Design Document Submission Requirements

Purpose

The purpose of this document is to provide additional details regarding design submissions at each stage of the design process outlined in the A/E Contract. The intent of the document is to clarify what is expected at each stage of the Design Review Process. Doing so will not only ensure that all proposals received in response to an RFP can be compared equally, it will also provide a benchmark throughout the design review process. This document should be used by the A/E in the process of preparing their proposal and determining schedules. It should then be used throughout the design process as a guide for preparing each submission. Submissions made by the A/E shall be compiled and submitted from a single source. The intent is to ensure that the A/E has assessed the work and that the design effort has been coordinated with all of the disciplines. Each submission will be evaluated by the SRP Project Manager for 'completeness' prior to being submitted for Technical Review. An incomplete submission that does not include all disciplines is a direct indicator that the disciplines involved in a design have not been coordinated. Incomplete submissions will be returned to the A/E and will need to be completed and re-submitted.

1.0 General Design Review Objectives

The General Design Review Objectives are to produce buildings that:

- Satisfy the spatial and functional needs of the users as described in the **Project Plan.**
- Designed specifically for the actual climate and other physical parameters of the site.
- Designed for the minimum capital cost consistent with lowest life cycle costs.
- Meet the requirements of the '**Design Guidelines**'.
- Meet all applicable Codes and Regulations.

Guiding Principles:

Good design review is advisory: It does not make the decisions, but offers impartial advice for the decision makers. It offers constructive, impartial, peer advice that will help assess designs from a broader perspective and identify any fundamental weaknesses as opposed to providing alternative design solutions. It does not provide advice to redesign schemes, rather, it offers comments that will lead to their improvement.

Good design review is accessible: Findings should be clearly expressed in language that decision makers and clients can understand and use. The design review process is as transparent as possible.

Good design is timely: It takes place as early as possible in the life of a design, because this is when changes can be made with the least time and cost implications.

Good design review is focused on outcomes for people: It evaluates how a building or place can better meet the needs of the people using it and of anyone who is affected by it.

Good design review aims to improve quality: It constructively seeks to raise the quality of all buildings and places by providing advice that enables better quality design solutions.

Project Plan

The Project Plan is a document which outlines project requirements for the client and delivery departments, establishes a basis (functional, spatial, and technical criteria) for evaluating design solutions/alternatives, provides a reference document for design A/E, and provides a reference for post-occupancy evaluations.

SRP Design Guidelines

The SRP Design Guidelines is a living document that assumes an advisory role for the particular project in design, while renewing the challenge to designers and builders to be innovative in applying the practices. Designers and builders are encouraged to present alternatives to these suggestions or to present new or innovative ways of resolving technical problems or of reducing building life-cycle costs. This is the process whereby the SRP Design Guidelines will evolve over time for subsequent projects.

Design Review Scope

"Design" is a word that encompasses a number of activities within the fields of Architecture and Engineering. During the design phase of any project several documents are usually produced, each with a specific scope and objective. The scope of the Design Review and the resulting report is limited by the scope of the design contract.

Note that while issues related to improper application of applicable Codes and Regulations identified through the process are noted and included in the resulting report, the Design Review is not a comprehensive Code Review. The Design Firm is responsible for ensuring their design documents meet the applicable codes and standards.

Design Review Output

The result of the Design Review should be a report presented in tabular format prepared and maintained by the A/E. It contains both the comments offered by the reviewers and the related response from the Design Firm. Significant design decisions are recorded. Specific design elements that require additional research, such as the proposed use of new materials, technologies or methods that have not been proven, are documented in detail with specific recommendations. The intent is to provide the Project Team with the information that it requires to make design related decisions in a timely fashion to move the project forward.

2.0 Review Stages and Submission Requirements

The building design may consist of two to five stages, such that each stage culminates in a distinct product requiring reviews and approval. Each design phase shall include the items required for the previous design phases in the matrix at the end of this document, even if they were not listed individually in the A/E contract. The specific design stages for a project are established by the Owner Representative, in conjunction with Engineering, from the following five stages:

1. Schematic Alternatives Evaluation Phase
2. Schematic Design Phase
3. 30% Design Development Design Phase
4. 50% Construction Document Design Phase
5. 100% Construction Documents Design Phase

2.1 Schematic Alternatives

In this stage, the A/E is given an opportunity to demonstrate practical and imaginative responses to the Project Plan. Alternatives for site, functional layout, building sections, elevations, and building systems are developed considering the objectives, assumptions and criteria in the Project Plan and the governing codes and regulations. The alternatives are reviewed and evaluated. The most cost-effective and technically appropriate alternative is then selected for development of a schematic design.

The purpose of this submission is to review alternatives presented by the A/E exploring ways of achieving the owner's goals and objectives. Project cost, relative benefits, and project schedule, are reviewed for each alternative so the owner can make practical and informed decisions within the given restraints. Depending on the type of building, limitations created by site, or specific program requirements; there may need be only one alternative submitted. In any project, there should be no need for more than three alternatives.

Drawings:

Freehand sketches are acceptable as long as they are to scale and the scale remains consistent.

- Site plan alternatives
- Floor plan alternatives
- Building section alternatives
- Elevation alternatives
- Equipment alternatives
- System alternatives

Narrative Information:

Report(s) on the following in a letter format is sufficient at this stage.

- Adequacy of site, program areas, and budget.
- Foundation/structural alternatives worth considering.
- Architectural design alternatives worth considering.
- Plumbing system alternatives worth considering.
- Cooling system alternatives worth considering.
- Heating system alternatives worth considering.
- Ventilation system alternatives worth considering.
- Power system alternatives (i.e. phase/loads) worth considering.
- Lighting system alternatives worth considering.
- Other electrical systems alternatives worth considering.
- A summary table or listing of applicable code requirements and proposed responses.
- Preliminary cost estimate information that will allow the owners to confirm the project budget.
- **Class "D" Estimate**

- **Detailed Site Investigation**

If the project plan calls for a detailed site investigation of an existing facility, the A/E should report on the current condition, performance, and potential service life. Building systems include but are not limited to the following:

- Site (drainage and amenities)
- Foundation
- Structural systems
- Building envelope (roof, walls, floors) doors and windows (including hardware)
- Interior finishes
- Plumbing systems
- Cooling systems
- Heating systems
- Ventilation systems
- Electrical system
- Lighting
- Alarms
- Fire protection systems
- Data & Communications systems

Recommendations to repair or replace the above building systems should be made when appropriate. Any recommendations made should be accompanied by a life cycle cost analysis. If alternatives are presented, a cost benefit analysis should be included.

- **Evaluation of Alternatives**

All alternatives presented must be evaluated and recommendations must be presented. The alternative selected must be technically feasible and must also meet the specified objectives and criteria described in the Project Plan. In this document the A/E must:

- Present an evaluation of the alternatives. The A/E must limit specific recommendations to those matters related to the technical aspects of the project.
- Use the objectives, assumptions and criteria provided in the Project Plan and good architectural and engineering practice to evaluate alternatives. Although the selection and evaluation of alternatives must be thorough, it is not intended that the A/E undertake detailed design to evaluate alternatives.
- Document and quantify the advantages and disadvantages of the alternatives. Identify the apparent risks and potential problems with each alternative.
- Ensure that proposed alternatives are technically feasible, practical, and economical. Serious problems or issues should not arise in the design development phase that would cause the alternative to be abandoned or to significantly alter the concept, design, cost, or cost effectiveness because pertinent information was not collected.
- Prepare cost estimates for alternative concepts and systems. Prepare economic analysis of the alternatives.

2.2 Schematic Design

Based on the agreed criteria and the preferred alternative established within Part 2.1 or the Project Plan, the A/E prepares schematic design documents, consisting of drawings and other documents illustrating the general scope, scale and relationship of the project components. Designs produced will be conceptual in character, indicating the proposed plan form, site plan and appearance of the facility with relation to orientation, topography, adjacent land use and utilities, as well as general approach to structural, mechanical, plumbing, and electrical systems. Furthermore, the A/E outlines major mechanical, plumbing, electrical, structural and architectural sub-systems to demonstrate that the preferred alternative can be implemented, that it represents the best solution to the requirements of the Project Plan, and that it complies with all governing codes and regulations.

The purpose of this review is to assess the suitability of the schematic alternative in meeting the requirements of the Project Plan, stakeholders' aspirations, and budget objectives. Architectural, Mechanical, Plumbing, and Electrical systems will be outlined in greater detail to clearly reveal project design direction, cost implications and how the building systems are integrated.

Drawings:

The submitted drawings shall be as indicated for the Schematic Design Phase in the matrix at the end of this document section.

Narrative Information:

- Changes to any pre-design information prepared for the A/E and agreed to at the previous review are to be documented and incorporated into the Schematic Design.
- Description of any design "features" or important site conditions that may not be apparent from the drawings alone.
- Type and height requirements for walls and/or fencing.
- The rationale behind any important design decisions that may assist in explaining choices, which may not appear to be appropriate.
- Summary of floor areas compared to program areas.
- Foundation/structural system description.
- Identify areas where the design deviates from the SRP Design Guidleines, providing substantiation and costing.
- Include a copy of preliminary design calculations for the cooling load, heating loads, and ventilation rates.
- Provide a discussion of the HVAC controls systems and their interaction with the BAS.
- Provide information and description of major equipment and components to be used in the building.
- A confirmation or updated statement of the building program's utilities demand quantities. The A/E shall meet with the SRP Project Manager and Project Team to discuss the adequacy of utility systems and the physical location of all connections. If there is an apparent shortfall in capacity to serve the project, the submittal shall include notice to that effect. The following items shall be included:

1. Chilled Water – The peak demand of the building on the central chilled water system and a verification that sufficient capacity exists shall also be included.
2. Electrical – Estimate of KVA load and identification of source and adequacy of supply. A statement relative to the adequacy of the primary electrical supply to the site. If the primary source is inadequate, state measures proposed to correct the deficiency. The basis for selecting a primary and/or secondary distribution voltage. Describe the pertinent standards of design, such as voltage drop, physical characteristics of overhead or underground circuit, types of lighting units and lighting intensities.
3. Potable Water and Sanitary Sewer – Identification of number of gallons per day, identification of source of water supply and method of sewage disposal. Analysis of capacity of supply and disposal sources. Discussion of any permit requirements.
4. Fire Protection – Identification of the minimum and maximum pressures available for the system. An explanation of the existing system covering particularly the type, capacity, elevation differential, and the designer's basic estimate of tentative service pipe sizes.
5. Irrigation Water – Identification of number of gallons per day required and identification of supply source.
6. Communications duct bank connectivity and distribution system capability.

- **Class “D” Estimate**

- **Preliminary Code Analysis**

A Preliminary Code Analysis to be provided. The Code analysis should identify the following:

- A list of applicable Codes and Standards
- A Building Description including:
  - Major Occupancies
  - Building Area
  - Number of Stories
  - Number of Streets
  - Building Construction Type
- Major Fire Protection and Life Safety Requirements including:
  - Building Construction
  - Spatial Separation and Limiting Distance
  - Fire Separations
  - Egress and Exiting
  - Occupant Load and Exit Capacity
  - Location of Exits
  - Water Supply or Fire Suppression Agent
  - Sprinkler Systems
  - Fire Detection and Alarm System
  - Fire Department Access
  - Barrier Free Requirements
  - Discussions on any elements that may be of concern to the Fire Marshal.
- Drawings
  - Proposed Site Plan
  - Proposed Floor Plan
  - Proposed Elevations
  - Proposed Floor Plans (Identifying Fire Separations)

2.3 30% Design Development Phase

In the 30% Design Development Phase, the A/E prepares drawings based upon the selected schematic design alternative, in order to determine more precise aspects of planning, appearance and construction. These documents illustrate and define the design concept in terms of site, plan form, character, materials, and the systems for structural, mechanical, plumbing, and electrical.

The drawings and preliminary specifications produced during this phase shall be based on the selected and approved schematic design alternative and typically will be of sufficient detail to allow for stakeholder reviews. Site plans, floor plans, elevations, representative sections, drawings outlining the mechanical, plumbing, and electrical systems, as well as a description of all the critical components of the building technology, materials, and equipment are presented. These documents will not, however, be sufficient to enable construction of the project. Standard details and notes shall not be included in this design phase submittal.

The A/E will select materials and equipment which are appropriate for the exposure to which they will be subjected, giving consideration to obtaining an extended useful life with low operating and maintenance cost. Evaluation of operating and maintenance costs shall be a part of any initial materials and equipment decision. Products which have not achieved a minimum five-year period of successful use in the construction market shall not be used, unless approved in writing by the SRP Manager of Design & Construction.

The A/E shall prepare drawings and specifications so that the Bidder is permitted a choice of competitive materials or methods which are equally satisfactory for the intended purpose and comparable in value. The A/E shall not use exclusive requirements when specifying equipment and materials on drawings and specifications. The drawings and specifications must permit competition consistent with the work involved. Specific manufacturers and model number shall be listed to establish the basis of design. However, at least two equivalent manufacturers shall be named and the opportunity provided for other products to be submitted for approval in order to qualify before the bid date.

If a proprietary specification for materials or equipment is required, the A/E shall secure approval of the SRP Manager of Design & Construction prior to its use in the drawings and specifications.

The purpose of this review is to finalize design related issues, technical criteria, technical performance objectives, and budget forecasts so that the contract documents can be prepared. The Design Development submission must fully convey the design intent and scope of the project. **Further advances to the project documentation should not proceed until the design development has received approval.**

Drawings:

The submitted drawings shall be as indicated for the Design Development Phase in the matrix at the end of this document section.

Narrative Information:

- Record of any revisions or clarifications to the project requirements made since the previous review.
- Description of any design "features" or important site conditions (reaffirmed or revised based on previous submission).
- The rationale behind any important design decisions (reaffirmed or revised based on previous submission).
- Summary of floor areas compared to program areas.
- Structural assumptions used to calculate both floor and roof loading.

- An updated statement of the building program's utilities demand quantities, and discussion. If there is an apparent shortfall in capacity to serve the project, the submittal shall include notice to that effect. The following items shall be included:

    1. Chilled Water – The peak demand of the building on the central chilled water system and a verification that sufficient capacity exists shall also be included.
    2. Electrical – Estimate of KVA load and identification of source and adequacy of supply. A statement relative to the adequacy of the primary electrical supply to the site. If the primary source is inadequate, state measures proposed to correct the deficiency. The basis for selecting a primary and/or secondary distribution voltage. Describe the pertinent standards of design, such as voltage drop, physical characteristics of overhead or underground circuit, types of lighting units and lighting intensities.
    3. Potable Water and Sanitary Sewer – Identification of number of gallons per day, identification of source of water supply and method of sewage disposal. Analysis of capacity of supply and disposal sources. Discussion of any permit requirements.
    4. Fire Protection – Identification of the minimum and maximum pressures available for the system. An explanation of the existing system covering particularly the type, capacity, elevation differential, and the designer's basic estimate of tentative pipe sizes.
    5. Irrigation Water – Identification of number of gallons per day required and identification of supply source.
    6. Communications duct bank connectivity and distribution system capability.

- **Class “C” Estimate**

- **An Updated Building Code Analysis (if changes have occurred) – see ‘Schematic Design Submission’ (Section 2.2) for further details.**

- **An Updated Code Analysis bringing in the engineering codes and standards which are unique to the occupancy types and scope of work.**

2.4 50% Construction Document Phase

In this phase, the A/E prepares construction documents consisting primarily of working drawings and specifications. Working drawings are graphic representations that include plan views elevations, sections, and site plans. These drawings also illustrate coordination of structural, mechanical, electrical and utility plans. Standard details and drawing notes shall not be included in this design phase submittal.

A major part of working drawings consists of larger scale representations of certain parts of the project, clearly showing arrangements, assemblies, and profiles. Specifications are written descriptions of all elements that are best described rather than delineated, including requirements related to the manufacture, methods of installation, design, testing, commission performance criteria and workmanship of materials and equipment.

Drawings:

The submitted drawings shall be as indicated for the 50% Construction Document Phase in the matrix at the end of this document section. A partially completed set of drawings and details is required which contains enough information to allow a full understanding by the review of the intended choices of materials, assembly, design features, spatial requirements of equipment, fittings and fixtures. The emphasis should be on providing basic information on almost all aspects of the project rather than issuing fully completed segments separated by near blank information gaps. Although designated as 50% Construction Documents, approximately 2/3 of the total effort devoted to construction documentation would normally have to be expended to convey this amount of information.

2.5 100% Construction Documents Phase

The purpose of this submission is to ensure that all systems, products and assemblies are adequately communicated to potential bidders or those responsible for the construction of the facility. The documents are reviewed for completeness and coordination. The submitted drawings shall be as indicated for the 100% Construction Document Phase in the matrix at the end of this document section and should be ready for bidding. The drawings shall include a list of the applicable sections within the SRP construction specification to be used by contractor during the construction. An electronic copy can be located at http://www.srpnet.com/electric/business/facilityspec.

- **Construction Scope of Work narrative**
- **Class "B" Estimate must be submitted at this review.**
- **An Updated Building Code Analysis (if changes have occurred) – see 'Schematic Design Submission' for further details**
- **An Updated Code Analysis refining in the engineering codes and standards which are unique to the occupancy types and scope of work.**

3.0 DRAWING SUBMITTAL REQUIREMENTS BY DESIGN PHASE

Description	Schematics	30% Design Development	50% Construction Documents	100% Construction Documents
GENERAL				
Project title and street address.	X	X	X	X
List of design consultants contributing to the project.	X	X	X	X
Creation date and revision dates.	X	X	X	X
Summary listing the applicable codes compliance criteria.	X	X	X	X
Life safety floor plans.		X	X	X
Summary of code related design parameters on the drawings noting the applicable codes compliance criteria including travel distances, sprinkler requirements, ratings of fire protection, exit width requirements, building type, construction type, occupancy classification, etc.	X	X		X
Summary of code related design parameters on the drawings noting the applicable engineering codes and standards which are unique to the occupancy types and scope of work.		X		X
Key plans of site and buildings indicating location of work pertinent to the drawing sheet.		X	X	X
List of drawing sheets included.				X
List of applicable specifications for each discipline.				X
Stamped signed drawings.				X
CIVIL				
Existing master plan drawing showing the location of the project and a demonstration of the master plan's intent for the project.	X	X		
Site plan with diagrammatic indications, showing the relationship of all components, site utilities, and circulation elements, including consideration for future site development consistent with the master plan infrastructure requirements.	X	X		
Site plans showing existing buildings, parking, roads, walks, storm drainage, and utility systems.	X	X	X	X
Site plans showing proposed building sites; and routing of roads, walks, storm drainage, and utility systems.	X	X	X	X
Demolition plans.		X	X	X

Description	Schematics	30% Design Development	50% Construction Documents	100% Construction Documents
Site plans showing new buildings, roads, walks, storm drainage, and utility systems.		X	X	X
Site plans showing existing and new hardscape, landscape, irrigation system, signage, graphics, and special site features.			X	X
Provide details for civil improvements.				X
ARCHITECTURAL				
The plan of each floor showing existing and new furniture, equipment, millwork, fixtures, and any other use-determining factors.	X	X	X	X
Area recap and square footage should be indicated for each floor plan area and for the project in total in comparison to that required by the program.	X	X	X	X
Demolition plans.		X	X	X
Exterior wall sections to indicate the methods of construction.		X	X	X
Roof plan showing equipment and other significant features on the roof.		X	X	X
Non-structural framing in plan views.		X	X	X
Exterior elevations, delineating materials and noting floor elevations at each level.			X	X
Exterior wall and roof details necessary to indicate the methods of construction.			X	X
Provide large scale plans describing complex, intensely equipped or furnished areas, and areas needing clarification.			X	X
Non-structural partition type details.			X	X
Door Schedules.			X	X
Window elevations.			X	X
Reflected ceiling plans.			X	X
Roof plan showing roof design and all other items on the roof.			X	X
Restroom partitions and accessories presented in plan views.			X	X
Signage and graphics.			X	X
Finish plans.			X	X
Door Details.				X
Window Details.				X
Restroom partitions and accessories presented in elevations.				X

Description	Schematics	30% Design Development	50% Construction Documents	100% Construction Documents
Provide large scale interior elevations describing complex, intensely equipped or furnished areas, and areas needing clarification.				**X**
Transverse and lateral sections through the building, indicating heights, vertical circulation, and relationships. The finished floor elevations of each level should be given.				**X**
Finish schedules.				**X**
Provide details for all architectural improvements.				**X**
STRUCTURAL				
Provide a plan view of floor plate and description of foundation conditions, types of foundations to be used, the method by which the allowable bearing value is to be determined, and the maximum allowable bearing capacity for the foundation.	**X**	**X**	**X**	**X**
Demolition plans.		**X**	**X**	**X**
Plans showing structural framing members.		**X**	**X**	**X**
Plans showing floor structural membranes and floor elevations.		**X**	**X**	**X**
Show limited load carrying capacities and statements of live loading to be used including floor loads, wind and lateral loads, earthquake, etc. with justifying data.		**X**	**X**	**X**
Plans showing structural framing members sizes and special design features.			**X**	**X**
Provide structural building sections, transverse and longitudinal, indicating vertical relationships and headroom.			**X**	**X**
Provide structural details.			**X**	**X**
MECHANICAL				
Provide floor plan showing existing and new primary equipment, piping mains, and duct work mains.	**X**	**X**	**X**	**X**
Demolition plans.		**X**	**X**	**X**
Show piping schematics with primary equipment and main lines.		**X**	**X**	**X**
Provide equipment schedules with basic capacity data.		**X**	**X**	**X**

Description	Schematics	30% Design Development	50% Construction Documents	100% Construction Documents
Provide floor plan showing all equipment, piping, and duct work.		X	X	X
Provide large scale plans describing complex, intensely equipped or furnished areas, and areas needing clarification.			X	X
Show complete piping schematics.			X	X
Show equipment maintenance access space in plan views.			X	X
Show duct and pipe dimensions on all sheets.			X	X
Show air flow rates at air devices.			X	X
Show ventilation calculation data for each zone.			X	X
Provide complete equipment schedules.			X	X
Provide control system schematics for each piece of equipment.			X	X
Provide a Sequence of Operation for each piece of equipment and system.			X	X
Provide section views showing equipment, piping, and duct work.			X	X
Provide section views of large scale plans describing complex, intensely equipped or furnished areas, and areas needing clarification.				X
Provide a Points Schedule for the building automation system (BAS).				X
Provide installation details for each piece of equipment.				X
PLUMBING				
Floor plans showing existing and new fixtures, primary equipment, and main lines.	X	X	X	X
Provide equipment schedules with basic capacity data.		X	X	X
Provide the estimated number of fixture units and GPM for all plumbing fixtures.		X	X	X
Demolition plans.		X	X	X
Provide fixture schedules with basic fixture information.		X	X	X
Floor plans showing all piping, fixtures, and equipment.		X	X	X
Floor plans showing all pipe sizes.			X	X

Description	Schematics	30% Design Development	50% Construction Documents	100% Construction Documents
Provide fixture schedules listing all data for fixtures and accessories			X	X
Provide complete equipment schedules.			X	X
Provide building water usage calculations.			X	X
Provide domestic water riser diagrams.			X	X
Provide sanitary drainage and vent piping riser diagrams.			X	X
Provide large scale plans describing complex, intensely equipped or furnished areas, and areas needing clarification.			X	X
Building sections showing risers, branch lines, fixtures, and equipment.				X
Provide section views of large scale plans describing complex, intensely equipped or furnished areas, and areas needing clarification.				X
Provide installation details for all equipment.				X
FIRE PROTECTION				
Indicate service hydrant, stand pipe, test valve, and fire pump locations.	X	X	X	X
Indicate risers and hose cabinets.		X	X	X
For sprinkler systems indicate the hazard rate of occupancy for each area in a plan view, the type of sprinkler system (wet or dry), water volume, and water pressure required.		X	X	X
Demolition plans.		X	X	X
Provide installation details for each piece of equipment.				X
LIFE SAFETY				
Floor plans showing existing and new equipment.	X	X	X	X
Provide equipment schedules with basic capacity data.		X	X	X
Provide complete equipment schedules.			X	X
Floor plans showing equipment, cabling, and devices.			X	X
Fire alarm system riser diagrams showing equipment, cabling, and devices.				X
Provide installation details for each piece of equipment.				X

Description	**Schematics**	**30% Design Development**	**50% Construction Documents**	**100% Construction Documents**
ELECTRICAL				
Provide plan views showing the existing main switchboard, transformers, power panels, light panels and equipment panels.	**X**	**X**	**X**	**X**
Provide plan views showing the location of all existing equipment, lights, power outlets, switches, etc.	**X**	**X**	**X**	**X**
Provide plan views showing the new process equipment.	**X**	**X**	**X**	**X**
Indicate the requirements for the emergency electrical system, if required.	**X**	**X**	**X**	**X**
Provide existing one line electrical distribution diagrams.	**X**	**X**	**X**	**X**
Demolition plans.		**X**	**X**	**X**
Indicate the location of new switchboards, transformers, power panels, light panels and equipment panels.		**X**	**X**	**X**
Provide plan views showing the new equipment and light fixtures.		**X**	**X**	**X**
Indicate type of wiring system, such as a rigid conduit, electrical metallic tubing, non- metallic sheathed cable, and where proposed for use.		**X**	**X**	**X**
Provide light fixture data schedules.		**X**	**X**	**X**
Provide equipment schedules with basic capacity data.		**X**	**X**	**X**
Provide new one line electrical distribution diagrams.		**X**	**X**	**X**
Provide complete equipment schedules.			**X**	**X**
Provide panel schedules.			**X**	**X**
Indicate individual conduits 2” and larger on plan views.			**X**	**X**
Indicate groups of conduits 12” and wider on plan views.			**X**	**X**
Indicate junction boxes and pull boxes with a dimension 12” of larger on plan views.			**X**	**X**
Provide plans showing the new power outlets and switches.			**X**	**X**
Indicate circuiting on power and lighting plans.			**X**	**X**
Provide plans view showing photometric data.			**X**	**X**

Description	Schematics	30% Design Development	50% Construction Documents	100% Construction Documents
Provide large scale plans describing complex, intensely equipped or furnished areas, and areas needing clarification.			**X**	**X**
Lightning protection system if required.			**X**	**X**
Provide lighting control system riser diagram.			**X**	**X**
Provide sequence of operation for lighting control system.			**X**	**X**
Provide installation details for each piece of equipment.				**X**
DATA & COMMUNICATIONS				
Floor plans indicating the location of existing equipment, cabling, and devices, and outlets for the telephone, computer data systems, wireless data, access security, and CCTV equipment.	**X**	**X**	**X**	**X**
Floor plans indicating the new primary equipment for the telephone, computer data systems, wireless data, access security, and CCTV equipment.	**X**	**X**	**X**	**X**
Demolition plans.		**X**	**X**	**X**
Floor plans indicating the new equipment and devices for the telephone, computer data systems, wireless data, access security, and CCTV equipment.		**X**	**X**	**X**
Floor plans indicating the new equipment, cabling, devices, and outlets for the telephone, computer data systems, wireless data, access security, and CCTV equipment.			**X**	**X**
Provide large scale plans describing complex, intensely equipped or furnished areas, and areas needing clarification.			**X**	**X**
Bonding and grounding requirements.			**X**	**X**
Provide installation details for each piece of equipment.				**X**