

**SUBJECT: TG-15-92 - QUALITY ASSURANCE INSPECTION AND TESTING AGENCIES**

This guideline provides information for receiving an approved listing and the preparation of a Quality Control Manual. It also describes agency responsibilities and elements that will be reviewed in the evaluation and approval process for Quality Assurance Inspection and/or Testing Agencies. All Quality Assurance Inspection and/or Testing Agencies that wish to become approved by Clark County Department of Building shall apply for approval using forms available for that purpose. Forms are available from Clark County Building Department at 5051 S. Paradise Rd., Las Vegas, NV 89119.

Each agency seeking approval status must submit a Quality Control Manual to Clark County for review and acceptance. An approved agency may be a verification agency for fabricator audits or a third party inspection/testing agency employed by the owner to fulfill the role of special inspection/testing of U.B.C. Section 306 items.

**Organization of the Agency:** The following information shall be included in the Quality Control Manual:

1. Description of the organization including; complete legal name and address.
2. Names and positions of the principal owners, officers, and directors.
3. Agency's managerial structure and principal personnel.
4. All major divisions or departments, including their locations and primary functions, shall be shown and described.
5. All branch offices of the agency, and the principal officers and directors of those offices shall be included when approval is sought for those offices.
6. External organizations, organizational components and their functions which are utilized for significant supporting technical services shall also be included.

**Organization History:** A brief history of the agency and a general description of the types of users of the organizations services shall be provided.

**Organization Charts and Functions:** A functional description of the agency's organizational structure, operational departments, support departments and services shall be included. This may be demonstrated in the form of charts that depict all divisions, departments, sections, units, and their operational activities.

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**Technical Services:** A list of all proposed special inspection, engineering, and testing services that the agency may wish to provide shall be included in the manual. Each inspection and/or testing service must be related to specific testing and sampling procedures, and/or inspection criteria. Procedures and criteria shall be specifically listed in the Quality Assurance manual Plans submitted for initial review and approval.

Clark County has determined that inspection and testing of piling, drilled piers and caissons, special grading, excavation and filling shall ONLY be inspected by a Nevada registered professional engineer. Other special cases may also be determined by the Building Official to require the expertise of a Nevada registered profession engineer. When required, these special case services will be specifically indicated on project special inspection agreements or addenda to these agreements.

Agencies that plan to provide engineering services for inspection of piling, drilled piers and caissons, grading, excavation and filling and any special case determined by the building official as requiring special inspection and/or testing by a Nevada registered professional engineer shall indicate, by name and job title, the persons that will provide the service. Reports that will be signed by an engineer shall be specifically identified in the submitted manual.

**Human Resources of The Agency:** Lists of inspection services shall also show the names of those inspectors that the organization plans to use in providing those services. Each new or amended list of services, testing technicians, inspectors and engineers shall require a new Clark County approval. All lists shall be accompanied by resumes showing dates of inspector experience and testing technician qualifications, accreditations, registrations, etc.

In addition to inspector, testing technician and engineer information previously described, the following information shall be included in the agency Quality Assurance manual and QA Plan:

1. Written resumes and/or charts, are required for **all** management and supervisory personnel. Resumes shall detail qualification and work experience history **pertinent** to the services proposed to be provided by the Quality Assurance Inspection and/or Testing Agency. Organizational charts shall define which responsibilities are technical, management or both. Lines of responsibility, authority, and supervisory accountability must be clearly detailed.
2. Summary work experience records for each professional, scientific, supervisory, and technical position category, including the necessary education, training or experience required for each position shall be maintained in the Quality Assurance Inspection and/or Testing Agency office files. Work experience records will be reviewed by Clark County each quarter after approval and listing.
3. A description of the organization's means of maintaining personnel records to document employee qualifications, work experience, and training history shall be included in the agency Quality Assurance Manual.

4. A description of the agencies method for ensuring the continued competence of its personnel including the maintenance of records to document such programs must also be in writing.

Approved agencies shall be responsible to supervise all special inspectors and testing technicians. Approved agencies shall assign only trained, experienced, Clark County approved, special inspectors and testing technicians to projects requiring special inspection and/or testing. Approved agencies are responsible for all actions of their approved special inspectors and testing technicians.

If the building official determines that an approved special inspector is negligent in the performance of his assigned duties through a failure to be present to perform necessary inspections, or failure to provide acceptable daily reports, or is engaged in a conflict of interest, or fails to conform to the requirements of the technical guidelines, then that inspector shall be subject to removal from the approved list for the particular inspection item involved in the negligent act. The QAA shall receive a Quality Assurance Agency correction notice for the first negligent act of a particular inspector. This QAA correction notice must be cleared or resolved within three working days. The second negligent act would require the inspector's supervisor or Quality Control Manager to present a training plan to cover the areas of deficiency. A third QAA correction notice within a quarter will result in the removal or suspension of the special inspector from the approved list for the item or items involved. Failure of the QAA to correct the deficiency causing the removal of the special inspector will result in disciplinary action and/or suspension from the County's approved list.

Agency special inspectors may not be in the employ of the contractor, subcontractor or material supplier. In the case of an owner/contractor, the special inspector/agency shall be employed as specified by the building official.

**Material Resources of the Agency:** An inventory of its relevant material resources shall be made available by the agency including:

1. Laboratories, major test and inspection equipment and facilities, calibration standards and equipment.
2. Library listing of standards and procedures and facilities for the storage and conditioning of specimens and samples.
3. Logistical services, and data processing equipment for technical operations shall also be included in this list.

**Quality Systems of the Agency:** The following information concerning procedural methods which directly affect the quality of proposed services shall be made available to the Building Official:

1. Written Quality Assurance Plans, calibration programs, standardization of test methods measurement and determination, trace-ability or credibility, or both (as applicable), of standards used, data recording, processing, and reporting must be contained within each Quality Assurance Manual submitted for approval. QA plans must show exact lines of

- authority for managerial and technical accountability.
2. Each agency **must** perform in-house office and on-site internal audits. Records of these audits must be available for review by the Building Official. Example audit forms must be submitted with each Quality Assurance Manual.

**Approval Review:** An acceptance review of those agencies requesting listing as Quality Assurance Inspection and/or Testing Agencies for special inspection elements may be conducted as follows:

1. All elements of inspection and/or testing which the agency has the willingness and ability to perform shall be so designated individually in the manual.
2. The approved agency shall be capable of certifying to the Building Official that components of off-site, or on-site constructed and/or fabricated/manufactured products meet Clark County Code, approved plans, and project documents.
3. Each Special Inspector identified as a member of the agency staff shall have proven experience in the inspection of items listed in Section 306 of the U.B.C. Clark County will evaluate each individual inspectors qualifications and return a list of approved inspectors at the time of agency approval. All inspection personnel must be listed and approved by the County. **Inspection personnel that are new to an agency must be evaluated, approved and listed by Clark County before being assigned to any project.** This requirement applies to those inspectors who perform inspection services at the job site or for the purpose of evaluating fabricated/manufactured products away from the project.
4. All structural steel and welding inspectors must be qualified by ICBO, AWS or ASNT, as appropriate, to the level required by the service performed. All AWS certified associates must work under the direction of a certified AWS inspector. Welder certification and qualification testing must be performed by a AWS Certified Welding Inspector.
5. Personnel performing non-destructive examination (NDE) shall be qualified for the NDE methods they will utilize in accordance with the Agency's Approved Quality Assurance Manual.
6. Testing technicians shall be certified to ACI, NICET, or other special category required by the approved plans.
7. Engineers shall be licensed by the State of Nevada in the area of expertise they will be providing skills, judgment and reports.
8. Approved agency manuals must reflect the requirements contained within ASNT recommended practices for non-destructive personnel Qualification and Certification, SNT-TC-1A, Supplements A through D on radiographic, magnetic particle, ultrasonic and liquid penetrant test methods, respectively. Only personnel qualified for NDT Level II may perform non-destructive inspections on welds or base material. Personnel presently qualified for NDT Level III may perform non-destructive tests provided that they have previously been certified for NDT Level II. Clark County may require non-destructive examination personnel to be qualified by performance tests.

9. Equipment used by inspection and/or testing personnel must be approved by Clark County.

**Audits:** Quality Assurance Inspection and/or Testing Agencies are subject to performance evaluation of services provided at or away from a project site. Evaluation of approved and listed agencies and personnel will be performed at random, both in the field and office, by Clark County staff on a routine or periodic basis or as required by specific operations. All evaluations will be discussed with the Quality Assurance Inspection and Testing Agency Quality Assurance Manager or agency designated employee. Performance evaluations are required as a condition for approval and listing and to maintain listing status.

**Quality Assurance Plans:** ALL agencies seeking approval must provide within their Quality Assurance Manuals an acceptable Generic Quality Assurance Plan. In addition to the generic QA plan, some projects may require a job specific quality control plan be submitted for review and acceptance by the Building Official. **All** plans shall contain, as a minimum, the following information:

Each record or plan must identify project name, location, owner, and contractor. Clark County Quality Assurance form QA-01 must be referenced and an example of a completed form included in the plan. Quality assurance plans shall outline the inspection, testing and engineering tasks to be performed by the agency. Inspection and engineering tasks must be to ensure that the constructed work conforms to Clark County Code, approved plans, documents and specifications. Plans shall detail engineering, inspection and testing procedures, including forms to be used, and acceptance/rejection criteria.

In addition to the above, **all** quality control plans must include the four basic elements below:

1. The plan must show how inspection, engineering and testing activities will be performed so that code requirements of the project can be met.
2. There must be a system of feedback information, which will, as a minimum, detail how internal audits will be used for the assessment of project work conformance compliance.
3. A method for corrective action, including non-conformance and conformance reporting, to cause non-conforming work or materials to be brought to a point of acceptability.
4. Plans shall be on-going in the sense that improvements can be made to the plan as the work proceeds or changes to the scope of work occur.

The quality control plan shall also identify the agency's personnel, by job title, who will be responsible for on site supervision, and performance of all inspections, engineering and testing. When required by the Building Official, job specific, Quality Assurance Plans must be submitted to and approved by Clark County.

**Reports:** All report forms that are planned for use in performing Quality Assurance Inspection, Engineering and/or Testing shall be submitted with the Quality Assurance Manual for review and approval. Daily report forms should be preprinted by the agency in a format that is acceptable to Clark County. Minimum acceptable guidelines for format shall be as follows:

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1. Allow as much lined space on the form as possible.
2. Preprinted titles should be kept to a minimum, e.g. project name, project address, job number, date, report number, and inspectors name.
3. Do not use preprinted headline material which presumes that the items which are listed below are going to be in compliance with the approved plans.
4. Use the same daily report form format throughout each project. Do not use different daily report forms for different inspection functions.
5. All spin-off documentation, such as non-conforming item reports, resolution of non-conforming item reports, testing and/or inspection results, etc., shall be referenced in the daily report with sufficient information to ensure traceability back to the daily report.

**Final Report:** The quality assurance agency shall submit a final signed report stating whether all work requiring special inspection was inspected, reported and found to be in substantial compliance with the approved plans, specifications and the Clark County Code. Final reports shall not be submitted to Clark County until all non-compliances have been cleared or have been identified in the final report as being unresolved and accepted by the Building Official.

Final reports must be signed by the agency owner, executive manager, executive branch manager, or project engineer. Final report and report packages shall include all inspection, testing and engineer signed reports. Engineer signed reports that are incorporated in to final report packages and signed by a non-engineer manager remain the sole responsibility of the Registered Profession Engineer whose signature and stamp appear on the incorporated report. Other engineers or non-engineers that sign final report packages are not certifying the accuracy of any engineering report(s) contained within the final report package other than those bearing their signature. The final report certifies that all inspections, engineering and testing tasks required by the project were completed as required or exceptions taken and documented as being acceptable to Clark County.