

## 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 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 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 Project Quality Manager's staff 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 activities, procedures and protocols:

- Contract Administration
- Organization of the Project Quality Manager's staff
- Independence of the Project Quality Manager, Construction Quality Manager and Design Quality Manager from Design-Builder's production team
- Processes, procedures and protocols the Project Quality Manager and its staff will use to assure that the quality requirements for the Contract are complied with.

Agency will review Design-Builder's Quality Plan to evaluate whether it meets the guidelines and minimum requirements established by Agency. However, Agency's review of the Quality Plan will not constitute 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.

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, documentation and oversight consistent with those indicated in Agency's *Construction Manual* and *Inspector's Manual*. Quality Inspectors shall be certified in accordance with Agency Inspection Certification Program. The Quality Plan shall also require Material quality and documentation consistent with the requirements in Agency's *Manual of Field Test Procedures (MFTP)*, the Quality Control Compliance Specialist (QCCS) Manual, the *Non-Field Tested Materials Acceptance Guide (NFTMAG)*, the Qualified Products List (QPL), and **Agency-Supplied Specifications**.

**(a) Quality Plan Submittal** - Design-Builder shall submit to Agency for review and Acceptance Design-Builder's complete Quality Plan prior to the start of any Work. The Plan shall be acceptable to Agency within 60 Calendar Days of submittal or the Work shall be stopped.

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 complete Quality Plan, it must submit a partial Quality Plan covering those items of Work. The partial Quality Plan shall be submitted prior to starting the Work for those items covered and shall be acceptable to Agency within 30 Calendar Days after the Work covered by the partial Quality Plan begins or the Work shall be stopped. The complete Quality Plan shall be submitted within 90 Calendar Days of the submittal of the first partial Quality Plan submitted.

The Project Quality Manager and staff act as the "eyes and ears" of ODOT. While the Project Quality Manger and its staff is part of Design-Builder's organization, the Project Quality Manager shall provide independent reports to Agency PM on the performance and

effectiveness of the Quality Plan. The Design-Builder shall not place any restriction on the Project Quality Manager that limits complete and full communication with Agency PM.

**(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, 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 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 Agency PM) either (a) its updated Quality Plan for review by 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 its staff. Project Quality Manager's staff 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 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 Agency, and such other meetings as 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 Agency for all issues relating to Design-Builder's Quality Plan (preparation, review, implementation, revision and updating).

**(b) Independent Authority and Responsibilities** - The Project Quality Manager shall have and exercise authority over the Work production necessary to assure quality and compliance with Contract requirements. The Project Quality Manager and its staff perform

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many of the quality functions performed by Agency on traditional design-bid-build (DBB) projects. Therefore, the Project Quality Manager and its staff shall have and shall exercise authority to stop Work until the Work is brought into conformance with Contract requirements.

**(c) Reporting** – The Project Quality Manager shall provide verbal and written reports to both Agency PM and Design-Builder. The Project Quality Manager is required to:

- Provide a written monthly report to both Agency PM and Design-Builder senior management.
- Meet at least monthly with Agency PM, separate from any other Design-Builder personnel, to discuss:
  - The Quality Plan
  - Corrective actions in progress
  - Monthly written reports
  - Monthly certification pay request
  - Other appropriate topics

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

**(2) Communications**

- Tools and procedures (internal and external) including:
  - Communications internal to Project Quality Manager and its staff
  - Communications between Design-Builder and Project Quality Manager and its staff
  - Communications between Agency PM and Project Quality Manager and its staff

**(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 (redlines/as constructed documents and coordination with construction)
- 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 (typical DBB contractor role)
- 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

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**(5) Contract Change Orders**

- Responsibilities, authorities, and procedures, for negotiation, preparation and processing
- Documentation protocols, control and maintenance

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

- Responsibilities, authorities, and procedures, for negotiation, preparation and processing
- Documentation protocols, control and maintenance

**(d) Construction Inspection**

**(1) Personnel**

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

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

- Coordination with Agency (on-site, off-site, fabrication, commercial source, etc.)
- 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**

**(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

