

**BASE DOCUMENT - DB 154  
VERSION 1****MAY 25, 2007****DB Section 154 – Quality Program and Quality Plan Requirements**

**DB154.10 General Requirements** - Design-Builder shall establish and implement a Quality Program. The purpose of the Quality Program is to: (a) ensure that Design-Builder provides the Agency a completed Project that meets Contract requirements; (b) prevent the occurrence of design and construction non-conformances through active and effective monitoring of processes; and (c) assure that Design-Builder manages the Work such that the Agency has the ability to substantiate that the requirements of the Contract are being met and substantiate that appropriate payments for the Work are made.

Design-Builder shall develop a Quality Plan that documents and implements the Quality Program. Design-Builder's Quality Plan shall detail how Design-Builder will establish and operate its Quality Program management structure independent from design and construction production, and document its procedures pertaining to all aspects of the Work. The Quality Plan shall be established and maintained by Design-Builder such that it provides an Agency-auditable system that assures that Design-Builder's organization complies with Contract requirements pertaining to, at a minimum, the following general areas of the Work:

- Project Administration
- Tracking of estimated (planned) and completed-to-date quantities of Work
- Design requirements
- Construction Inspection
- Materials quality
- Project progress (scheduling)
- Contract payments (monthly Pay Requests)
- Environmental issues
- Right of Way requirements
- Utility relocation requirements
- Compliance with Programmatic Plans
- CS<sup>3</sup> Approach
- Proposed Quality Plan staffing and communications organization chart and personnel identification
- Work Zone safety issues

The Quality Plan shall establish the organization of the Quality Team and the implementation of all Quality Management activities applicable to the above areas of Work, as well as independent auditing by Design-Builder's Quality Management staff to assess and assure performance compliant with Contract requirements. The Quality Program shall be implemented at all levels of Design-Builder's and its Subcontractors' organizations for both design and construction functions (including those that supply labor only).

The submitted Quality Plan shall document the following:

DB154.10

- Contract Administration
- Organization of the Quality Team
- Independence of the Project Quality Manager from Design-Builder's production team
- Processes, procedures and protocols the Quality Team will use to assure quality of the Project in the general areas of Work listed above

The Agency will review Design-Builder's Quality Plan to evaluate whether it meets the guidelines and minimum requirements established by the Agency. However, the Agency's review of the Quality Plan will not constitute the Agency's agreement that it meets these criteria, or relieve Design-Builder of its sole responsibility for the quality and workmanship of the Work performed.

The Agency has the right to perform quality Inspections and audits of Design-Builder's management, design, construction, and maintenance activities; Design-Builder's Quality Management activities; the quality of Materials and fabricated products; and the quality of workmanship of the completed Project.

The construction portion of the Quality Plan shall require, among other things, a level of review, inspection, and documentation consistent with those indicated in the Agency's *Construction Manual* and *Inspector's Manual*. The Quality Plan shall also require Material quality and documentation consistent with the requirements in the Agency's *Manual of Field Test Procedures (MFTP)*, the *Non-Field Tested Materials Acceptance Guide (NFTMAG)*, the Qualified Products List (QPL), and the **Agency-Supplied Specifications**.

**(a) Quality Plan Submittal** - Design-Builder shall submit to the Agency for review and Acceptance Design-Builder's Quality Plan, updated as necessary to meet all Contract requirements, within 30 Calendar Days following NTP and prior to the start of any Work. The Plan shall be acceptable to the Agency within 60 Calendar Days of NTP or the Work shall be stopped.

The Agency PM will be available to meet with Design-Builder immediately following NTP to discuss the requirements of the Quality Plan and help facilitate the smooth creation, review and Acceptance of the Quality Plan.

**(b) Partial Quality Plan Submittal** - If Design-Builder desires to begin any items of Work prior to submittal of the Quality Plan, it must submit a partial Quality Plan covering those items of Work. The partial Quality Plan shall be acceptable to the Agency within 30 Calendar Days after the Work covered by the partial Quality Plan begins or the Work shall be stopped.

**(c) Quality Plan Reviews and Updates** - Design-Builder shall conduct ongoing management reviews of its Quality Program during the term of the Contract.

As Work progresses, Design-Builder shall update the Quality Plan to reflect current conditions, and shall make such revisions as are necessary to meet the quality Standards established in the Contract Documents. Additionally, the Agency PM may identify the need for revisions to the Quality Plan and will notify Design-Builder of them.

Design-Builder shall submit a conformed copy of each updated Quality Plan, with revisions highlighted, to the Agency PM for Acceptance within 30 Calendar Days of identification of the need for an update or revision. In addition, Design-Builder shall submit annually (within 12 months of receipt of last Acceptance from the Agency PM) either (a) its updated Quality Plan for review by the Agency PM, or (b) a narrative statement that no updates or revisions have been made to the Accepted Quality Plan during that 12-month period, and that all current processes, procedures and protocols are functioning as intended.

**DB154.20 Quality Team** - The Project Quality Manager shall manage all functions required under the Quality Plan through the Quality Team. The Quality Team shall operate as a distinct and separate quality unit reporting directly to the Project Quality Manager, and may be comprised of suppliers, Design-Builder, or independent Quality Management personnel. The Project Quality Manager is separate and independent from the Design-Build Project Manager, and shall report directly to members of Design-Builder's senior management (either at the officer or board of director level) not directly responsible for design or construction functions.

**(a) Organizational Requirements** - Design-Builder's Project Quality Manager shall be responsible for overseeing the Quality Program, including Quality Management relating to both design and construction, and for the preparation, implementation and updating of the Quality Plan.

The Design Quality Manager and Construction Quality Manager shall report directly to the Project Quality Manager.

The Project Quality Manager shall visit the Project Site on a regular basis and be available for consultation with the Agency PM and other Agency staff on an on-call basis throughout the term of the Contract. The Project Quality Manager shall attend all weekly progress meetings as detailed in the Quality Plan or as required by the Agency, and such other meetings as the Agency PM may request, including individual meetings between the Project Quality Manager and Agency staff.

The Project Quality Manager shall be the primary point of contact to the Agency for all issues relating to Design-Builder's Quality Plan (preparation, review, implementation, revision and updating).

**(b) Authority** - The Project Quality Manager shall have and exercise authority over the Work production necessary to assure quality and compliance with Contract requirements. The Quality Team shall have and exercise authority to stop Work until the Work is brought into conformance with Contract requirements.

**DB154.30 Quality Program Requirements** - Design-Builder's Quality Plan shall provide complete information and documented procedures and protocols on all relevant Work aspects including, but not limited to, the following topics:

**(a) General** - Design-Builder's Quality Plan shall be organized in accordance with, and shall include the topics set out in, the following outline:

**(1) Organization**

- Employee lists and contact information

DB154.30(a)(1)

- Certifications, qualifications
- Authority and reporting structures
- Organization chart

**(2) Communications**

- Tools and procedures (internal and external)

**(3) Manuals, References and Standards**

**(4) Audits and Documentation Reviews**

- Internal
- External (Agency, FHWA, Secretary of State, etc.)

**(5) Environmental**

**(6) Utility Obligations**

**(b) Design**

**(1) Design Control**

- Design and development planning
- Design input – design output
- Design Review
- Design verification / validation (calculations/computer software)
- Design changes
- Reports, forms - requirements and processing
- Non-conformance process
- Document control and maintenance

**(c) Contract Administration**

**(1) Quality and Quantity**

- Paper-flow process
- Obtaining and reporting of actual quantities of Materials incorporated
- Identification of auditable documentation filing and tracing system(s)
- Document control and maintenance

**(2) Payments**

- Determining / justifying Monthly Pay Requests
- Certification / verification of quality and quantity of Work
- Materials-on-hand payment process
- Document control / flowchart

**(3) Labor Compliance**

- Certified payroll compliance
- DBE / EEO / OJT program compliance processes
- Documentation protocols, control and maintenance

**(4) Subcontracting**

- Evaluation and procurement of Subcontractors and suppliers
- Required approval and notification processes
- Documentation protocols, control and maintenance
- Prompt payment assurance process

**(5) Contract Change Orders**

- Negotiation, preparation and processing responsibilities, authorities, and procedures
- Documentation protocols, control and maintenance

**(6) Force Account / Extra Work**

- Negotiation, preparation and processing responsibilities, authorities, and procedures
- Documentation protocols, control and maintenance

**(d) Construction Inspection**

**(1) Personnel**

- Resources / staffing
- Certifications
- Experience
- Authority, responsibilities, duties, protocols

**(2) Receiving, In-Process and Final Inspection**

- Coordination with Agency
- Fabrication testing and Inspection processes
- Establishment of quality requirements
- Inspection checklists
- Pre-established checkpoints
- Reports, forms
- Non-conformance process
- Documentation protocols, control and maintenance

**(e) Quality Management**

DB154.30(e)(1)

**(1) Task Identification and Responsibility**

- Coordination with Agency (Verification and Independent Assurance (I/A) testing)
- Statistical analysis of Materials
- Material quantity tracking (estimated and actual)
- Mix design preparation and review
- Review and validation of testing documentation
- Process control, source compliance requirements and tracking
- Documentation protocols, control and maintenance

**(2) Testing**

**(3) Certified Laboratories**

- Requirements / tracking processes

**(4) Equipment**

- Certifications
- Control procedures

**(5) Statistical Techniques**

- Identification of need
- Procedures
- Documentation protocols

**(f) Non-Conformance**

- Review, reporting and disposition of non-conforming design, procedures, workmanship, Materials, or products
- Quality price adjustments
- Corrective / preventative actions

**(g) Project Closeout** - Identify responsibility and process for final Project closeout including, but not limited to:

- Project Records
- Final joint Agency Project review
- Final documentation transfer