2.01 SCHEMATIC DESIGN PHASE

GENERAL

The Architect shall prepare Schematic Design studies illustrating the scale and relationship of project components for approval by the Owner's Representative. All such studies are presented to the Building Committee and Design Review Board (DRB) shall indicate site conditions, plan arrangement and the general scope and character of the Project.

The number of Schematic Design studies actually presented to the Building Committee will vary with the complexity of the project and the experience level of the Architect with respect to the specific facility being designed. In remodel and renovation Project, adequate field investigation beyond information provided by the Owner, shall be performed by the Architect to insure the practicality of the proposed design solutions. Generally, the minimum number of fully developed studies will be two with the average being four. The Architect is expected to continue generating studies until the requirements of Project are met and a Schematic Design is approved by the Building Committee and Design Review Board. The Architect shall not proceed to the Design Development Phase until written approval has been received from the Owner.

Sustainability, particularly when LEED is a project criterion, must be considered from the inception then developed through the design process. These goals should be reviewed with the Owner’s Representative and the Building Committee to establish a realistic expectation within the budgetary constraints. Options and creative solutions should be explored.

SUBMITTAL REQUIREMENTS

The following shall, as a minimum, be provided as part of the Schematic Design submittal. The Architect may submit additional information as appropriate.

Drawings

All drawings submitted to the College shall be dated, show scale and orientation of drawing. All sheets shall carry the title of the project and the Architect’s/Consultants’ names, addresses and telephone/fax numbers. Each project is given an official title, which must be used with consistency on all documents.
Schematic drawings should normally be at a scale of not less than 1/16" = 1' - 0". The minimum submittal shall include the following exhibits:

- Site Plan (can be at a smaller scale)
- Floor Plans of all floors
- Exterior Elevations (at least 2 but preferably all 4)
- Building Section(s) (at least 1 but preferably 2)

Floor plans shall have room’s names as identified in the Building Program. Gross area of each floor and total gross area of the building shall be noted on the floor plan drawings.

The following information shall be included in Schematic Design Submittal Documents for review purposes. Plans shall include minimum overall dimensions and shall be of sufficient clarity to indicate schematically the location, nature and extent of the proposed work. A title sheet and additional sheets as necessary shall be included and contain the following technical information as follows.

**GENERAL**

A schematic table of contents listing drawings anticipated to be included in the construction document submittal package.

Provide an outline of anticipated hazardous materials to be used, stored and probable locations for use and storage within the Facility.

Occupancy and Construction Type based shall be established. Mixed Occupancies and general exiting systems shall be established. Refer to Code Compliance Plan in Appendix A.

For addition and renovation projects a key plan indicating the relationship of the project area to the existing building(s) shall be included. Where portions of existing buildings are to be renovated, adequate drawings shall be included to understand the general scope of the demolition work.
TECHNICAL INFORMATION

Building Classification

Occupancy Classification

Compute the floor area and occupant load of the building or portion(s) thereof. Indicate the occupancy group(s) which the use of the building or portion(s) thereof most nearly resembles. See the Code Compliance Plan example for buildings with mixed occupants. Demonstrate by drawing and/or narrative how the building will conform with the occupancy UBC requirements in Chapters 3 and 4 or applicable Chapter of the soon to be adopted IBC.

Type of Construction

Indicate the type of construction proposed for the building. Indicate the building materials proposed and the fire resistance of the parts of the building. Demonstrate by drawing and/or narrative how the building will conform with the type of construction requirements in UBC Chapter 6 or applicable Chapter of the soon to be adopted IBC.

Location on Property

Indicate the location of the building on the site and clearances to property lines and/or building on a plot plan. Fire resistance of exterior walls and opening protection as identified in the UBC. Specifically advise the Owner of any requests for Code Variance under consideration by the Design Team.

Allowable Floor Area for Code Analysis

Indicate the proposed floor area and calculate the allowable floor area for each occupancy in the building. Indicate basic allowable floor area for each occupancy group and type of construction. See UBC for allowable increases based on location on property and installation of an approved automatic fire sprinkler system. See UBC for allowable floor area of multi-story buildings. Demonstrate by drawing and/or narrative the total allowable and actual proposed floor area. Identify any Area Separation wall. Provide mixed-use calculations for multiple occupancy buildings as identified in the UBC, Chapter 5 or applicable Chapter of the soon to be adopted IBC.
Height and Number of Stories

Indicate the height of the building, and the number of stories. See UBC for the maximum height and number of stories permitted based on occupancy group and type of construction: for allowable story increase based on the installation of an approved automatic fire-sprinkler system. Include the allowable and proposed height and number of stories in the narrative. Chapter 5 or applicable Chapter of the soon to be adopted IBC.

Exiting and Accessibility

Provide a Schematic accessibility exiting design indicating how exiting from all portions of the building will conform to the requirements of UBC or applicable Chapter of the soon to be adopted IBC. Indicate proposed rated corridors, stair enclosures, exit passageways, horizontal exits, etc. In renovation and remodel Projects in historic buildings, particular analysis must be completed to identify deficiencies in general construction due to code or occupancy changes: in many instances, a fire sprinkler and/or system may be used to mitigate such conditions. Consult the Uniform Code for Building Conservation or other applicable publication on the soon to be adopted IBC and review such Projects with the Building Official and Fire Department.

Remodels and Additions

In most cases, renovation/addition projects require all the previously requested information in addition to the following:

- Square footage and locations of areas to be renovated.
- Square footage and occupancy classifications and uses of existing spaces not to be renovated.
- Details of investigations necessary to determine the type of construction of the existing building and types and locations of fire resistive construction such as:
  - Area Separation Walls
  - Vertical and Horizontal Occupancy Separations
  - Horizontal Exits
  - Occupancy Separations
  - Rated Corridor Construction

Overall floor plans indicating how exiting from renovated areas interface with all other adjacent areas.

Note: Verification of required opening protection in fire resistive construction should also be noted.
Structural Analysis

Provide sketches and descriptions of proposed structural systems. Particularly in building containing sensitive equipment, the Architect shall incorporate vibration analysis appropriate to the Project’s requirements.

Building Systems

Provide sketches and descriptions of plumbing, mechanical and electrical systems as outlined in Sections 2.02, 2.03, 2.04 & 2.05.

Schematic Drawings:

1. Plumbing Drawings
   a. Narrative description (Design Intent) of the proposed building support systems.
   b. Restroom locations with water closets, lavatories and urinals
   c. Piping riser diagrams
   d. Location of water, gas, sanitary sewer, storm sewer and sprinkler services to the building
   . Tentative fixture and equipment schedule
   f. Location, sizes and types of major equipment such as boilers, water heaters, heat exchangers, and flues/chases where required
   g. Provide a fixture-count calculation sheet

2. HVAC Drawings
   a. Narrative description (Design Intent) of all proposed Mechanical systems.
   b. Preliminary HVAC load calculations
   c. Equipment schedules with tentative sizes, capacities, features, etc.
   d. Mechanical-room drawings, showing locations and sizes of fans, and if possible, pumps, compressors, heat exchangers.
   e. Shaft locations and sizes with supply, return, fresh air and exhaust ductwork and piping. Vertically mounted intake louvers are required to face the east since most wind directions are from the northwest to southeast direction.
   f. Access and pathway to utility systems from the underground tunnel where applicable.
   g. System Schematics showing all system components and control devices.
3. Electrical Drawings
   a. Narrative description of the proposed Electrical system.
   b. Identify proposed electrical room/closet areas.
   c. Identify main electrical feed type of service and location.
   d. Identify and locate proposed electrical sub-panel locations, type and size at each floor.
   e. Tentative lighting fixture layout, type and count.

Building Materials

Provide an outline of proposed construction materials.

Technical Specification

An outline specification listing the major components of the design is required. The Architect shall provide a list of any proposed materials or equipment items that vary from the requirements and standards stated in this Manual or the Building Program.

Tabulation of Areas

The Architect shall prepare a tabulation of areas for each of the Schematic Design studies that are presented to the Building Committee. The tabulation shall indicate the Net Assignable Square Feet (NASF) of all spaces. Programmed spaces shall be identified by Building Program name. The tabulation shall list programmed NASF where applicable and indicate the amount the space is either over or under the programmed amount.

Cost Estimate

When required by the Agreement Between Owner and Architect, the Architect shall prepare a statement of probable construction cost of each Schematic Design study. Appropriate amounts for contingency and inflation shall be included in the construction estimate to reflect anticipated condition at the time of bidding. When the Owner employs an independent Cost Consultant or CM/GC Contractor, the Architect shall review their estimates/reports and notify the Owner in writing if the Architect takes exception to any item or items in said reports. These cost issues then will be discussed and resolved with the Owner and Cost Consultant/(CM/GC) Contractor. The scope and documents will be revised accordingly with no additional charges to the Owner.
Models and Perspective Drawings

For most projects, the Architect will be required to provide the Owner with a perspective rendering and/or a presentation quality model of the project. The actual requirements for each project will be specified in the Agreement Between Owner and Architect.

When models are required they should show as much detail as possible at the scale to which they are built. Usually the required minimum scale is 1/16" = 1 ft. The model should be on a base large enough to permit inclusion of adjacent streets, approach drives and walks and associated parking and service facilities and should be provided with a clear plastic cover.

When a perspective is required, it should show the proposed building on its actual site, not in a vacuum without surrounding or adjacent buildings, or with unrealistic entourage. A pedestrian's view rather than a bird's eye vantage point is preferred.

A prime purpose for preparing either models or perspectives is for photographic reproduction for slide presentations, for fund raising and for general publicity purposes. The Architect shall provide the Owner with a minimum of one set of slides and 8" x 10" color prints fully describing the model and/or perspective. Additional sets of slides and/or prints, if requested, will be considered reimbursable expense under the terms and conditions of the Agreement Between Owner and Architect.

All perspectives or models described above become the property of the Owner.

Study models made by the Architect are encouraged by Colorado College to help in developing the design and communicating it to the Building Committee. Study models will be considered a part of the Architect's Basic Services.

REVIEWS

The first formal College review is made after a single Schematic Design has been selected by the Building Committee.

The schematic design submittal will be reviewed in detail by the Building Committee, other Representatives (not on the Building Committee), Facilities Services, Environmental Health and Safety, and other Administrative and Academic Personnel. Written comments will be assembled by the Owner and will be transmitted to the Architect for inclusion in the design or for further study or discussion. Each comment requires a written response from the Architect and/or Consultant.

The Architect shall at this time review the design with the Code Officials and shall furnish the Owner's Representative with copies of resulting comments and suggestions.

After the schematic submittal has been approved by the Building Committee, the Architect and Design Review Board will be notified, in writing, to begin preparation of the Design Development Documents.