QUALITY ASSURANCE/QUALITY CONTROL PLAN

Management Approach

The following Quality Assurance/Quality Control (QA) plan is directed toward conventional multidisciplinary design projects involving architectural and engineering drawings and specifications.

HOK's Quality Assurance and design control begins by staffing projects with highly experienced, senior personnel who know the project type and lead the support team in a thorough, consistent and coordinated project approach. Design, management and technical personnel are assigned at the earliest phases of the project to assure continuity throughout the course of the work and that all considerations for the facility needs are explored early in the process to find the most appropriate solutions for the project.

Team Organization

Our team structure promotes a straightforward management approach to the design required for the contract. The Design Manager will be the **point of control** for activities within the delivery team and communications with the AFCEE/client team. Our Technical Architect is a senior person assigned to coordinate the project who reports directly to the Design Manager. Our management approach provides:

- A highly qualified, experienced Design Manager, who is **your primary point of contact** from the beginning of the project through completion with **authority for the commitment of resources;**
- Depending on the scope of the project, a dedicated Technical Architect with **responsibility for coordination of disciplines;** and a
- A selection of technically qualified personnel and sub-consultants **available to begin work** and **committed to the project** for its duration.

The core team will be made up of qualified HOK professionals and appropriate sub-consultants as needed. The sub-consultant specialists will be familiar with our delivery processes and their technology systems will be compatible with ours. Typically, QA responsibilities for team members are as follows:

Design Manager :
- Communicate the project QA plan to project team
- Oversee QA during the life of the project

Project Designer :
- Review documentation to ensure that it accurately records design intent
- Ensure that the design is technically feasible

Technical Architect :
- Coordinate documentation with external project team
- Perform document set reviews with internal project team

Project Team :
- Ensure quality of own work

QA Procedures

HOK employs a service delivery process that includes a Quality Assurance Handbook (see enclosed) with checklist-based QA reviews to confirm each aspect of the project complies with the end-user's requirements for function, image and management. HOK works as a team and is committed to a proven process of consensus-building that would include AFCEE and AFCEE's clients to assure compliance with user expectations.

QA implementation is based on the following principles:

- QA is continuous during the entire course of the project
- Each project team member contributes to consistent QA
- Prior decision making and execution largely determines subsequent project and document quality
- The ability to effect change and take corrective action diminishes during the course of the project

Step One: Review the program, budget, and schedule, in order to confirm project goals and priorities.
Step Two: Establish project delivery standards.
Step Three: Create project QA standards, including data transfer, CAD format, and project team responsibilities. Communicate these standards with project team.
Step Four: Based on these standards, define a project QA plan that outlines the activities, decisions, and responsibilities of each project team member. Establish a QA review schedule at project milestones.
Step Five: Review HOK documents for accuracy and completeness. Verify that document scope is appropriate for each project phase. This review should include technical content, accuracy, and coordination. The documentation should also record project decisions, directions, and design intent.
Step Six: Coordinate HOK documents with other disciplines.
Step Seven: Use QA gatekeeping or peer review to verify quality deliverables and compliance with the QA plan.
Step Eight: Monitor and document QA success on the project. Incorporate these lessons into ongoing QA improvements.

A key component of our QA approach is the review of all projects by the appropriate senior discipline leaders independent of the design team. With the assistance of highly-experienced senior personnel from each technical discipline, design documents for typical projects would be reviewed at intervals agreed for the specific project, which would typically correspond to AFCEE's required deliverable milestones.

Design reviews mandate a total quality check using the checklists, and ensure the project is consistent with good practice and the original project goals. Before final completion of the documents the Technical Architect and each discipline leader review the drawings, specifications and design calculations for completion and conformance to the initial project goals.

Task Order Tracking and Evaluation

All documents related to QA, including completed checklists, are to marked with and filed according to the AFCEE Task Order Number by the Design Manager.

QUALITY ASSURANCE HANDBOOK

Introduction

Improving quality of HOK's professional services and our deliverables is the responsibility of each member of the Project Team.

For this reason, this Project Quality Assurance (QA) Handbook has been compiled to define and establish the minimum standards for the work products or deliverables completed at the end of each phase of services. This document addresses six (6) basic phases or work.

I. Planning Studies and Reports
II. Pre-Design
III. Schematic Design
IV. Design Development
V. Construction Documents, and
VI. Project Coordination.

This document is general in nature and can be modified by the individual project teams to suit the nature, size and complexity of their specific project. All members of the Project Team shall use this document on a regular basis as their own individual guide for quality improvement.

Goals

1. Improve the quality of HOK's services and deliverables.
2. Instill a sense of "do it right" the first time.
3. Provide a learning experience.

Policies

For every project,

1. The Project Team shall be responsible for ensuring the QA Review Process is implemented on their project.
2. Quality Assurance Review Process shall be required and performed at the agreed intervals.
3. Without exception, a documented QA review shall be performed prior to any documents being issued for bidding or construction.
4. The Project Work Plan shall include the forecasted time and associated fee for the QA reviews.
5. The Project Schedule shall include the specific dates and duration for each QA review.
6. A Quality Assurance (QA) Handbook shall be prepared and maintained by the Design Manager.
7. Consultants shall be required to perform a QA Review of their respective work. They can use HOK's QA Handbook, as a minimum, or their own process.

QA Review Intervals

QA checklist reviews will be performed at intervals agreed for the specific project. These would usually correspond to AFCEE's required deliverable milestones, typically at the following intervals.

End of Schematic Design Phase
End of Design Development Phase
Midpoint of Construction Document Phase (50% CD)
End of Construction Document Phase (95% CD)

Quality Assurance Review Process

1. **Project Initiation/"Kick-Off" Meeting**

   During the Project Initiation/"Kick-Off" Meeting, the Design Manager and the Architectural Discipline Director or his representative shall review the Quality Assurance Review Process and its schedule with the Project Team members.

   The Design Manager shall review its contents with the Project Team and identify any additions or modifications, which may be necessary or appropriate for the project. Any additions or modifications shall be noted in the spaces provided at the end of each section.

   A copy of the Project's QA Handbook, as modified, shall be distributed to each Project Team member and it shall be their responsibility to ensure the QA Handbook is periodically reviewed with respect to their area of work.

   A copy of the Project Work Plan and Schedule, both indicating the QA Reviews, shall be distributed to Architectural Discipline Director and the QA Leader.

2. **Initial QA Review** by Project Team

   Prior to each scheduled QA Review, the Project Team shall, utilizing the Project's QA Handbook, conduct an initial review noting which items have or have not been completed. When particular coordination item do not apply, simply mark "N/A" and your initials in the appropriate spaces. These annotations will provide the QA reviewer with proof that an "initial" check has been performed.

   The Design Manager shall then provide to the QA Reviewer the Project's QA Handbook and a set project documents - drawings and specifications.

3. **Formal QA Review** by QA Team

   The formal QA Review will be performed by one or more reviewers who will review the documents and provide comments in the Project's QA Handbook and on the project documents. Comments shall be in "red".

   The documents will be reviewed and annotated and in the QA Handbook items the appropriate information (Date, Reviewer's Initials and Phase) noted in the space provided. During subsequent reviews/phases, items previously noted as complete will be rechecked to assure compliance with the project requirements.

4. **QA Review Meeting**

   After each QA Review, a meeting will be scheduled with the Reviewer(s) and the Project Team to review and discuss the annotated documents. This meeting is very important and must occur since it provides for the learning experience.

5. **Task Order Tracking**

   The QA Handbook including checklists will be returned to the Design Manager who files it in the project master files according to AFCEE Task Order Number as a record of the QA review performed on the project.

I. Planning Studies and Reports

Site Feasibility and Site Selection Studies — HOK may be selected to review various sites to determine the feasibility for a specific land use. This task may include site investigation and analysis, circulation studies, and preliminary site layouts. The product is a selection of a site for development, or an understanding that a specific site can accommodate the development program.

Master Planning — Master Planning is typically a large project effort which includes the following elements: programming, site analysis, design alternatives, selection of a preferred solution, and documentation with renderings, reports, or tests as the final products.

Design Guidelines — The various components of design guidelines include guidelines for planning issues such as site coverage, massing, building insight, prototypical design studies, and development of a design vocabulary for various site elements. Report(s) and graphics documentation and recommended guidelines and treatments are the final products of a design guideline.

II. Pre-Schematic Design Phase (Pre-conceptual Design)

(A written program and a current site survey must precede this. If a program is not available, then the HOK team should either request one from the owner or assist in its creation).

A. GENERAL:

1. Understand the nature of the problem to be solved.
2. Plan the steps necessary to solve the problem/elements identified.
3. Develop design criteria on a prioritized basis.

The above will occur with a careful analysis of the written program by the Project Team.

B. MAIN PRODUCTS OF THE PRE-SCHEMATIC DESIGN PHASE:

1. Statement on the nature of the problem to be solved, including consideration of the following factors:
   - Environmental Assessment and Site Analysis (Site Feasibility Study)
   - Recognition of pertinent portions of the Environmental Impact Report (if applicable)
   - Aesthetic Opportunity and Goals described in drawing and model form
   - Functional Requirements (including interior design and space planning, if commissioned)
   - Project Funding (how is owner paying for project costs, bank loan, grant?)
   - Owner's Project Budget
   - Cost Model
   - Codes and Regulatory Limitations
   - Client's Special Requirements
   - Graphics
   - Format of this statement may include explanatory photographs, sketches, diagrams, etc., in addition to written materials.
2. Summary of goals to be achieved, in response to Item #B.1.
3. Project Schedule in contract for this phase.
4. Fee Allocation (in-house project budget) — Project profitability and other reports checked on a monthly basis.
5. Client's Authorization to Proceed with Schematic Design.

III. Schematic Design Phase (Conceptual Design)

A. GENERAL: The Schematic Design Phase is the "conceptual design" effort. It is the generation of alternative design solutions, and evaluation and choice of one of them.

The generation of alternative design solutions by the Design Team is to be accompanied with comparative estimates of probable construction cost. This is to be paralleled with dialogue between the HOK team to determine what systems should be used, how they compare with each other and their recommendations for selection. An analysis of the proposed systems should be done with diagrams illustrating workability and compatibility of system relationships. After in-house review, the team is to present to the Owner for review, only solutions that best satisfy the design concept. This process shall be reiterated as needed. The refined solutions shall then be submitted to the Owner with the HOK team recommendations for the final selection.

B. THE FOLLOWING ARE THE MAIN PRODUCTS OF THE SCHEMATIC DESIGN PHASE FOR THE SELECTED SOLUTION:

1. Schematic Design Documents
2. Statement of Probable Construction Cost
3. Energy Checklist (as required)
4. Code Checklist (includes ADA Compliance and Zoning)
5. Project Design Statement for Schematic Design
6. Fee Allocation Update
7. Project Schedule Update
8. Client's written approval of Schematic Design and Authorization to Proceed with Design Development
9. Project Statistics
10. Graphics: Documents as required by the Program
11. Interior Design: Documents as required by the Program

C. DETAILED REQUIREMENTS FOR THE SCHEMATIC DESIGNDOCUMENTS: (List of Deliverables)

1. Site Plan
   - Complete site plan of the project showing location of all buildings, roads, major mechanical equipment, parking and landscape elements.
   - Clear delineation of the project limit lines
   - Preliminary spot elevations
   - Primary spot elevations
   - Existing utilities noted
   - Proposes utilities noted
   - Site drainage noted
   - Site sections as needed to explain overall relationships

2. Building Plans
   - Plans of all floors showing structural system, vertical transportation elements, core elements, vertical shafts, interior partitions, floor elevations
   - Key dimensions, bay sizes and overall dimensions
   - General notes indicating major extent of materials and any special conditions or equipment
   - Building sections keyed
   - Key overhead items noted
   - Project limit lines noted if not otherwise clear
   - Preliminary finish schedule

- Area summary

3. Roof Plan
   - Roof material
   - Preliminary drains and slope
   - Major roof-mounted MEP equipment and openings

4. Building Sections
   - Sections through building to show all relevant conditions including vertical transportation and adjacent conditions
   - Floor to floor height
   - Ceiling heights
   - Typical wall sections keyed

5. Building Elevations
   - All major elevations with extent of glazing and mullion spacing indicated
   - Minor elevations if they contain significant items (loading docks, bridges, etc.)
   - All materials called out in notes
   - Floor lines indicated
   - Overall dimensions
   - Set backs and overhangs indicated (shadows, notes - 3D views of building may be preferred)
   - Relationship to existing and finished grade clearly shown

6. Model (For In-House Design Study)
   - Model to show massing, exterior treatment (glass and wall), significant interior spaces and site development
   - Model is for in-house use
   - Photos of model may be included in drawing set

7. Schematic Details
   - Preliminary wall section
   - Partial elevation indicating materials and details

8. Structural
   - Structural system description (with alternates if applicable)
   - One line floor and roof framing plans
   - Typical member sizes noted
   - Lateral load system noted
   - Design criteria
   - Details of any special conditions (large span trusses, cantilevers, etc.)

9. MEP
   - Preliminary system selection
   - Energy sources identified, entrances noted on architectural drawings
   - Equipment requirements included in architectural drawings
   - Vertical shafts and risers spaces sized and indicated on architectural drawings
   - Special features noted on electrical drawings (UPS room, etc.)
   - One line system schematics over architectural plans
   - Design criteria outlined
   - Applicable codes identified

10. Specialty Consultants
    - Design criteria defined
    - One line plans as appropriate (kitchens, labs, etc.)

11. Outline Specification

- Preliminary outline of major building material systems

12. Design Description
    - Description of design features
    - Reasoning behind the design
    - Building/project statistics

13. Cost Estimate
14. Preliminary Code Report
15. Program Verification
16. Schematic Design Report containing all of the above

Schematic Design Checklist

Project Title: _____ Project No.: _____

Phase No.: _____ Date: _____

A. ARCHITECTURAL

Initial	Check
	Deliverables provided against Owner/Architect Agreement.
	Drawings provided against drawings shown on drawing list.
	Identify applicable building codes and standards.
	Planned square feet areas equal program areas. (Be consistent in using, gross, net, usable and method of calculation).
	Number of parking spaces against program numbers and code/zoning.
	Vertical circulation elements, mechanical shafts align from floor to floor.
	Size and location of elevator, stair and major mechanical shafts align from floor to floor.
	All evacuation routes exit via a protected corridor to an open space/public way.
	Verify width of protected corridor and travel distance to exit.
	Verify dead end corridor limits are not exceeded.
	Plumbing fixture count complies with code/program (drinking fountains, lavatories, urinals, water closets, etc.).
	Location and size of mechanical spaces.
	Scope of services provided.
	Provision of areaways and/or intake and exhaust shafts.
	Number of floors shown on plans, sections, elevations and perspectives correspond.
	Floor-to-floor heights accommodate required ceiling height and critical spaces for structure, mechanical, lighting, plumbing and fire protection.
	Maximum height of building including penthouses complies with local code.
	Verify provision for trash disposal.

B. CIVIL/LANDSCAPE

	Site plan shows contract limit.
	General description of storm water disposal/retention given.
	General description of sewage disposal given.
	Fire protection system described, including reservoir if required.
	Maximum potable water usage provided.
	Environmental impact considerations listed/wetlands jurisdiction and mitigation.
	Preliminary grades.
	Verify conformance to zoning restrictions for easements, setbacks, etc.
	Verify review of jurisdictional requirements such as DER, Water Management Districts, Corps of Engineers, E.I.S., etc.
	If public access from major traffic way, check if deceleration lane required?

C. STRUCTURAL

	Design code given.
	Design criteria including floor, wind and earthquake loading. If no earthquake loading, a statement indicating that earthquake design is not required.
	Materials proposed including strength of materials.
	Description of foundation system assumed compared with geotechnical report.

D. MECHANICAL/ELECTRICAL/PLUMBING

	Design codes and standards given.
	Design criteria for A/C (temperature ranges, air changes, humidity).
	General description of A/C system (central plant, DX, etc.)
	Location of cooling tower/mechanical rooms. Are they shown on elevations and roof or site plan?
	Fire protection codes and standards given.
	General description of fire suppression.
	Power requirements stated.

	Substation and switchgear room required? Are they on plans?
	Gas, water, sewer, etc., service points.
	Telephone room required? Shown on plan.
	Panel board location indicated?

E. COST ESTIMATE

	If estimate by element, verify inclusion of all elements by cross-checking against outline specification for omissions.
	If estimate by area, verify total area on plans is used.
	Verify site work is included, both on and off site.
	Verify escalation is included to time of bidding or specifically noted otherwise.
	Consider how contingency allowance is covered, both design and construction.
	Inclusion of any owner purchased construction elements.

F. ADDITIONAL ITEMS

IV. Design Development Phase

A. GENERAL: The Design Development Phase is the development of the approved Schematic Design solution, into a complete, fixed, and approved design.

The HOK Team shall organize and coordinate the Design Development work in order to obtain final decisions on every matter related to design, by the end of this phase. This effort shall be initiated by the HOK Team by providing consultants with necessary further project information having an impact on their work. To clarify the design intent, the HOK Team shall prepare quick free-hand sketches showing workability and design appearance of all critical areas and details. (These are primarily for the HOK Team and their consultants' use and are not necessarily for the client's use.) In-house reviews of the design profession and its compliance with the program shall be scheduled.

Finally, in preparation for Construction Document Phase, all disciplines shall prepare at the beginning of this phase cartoon drawings of each anticipated drawing (sheet) as deemed appropriate. The intent is that final contract documents be developed from the Design Development Documents with maximum reuse of drawings, yet without stifling the design process.

B. MAIN PRODUCTS OF THE DESIGN DEVELOPMENT PHASE:

1. Complete cartoon drawings from all disciplines. Sheet index list from consultants acceptable if agreed upon with project manager.
2. Design development documents as defined in IV.C.
3. Written statement of probable construction cost (or detailed cost estimate).
4. Energy checklist update (if available).
5. Code checklist (included ADA Compliance) update.
6. Written conformance with all applicable regulations by HOK Team members and their consultants, and tentative approval from regulatory agencies.
7. Project description for design development.
8. Fee allocation update.
9. Project schedule and workplan update.
10. Client's written approval of Design Development and authorization to proceed with Construction Documents.
11. Graphics: Documents as required by the Program.
12. Interior Design: Documents as required by the Program.
13. Design Development Checklist: Utilize checklist to check D.D. drawings and obtain initials of responsible parties. Obtain checklist from project architect.

C. DETAILED REQUIREMENTS FOR THE DESIGN DEVELOPMENT DOCUMENTS: (List of Deliverables)

Prior to the beginning of the design development effort, a complete cartoon set of the documents to be completed in the DD phase is to be prepared by the project architect.

1. Site location
   - Building location plan - building tied down dimensionally with pertinent adjacencies, street lines, property lines, required setbacks, easements, rights of way, manholes, sewers, hydrants, light standards, interface with survey

- Key floor plans for large scale projects
- Main entry level datum elevation with key exterior grades at building perimeter
- Indication of paths, stairs, ramps, berms, terraces, etc.
- Site development grading
- Site drainage
- Landscape plans with preliminary schedule of plant material
- Enlarged plans of significant external elements (plazas, fountains, etc.)
- Existing utilities
- Proposed utilities
- Areaways, vaults, other subgrade spaces
- Site lighting
- Design Details
  - railing
  - stairs
  - ramps
  - paving types and patterns
  - benches
  - lights
  - other significant features

2. Building Plans (+/- 1/8")
   - Building perimeter and exterior wall type, thickness and composition fixed
   - Structural grid fixed with fixed column sizes
   - Structural and wall systems fully dimensioned
   - Major mechanical/electrical systems determined and their requirements reflected and indicated on the plans including louvers, areaways and utility entrances
   - All internal partitions located and drawn to the appropriate dimension
   - Doors located with door swings
   - Typical door types (elevations)
   - Internal and external dimensions to fit all features
   - Typical partition types
   - Building cores drawn to a larger scale (+/- 1/4"), worked out in detail and dimensioned (stairs, elevators, toilets, shafts, etc.) and keyed to larger plans
   - Plans and elevations of key areas (lobby, special spaces) drawn to a larger scale (+/- 1/4") with all surfaces shown and materials called out and keyed to larger plans
   - Finish floor elevations noted
   - Expansion joints indicated
   - Fire rated partitions identified on plans by type
   - All casework called out on plans
   - All rooms named and numbered
   - Complete finish schedule including specific color and material sections
   - Sections keyed on plans
   - Roof plan with drains and slopes shown with drains sized and coordinated with mechanical

3. Elevation +/- 1/8")
   - All building elevations including roof structures
   - All fenestration fixed and related to floor slabs and internal walls
   - Floor levels indicated with finished floor elevations noted
   - Overall vertical building heights and ceiling heights
   - Column center lines
   - Expansion joints, panel joints, control joints, reveals
   - Exterior mechanical equipment shown, location and dimensioned
   - All material noted

- Detailed elevations at a larger scale (+/- 1/4") as necessary to explain intent (building entrance, special brickwork or masonry, building canopy, etc.)

4. Sections (+/- 1/8")
   - Overall building sections through all major portions of the building sufficient to explain the design including vertical transportation and relationship to the surrounding buildings clearly shown
   - Larger scaled sections (+/- 1/4") as necessary to explain special spaces or conditions including all stairs
   - Floor to floor and ceiling heights
   - Column centerlines
   - Finished grades around the building
   - Wall section keyed in

5. Wall Sections
   - Large scale section (+/- 3/4") of all major wall elevations
   - Foundation and perimeter treatment shown
   - Typical wall construction indicated, noted and dimensioned
   - Window location and insulation method
   - Key areas shown including stairs, elevators, escalators, loading docks, shafts and other condition where wall sections reveal the third dimension
   - Masonry coursing
   - Mechanical penetrations
   - Parapet design

6. Details
   - Scale as necessary to indicate key conditions
   - Window types, head, jamb and sill conditions
   - Typical interior and exterior columns
   - Casework elevations and millwork profiles

7. Interior Elevations
   - All significant interior spaces
   - Ceiling and plenum spaces
   - Ceiling and floor breaks

8. Reflected Ceiling Plans
   - Reflected ceiling plans of all finished spaces
   - Lighting
   - Soffits
   - Skylights
   - Ceiling materials
   - Relationship with partitions
   - HVAC locations
   - Sprinklers
   - Access panels
   - Exposed structure
9. Schedules
   - Interior finish schedule
   - Door and frame schedules
   - Preliminary hardware schedule
   - Window and glazing schedule

10. Structural
    - Foundation plan including interior and exterior perimeter foundation sizes, footings, piles, caissons, wall, beams and grade beams

- Framing plans for all floors and roof including member sizes noted or scheduled, typical and maximum column sizes, typical reinforcing for concrete
- Plans or details for lateral load system
- Location of in-floor electrical system
- All penetrations of structural elements noted
- All slab openings, pits, tunnels and ramps shown
- Expansion joints located and sized
- Typical details for connection and reinforcing
- Typical edge of slab details for cladding attachment
- Special conditions noted (shoring, underpinning, etc.)
- Load key sheet and general notes
- Calculations

11. MEP
    - All risers, shafts, chases and equipment rooms sized, located and shown on architectural plans
    - Piping system plans
      - mains and main branches
      - location of risers
      - schematic system diagrams
    - Ductwork system plans
      - supply, return and exhaust ducts shown
      - location of risers
      - schematic system diagrams
    - Power system plans
      - panel locations
      - main distribution plans
      - schematic system diagrams
    - Lighting system plans coordinated with other mechanical equipment and shown on reflected ceiling plans
    - Special systems plans (gases, security, etc.)
    - Equipment room plans at a larger scale with preliminary equipment layouts, housekeeping pads sized
    - Louvers located, sized and coordinated with architectural drawings
    - Catalog cuts
      - plumbing fixtures
      - sprinkler heads
      - grills and diffusers
      - light fixtures
      - fire alarm devices
      - special equipment

12. Specialty Consultants
    - Security
    - Acoustical
    - A/V
    - Kitchen
    - Etc.
      - plan layouts of all related areas
      - diagrams of systems
      - equipment information (catalog cuts, power requirements, etc.)

13. Specification
    - Comprehensive specification with abbreviated methods, materials and systems description for all disciplines

14. Model (For In-House Design Study)
    - Overall project model
    - Large scale models of key interior spaces
    - Large scale models of key exterior building elements

15. Design Documentation
    - Updated project description
    - Updated project statistics

16. Design Development Cost Estimate
17. Program Verification
18. Final Code Report
19. Design Development Report containing all of the above

Design Development Checklist

Project Title: _____ Project No.: _____

Phase No.: _____ Date: _____

A. ARCHITECTURAL

Initial	Check
	Quickly review design development drawing against schematic design drawing and note significant changes and notify client.
	Review deliverables provided against Owner/Architect Agreement.
	Check total area of all floors vs. program area.
	Identify any changes in number of parking spaces and why.
	Recheck code requirements, especially heights, areas, exit capacities and fire storage.
	Check that outside face of walls are within property set back lines and separation with other structures.
	Verify that glazed areas comply with local codes.
	Check that floor levels shown on plan coincide with vertical dimensions.
	Check location and size of all columns and walls against structural.
	Check all plan dimensions and confirm that all dimension strings total correctly.
	Check horizontal and vertical clearances at loading docks, parking structure entries, etc.
	Check clearances to light fixtures, sprinklers, etc., in parking structures and pedestrian access points.
	Check floor depressions required against structural and mechanical for architectural finishes.
	Verify that expansion joints are/are not required. If required, verify structural location against architectural features.
	Verify all fire rated walls/partitions identified on plan.
	Verify that construction of walls/partitions (concrete, block, plaster and stud) are identified graphically on plans.

Verify that sill and window heights are defined on section and correspond to those shown on elevation.

Check that all built-in furniture requiring plumbing/ electrical connections are shown.

Check constructability of wall sections.

Check columns, shearwalls, ducts, stairs and elevators shown on small scale drawings coincide with locations shown on large scale plan.

Check graphics and signage for code compliance (posting of occupancy limits, ADA requirements, etc.).

Check all areas for accessibility/clearances.

B. CIVIL/LANDSCAPE

Scope of documents against Owner/Architect Agreement for Landscaping, Site Improvement and Site Engineering elements.

Dimensions of site and contract limits shown?

Dimensions of building and location?

Check that both existing and proposed grades are shown and identify rough cut/file amounts.

Exterior grades properly meets building levels.

Construction access, temporary owner access shown?

Widths of access way and turning radii adequate?

Existing telephone poles, light poles, street signs manholes, drainage inlets are identified on plan — particularly in vicinity of footpath crossing pedestrian entrances.

Check that proposed and existing utilities are all shown — inspect for possible interferences and verify that any interferences have been eliminated.

Where site utilities cross below structure, check levels on profile sheets against footings/structure.

Check for conflicts with utilities and tree root zones.

Check excavation for utilities against footing levels of existing structures.

Identify site improvements; lighting, signage, paring, plantings, landscape irrigation, special site features, site furniture, etc.

C. STRUCTURAL

Column grid matches architectural.

Overlay column and wall locations against architectural.

Dimension from outer column line to structure matches architectural detail.

Structural floor levels shown match architectural, noting depressions and finishes requiring depth.

Any deep floor finishes on architectural plan and check extent of set down in structural slab by overlay.

Sizes of elevator openings against elevator manufacturer's information.

Height of elevator machine room above topmost level served against elevator manufacturer's information.

Height of elevator machine room roof against all of manufacturer's requirement for hoist beam clearance and overall height limitations by local code or FAA requirements and architectural elevations.

Beams around stairs against headroom requirements.

Dimensions between beams supporting stair against width of stair plus wall finish and length of treads plus landing.

Location of major openings against architectural plan by overlay.

Location of cross bracing/shear walls against location of permanent solid partitions on architectural drawings.

Provisions for window washing davits, etc.

Loads and reactions for elevators and escalators.

Special slab treatment requirements i.e., double slabs, acoustic and waterproofing requirements, etc.

D. MECHANICAL/ELECTRICAL/PLUMBING

	Location of cooling tower/mechanical rooms. Are they shown on plans and elevations?
	Are substation and/or switchgear rooms shown on plan?
	Are major roof penetrations shown?
	Are louvers shown?
	Plumbing fixtures shown on architectural match engineer's drawings.
	Location of areaways match architectural drawings.
	Perimeter heating systems consistent with architectural wall sections?
	Emergency generator located?
	Equipment ducts, pipes fit in ceiling spaces and chases?
	Verify that critical accessibility dimensions are coordinated at plumbing fixtures

E. COST ESTIMATE

	Are all specification elements included?
	Site work both on and off site.
	Inclusion of any owner purchased construction elements.
	Escalation is included to time of bidding or specifically noted otherwise.

F. ADDITIONAL ITEMS

V. Construction Document Phrase

A. CONCEPT TO IMPROVE THE QUALITY OF CONTRACT DOCUMENTS

The following concepts will improve the quality of any project. These concepts should be understood by the entire design team prior to the preparation of working drawings:

Concept No. 1 — Use the checklist during the preparation of plans and specifications, and if necessary, for a final quality assurance review at the end of production.

Concept No. 2 — Draw all plans at the same scale.

Concept No. 3 — Show the right information the least number of times preferably only once.

Concept No. 4 — Keep the same orientation on all plans.

Concept No. 5 — Use consistent terminology between the plans and specifications.

Concept No. 6 — Avoid vague notes such as "see architectural" or "see structural".

Construction Document Checklist

Project Title: _____ Project No.: _____

Phase No.: _____ Date: _____

A. GENERAL

Initial	Check
	Verify each discipline documents it work and does not indicate any work "BY OTHERS".
	Verify materials shown on drawings are included in specifications.

B. ARCHITECTURAL

	Quickly review construction document drawing against design development drawing and note significant changes.
	Review deliverables provided against Owner/Architect Agreement.
	Check total area of all floors vs. program area defining method of calculation.
	Identify any changes in number of parking spaces and why.
	Identify any changes in plumbing fixture counts and why.
	Check that floor level elevations shown on plan coincide with vertical dimensions.
	Check location and size of all columns and walls against structural.
	Check clearance to light fixtures, sprinklers, etc., in parking structures and pedestrian access points.
	Verify that expansion joints are shown on structural and architectural drawings in the same location and are detailed.
	Verify all wall types identified in plan are shown in detail.
	Verify that sill and window heights are defined on section and correspond to those shown on elevation.
	Check that built-in millwork and equipment requiring utility connections is shown.
	Confirm handicapped accessibility. Check ADA plus any and all local codes which may apply.

Check elevator cab design against codes and cost estimate.

Verify adequacy of wall sections and details to explain construction.

Verify large scale floor plans against small scale plans.

Check requirements for and location of fire extinguishers.

Verify reflected ceiling plans match floor plans and are coordinated with HVAC, lighting and fire protection plans.

Check door schedule against floor plans.

Check interior wall elevations against floor plans. Verify placement of mechanical/electrical devices, grilles, indicators, etc.

Check room finish schedule against floor plans, ceiling plans; and fire ratings required.

Verify roof access scheme is safe and meets code.

Verify access is provided to below grade areaways.

Verify that roof slopes and corresponding drains and flashing coincide with plumbing plans.

Check wall details for cold bridges and air infiltration.

Check exposed soffits, cantilevered slabs, slabs over parking spaces or other unheated spaces for cold floor problem.

Verify expansion/contraction provision exists for all building enclosure systems.

Verify graphics and signage is a complete package and that code and ADA requirements are met.

C. CIVIL/LANDSCAPE

Scope of documents against Owner/Architect for Landscaping, Site Improvement and Site Engineering elements.

Dimensions of site and contract limits shown?

Dimension of building and location shown?

Check that both existing and proposed grades are shown and verify resultant slopes are acceptable.

Construction access and temporary owner access shown?

If public access from major traffic way check if deceleration lane required?

Widths of access way and turning radii adequate?

Existing telephone poles, light poles, street signs, manholes, drainage inlets are identified on plan — particularly in vicinity of footpath crossing pedestrian entrances.

Check that proposed and existing utilities are all shown — inspect for possible interferences and verify that interferences have been checked.

Where site utilities cross below structure or trees, check levels on profile sheets against footings/structure.

Check excavation for utilities against footing levels of existing structures.

Check that drainage requirements including detention will comply with local authority requirements.

Check that parking layouts, sizes, and numbers comply with local authority requirements.

C. STRUCTURAL

Verify that column grid matches architectural layout.

Check overlay column and wall locations against architectural using overlay system.

Check that dimension from outer column line to structure matches architectural detail and that fire proofing dimensional tolerances are allowed.

Check elevation of structural floor levels shown against architectural (less finishes).

Identify any deep floor finishes on architectural plan and check extent of set down in structural slab by overlay.

Check sizes of elevator openings against elevator manufacturer's information.

Check height of elevator machine room above topmost level served against elevator manufacturer's information.

Check height of elevator machine room roof against manufacturer's requirement for hoist beam clearance and overall height limitations by local code and FAA requirements and architectural elevations.

	Check miscellaneous metal designed by the structural engineer is shown by the architect.
	Check beams around stairs against headroom requirements.
	Check dimensions between beams supporting stair against width of stair plus wall finish and length of treads plus landing.
	Check location of major openings against architectural plan by overlay, also noting intermediate landing framing.
	Check location of cross bracing/shear walls against location of permanent solid partitions architectural drawings.
	Verify that all foundation piers and beams are shown.
	Verify temporary retention of existing structure(s) is addressed.
	Verify that notes on drawings are consistent with specification.
	Check temporary / permanent shoring shown/specified.
	Check that structural supports are provided for major M.E.P. equipment including compressors, cooling towers, transformers and heat exchanger.
	Verify clearances provided for fire-stopping / safing insulation etc., where required i.e., at restaurant vents, laundry chutes, etc.

D. MECHANICAL/ELECTRICAL/PLUMBING

	Verify location of connections to existing service are shown.
	Verify storm and sanitary drains do not interfere with structure and footings.
	Verify all drain and water lines are sized.
	Verify equipment room sizes are consistent with architectural drawings.
	Verify structural supports are shown for major M.E.P. equipment.
	Verify that major roof penetrations are indicated on roof plan.
	Verify that exterior louvers are located and sized.
	Verify dimensional tolerances required for slopes for mechanical/plumbing lines.
	Check crossings of ducts, pipes and beams to verify clearances.

F. COST ESTIMATE

	Are all specification elements included?
	Check site work both on and off site.
	Check inclusion of any owner purchased construction elements.
	Check escalation is included to time of bidding or specifically noted otherwise.

G. ADDITIONAL ITEMS

Interdisciplinary Checklist

Project Title: _____ Project No.: _____

Phase No.: _____ Date: _____

Coordinated

Yes	No	N/A	
			1. Preliminary Review
☐	☐	☐	a. Quickly glance over all sheets, spending no more than one minute per sheet to become familiar with the project.
			2. Plan Check Civil - Verify that:
☐	☐	☐	a. New underground utilities (power, telephone, water, sewer, gas, storm drainage, fuel lines, grease traps, fuel tanks) have no interferences.
☐	☐	☐	b. Existing power/telephone poles, pole guys, street signs, drainage inlets, valve boxes, manhole covers, etc., do not interfere with new driveways, sidewalks, or other site improvements.
☐	☐	☐	c. Limits of construction, clearing, grading, sodding, grass or mulch are shown and are consistent in other disciplines.
☐	☐	☐	d. Fire hydrants and street light poles do not conflict with other above ground items.
☐	☐	☐	e. Profile sheets show other underground utilities and avoid conflicts.
☐	☐	☐	f. Horizontal distances between drainage structures and manholes match scaled dimensions and stated dimensions on both plan and profile sheets.
☐	☐	☐	g. All existing and proposed grades are shown.
			3. Plan Check Structural — Verify that:
☐	☐	☐	a. Column grid lines on structural and architectural match.
☐	☐	☐	b. Column locations are the same on structural and architectural.
☐	☐	☐	c. Perimeter slab on structural matches architectural.
☐	☐	☐	d. Depressed or raised slabs are indicated and match architectural.
☐	☐	☐	e. Slab elevations match architectural.
☐	☐	☐	f. Foundation piers are identified and sized on a schedule or plan.
☐	☐	☐	g. Foundation beams are identified and sized on a schedule or plan.
☐	☐	☐	h. Locations of roof framing plan column lines and columns match foundation plan column lines and columns.
☐	☐	☐	i. Structural perimeter roof line matches architectural roof plan.
☐	☐	☐	j. Columns, floor beams, and roof beams are listed in column and beam schedules.
☐	☐	☐	k. Length of columns in column schedule matches the length shown in sections and the elevations shown on plans.
☐	☐	☐	l. Sections are properly labeled.
☐	☐	☐	m. Expansion joint locations match other disciplines.
☐	☐	☐	n. Dimensions match architectural.
☐	☐	☐	o. Drawing notes do not conflict with specifications.

Coordinated

Yes	No	N/A	
			4. Plan Check Architectural — Verify that:
☐	☐	☐	a. Property line dimensions on survey or civil site plans match architectural.
☐	☐	☐	b. Building is located behind set-back lines.
☐	☐	☐	c. Locations of columns and bearing walls, and overall building dimensions match structural.
☐	☐	☐	d. Existing and new work is clearly identified on site plans.
☐	☐	☐	e. Building elevations match floor plans. In particular, check roof lines, window and door openings, louver openings, exterior light fixtures, and expansion joints.
☐	☐	☐	f. Building sections match elevations and plans.
☐	☐	☐	g. Wall sections match architectural and structural building sections.
☐	☐	☐	h. Size of openings for windows and doors matches structural. Verify window glass types with specifications.
☐	☐	☐	i. Expansion joints are continuous throughout the building.
☐	☐	☐	j. Large scale partial floor plans match small scale floor plans.
☐	☐	☐	k. Reflected ceiling plans match architectural floor plans to ensure no variance with wall locations. Location of electrical fixtures and mechanical registers/diffusers on electrical and mechanical plans does not conflict with location on reflected ceiling plans.
☐	☐	☐	l. Room finish schedule information matches plan and elevation information; including room numbers, names of rooms, finishes, and ceiling heights. Look for omissions and inconsistencies.
☐	☐	☐	m. Door schedule information matches plan, and elevation information; including sizes, types, labels, etc. Look for omissions and inconsistencies.
☐	☐	☐	n. The location of fire rated walls matches the location of fire and/or smoke dampers on mechanical plans.
☐	☐	☐	o. Cabinets will fit in available space and electrical outlets on cabinet walls are at the correct height.
☐	☐	☐	p. Flashing material, gages, and construction methods match drawings and specifications.
☐	☐	☐	q. Sealant specification is compatible with the drawings.
☐	☐	☐	r. The locations of flag poles, dumpster pads, and landscaping have been coordinated with other discipline site plans.
			5. Plan Check Mechanical and Plumbing — Verify that:
☐	☐	☐	a. Plumbing floor plans match architectural floor plans.
☐	☐	☐	b. New gas, water, sewer, etc. lines connect to existing or new utilities on civil drawings.
☐	☐	☐	c. Plumbing fixtures match plumbing schedules and architectural locations.
☐	☐	☐	d. Roof drain locations and roof slopes match architectural roof plan.
☐	☐	☐	e. Pipes are sized sensibly and that drains are connected and do not interfere with foundations.
☐	☐	☐	f. Wall chases are provided on architectural to conceal vertical piping.

Coordinated

Yes	No	N/A	
			5. continued...
☐	☐	☐	g. Sanitary drain system pipes are sized and all fixtures are connected.
☐	☐	☐	h. HVAC floor plans match architectural.
☐	☐	☐	i. Sprinkler heads are in appropriate rooms and do not interfere with other ceiling items.
☐	☐	☐	j. Mechanical/plumbing ducts and pipes do not conflict with architectural features or structural members.
☐	☐	☐	k. Adequate ceiling height exists at worst case duct intersection or largest beam.
☐	☐	☐	l. Structural supports required for mechanical equipment are indicated on structural drawings.
☐	☐	☐	m. Dampers are indicated at smoke and fire walls.
☐	☐	☐	n. Diffuser locations match architectural reflected ceiling plans.
☐	☐	☐	o. Openings for roof penetrations (ducts, fans, etc.) are indicated on structural roof plans.
☐	☐	☐	p. Ductwork is sized logically.
☐	☐	☐	q. Notes are referenced.
☐	☐	☐	r. Air conditioning units, heaters, and exhaust fans match architectural roof plan locations.
☐	☐	☐	s. Mechanical equipment will fit in spaces allocated and that there is room for maintenance such as removing filters or tubes.
☐	☐	☐	t. Horsepower ratings, phases, and voltages of major items of equipment on mechanical and electrical drawings and specifications match.
☐	☐	☐	u. Thermostat locations have been coordinated with architectural drawings.
			6. Plan Check Electrical — Verify that:
☐	☐	☐	a. Electrical floor plans match architectural and mechanical.
☐	☐	☐	b. The location of light fixtures matches architectural reflected ceiling plan and that light fixtures do not conflict with the structure or mechanical HVAC system.
☐	☐	☐	c. Major pieces of equipment have electrical connections and that horsepower ratings, phases, and voltages are consistent with other discipline schedules.
☐	☐	☐	d. Locations of panel boards are consistent with architectural, mechanical, and plumbing floor plans and that the panel boards are indicated on the electrical riser diagram.
☐	☐	☐	e. Notes are referenced.
☐	☐	☐	f. There is sufficient space for electrical panels to fit.
☐	☐	☐	g. Electrical panels are not recessed in fire rated walls.
☐	☐	☐	h. Exterior electrical equipment locations are coordinated with site paving, grading, and landscaping.
☐	☐	☐	i. Structural supports are provided for roof top electrical equipment.
☐	☐	☐	j. Locations of electrical conduit runs, floor trenches, and openings are coordinated with structural plans.

Coordinated

Yes	No	N/A	
			7. Plan Check Kitchen/Dietary — Verify that:
☐	☐	☐	a. The equipment layout matches other discipline floor plans and that there are no conflicts with columns.
☐	☐	☐	b. Equipment is connected to utility systems.
			8. Plan Check Specifications
☐	☐	☐	a. Check that bid items explicitly state what is intended.
☐	☐	☐	b. Check specifications for phasing of construction.
☐	☐	☐	c. Compare architectural finish schedule to specification index.
☐	☐	☐	d. Check major items of equipment and verify that they are coordinated with contract drawings.
☐	☐	☐	e. Verify that the items specified "as indicated" or "Where indicated" in the specifications are in fact indicated on contract drawings.
☐	☐	☐	f. Verify that all specification sections are in the index and that cross referenced specifications sections exist.
☐	☐	☐	g. Try not to indicate thickness of materials or quantities of material in specifications.
☐	☐	☐	h. Tailor the specifications to the project.
☐	☐	☐	i. Avoid duplications between specification sections.
			9. Additional Items
☐	☐	☐	
☐	☐	☐	
☐	☐	☐	
☐	☐	☐	
☐	☐	☐	
☐	☐	☐	
☐	☐	☐	
☐	☐	☐	
☐	☐	☐	

VI. Project Coordinator

A. GENERAL: The successful completion of HOK's professional design services requires a multi-phased, multi-discipline approach to the project goals and objectives. Coordination between the project team members is vital to the success of the project.

The coordination of the project is the responsibility of the entire project team and is an on-going process throughout the duration of the project. The Coordination Check List contained herein should be reviewed as part of each phase of service of the project. As the items on the list are completed, the appropriate information (Date, Reviewer Initials and Phase) should be noted in the space provided. During subsequent reviews/phases, items previously noted as complete should be re-checked to assure compliance with the project requirements. At the completion of the Construction Document Phase, all items included in the Coordination Check List should be completed and re-confirmed as required.

Coordination Checklist - Review at end of each phase

Project Title: [redacted] Project No.: [redacted]

Phase No.: [redacted] Date: [redacted]

----------*Start here*----------

ARCHITECTURAL/STRUCTURAL

	INITIALS		PHASE			
Date	**PA**	**PE**	**SD**	**DD**	**CD**	**Checking**
[redacted]	[redacted]	[redacted]	☐	☐	☐	Determine applicable building code, local supplement codes.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Owner preferred structural system, if any.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Determine building classification; educational, commercial, storage, laboratory, etc.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Special loads, i.e., mobile files, rack storage, etc.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Determine proposed floor to floor height, ceiling heights and preferred thickness of structural framing.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Determine proposed method for distribution of electrical power and communications, i.e., cellular receivers, "poke through", flat wire, etc.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Determine required (by code) fire ratings.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Determine proposed or preselected cladding, i.e., brick, stone, precast concrete wall panels, window walls, metal wall panels.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Special owner insurance requirements.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Special owner criteria, i.e., vibration, deflections, etc.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Type of construction contract, i.e., C.M. fast track or general contract.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Select soils engineer. Provide soils engineer with specification for sub-surface investigation. Obtain cost proposal from soils engineer — to be paid by owner.
[redacted]	[redacted]	[redacted]	☐	☐	☐	Structural engineer submit design criteria indicating design loads, wind loads, seismic requirements, etc.

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Confirmation of building code and fire ratings via architect's code consultant.
			☐	☐	☐	Structural engineer check thermal expansion and seismic motion (as applicable) and advise regarding expansion joints locations and widths.
			☐	☐	☐	Confirm or define building cladding, i.e., brick and block, brick and steel studs, stone and block, window wall, etc.
			☐	☐	☐	Define and generally locate all mechanical equipment rooms. Discuss and confirm general floor loadings.
			☐	☐	☐	Is roof top mechanical equipment required? What general loads are anticipated.
			☐	☐	☐	Define and generally locate depressed architectural floor finishes.
			☐	☐	☐	Generally define partition types i.e., lightweight movable, shaft wall, concrete block.
			☐	☐	☐	Define type of elevators — hydraulic or electric. General location.
			☐	☐	☐	Generally locate mechanical and plumbing distribution shafts. Locate trench headers if cellular floors are required.
			☐	☐	☐	Define roofing system, ballast, etc.
			☐	☐	☐	Develop general framing plans and size typical structural members.
			☐	☐	☐	Develop first draft of load key sheets confirming above information.
			☐	☐	☐	Establish all column locations and finalize location of cladding.
			☐	☐	☐	Define type of stairs, steel stringer, cast-in-place concrete. Head heights at stair landings, landing beams, and stringers must agree and must meet code. Architect should control dimensions while structural drawings should control member sizes, reinforcing for steel stringer stairs, structural engineer should furnish stringer size, pan depth, hanger details, etc.

Date	INITIALS PA	INITIALS PE	PHASE SD	PHASE DD	PHASE CD	Checking
			☐	☐	☐	Define edge of structural slab.
			☐	☐	☐	Define attachment of architectural cladding to structure. Breaks in brick relief angles must coincide with brick expansion joints. If precast concrete wall panel connections are to be designed by the fabricator/installer, basic attachment points must be defined so that loads are imposed at proper locations.
			☐	☐	☐	Floor elevations must agree. Define "finish floor" elevation. Coordinate slabs sloped for drainage.
			☐	☐	☐	Reinforced masonry (CMU) requirements must agree on architectural and structural drawings.
			☐	☐	☐	Beam, slab, and wall conditions must agree at exterior walls. Review typical exterior wall sections.
			☐	☐	☐	Define elevator machine room layout including elevator loads. Check maximum floor to floor height for elevator guide rails.
			☐	☐	☐	Furnish information regarding concentrations of suspended pipes — normally at boiler rooms or cooling towers.
			☐	☐	☐	Confirm actual weight of mechanical equipment with assumed unit weights. Include specific mention of concrete housekeeping pads and/or inertia bases.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Architectural/Plumbing and Fire Protection

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Verify connections to planter drains, areaways, terraces, and pump rooms.
			☐	☐	☐	Backgrounds match architectural.
			☐	☐	☐	Subsurface drainage coordinated.
			☐	☐	☐	Excavation and backfill coordinated.
			☐	☐	☐	Irrigation system coordinated with landscaping.
			☐	☐	☐	Storm, sanitary water connections coordinated with civil engineer.
			☐	☐	☐	Pits, sumps, and below grade wall penetrations coordinated.
			☐	☐	☐	Sprinkler head and fire hose cabinet locations reviewed with architect.
			☐	☐	☐	Location of siamese connection.
			☐	☐	☐	Roof drainage coordinated (drain location and slope).
			☐	☐	☐	Floor drain locations coordinated (finished areas).
			☐	☐	☐	Hose bib locations coordinated with architects.
			☐	☐	☐	Equipment location and size reviewed with architect. Verify fit within space allocated.
			☐	☐	☐	Equipment foundations and/or pads coordinated.
			☐	☐	☐	Yard valves coordinated.
			☐	☐	☐	Special painting and identification of equipment, piping, etc., coordinated.
			☐	☐	☐	Plumbing fixtures coordinated with architect/interiors and with fixture schedule.
			☐	☐	☐	Fixtures in fire rated ceilings coordinated.
			☐	☐	☐	Exit light types and locations coordinated with ceiling plan and interior wall elevations. Establish mounting height. Check for interferences with full height doors.

			☐	☐	☐	Receptacle, telephone layout coordinated with furniture plan. Types verified.
			☐	☐	☐	Clocks/clock outlets coordinated with interior elevations. Establish mounting heights.
			☐	☐	☐	Snow melting locations coordinated with architectural/civil/electrical.
			☐	☐	☐	Door strikes, switches, operators, hold-opens coordinated. Verify with hardware schedule.
			☐	☐	☐	Handicapped requirements, mounting heights schedule, listing standard and handicapped heights for all fixtures and accessories. List applicable code. Coordinate handicapped fixture location with plumbing engineer.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Architectural/Electrical

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Backgrounds match architectural.
			☐	☐	☐	Fixture cut sheet coordinated with architect/interiors/lighting consultant.
			☐	☐	☐	Switch and receptacle plates located and finishes verified. Establish mounting height.
			☐	☐	☐	Access panel locations coordinated.
			☐	☐	☐	Fixture installation and mounting coordinated with building and ceiling construction. Verify all supports and their source.
			☐	☐	☐	Equipment foundations/pads coordinated. Verify where specified.
			☐	☐	☐	Roof penetrations coordinated. Verify if curb(s) required.
			☐	☐	☐	Firewalls, smoke doors and smoke partitions verified. Indicate ratings.
			☐	☐	☐	Excavation and backfill coordinated. Verify where specified.
			☐	☐	☐	Site and building facade lighting coordinated.
			☐	☐	☐	Display/signage lighting coordinated (interior and exterior).
			☐	☐	☐	Size and location of switchgear rooms and electrical/telephone closets coordinated.
			☐	☐	☐	Panelboard locations at fire rated walls, stud walls and masonry walls coordinated. Verify allowable opening depth. Verify that fire rating is maintained.
			☐	☐	☐	Fire alarm devices coordinated with walls and ceiling. Establish mounting heights for devices in walls.
			☐	☐	☐	Under-floor duct/poke through/ power poles coordinated with architectural, interior and structural work.
			☐	☐	☐	Telephone, control and annunciator panels coordinated.

			☐	☐	☐	Trenches, duct banks, below grade wall penetrations coordinated.
			☐	☐	☐	Water cooler type and finish verified.
			☐	☐	☐	Access panel and cleanout locations and sizes reviewed with architect. Verify where specified.
			☐	☐	☐	Medical gas system device coordinated.
			☐	☐	☐	Verify connection of gas (if applicable) to civil work or existing utility lines.
			☐	☐	☐	Verify connections to trench drains.
			☐	☐	☐	Kitchen equipment coordinated.
			☐	☐	☐	Special interceptors coordinated.
			☐	☐	☐	Utility company space requirements for transformer vaults, etc., coordinated.
			☐	☐	☐	Kitchen equipment coordinated (including necessary interlocks and switched disconnects).
			☐	☐	☐	Power coordinated to special items (i.e. overhead doors, window washers, monorail cranes, etc.).
			☐	☐	☐	Elevator and/or escalator power coordinated including cab power and telephone.
			☐	☐	☐	Generator and fuel storage tank(s) coordinated including access and noise containment.
			☐	☐	☐	Sound masking system power coordinated. Verify operation and scope of system with architect and consultant.
			☐	☐	☐	Power and/or empty conduit for miscellaneous systems coordinated.
			☐	☐	☐	Verify that telecommunications closets are large enough for equipment.
			☐	☐	☐	Verify that quantities and locations of telecommunications closets are adequate to limit cable runs to allowable levels.
			☐	☐	☐	Coordinate speaker locations in ceiling with reflected ceiling plan. Also coordinate any wall speaker locations with architectural drawings.
			☐	☐	☐	Nurse call. Comments:
			☐	☐	☐	Security alarm. Comments:

			☐	☐	☐	Intercom. Comments:
			☐	☐	☐	Synchronous clock. Comments:
			☐	☐	☐	Dimming. Comments:
			☐	☐	☐	Verify that audio/visual equipment rooms are large enough.
			☐	☐	☐	Coordinate any equipment such as projection screens with architectural plans and ceiling plans.
			☐	☐	☐	Coordinate power requirements for A/V with electrical engineer.
			☐	☐	☐	

Architectural/HVAC

Date	INITIALS PA	INITIALS PE	PHASE SD	PHASE DD	PHASE CD	Checking
			☐	☐	☐	Backgrounds match architectural.
			☐	☐	☐	Diffuser and grilles coordinated with appropriate wall or ceiling construction. Finish verified. Coordinate with reflected ceiling plan.
			☐	☐	☐	Thermostat/humidistat locations coordinated with electrical devices and reviewed with architect. Verify mounting height.
			☐	☐	☐	Coordinate equipment access and access panel location. Verify where specified.
			☐	☐	☐	Louver size, location and finish coordinated. Building envelope louvers to be provided by architects. Verify where interior louvers/grilles specified.
			☐	☐	☐	Review external louvers for required birdscreens and/or fire rated dampers.
			☐	☐	☐	Fire walls and smoke partitions verified, indicate rating.
			☐	☐	☐	Fire rated ceiling/floor assemblies coordinated.
			☐	☐	☐	Equipment location and size reviewed with architect. Verify equipment will fit within space allocated.
			☐	☐	☐	Penetrations through roof and walls coordinated. Verify where curbs specified.
			☐	☐	☐	Location and sizes of door grilles and undercuts coordinated.
			☐	☐	☐	Architectural envelope wall and roof sections and details reviewed for heat shorts and infiltration sources.
			☐	☐	☐	Pressurized stair well construction details checked for air tightness. Coordinated with hardware schedule for door seals.
			☐	☐	☐	Equipment foundations and/or pads coordinated. Verify where specified.
			☐	☐	☐	Connection to special equipment coordinated.

			☐	☐	☐	Elevator equipment room HVAC load coordinated.
			☐	☐	☐	Underground or in slab ductwork coordinated. Verify need for insulation.
			☐	☐	☐	Verify adequacy of ceiling cavities.
			☐	☐	☐	Kitchen equipment coordinated (including hoods, cooler heat rejection, special exhaust, gas valves, safety devices).
			☐	☐	☐	Energy code compliance.
			☐	☐	☐	Location and type of roof protection pads (walkways) coordinated.
			☐	☐	☐	Verify connection to primary services (gas, steam, central plant chilled water).
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Structural/HVAC

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Equipment location and weight coordinated.
			☐	☐	☐	Routing of ductwork/piping coordinated.
			☐	☐	☐	Penetrations and sleeves through structure coordinated.
			☐	☐	☐	Support of equipment, piping and ductwork coordinated.
			☐	☐	☐	Vertical space and clearance requirements coordinated.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Structural/Plumbing and Fire Protection

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Equipment location and weight coordinated.
			☐	☐	☐	Routing of piping coordinated.
			☐	☐	☐	Penetrations and sleeves through structure coordinated.
			☐	☐	☐	Support of piping coordinated.
			☐	☐	☐	Coordinate special floors finishes, depressed slabs, etc.
			☐	☐	☐	Special interceptors coordinated.
			☐	☐	☐	Vertical sprinkler head layout with ceiling plans.
			☐	☐	☐	Verify sprinkler head layout with ceiling plans.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Structural/Electrical

Date	INITIALS PA	INITIALS PE	PHASE SD	PHASE DD	PHASE CD	Checking
			☐	☐	☐	Equipment location and weight coordinated.
			☐	☐	☐	Structural penetrations and encased conduit/boxes coordinated.
			☐	☐	☐	Support of conduit and cable trays coordinated.
			☐	☐	☐	Below slab conduits coordinated.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Architectural/Site (Civil/Landscape)

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Backgrounds match architectural.
			☐	☐	☐	Grades match architectural elevations.
			☐	☐	☐	Interface of site walls with building (coordination, dimensions, etc.).
			☐	☐	☐	Entrances coordinated.
			☐	☐	☐	Review pedestrian access.
			☐	☐	☐	Review parking.
			☐	☐	☐	Review vehicular access.
			☐	☐	☐	Review materials and colors.
			☐	☐	☐	Loading docks coordinated.
			☐	☐	☐	Ramps coordinated.
			☐	☐	☐	Site signage coordinated with architecture and graphics.
			☐	☐	☐	Review locations of interior plants to assure adequate growing condition.
			☐	☐	☐	Patios, decks, court yards, etc. coordinated with architectural.
			☐	☐	☐	Review drainage structure, location and elevation coincide — reference to landscape sheet for location.
			☐	☐	☐	Coordinate utility and tie rod location for conflicts with trees, site structures, cover/depth.
			☐	☐	☐	Coordinate details at interface such as sidewalks/plazas at street or civil structures.
			☐	☐	☐	Coordinate/verify elevations at walls, bulkheads, etc.
			☐	☐	☐	Coordinate site features needing civil/structural design i.e., tunnels, vaults, concrete structures, walls, etc.
			☐	☐	☐	Coordinate demolition/site clearing for elements remaining or being removed.

			☐	☐	☐	Coordinate design intent with civil details.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

HVAC/Electrical

Date	INITIALS PA	INITIALS PE	PHASE SD	PHASE DD	PHASE CD	Checking
			☐	☐	☐	Current HVAC equipment sizes and capacities submitted to electrical engineer.
			☐	☐	☐	Equipment electrical characteristics (HP or AMPS/voltage/Phase).
			☐	☐	☐	Size and location of HVAC equipment being provided by division 16 coordinated.
			☐	☐	☐	Engine generator installation coordinated.
			☐	☐	☐	Transformer and switchgear rooms coordinated and cooled or ventilated.
			☐	☐	☐	Coordinate equipment data schedule.
			☐	☐	☐	Verify if equipment nameplate requires protection by fuses.
			☐	☐	☐	Verify which contractor(s) provide control wiring.
			☐	☐	☐	Coordinate mechanical equipment interlocks not furnished by temperature controls.
			☐	☐	☐	Starters in mechanical/electrical contract verified. All starters by Electrical Contractor unless P.W.C.P. or discussed previously with electrical designer.
			☐	☐	☐	Disconnects in mechanical/electrical contract verified (all disconnects by E.C. unless P.W.C.P. or discussed previously with electrical engineer).
			☐	☐	☐	Control of equipment verified (i.e., thermostat, switch, HOA-P, momentary contacts S/S, two speed starters, variable speed drives).
			☐	☐	☐	Additional 120 volt receptacles or control equipment coordinated (EMCS panels, chemical treatment pumps and controls, motorized dampers).
			☐	☐	☐	Source of power on roof for window washing equipment.
			☐	☐	☐	HVAC/fire alarm system and sequences coordinated including smoke detectors and smoke control overrides.
			☐	☐	☐	Air handling light fixtures verified.

			☐	☐	☐	Coordinate ceiling cavity space requirement for mechanical duct, light fixture, major piping runs, cable trays, etc.
			☐	☐	☐	Lightning protection coordination.
			☐	☐	☐	Verify motor starters are provided for all motors.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

HVAC/Plumbing and Fire Protection

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Make-up water lines to primary equipment shown and sized.
			☐	☐	☐	Make-up water lines to computer type equipment shown and sized.
			☐	☐	☐	Backflow preventers shown on plumbing drawings.
			☐	☐	☐	Drain lines from equipment shown and sized. Verify tie-in to proper system check code.
			☐	☐	☐	Floor drains required for equipment shown.
			☐	☐	☐	Coordination of ceiling cavity space.
			☐	☐	☐	Filter banks sprinklers (if required).
			☐	☐	☐	Cooling tower sprinklers (if required).
			☐	☐	☐	Coordination of sprinklers with ceiling air devices.
			☐	☐	☐	Are electrical rooms sprinkled?
			☐	☐	☐	Type of grounding for building coordinated.
			☐	☐	☐	Sprinkler flow, fire alarm and tamper switches verified.
			☐	☐	☐	Coordination of fire pump(s).
			☐	☐	☐	Coordination of electrical water heaters and booster pumps.
			☐	☐	☐	Equipment motor sizes, voltage and phase verified.
			☐	☐	☐	Review equipment data schedule for equipment capacity. Control and voltage.
			☐	☐	☐	Starters in plumbing/fire protection/ electrical contract verified (all starters by E.C. unless P.W.C.P. or discussed previously with electrical designer).
			☐	☐	☐	Disconnects in plumbing/fire protection/ electrical contract verified (all disconnects by E.C. unless P.W.C.P. or discussed previously with electrical designer).

			☐	☐	☐	Coordination of sprinklers with lighting fixtures.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Structural/HVAC

Date	INITIALS PA	INITIALS PE	PHASE SD	PHASE DD	PHASE CD	Checking
			☐	☐	☐	Equipment location and weight coordinated.
			☐	☐	☐	Routing of ductwork/piping coordinated.
			☐	☐	☐	Penetrations and sleeves through structure coordinated.
			☐	☐	☐	Support of equipment, piping and ductwork coordinated.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Plumbing/site (Civil/Landscape)

Date	INITIALS PA	INITIALS PE	PHASE SD	PHASE DD	PHASE CD	Checking
			☐	☐	☐	Storm and sanitary sewer building connections coordinated.
			☐	☐	☐	Domestic and fire water building connections coordinated.
			☐	☐	☐	Subsurface and perimeter drainage coordinated.
			☐	☐	☐	Metering and backflow prevention of water service coordinated.
			☐	☐	☐	Fire hydrants and siamese connections coordinated.
			☐	☐	☐	Irrigation system, yard hydrants, building hydrants, drinking fountains and decorative fountains coordinated.
			☐	☐	☐	Drainage for indoor and outdoor planters provided.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Electrical/Site (Civil/Landscape)

Date	INITIALS PA	INITIALS PE	PHASE SD	PHASE DD	PHASE CD	Checking
			☐	☐	☐	Electrical building service coordinated.
			☐	☐	☐	Routing of electrical service.
			☐	☐	☐	Site lighting coordinated, location and fixture schedules.
			☐	☐	☐	Electrical service to other miscellaneous site items, i.e.; pumps, fountains, security gates, irrigation, convenience outlets, etc.
			☐	☐	☐	Site power and telephone with civil and utilities.
			☐	☐	☐	Building telephone service coordinated.
			☐	☐	☐	Transformer locations coordinated.
			☐	☐	☐	Security equipment locations coordinated.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Structural/Site (Civil/Landscape)

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Subsurface and perimeter drainage excavation and backfill.
			☐	☐	☐	Review possible conflicts between footings and site utilities.
			☐	☐	☐	Interface of site walls with building coordinated.
			☐	☐	☐	Site features needing structural design, i.e. tunnels, bridges, vaults, etc.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Traffic Consultant/Site (Civil/Landscape)

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Parking coordinated. Size of parking spaces conform to local code and client standards.
			☐	☐	☐	Vehicular movement coordinated.
			☐	☐	☐	Pedestrian movement coordinated.
			☐	☐	☐	Evaluate proposed driveway entrances layouts.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

Public Agency/Site (Civil/Landscape)

	INITIALS		PHASE			
Date	PA	PE	SD	DD	CD	Checking
			☐	☐	☐	Review special permit applications process.
			☐	☐	☐	Review water service units authority.
			☐	☐	☐	Review sanitary sewers with authority.
			☐	☐	☐	Review storm sewers with authority.
			☐	☐	☐	Review detention with authority.
			☐	☐	☐	Review environmental conservation design.
			☐	☐	☐	Review erosion control with authority.
			☐	☐	☐	Review site plan with fire marshal.
			☐	☐	☐	Fire hydrant locations coordinated.
			☐	☐	☐	Review landscape plans with authorities for tree removal, etc.
			☐	☐	☐	Review with waste management district, D.E.R., Corp of Engineers, etc.
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	