DESIGN QUALITY ASSURANCE PLAN
SCA’s PROJECT OBJECTIVES

- Completely understand the user’s mission and our role in supporting it.
- Define requirements and thresholds for the performance levels for the facility as required by the client and within the allocated budget.
- Interact closely with building occupants and O&M personnel so they may contribute to the understanding of the operation of the building.
- Guide the owners and clients thru the design phase.
- Outline goals for meeting energy reduction requirements and LEED certification.

QUALITY ASSURANCE GUIDELINES

Quality of design and ensuring the highest possible quality in the actual construction of a project is the principal that guides design procedures at SCA. We believe quality assurance must exist throughout each phase of a project to make it a success. Each team member is to employ a thought process that places the commitment to quality as the top goal of each project.

SCA’s Quality Assurance Program places prime responsibility with the Project Manager/Engineer for each discipline. It is then their responsibility to pull in appropriate personnel to create a cohesive team. They are responsible for the overall quality of the finished project.

Our Principal in charge will review every project before it is submitted to ensure quality control is maintained.

QUALITY ASSURANCE ORGANIZATION

We believe quality assurance must exist thru each phase of a project as well as by each team member. Team member responsibilities for quality assurance include as follows:

1. Principal-in-charge
   - Implement the Quality Assurance Program
   - Encourage all individuals to commit to the process
   - Assure that the Quality Control is being accomplished
   - Responsible for third party final review of all documents prior to submittal

2. Project Manager
   - Implement and oversee the quality assurance plan at the project level
   - Prepare a project management plan to include project vision and goals, QA procedures, scheduling, staff requirements and man-hour budgets
   - Directly oversees the Project Engineer to ensure proper quality assurance and coordination is implemented
   - Review internal project quality control checklists.
3. Project Engineer

- Take prime responsibility for implementing specific tasks of the quality assurance plan.
- Prepare a project production plan for the design effort to include scheduling of work tasks, QA reviews, submittal dates with clients, sheet counts, sheet layouts and specification sections
- Coordinate with the Project Manager for changes in the program scope of work
- Work with the Project Manager to refine the project scope
- Plan and schedule the work thoroughly
- Provide input to team selections
- Actively communicate with the client and other team members
- Resolve design problems and miscommunications in a manner that results in a higher quality project.
- Formally check, back check and correct all designs, calculations and plans.
- Maintain through records of all project actions.
- Guide Engineering Designers and support personnel.

4. Engineering Designers

- Support and carry out the SCA quality assurance policies and procedures in the course of all production tasks.
- Commit to providing high quality work.
- Accountable to the Project Engineer for intra discipline technical reviews
- Provide ideas to the Project Engineer regarding methods to improve the quality of production.
- Facilitate coordination and communication between all team members.

5. Support personnel

- Provide commitment to quality in all support and production activities.
- Carry out the SCA quality assurance policies and procedures in the course of all production tasks.
- Provide information to the Project Engineer and staff regarding ways to improve the quality of all documents and services.

QUALITY ASSURANCE PROCEDURES:

One of the most critical aspects of a Project Management Plan is the identification and scheduling of quality assurance reviews. All projects shall be reviewed at all key design milestones in accordance with the following:
1. A formal quality assurance review process shall occur prior to each submittal to the client (Schematic Design, Design Development and Construction Documents); informal reviews shall occur throughout the entire design process.

2. The project schedule shall accommodate sufficient time for quality assurance reviews. Meeting scheduled dates ensures implementation of the review process, especially as time becomes short prior to submittal.

3. In-house interdisciplinary reviews shall be accomplished by the Principal-in-charge.

4. Designs for each discipline shall be reviewed and approved for design integrity prior to proceeding to the next phase of design.

5. Additional interim reviews shall be scheduled as required by the client or Project Engineer. A design quality checklist will be used to ensure critical elements have been included in the project and are adequately represented on the documents.

6. Monthly coordination meetings, with all principal team members, shall be held to encourage exchange of information ensuring understanding of all coordination items, and to monitor the progress of all disciplines. The Project Manager shall moderate all inter-discipline meetings.

7. Inter-discipline reviews shall be conducted following each monthly meeting. Design conflicts and deficiencies will be noted and addressed at the meetings. When required to resolve issues, intermediate meetings will be held with individual disciplines and the Project Engineer.

8. The Project Engineer shall record the proceedings of each review meeting in the form of a company memorandum that summarizes the results and type of each review. The report shall be submitted to the Project Manager and included in the Quality Assurance Documentation.

COMMUNICATION

The majority of all communication will take place via email. The Project Manager shall be copied on any correspondence/emails that are pertinent to the project. The Project Manager will be responsible for regularly archiving all project emails. All important phone conversations, faxes and other correspondence shall be recorded and scanned and placed in the appropriate folder on the server.

The Project Manager is the single point of contact for the owner.
PROFESSIONAL RESUME
Darin A. Tiffany, P.E.

Education
BS/Architectural Engineering
University of Kansas – 1999

MS/Business Administration
Webster University – 2003

Work History
Laborer
1999-2002 United States Air Force
Sortie Generation Flight Commander
2002-2004 United States Air Force
Engineering Program Manager
2004-Present Sol Chavez & Associates
Principal

Professional Organizations
American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE)

Community Service
Austin Bluffs Evangelical Free Church
Colorado Springs Rescue Mission Volunteer

Professional Experience
Mr. Tiffany has five years of experience managing technical programs as an officer in the United States
Air Force and over eight years of experience as principal designer and project manager for Sol Chavez &
Associates, Inc. Projects for which he has designed mechanical systems include: office buildings,
shopping centers, educational buildings, warehouses, medical and dental clinics, veterinary clinics,
restaurants, electronics research laboratories, churches, and banks.

Systems designed include: air handling and distribution systems, humidification systems, heat pump
systems, fan coil systems, underfloor radiant heat systems, a variety of energy retrofit systems and
plumbing systems. Mr. Tiffany utilizes the latest computer aided design (CAD) technology for both
engineering analysis and contract document preparation. Currently using Autocad Building Systems
2013 MEP for design. Also, currently using DOE2 & Carrier HAP2 V4.4 for energy analysis.
PROFESSIONAL RESUME
Joshua J. Ayers, PE

Education
BS/Electrical Engineering
University of Colorado – 2005

Work History
Archivist and CAD Operator
1997-2005 McM Engineering, LLC
Electrical Designer
2006-Present Sol Chavez & Associates
Principal

Professional Organizations
Institute of Electrical and Electronics Engineers (IEEE)
National Fire Protection Association (NFPA)

Community Service
Sand Creek High School Boys Basketball Coach

Professional Experience
Mr. Ayers has over 15 years of electrical design and project management experience. Projects for which he has designed electrical systems include: office buildings, shopping centers, multi-family housing, educational buildings, medical and dental clinics, hotels, churches, automotive service stations, banks, restaurants and industrial manufacturing plants.

Systems designed include: lighting, power distribution, electrical utility upgrades, home lighting control systems, theater lighting control systems, communication and data systems and alternative energy solutions. Mr. Ayers utilizes the latest computer aided design (CAD) technology for both engineering analysis and contract document preparation.