix “I” and “O” and do not use for any reason. For suite rooms that may be accessed through multiple entrance rooms: only one entrance room number and alpha suffix shall be used. See Figure 2. Number nested rooms within suite rooms with the next sequential suffix as part of the suite numbering process. See Figure 3.

6. Numbering Special Cases: Vestibules, corridors, lobbies, stairs, mechanical & pipe chases, elevators, and circulation area covered patios are always numbered with the appropriate floor level followed by the number 00 and an alpha suffix: 000A, 100A, 200A, 300A, etc. and should be numbered sequentially. Stairs, elevators, corridors, and pipe chases that span more than one floor or that have the same location on each floor, should be numbered consistently with the same letter suffix from
floor to floor, whenever possible. (Stairwell 100A should be 200A on the second floor.) On the rare occasion that all single alpha suffix options have been exhausted, a double alpha suffix can be used: 100AA, 200AG, 300AT, etc.

No room shall be numbered with only the appropriate floor level followed by the number 00 (i.e. 100, 300, 400, etc.) This is to avoid confusion with special case rooms as described above and regular rooms as referenced in Paragraph 3. Areas not divided by physical walls, termed phantom walls, may also be numbered. Specific numbering format of areas divided by phantom walls are determined by usage of the intended space. Phantom walls may be used to separate corridors into multiple sections: See Figure 9, to separate office space to better distinguish different groups within the space (See Figure 10), or for future remodels. Coordinate with USU’s Space Management before applying phantom walls. Number study areas, lounges, and other specially designated areas within a circulation area according to Paragraph 3 above; see Figure 5.

7. Open Areas: Do not give a room number to areas not covered by a roof system. See Figure 8.

8. Skipping Numbers: When possible, skip room numbers sequentially to accommodate future remodels of the space. A room number should be skipped by at least one number in the current running series, if a space is 300 square feet or greater. See Figure 3. Space exceptions include those listed in Paragraph 6.

9. Numbering Revision and USU Contact: Contact USU’s Space Management group, via USU’s designated contact for the project, if any unusual scenarios not listed above are encountered. USU Space Management must verify room numbering prior to the Contract Documents design phase. Submit any revisions made after room number verification to USU Space Management.

10. Figures: Please view the attached figures on the following pages for reference.
00 01 20 SPACE & ROOM REQUIREMENTS

A. Entrances: Provide mechanically tempered entrance vestibules to all buildings. Where possible, provide at least ten feet of walking distance within vestibules. Major building entrances shall be designed with vestibules and a three part walk off system. These three parts include 1) an exterior mat or grate, 2) a recessed vestibule mat, and 3) and a recessed mat on the inside of the building. All major north facing public entrances shall have an integrated hydronic snow melt system.

B. Custodial Closet: Custodial closet quantities shall be based on the gross floor area and configuration of each floor of the building (1 per 20,000 sq. ft. appx.) At a minimum, provide one custodial room on all floors, a minimum size of 50 sq. ft. Each custodial room shall have the following:
1. At least 6’ of mop and broom rack.
2. Four, 12” deep x 48” wide, adjustable shelves.
3. Moisture protected wall surfaces.
4. Floor mounted mop sink.
5. Adequate mechanical exhaust ventilation.

C. Dry Storage: Locate a dry storage room on the main floor, a minimum size of 120 sq. ft. On large buildings, there may be a need for more than one dry storage room.

D. Attic Stockroom: Provide a storage room large enough for efficient storage of required attic stock materials such as carpet, paint, ceiling tile, etc. With input from USU Facilities Design & Planning, the architect and engineers shall include requirements for attic stock within the specifications. The size of the room will vary by project, and shall be designed by the architect to accommodate all attic stock materials specified. The room shall be located to allow easy access and removal of materials stored.

E. Lactation Rooms: USU is required by federal law under the Fair Labor Standards Act to provide a private, non-bathroom space for nursing mothers to express milk during the workday. All new buildings shall incorporate one room of this type. The room may be used for multiple functions as long as it is available for scheduling by nursing mothers, but may not be a part of a restroom. The room shall have the following features:
1. A minimum of 7’ x 7’ footprint.
2. A locking door, and maximum visual and audio privacy.
3. A chair and work surface.
4. A small sink
5. Electrical outlets
6. Located in a safe, accessible, and convenient part of the building.

F. Snow Blower Storage: Each building shall have an exterior accessed, fire-rated room for storage of snow removal equipment.

G. Vending: Each building may need to provide room for vending facilities sized and coordinated by Facilities Design and Construction and USU Vending.
H. Recycling Areas: Provide space for recycling areas as programmed. The design of these areas shall be integrated functionally and aesthetically with the overall design. Also, this space shall include facilities for the distribution of University papers, information and trash collection. Exterior recycling areas shall have an architectural design compatible with the new facility.

I. Refuse Dumpster: Provide a suitable site and enclosure for exterior trash dumpsters. The site should be designed to coordinate with existing and/or proposed landscaping and the building. The location shall be accessible for large tandem axle collection vehicles and allow clearance for required turning radii.

J. Storage Cabinets: Laboratories requiring storage of flammable, combustible, chemical, or radioactive materials shall be stored in the appropriate manner required by code and by the Campus Environmental Health and Safety Office.

K. Mechanical Rooms: Provide mechanical equipment rooms with sufficient space to allow proper installation, servicing, and replacement of all equipment. Locate the mechanical room central to the building to allow efficient ducting and piping distribution systems and outside utilities including utility tunnels where required. Provide access to the outside with an opening large enough to allow the removal of the largest piece of equipment. Provide areaway equipment access where mechanical rooms are located in the basement. Locate mechanical rooms away from sound sensitive areas. Provide concrete equipment pads for all major mechanical equipment. Allow space for storage of mechanical items such as filters and other maintenance equipment. Construct mechanical equipment rooms to reduce transmission of sound, vibration, and odor to other parts of the building. Install curbs around the perimeter and seal the floor of the mechanical room to prevent water from leaving the room to adjacent spaces. Mechanical rooms shall not be used as air plenums. See Division 23 for specific mechanical room design requirements.

L. Transformer Vaults: Electrical transformer vaults shall be included within the building envelope or within a sub-grade area-way. Stand-alone enclosures are not acceptable, except for farm and service area buildings. See section Electrical Design Requirements Section G for detailed requirements of transformer vaults.

M. Electrical Rooms, clearances and entrances: USU requires a minimum of forty eight inches (48") clear in front of electrical equipment. Main switchboards may be housed in one or more separate rooms or within locked closets. A transformer vault entrance shall be separate from the entrance to the switchboard room or the high voltage switch room. The high voltage switch room entrance shall be separate from the main switchboard room, but may be accessed through the main electrical switchboard room provided the doors and access are sufficient for equipment removal/installation. Electrical room sizes and clearances shall be addressed by the program and shown schematically with the room diagrams.
N. Standard Office Sizes: Recommended office sizes are as follows:
   1. Open offices / Grad Students – 50 - 80 sq. ft.
   3. Faculty / Professional Staff – 120 sq. ft.

00 01 30 BUILDING ACCESS CONTROL

A. Exterior doors and certain interior doors will be required to incorporate USU’s standard electronic access control system. The extent will depend on the project scope.

00 01 40 USU INSTALLED ITEMS

A. The Consultant may include in the project budget funding for the following items. Verify with project coordinator which items will be provided and/or installed by USU.
   1. Fire extinguishers for each wall cabinet.
   2. Elevator Lock Box Lids (two (2) required).
   3. Cylinders for each door requiring a lock.
   4. USU standard signage. These include interior room signs, exterior building identification signs and interior building directories.
   5. Audio visual equipment.
   6. Information technology infrastructure and equipment.
   7. Installation of toilet room accessories provided by USU.
   8. Furniture, Fixtures, and Equipment

00 01 50 WINDOW MAINTENANCE

A. The building design shall provide for interior and exterior window washing and replacement.

00 01 60 FIRE MARSHAL

A. Communication with the Campus Fire Marshal shall be via the Project Coordinator from Facilities Design & Construction.

B. The following items are required:
   1. Submit to Facilities Design and Construction, for the University’s Fire Marshal’s approval, shop drawings, showing how penetrations of rated walls and floors are being made.
   2. All concealed penetrations of fire separation walls and floors must be inspected by the Campus Fire Marshal during installation. The contractor shall be responsible for giving 48 hours notice before requesting an inspection.
3. University Fire Marshal inspection is required on all water supply lines before any portion of it is covered. Minimum ground cover over all supply lines shall be sixty six inches (66”). Supply lines located under vehicular circulation shall be deeper when possible. Flushing of the system shall be done in the Fire Marshal’s presence.

4. Construction sites shall be equipped with a portable fire extinguisher(s) (not included in allowance) and shall have a water source available for fire fighting. Fire truck access shall be maintained at all times.

5. Provide recessed fire extinguisher cabinets without keys.

6. If required, Fire Marshal will provide access key lock boxes upon request for contractor installation.

00 01 70  PROJECT IDENTIFICATION SIGN

A. The Consultant shall provide the design for the contractor’s project identification sign to be included in the construction documents. Each project over a million dollars shall have a color rendering of the project on the sign.

B. USU Sign Requirements: All project signage shall conform to the USU Sign Standards for temporary and permanent signs. Room signs are required to use standard USU signs (two color options available) and will be manufactured and installed by the USU Sign Shop.

00 01 80  RECYCLING

A. Recycling stations shall be comprised of sets of three identical separate gray bins. Lids for each bin shall be as follows:
   1. Paper bins should have a blue lid with a rectangular opening.
   2. Glass, cans, and plastics bins should have a blue lid with a circular opening.
   3. Trash bins should have no lid or black lid with an unrestricted opening.

B. Rubber Maid Slim Jim, Busch Waste Watcher, or equivalent bins are recommended.

C. Cabinets that conceal bins or other bin designs that meet color indication, restrictive lid, and labeling specifications are also acceptable. Landmark Studio & Design, Max-R, and CleanRiver Recycling Solutions can provide recommended cabinets and bins.

D. Labeling: Bin labels should be vertical on the face of the bin or above the bin. Labels should include text and images describing the contents of the bin. Additional labels on the lids are also recommended. Recycleacrossamerica.org labels or equivalents are recommended. Labels should reflect the following categories:
   1. Mixed paper
   2. Glass, cans, and plastics
   3. Landfill
E. Recycling stations should be located in visible areas, at least one per floor, in:
1. Public entrances
2. Elevator lobbies
3. Halls 50’ or longer
4. Break rooms
5. Copy rooms
6. Classrooms with occupancy over 100

F. Residence halls, dining locations, athletic facilities, warehouses, special event areas, and other locations with special needs should consult the recycling coordinator.

END OF SECTION 00