

**STATE OF LOUISIANA**  
**INTERSTATE-12 WIDENING**  
**DESIGN-BUILD PROJECT**

**O'NEAL LANE INTERCHANGE TO WALKER**  
**EAST BATON ROUGE AND LIVINGSTON PARISHES**  
**STATE PROJECT NOS. 454-01-0047 AND 454-02-0025**

**SCOPE OF SERVICES PACKAGE**  
**CONTRACT DOCUMENTS**

**APPENDIX 108B**

**BASELINE PROGRESS SCHEDULE**



APPENDIX 108B

BASELINE PROGRESS SCHEDULE  
(Critical Path Method Schedule)

1.0 DESCRIPTION

The schedule submitted in accordance with DB Section 108 shall be prepared using the Critical Path Method (CPM).

1.1 GENERAL

The Project shall be planned and documented using the Baseline Progress Schedule, a conventional CPM schedule in the form of an activity on node diagram based on the principles defined by the 2004 issue of the Construction Planning & Scheduling Manual published by the Associated General Contractors of America (AGC). The schedule shall be used for coordination and monitoring of all Work under the Contract, including all activities of Subcontractors, design, and construction; shall compare the Work performed to the Contract time and phasing requirements; and shall assign necessary resources for inspection and administration of the Contract.

Acceptance of the schedule by the Department's Project Manager shall not be construed to imply approval of any particular method or sequence of construction or to relieve the Design-Builder of providing sufficient Materials, Equipment, and labor to guarantee completion of the Project in accordance with the Contract. Acceptance shall not be construed to modify or amend the Contract or the date of completion therein.

Failure by the Design-Builder to include in the Baseline Progress Schedule any element of Work required for the performance of the Contract shall not excuse the Design-Builder from completing all Work required within the completion date(s) specified in the Contract notwithstanding acceptance of the schedule by the Department's Project Manager.

Float contained in the Baseline Progress Schedule is not for the exclusive use and benefit of either the Louisiana Department of Transportation and Development (LA DOTD) or the Design-Builder.

If the Design-Builder fails to comply with the provisions of this Appendix 108B – Baseline Progress Schedule, the Department's Project Manager may suspend payment for Price Center (PC) 1, as per Part 2 – DB Section 100, DB Section 109.

1.2 SCHEDULE SUBMITTALS

A) Ninety Day Schedule

Within 15 Calendar Days following the Contract Award, the Design-Builder shall submit to the Department's Project Manager, a detailed schedule for the first 90 days of Work and a generalized schedule for the balance of the Work. The detailed portion of this schedule shall meet the requirements of Section 1.2(B). The 90-day schedule must be consistent with the Proposed Baseline Progress Schedule submitted with the Proposal unless otherwise agreed by the LA DOTD.

The 90-day schedule will be reviewed by the Department's Project Manager and revised

by the Design-Builder to incorporate the Department's Project Manager's comments and to correct deficiencies. Upon acceptance by the Department's Project Manager, the 90-day schedule shall be used for all Project scheduling activities and updated monthly until the issuance of the accepted Baseline Progress Schedule.

B) Baseline Progress Schedule

Within 45 Calendar Days following the Contract Award, the Design-Builder shall prepare and submit a Baseline Progress Schedule for the entire Project to the Department's Project Manager for review and Approval. The Baseline Progress Schedule must be consistent with the proposed Baseline Progress Schedule submitted with the Proposal unless otherwise agreed by the LA DOTD.

The Design-Builder will incorporate into this schedule all Project activities, activities for the placement of orders and anticipated delivery dates of Materials and Equipment, activities assigned to Subcontractors, activities assigned to the LA DOTD or the Department's Project Manager and other outside agencies (such as, Design Reviews and permit reviews), and all utility Work or work by other contractors within or near the Contract limits.

C) Schedule Updates

See Section 3.3.

## 2.0 MATERIALS

The Design-Builder shall furnish, maintain, and operate a Primavera P3 system that can produce a CPM network diagram using the precedence diagramming method and other reports and graphics as described within this Appendix 108B – Baseline Progress Schedule. In addition, the Design-Builder shall provide a microcomputer with Primavera P3 and necessary peripheral hardware for use by the Department's Project Manager in monitoring the scheduling system meeting this specification.

## 3.0 SCHEDULE REQUIREMENTS

### 3.1 GENERAL

The Design-Builder's Baseline Progress Schedule shall meet the following requirements:

A) Baseline Progress Schedule Format

The Design-Builder shall use the precedence diagramming methods. The Work Breakdown Schedule (WBS) of the Baseline Progress Schedule shall be formatted in a manner consistent with the pricing and payment method contained in the Contract.

B) Project Calendars

Holidays and non-Work days shall be established in coordination with the Department's Project Manager.

C) Activities Data

1) Activity Identification Number

Each activity shall have a unique identification number.

2) Activity Description

Each activity shall be clearly described. Use of descriptions referring to percent of a multi-element item (i.e., construct deck 50%) will not be acceptable. Separate activities shall represent different elements of multi-element activities (i.e., construct forms, install rebars, and pour concrete). Multiple activities with the same Work description shall include a location description.

3) Activity Duration

The Design-Builder shall subdivide the Work into individual activities having durations of no longer than 30 Working Days each. Exceptions to this rule will be reviewed by the Department's Project Manager on an activity by activity basis. If multiple shifts and/or overtime are anticipated during the development of activity durations, a list of affected activities and the shift/overtime assumptions shall be provided to the Department's Project Manager. If requested by the Department's Project Manager, the Design-Builder shall furnish production rates or other information needed to justify the reasonableness of activity time durations.

4) Expected seasonal weather conditions, such as precipitation and temperature, shall be included by the Design-Builder in the planning and scheduling of activities.

5) Start and Finish Dates

The earliest start date, earliest finish date, latest start date, and latest finish date shall be shown for each activity.

6) Total float shall be shown for each activity. Total float is the full amount of time by which the start on an activity may be delayed without causing the Project to last longer.

7) The Baseline Progress Schedule shall contain none of the following:

- a) Excessive leads or lags, as determined solely by the Louisiana Department of Transportation and Development;
- b) Assigned constraints, except as specified in the Contract Documents or as specifically allowed by the Department's Project Manager;
- c) Multiple calendars, except as allowed by the Contract Documents; or
- d) Retained logic.

8) Activity Codes

Activities shall be coded to allow for the following summaries:

- a) Responsible party for the accomplishment of each activity (i.e., Design-Builder, Subcontractor, LA DOTD, and utility owner). The name of each Subcontractor shall be included as soon as they are approved by the LA DOTD. Only one party can be responsible for an activity;

- b) Phase/stage during which activity is planned to be accomplished, including design; and
- c) Area/location (i.e., Bridges, ramps, and mainline station).

9) Activity Constraints

The Design-Builder shall not constrain the start or completion of any activity unless specifically required by the Contract or specifically allowed by the Department's Project Manager.

10) Activity Resources

The required labor and Equipment shall be shown for each activity as follows:

- a) Labor may be shown by trade, however, at a minimum the Department's Project Manager will accept total Person Working Days per activity or crew Working Days per activity. If crew Working Days are used, the crew size shall be indicated in the coding (i.e., a crew designated as PAVE4 equals a four Person paving crew); and
- b) Major Equipment, such as, pile drivers, large cranes, asphalt paving Equipment, and concrete finishing machines shall be shown for each activity.

11) Material Quantities

Material quantities for each activity shall be indicated in the resource fields or the LA DOTD bid item number, whichever the Design-Builder prefers to utilize, when they become available. Material descriptions, such as, concrete, asphalt, guide railing, and signs shall be used. Material quantities will be used to verify the reasonableness of the activity durations and to ensure that all Work required by the Design-Builder is accounted for within the schedule.

12) Price Center Designations

Price Center designations for labor, Material, and Equipment shall be included in the cost account fields for each activity resource.

13) Activity Price

The total price per activity shall be included. The total of the price-loaded schedule shall equal the Contract Price. A labor, Material, and Equipment cost breakdown is not required, but may be provided at the Design-Builder's option.

D) Sequence of Operations

The logic diagram or PERT chart shall show the sequence and interdependence of activities required for complete performance.

E) Review of the Baseline Progress Schedule

The Design-Builder shall submit to the Department's Project Manager three copies of the logic diagram (PERT chart) and three copies of the following activities listings:

1) Activity Number Sort

Activities listed in ascending order of their numbers.

2) Total Float/Early Start Sort

Activities listed in ascending order based on amount of their float with consideration of activity early start dates.

An electronic back-up copy of the computerized Baseline Progress Schedule also shall be provided.

The Department's Project Manager will review the Baseline Progress Schedule and then hold a discussion meeting with the Design-Builder. Within two weeks from this meeting the Design-Builder shall make adjustment to the Baseline Progress Schedule to eliminate conflicts, objections, and ambiguities found by the Department's Project Manager. The Design-Builder shall submit for review three copies of the revised schedule materials as described above.

Upon completion of the final review by the Department's Project Manager, the Design-Builder shall incorporate the final revisions and submit two copies of the schedule diskettes containing the computerized Baseline Progress Schedule and three copies of each of the revised logic diagram (PERT chart) and computer printouts. The logic diagram (PERT chart) shall be on 279 mm by 425 mm size sheets and not a continuous diagram. This final submission shall be submitted for approval within one week of the Design-Builder's receipt of the revisions.

### 3.2 LIST OF SUBMITTALS

Within 60 Calendar Days of the Contract Award, the Design-Builder shall provide a list of submittals required under the Contract (i.e., Design Plans, Project Specifications, shop drawings, required permits, and erection/demolition plans). The list shall show a schedule submission date for each submittal and identify the earliest activity affected by each of these submittals. This list shall be revised and updated monthly with each schedule submission.

### 3.3 SCHEDULE UPDATING

A) Monthly Progress Reports and Projections

The Design-Builder shall update the schedule monthly along with the monthly progress report. Each update shall show actual dates of activities started and completed; the percent of Work completed to date on each activity started, but not yet completed; and the status of procurement of critical Materials. The updated schedule data shall be submitted to the Department's Project Manager on computer disk or Compact Disc – Read Only Memory (CD-ROM). The Design-Builder also shall provide updated activity number and total float/early start sorts, a 60 Working Day look-ahead bar chart by early start, and a narrative report. The narrative report shall include a description of problem areas, current and anticipated delaying factors and their estimated impact on performance of other activities and mandated contract dates, and the explanation of corrective action taken or proposed. See DB Sections 108-2.1 and 108-2.2.

The Department's Project Manager shall conduct a monthly review of the updated schedule. The review shall occur after receipt of the Design-Builder's updated information and shall serve as a forum to discuss slippages, remedies, revisions, and other relevant issues. The Design-Builder's appropriate design, construction, and scheduling personnel shall attend these working sessions. These reviews may result in the need for

submission of revised schedules.

B) Logic diagram (PERT chart) Updates

The logic diagram (PERT chart) shall be updated by the Design-Builder every four months.

**3.4 CHANGES TO THE ACCEPTED BASELINE PROGRESS SCHEDULES**

The Baseline Progress Schedule shall accurately reflect the manner in which the Design-Builder intends to proceed with the Project and shall incorporate the impact of delays and Change Orders when these factors can be accurately determined. All changes made to the schedule (i.e., the addition of activities, changes in logic, or changes in activity durations) shall be submitted in writing and are subject to written acceptance by the Department's Project Manager before inclusion in the Baseline Progress Schedule.

To initiate changes to the approved schedules, the Design-Builder shall meet with the Department's Project Manager and provide the information necessary to prepare a revised (updated) logic diagram (PERT chart) and computer-generated schedule listing.

**3.5 COMPLIANCE WITH THE SCHEDULE**

The Design-Builder shall employ and supply a sufficient force of workers, Materials, and Equipment and shall prosecute the Work with such diligence so as to maintain the rate of progress indicated on the approved schedule to prevent Work stoppage and ensure completion of the Project within the Contract time. Any additional or unanticipated costs or expense required to maintain the schedule, shall be solely the Design-Builder's obligation and shall not be charged to the LA DOTD unless provided for in other provisions of the Contract.

In the event a notice is received of a change to the Contract which is likely to cause or is causing delays, the Design-Builder shall notify the Department's Project Manager in writing within ten Calendar Days, of the effect, if any, of such change, or Extra Work, suspension, or other conditions upon the Baseline Progress Schedule and shall state in what respects, if any, the approved Baseline Progress Schedule should be revised with the reasons therefore. The reasons for these revisions must be succinct, comprehensive, and factual to merit consideration.

**4.0 PROGRESS CHECK POINTS AND PAYMENT**

Specified schedule submittals and schedule updates shall be considered Progress Check Points.

The cost of preparing and updating the CPM schedule and meeting all other requirements of this specification shall be included in PC 1.

Payment will be made under Price Center 1 as per Part 2 – DB Section 100, Section 109.



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**APPENDIX 108C**

**KEY PERSONNEL QUALIFICATIONS  
AND REQUIREMENTS**



APPENDIX 108C  
KEY PERSONNEL QUALIFICATIONS AND REQUIREMENTS

In the qualifications specified below, the word “must” indicates a required minimum qualification.

- A) **Design-Builder’s Deputy Project Manager:** Must have a minimum of ten years experience in construction and management of bridge structures and major roadway construction of a similar scope, nature, and complexity as this Project. The Design-Builder’s Deputy Project Manager may be combined with another position.
- B) **Quality Control Manager:** Must have a minimum of 20 years experience in bridge structure and major roadway design and/or construction with at least ten years experience in Quality Assurance (QA) or Quality Control (QC) activities, including preparation and implementation of Quality Plans and procedures for design and/or construction.
- C) **Design Quality Control Manager:** Must be a Louisiana-licensed Professional Engineer who is an employee of a Designer. The Design QC Manager must have a minimum of five years experience in QC/QA activities on bridge and structures and major roadway design projects with similar scope and complexity of this Project.
- D) **Construction Quality Control Manager:** Must be a Louisiana-licensed Professional Engineer. Must have a minimum of 15 years experience in QC/QA activities (including management of construction QC programs) on bridge and structures and major roadway construction projects that are similar in scope and complexity of this Project. The Construction QC Manager must have demonstrated experience in Materials management, specifications, and testing procedures.
- E) **Safety Manager:** Must be a Work Zone Safety Supervisor as certified by any agency or firm approved by the LA DOTD. The Safety Manager must have a minimum of ten years experience in a work zone safety technician or supervisor capacity on construction projects for bridge structures and major roadway facilities similar in scope and complexity of this Project.
- F) **Lead Geotechnical Engineer:** Must be a Louisiana-licensed Professional Engineer who is an employee of a Designer. The Lead Geotechnical Engineer must have a minimum of ten years experience in geotechnical investigation and design with demonstrated expertise in bridge structure foundation design and construction.
- G) **Traffic Control Supervisor:** Must be a Louisiana-licensed Professional Engineer. Must have demonstrated experience in traffic and Highway engineering with contractor, consultant, city, county, or state transportation agencies and possess certification as a Work Zone Safety Supervisor or possess a PTOE certificate received through ITE.
- H) **Roadway Design Engineer:** Must be a registered Professional Engineer in civil engineering in the State of Louisiana. Must have a minimum of five years of professional experience in roadway design engineering for the LA DOTD. (Engineering intern experience will not be counted.)

- I) **Environmental Compliance Manager:** Must be responsible for the Design-Builder's environmental compliance. Must have prior experience in the areas of construction oversight and environmental monitoring and must have the authority to stop work. Will be responsible for ensuring that the Project complies with the terms and conditions of the environmental permits as well as with state and federal environmental laws and regulations.



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**DB SECTION 109**

**LUMP SUM PRICE, PROGRESS, AND**  
**PAYMENT**



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APPENDIX 109A - FORMS

**DB SECTION 109**

**LUMP SUM PRICE, PROGRESS, AND PAYMENT**

This Design-Build (DB) Section 109 describes and specifies the lump sum pricing concepts, specifies the means of determining the Work progress, and establishes the procedures for requesting and making payment.

**109-1 LUMP SUM PRICING CONCEPT**

The Price Center (PC) concept will be used for all pricing. The price for each PC will be reflected as a Price Center Value (PCV) on Form SP. The sum of all of the PCVs will be the Lump Sum Contract Price.

The pricing concepts are summarized as follows:

- A) The Project is divided into Sections (*see* Form PCD and Form SP);
- B) Price Centers are identified and defined for Project-wide activities and construction activities within the Sections;
- C) Price Center Values (lump sum prices or the sum of unit priced items) are assigned to each PC and to designated activities within each PC by the Design-Builder, with the Approval of the Department's Project Manager, in his sole discretion;
- D) A Contract Periodic Payment Schedule (PPS-C) is prepared by distributing the PCVs over the period of performance of the Work within each PC on a cumulative amount earned basis (a time-price curve). The time-price curve for the Project as a whole is determined by summing the cumulative amounts earned for the PC;
- E) Progress Check Points (PCP) [designated by the Louisiana Department of Transportation and Development (LA DOTD) and Design-Builder] are identified and defined for each of the PCs, with the Approval of the Department's Project Manager;
- F) The date when achievement of the PCPs is planned is identified and shown on a Schedule of PCPs, to be Approved by the Department's Project Manager; and
- G) The sum total of all the Price Centers must equal the Lump Sum Contract Price.

Details of the process are described in this Design-Build Section 109.

**109-1.2 Price Centers**

**109-1.2.1 General Requirements for Defining Sections and Price Centers**

Form PCD shows the titles and limits of Sections and PCs as agreed to by the Design-Builder and LA DOTD. The Design-Builder may only adjust the PC titles, contents, and limits subject to the requirements noted below, but must designate Sections and PCs of a similar magnitude and nature to those shown on Form PCD. Any adjustments to the PC titles, contents, and limits are subject to Approval by the Department's Project Manager, in his sole discretion.

The Design-Builder shall divide the Project into PCs each representing one or more groups of inter-related Work forming part of the Project. The Design-Builder shall use the following indicators to create the Sections and PCs:

- A) Use Section "A" for non-construction Price Centers, including the following, as applicable:
  - 1) Price Center 1 for preliminaries and general requirements, including activities shown in Form PC1 and Table 109-2;
  - 2) Price Center 2 for Project-wide engineering and design activities, including activities shown in Form PC2;
  - 3) Price Center 3 for Maintenance of Traffic activities, including those shown on Form PC3;
  - 4) Price Center 4 for Project-wide environmental compliance and mitigation activities shown on Form PC4; and
  - 5) Price Center 5 for Hazardous Materials and contaminated substance remediation activities, including activities shown on Form PC5.

Price Centers 1 through 5 are reserved for Section "A" for the activities described above;

- B) Use Sections "B," "C," and so on for construction Sections and construction PCs. Price Center numbering for Sections subsequent to Section "A" must always begin with PC 6. For example, Section "B" will begin with PC 6, as will Sections "C" and beyond. Thus, there will be only one each of PCs 1 through 5 for the Project. However, there may be multiple PCs 6 and above for the Project. For clarity, each PC 6 and above must be identified by Section and PC number (i.e., Price Center B-6 for Section "B," PC 6, and so on);
- C) Each construction PC must represent a series of Work activities comprising a complete Project component when constructed. See Form SP; and
- D) Each Price Center must have two or more Progress Check Points.

For all PCs except PCs 1, 2, 3, 4, and 5 (Forms PC1, PC2, PC3, PC4, and PC5), the Design-Builder shall provide a description identifying the scope of Work for each PC in bulleted or narrative form on Form PCD. The Design-Builder shall include a list of the key components shown on Form SP in each PC description. The Design-Builder shall describe all the Work encompassed within each PC and clearly cross reference items of a similar nature that are included in other PCs.

#### **109-1.2.2 Mobilization**

Mobilization must be an activity in PC 1. Mobilization must not exceed six percent of the Lump Sum Contract Price.

#### **109-1.2.3 Material Delivered To The Site**

If the Proposer/Design-Builder plans to request payment for Material delivered to the site, it must show delivery of the Material as an activity of the associated Price Center(s). See also DB Section 109-5.3.

#### **109-1.2.4 Specific Rules For Price Centers**

The following rules apply for Price Centers.

A) Price Centers 1 through 5

The Design-Builder may add Project-wide activities to Forms PC1 through PC5, but must not delete any of the activities shown on Forms PC1 through PC5.

B) Other Price Centers

- 1) Unless agreed to by the LA DOTD, Price Centers must not contain more than one Critical Path; and
- 2) The Design-Builder may find it beneficial to place significant portions of the Project that will be completed by a separate Subcontractor and/or represent significant differences in crafts and/or trades, such as utility relocations, in separate PCs.

**109-1.3 Contract Periodic Payment Schedule**

The PPS-C shows the planned amount payable to the Design-Builder for each month of Work carried out in the PCs, subject to conditions stated in the Contract. The PPS-C will be the basis for the amounts of periodic payments. However, accelerated payments may be made in accordance with DB Section 109-5.7.

The Design-Builder shall develop and submit the PPS-C, based on its Proposal Periodic Payment Schedule, to the Department's Project Manager within 45 Working Days of Notice to Proceed (NTP) for review and Approval. The Design-Builder shall develop the PPS-C in accordance with this DB Section 109-1.3. The PPS-C, upon written Approval of the Department's Project Manager, as updated by the Design-Builder and Approved by the Department's Project Manager, is incorporated by reference to this Contract.

**109-1.3.1 General Requirements for the Contract Periodic Payment Schedule**

The Design-Builder shall develop and submit the PPS-C broken down to each Section and PC. The Sections and PCs in the PPS-C must match those shown on Form PCD. The Design-Builder shall make no changes in PCVs except as authorized by Change Orders.

The PPS-C must cover the entire period of the Contract in monthly increments, through Final Acceptance, using months and years on the Gregorian calendar, starting at the date of NTP.

The Design-Builder shall make the cumulative payment percentages shown on the PPS-C compatible with the progress of the Work indicated in its Baseline Progress Schedule.

All Price Centers, regardless of measurement and payment method, must be shown on the Contract Periodic Payment Schedule.

**109-1.3.2 Developing the Contract Periodic Payment Schedule**

The Design-Builder shall distribute the PCV of each PC over the period of the Contract within the limitations described in this DB Section 109-1.3.2 to indicate the Design-Builder's desired payment schedule

There will be no advance payment and there will be no separate PC for mobilization. Mobilization costs must be included in PC 1.

The sum of the Price Center Values must equal the Lump Sum Contract Price

The Design-Builder shall determine the monthly cumulative payment distribution of the PCV over the duration of the Contract for each PC. The resulting curve must be the PPS-C for each PC.

The time-price curve for each PC must be developed in such a manner that the amount planned to be earned for any month preceding the date of a PCP must not be less than ten percent of the PCV.

The Design-Builder shall do the following to determine the Contract Periodic Payment Schedule for the Contract:

- A) For each Price Center list each monthly cumulative payment for each month for that Price Center; and
- B) For each month, sum the planned cumulative payments for the PCs to determine the planned maximum cumulative Contract payment for each month of the Contract.

#### **109-1.3.3 Review of the Contract Periodic Payment Schedule**

In addition to the procedure for revision of the PPS-C pursuant to DB Section 109-1.5.4, the Department's Project Manager will carry out a detailed examination and review of the PPS-C, the PCPs, and the dates stipulated for their achievement and an assessment of the extent to which the Work has been carried out up to the date of such review, in the following events:

- A) The Department's Project Manager Approves a revised Baseline Progress Schedule; or
- B) The Department's Project Manager grants an extension of time in accordance with DB Sections 104-7, 104-8, 108-6, 109-13, and 109-14; or
- C) The Department's Project Manager orders a suspension of the Work or any part thereof; or
- D) The Department's Project Manager instructs a change under DB Sections 104-7 or 104-8; or
- E) Following the suspension of payment pursuant to DB Section 109-6.1, the relevant PCP has not been achieved within three months of the date stipulated in the Schedule of PCPs; or
- F) There is a significant change in a PCV by reason of a determination of the Department's Project Manager in accordance with the Contract.

#### **109-1.3.4 Cooperation**

The Design-Builder shall cooperate with and, to the best of the Design-Builder's ability, assist the Department's Project Manager in making any such detailed examination pursuant to DB Section 109-1.3.3. The Design-Builder shall provide all such information as may be reasonably required in connection therewith at no increase in Lump Sum Contract Price or extension in time. If, as a result of this detailed examination, the Department's Project Manager is of the opinion that, in relation to any PC, the relationship between periodic payments and progress of the Work and the degree of control over periodic payments has not been or will not be maintained, then the Department's Project Manager may give 30 Calendar Days written notice to the Design-Builder to prepare a revised PPS-C and/or a revised Schedule of PCPs that will, in the Department's Project Manager's opinion, restore, so far as reasonably practicable, said relationship and degree of control. On the expiration of the said notice and after

considering any representations the Design-Builder may have made in the meantime, the Department's Project Manager will, if still of the opinion that revisions ought to be made, revise the PPS-C and/or the Schedule of PCPs in any manner that the Department's Project Manager sees fit, based on the rate of progress of the Work which the Department's Project Manager anticipates and with the objective of restoring, so far as is reasonably practicable, said relationship and degree of control.

**109-1.4 Progress Check Point Descriptions and Schedule of Progress Check Points**

The Design-Builder shall establish and describe PCPs that define significant events and/or reflect certain or significant accomplishments towards the completion of Work within each PC that can be readily identified without resorting to measurement of quantities. A PCP is a defined step towards the completion of Work within a PC identified in the Schedule of Progress Check Points. Progress Check Points were defined by the Design-Builder in its Proposal and were approved by the LA DOTD with acceptance of that Design-Builder's Proposal. Any changes to the PCPs after submission of the Design-Builder's Proposal are subject to the Approval of the Department's Project Manager, in his sole discretion. The Design-Builder shall not alter PCPs or the Schedule of PCPs without the Approval of the Department's Project Manager.

For each PC, the Design-Builder shall identify and list the PCPs that are reflective of the Baseline Progress Schedule. For each PCP identified, the Design-Builder shall provide a detailed description of the Work to be accomplished using Form PCP.

The Design-Builder shall show its designated Progress Check Points and LA DOTD-designated Progress Check Points, if any, on Form PCP.

The Design-Builder shall develop a numbering system for PCPs that readily ties each PCP to its specific PC. The Design-Builder shall number PCPs within the same PC sequentially over time.

If the Design-Builder plans to request payment for Material, products, or components delivered to the Site, it must provide for each PC a specific description of the Material, products, or components, including estimated quantities of each. Material, products, or components of a similar type, such as different sizes of Culvert, may be combined in a single PCP for a given PC. The Design-Builder shall list similar Material within separate PCs separately for each PC.

The Design-Builder shall complete the Schedule of PCPs by selecting events which represent the completion of significant activities, including delivery of Material, products, or components to the Site, to be undertaken by the Design-Builder and that are in accordance with the proposed methods and sequence of design and construction.

The Design-Builder shall not describe Progress Check Points in terms of "percent complete."

The Design-Builder shall enter the scheduled month of completion for each PCP in each PC in the column provided. The Design-Builder shall express the months in terms of months after NTP.

Individual Progress Check Points must meet the following requirements:

- A) There must be Progress Check Points at the start and completion of Work in a Price Center;

- B) If the duration of the Work on a PC exceeds six months, the Design-Builder shall identify and describe additional interim PCPs so that PCPs are not more than three months apart;
- C) Progress Check Points must signify the completion of elements of the Work that can be readily identified as being completed without resorting to conventional measurement of quantities;
- D) The Design-Builder shall relate Progress Check Points to activities on the Critical Path, where practicable;
- E) There must be no further periodic payments for a Price Center after achieving the last PCP in a Price Center;
- F) For PC1, PCPs for each activity in this DB Section 109-1.4(F)(1) through (5) must be shown in accordance with due dates established by the LA DOTD when such dates are specified in the Contract. Otherwise, the PCP dates must be as designated by the Design-Builder on Form PCP for each of the following:
  - 1) Mobilization must be paid such that 100% of the mobilization costs, not to exceed six percent of the Lump Sum Contract Price, must be paid out by the time that 50% of the Lump Sum Contract Price has been paid on the Project;
  - 2) Submittal (or resubmittal) of and issuance of the Department's Project Manager's written Approval (if specified) for the following items:
    - a) Safety Plan;
    - b) Quality Plan;
    - c) Baseline Progress Schedule; and
    - d) Other plans to be submitted;
  - 3) Provision of the following:
    - a) Facilities and Equipment for the Louisiana Department of Transportation and Development; and
    - b) The Design-Builder's temporary facilities;
  - 4) Removal of temporary and Design-Builder provided facilities and site cleanup, landscaping, and restoration; and
  - 5) Periodic audits and updates of the Quality Plan and Safety Plan.

For PC 1, PCPs must be at three month intervals covering all activities not covered in this DB Section 109-1.4(F)(1) through (5);

- G) For preconstruction engineering and design (Price Center 2), the following particular rules apply:
  - 1) There must be PCPs at the start of design and at the receipt of the Department's Project Manager's written acknowledgement after the 100% Design Review as per DB Sections 111-9.4 and 111-12.5 for each Design Unit identified by the Design-Builder;
  - 2) The Design-Builder must include additional intermediate Progress Check Points; and

- 3) The final Progress Check Point must be the submission and Approval of As-Built Plans;
- H) The Design-Builder shall show the month each Progress Check Point is to be completed on Form PCP;
- I) For PCPs relating to payment for Material delivered to the site, the Design-Builder shall indicate the planned month of delivery of the Materials as described on Form PCP;
- J) The Design-Builder shall include any Louisiana Department of Transportation and Development-designated PCPs on Form PCP;
- K) For PC 3, the submittal of the Maintenance of Traffic Plan and its updates must be PCPs. The Design-Builder shall show major traffic shifts and detour changes as PCPs;
- L) For PC 4, environmental compliance and mitigation, the submittal of specified plans must be PCPs. The Design-Builder shall set PCPs for on-going activities at no greater than three month intervals; and
- M) For PC 5, Hazardous Materials remediation, submittal of plan(s) and report(s) and PCPs as may be required if harmful and/or Hazardous Materials are encountered.

**109-1.5 Revisions During the Contract**

**109-1.5.1 Revisions to Price Centers**

In the event that revisions to the PCs are required during the Contract, the following procedures must apply:

- A) Where new PCs are required, the Design-Builder shall revise and submit the following to the Department's Project Manager for written Approval:
  - 1) Form SP;
  - 2) Form PCD; and
  - 3) Form PCP; and
- B) Where revisions to existing PCs are required, the Design-Builder shall revise and submit the following to the Department's Project Manager for written Approval:
  - 1) The appropriate revised Price Center description on Form PCD;
  - 2) Any change to Form SP;
  - 3) Revisions to Form PCP to reflect new Progress Check Points or changes in Progress Check Points; and
  - 4) Revised Price Centers 1, 2, 3, 4, and/or 5 on Forms PC1, PC2, PC3, PC4, and/or PC5.

**109-1.5.2 Revisions to Schedule of Prices**

The Design-Builder shall revise the affected PCVs and Form SP to incorporate any change to the Lump Sum Contract Price. The Design-Builder shall update Forms SP and PCD and Forms PC1, PC2, PC3, PC4, and/or PC5, as appropriate, and submit them to the Department's Project Manager for written Approval.

**109-1.5.3 Adjustments to Schedule of Progress Check Points (Form PCP)**

In the event that revisions to the Schedule of PCPs (Form PCP) are required during the Contract, which revisions are subject to the Approval of the Department's Project Manager, in his sole discretion, the following procedures must apply:

- A) In the event that a PCP is not achieved, the Department's Project Manager will order the Design-Builder to revise and submit the Baseline Progress Schedule and the Schedule of PCPs (Form PCP) to update the following:
  - 1) The date by which the non-achieved, changed, or added PCP(s) will be achieved; and
  - 2) The schedule for any affected subsequent PCP which may not be achieved by the originally designated date;
- B) The Design-Builder shall revise the Schedule of PCPs (Form PCP), subject to the Approval of the Department's Project Manager, to show changes to affected PCPs;
- C) In the event of a revision of the Baseline Progress Schedule, the Design-Builder shall revise dates of the affected PCPs, subject to the Approval of the Department's Project Manager;
- D) In the event of changes to Work, the Design-Builder shall make such changes, additions, or deletions to only those affected PCPs so identified in the ordered change, subject to the Approval of the Department's Project Manager;
- E) In the event that a PCP is changed as result of a time extension in accordance with DB Sections 104-7, 104-8, or 109-13, the Design-Builder shall change those dates affected by the time extension, subject to the Approval of the Department's Project Manager;
- F) In the event that a PCP is changed as a result of a suspension of Work order in accordance with DB Section 109-13.2, the Design-Builder shall change those dates affected by the suspended Work, subject to the Approval of the Department's Project Manager; and
- G) In the event that the Design-Builder's progress exceeds that shown on the Schedule of PCPs, and payment is made at an accelerated rate in accordance with DB Section 109-5.7, the Design-Builder shall revise the Schedule of PCPs (Form PCP), as necessary, to reflect any planned changes to the Schedule of PCPs, subject to the Approval of the Department's Project Manager.

**109-1.5.4 Revisions to the Contract Periodic Payment Schedule**

If the Design-Builder's progress is such that PCP(s) are completed prior to the date(s) shown on the Schedule of PCPs (Form PCP) and payment is made at an accelerated rate in accordance with DB Section 109-5.7, the Design-Builder shall adjust the PPS-C for the affected PC(s) and submit the revised PPS-C to the Department's Project Manager for written Approval.

The Design-Builder shall submit any requests to allow any change to its PPS-C for a PC to reflect changes in timing of the Work within a given PC to the Department's Project Manager for Approval. No change in PCVs will be permitted except to reflect changes in Lump Sum Contract Price made through Change Orders. The Design-Builder shall accompany any such requests to allow any changes to the PPS-C with the following:

- A) Proposed revisions to the Baseline Progress Schedule to reflect the change in schedule; and
- B) Proposed revisions to the PCP descriptions and/or Schedule of PCPs (Form PCP) consistent with the requested change in the PPS-C.

The LA DOTD, in its sole discretion, may Approve to the requested change to the PPS-C and/or proposed revisions to the Baseline Progress Schedule, PCP descriptions, and/or Schedule of PCPs (Form PCP), but will be under no obligation to do so.

Documentation of any changes in the Contract Periodic Payment Schedule will be made as a no-cost Change Order.

When revisions are made to the PPS-C in accordance with the Contract, the Department's Project Manager will reduce or extend the period over which periodic payments may be made, if necessary.

#### **109-2 MEASUREMENT/DETERMINING PROGRESS**

Unless specified otherwise in the Contract Documents, there will be no measurement of quantities to determine payment due, except for any unit price items.

The Design-Builder shall measure unit price items as specified in DB Sections 109-2.7 and 109-5.2, or per the Project specifications developed by the Design-Builder and accepted by the LA DOTD for items that have unit prices.

For PCs and/or Change Orders paid on a force account basis, the Design-Builder shall substantiate progress with submittal of statements specified in DB Section 109-8.2.2.

For PCs and/or Change Orders paid on a unit price basis, the Design-Builder shall substantiate progress with submittal of invoice documents specified in DB Section 109-5.2.

For all Work paid on a lump sum basis, the achievement of Progress Check Points must be determined as set forth in DB Sections 109-2.1 through 109-2.6.

##### **109-2.1 Price Center 1**

Where a PCP requires the submittal of insurance certificates (in addition to the initial submission of the insurance certificates at the time of Contract execution) or similar documents, the PCP is met when the document has been delivered to the Department's Project Manager and content of the document is shown to meet the Contract requirements and the Department's Project Manager notifies the Design-Builder in writing of that determination

Where a PCP requires the submittal of a specified plan or similar document, the PCP is met when the plan has been submitted to the Department's Project Manager for Approval and/or Consultation and Written Comment, as appropriate, and the Department's Project Manager issues the Approval and/or written comment(s), as appropriate, relative to the plan or document

Where a PCP requires an audit and/or update of a specified plan, the PCP is met when the report of the audit and/or plan update is submitted to the Department's Project Manager for Approval and/or

Consultation and Written Comment, as appropriate, and the Department's Project Manager issues the Approval and/or written comment(s), as appropriate.

If Design Plans or documents are returned to the Design-Builder without the Department's Project Manager's written acknowledgement, the Design-Builder shall not have met the PCP

Mobilization must be invoiced at the end of the period following submittal of a Baseline Progress Schedule and the PPS-C that the Department's Project Manager acknowledges in writing meets the Contract requirements.

For continuing activities listed in Table 109-2, the PCPs, which must be at three month intervals, are met when the specified standards and/or requirements, such as those listed in Table 109-2, are met.

**TABLE 109-2**

**PRICE CENTER 1 CONTINUING ACTIVITIES STANDARDS**

ACTIVITY	REQUIREMENT/STANDARD
Project Management and Construction Management	<ul style="list-style-type: none"> <li>• Monthly progress reports prepared and submitted in accordance with DB Section 108-2.3;</li> <li>• Key personnel are on site and meet the requirements of DB Section 108-3 and Part 4 – DB Special Provisions, DB Special Provision 108B;</li> <li>• Meetings conducted and attended, and minutes prepared in accordance with, DB Section 105-12;</li> <li>• Baseline Progress Schedule submitted and maintained in accordance with DB Section 108-2.1 and Part 4 – DB Special Provisions, DB Special Provision 108A;</li> <li>• Required notices given to the Department's Project Manager in timely manner; and</li> <li>• Contract submittal list submitted and updated in accordance with DB Section 108-2.3.5.</li> </ul>
Quality Control of Management and Construction	<ul style="list-style-type: none"> <li>• Quality Plan and updates submitted and received Department's Project Manager's written acknowledgement in accordance with DB Section 113-1.</li> <li>• Management and construction activities conducted in accordance with the Quality Plan;</li> <li>• Sampling and testing conducted in accordance with DB Section 105-6; and</li> <li>• Documentation prepared and maintained in accordance with DB Section 112.</li> </ul>
Security	<ul style="list-style-type: none"> <li>• Site Security Plan and updates submitted and Department's Project Manager's written acknowledgement of Site Security Plan received in accordance with DB Section 107-6.2; and</li> <li>• Security facilities maintained and security services provided in accordance with the Site Security Plan.</li> </ul>

**Louisiana Department of Transportation and Development**

ACTIVITY	REQUIREMENT/STANDARD
Facilities and Equipment provided for Louisiana Department of Transportation and Development	<ul style="list-style-type: none"> <li>Facilities and Equipment provided, maintained, and cleaned, and utilities provided and paid for.</li> </ul>
Safety	<ul style="list-style-type: none"> <li>Safety Plan and updates submitted and received Department's Project Manager's written acknowledgement in accordance with DB Section 107-5; and</li> <li>Construction Work conducted in accordance with DB Section 107 and the Safety Plan, including submittal of required reports.</li> </ul>
Communications	<ul style="list-style-type: none"> <li>Courier service provided.</li> </ul>
Design-Builder's Temporary Facilities and Site Maintenance	<ul style="list-style-type: none"> <li>Site and facilities maintained in accordance with DB Section 107.</li> </ul>
Insurance	<ul style="list-style-type: none"> <li>Specified levels of insurance maintained in accordance with DB Section 107.</li> </ul>
Public Information	<ul style="list-style-type: none"> <li>Public Information activities provided, as requested by the LA DOTD.</li> </ul>
Warranty or Guarantee	<ul style="list-style-type: none"> <li>Cost of the warranty or guarantee, as required by the Contract.</li> </ul>

**109-2.2 Price Centers Associated with Engineering and Design**

The PCPs are met when the requirements for preconstruction engineering; design and design management; and design QC, including Design Reviews, have been achieved for the applicable Design Unit including the specified reports, the documentation and QC records, the certifications of the Designer and the Design QC Manager, and the Department's Project Manager's written acknowledgement. In the case of design studies and/or reports, the PCP is met when the Department's Project Manager issues a written acknowledgement regarding the study or report.

Progress will be determined on a cumulative percent complete basis consistent with the percent complete shown on Form DUS (*see* DB Section 111-3) as agreed between the Design-Builder and the Department's Project Manager.

**109-2.3 Price Centers 3 through 4**

The PCPs are met when specified plans, reports, and/or updates are submitted and the Department's Project Manager issues a written acknowledgement that they meet Contract requirements.

Progress Check Points for Maintenance of Traffic are met when Maintenance of Traffic measures meeting Contract requirements are implemented and when planned traffic switches are made.

**109-2.4 Price Center 5, Hazardous Materials Remediation**

There will typically be no PCPs for PC 5, Hazardous Materials Remediation, except for any specified investigations, reports, and plans.

**109-2.5 Price Centers Associated with Construction**

Whether the PCP is identified by the Design-Builder in its Schedule of PCPs (Form PCP) as requiring the completion of an entire PC or partial completion of Work associated with a PC, the PCP is met only when all components within the PCP are constructed in accordance with Contract requirements.

The Design-Builder must comply with the Quality Control requirements before the Progress Check Point is met.

The Progress Check Point will not be considered met until temporary erosion control measures are in place.

Progress Check Points will not be considered met until applicable environmental requirements have been met.

**109-2.6 Unit Priced Work**

In computing amounts in estimates or Work done under unit prices, all estimates, including the final, will be made for actual quantities of Work performed and Material placed in accordance with the requirements contained in the Design-Builder's Project specifications, Design Plans, and standard sheets (except as provided under DB Section 109-6.3) as determined as per DB Section 109-5.2, and the resulting quantities involved in the Contract must be accepted as final, conclusive, and binding upon the Design-Builder.

**109-3 CHANGES TO LUMP SUM CONTRACT PRICE**

The Lump Sum Contract Price must be increased or decreased only by a Change Order issued in accordance with DB Sections 104-7, 104-8, and/or 109-8, and 109-9.

The Design-Builder shall revise the PCVs in accordance with the terms of a Change Order and submit the revisions to the Department's Project Manager for written Approval.

The Department's Project Manager may decide the applicable PC for the purpose of any revision in accordance with this DB Section 109-3 if and insofar as the same is not identified in the pricing documents, and shall notify the Design-Builder in writing upon making any such decision.

Notwithstanding this DB Section 109-3, the Department's Project Manager may decide not to include a sum payable to the Design-Builder pursuant to the Contract in a PCV, in which case the Department's Project Manager will notify the Design-Builder of the decision and the Design-Builder may apply for payment of the sum in accordance with DB Section 109-5.

**109-4 CONTRACT PAYMENTS**

Payments to the Design-Builder for Work satisfactorily performed will be made monthly.

**109-4.1 Scope of Payment**

The Design-Builder shall receive and accept compensation provided for in the Contract as full payment for furnishing all Material and for performing all Work under the Contract in a complete and acceptable manner and for all risk, loss, damage, or expense of whatever character arising out of the nature of the Work or the prosecution thereof.

**109-4.2 Payment Concept**

Payment will be calculated using the PPS-C except for Work performed under other specified means, such as unit prices and/or force account (*see* DB Sections 109-5.2 and 109-8.2.2).

The Design-Builder will be paid monthly based on the percentages and amounts shown on the PPS-C for each PC developed in the manner described in DB Section 109-1.3.2 except as provided in DB Section 109-6.1.

If Work defined for a PCP in a PC is not completed by the date shown on the Schedule of PCPs (Form PCP), payment will be suspended at the previous month's level for the affected PC(s). Payments will be resumed in the affected PC upon meeting of the designated PCP.

Payment will be based on the PPS-C. No payment will be made until the PPS-C is Approved by the Department's Project Manager and incorporated by reference into the Contract.

Requirements relating to requests for payment for the Work are set forth in DB Section 109-5.

Except for PCs paid on a force account or unit price basis, the PPS-C sets out the maximum accumulative percentage of each PCV (or part thereof) in relation to each month for which the Design-Builder may apply for payment in accordance with this DB Section 109-4.2, subject to the achievement of relevant PCPs. Payment for PCs paid on a force account or unit price basis must be determined per DB Section 109-8.2.2 and DB Section 109-5.2, respectively.

**109-4.3 Progress Payments**

No payment will be made for Work until its completion in accordance with the Contract.

**109-4.4 No Payment on Design-Builder's Non-Compliance**

No payment will be completed so long as any lawful or proper direction to the Design-Builder by the Department's Project Manager or his/her designee concerning the Work or Material has not been complied with. *See* also DB Section 109-6.1.

**109-4.5 Claims**

In accordance with Louisiana Revised Statutes 48:256.5(D), the LA DOTD will withhold from progress payments and the final payment 125% of any amounts claimed after receipt by the Undersecretary of the LA DOTD of a sworn statement of amount due from the Design-Builder, to the extent of payments due and owed the Design-Builder after receipt of said claim.

**109-5 REQUESTS FOR PERIODIC PAYMENT**

The Design-Builder shall submit all requests for periodic payment to the Department's Project Manager with the monthly progress report (*see* DB Section 108-2.3) signed by the Design-Builder's Project Manager, except that the request for final payment must be signed by the Design-Builder's Principal-in-Charge. The Design-Builder shall submit the request by the fifth day of each month (if a holiday, the next Working Day) or other mutually agreed date.

The Design-Builder's Project Manager, QC Manager, and Design Manager must execute the certifications on Form RPP.

Mobilization will be paid per DB Section 109-2.1.

The Design-Builder shall submit the request for periodic payment using the format illustrated in Form RPP (see Appendix 109A). The Design-Builder shall complete the Request for Periodic Payment in accordance with the instructions shown on Form RPP. The maximum cumulative payments at any point in time must not exceed the sum of planned cumulative payment for each PC as shown on the PPS-C, except when the Design-Builder meets PCPs in advance of the dates shown on the Schedule of PCPs (Form PCP). In such case, the Design-Builder shall adjust the maximum payment to incorporate the cumulative payment shown on the PPS-C for PCP(s) achieved in advance of the date(s) shown on the Schedule of PCPs (Form PCP). See also DB Section 109-5.7.

The Design-Builder shall complete and submit, as part of its Request for Periodic Payment, the certificate of achievement of PCPs on Form RPP, listing the PCPs the Design-Builder considers to have been achieved in the previous month. The Design-Builder's Project Manager and the Design-Builder's QC Manager must sign the draft certificate of achievement of PCPs. The Request for Periodic Payment will have no effect until countersigned by the Department's Project Manager pursuant to DB Section 109-6.

**109-5.1 Payment Requests with the Monthly Progress Report**

Each application for periodic payment must contain the following:

- A) The amount claimed to be payable using Form RPP, setting out the percentage and amount of each PCV claimed according to the PPS-C, including amounts due under force account PCs and/or Change Orders;
- B) Any other amount claimed to be payable or deducted pursuant to a determination of the Department's Project Manager, identifying the relevant determination; and
- C) A PCP certificate included on Form RPP indicating the PCPs the Design-Builder considers to have been achieved during the preceding month and certifying compliance with Contract requirements. The certification must be signed by the Design-Builder's Project Manager, QC Manager, and Design Manager.

The Design-Builder shall make payment application for any Work where PCPs have been met in advance of the time or date shown on the Schedule of PCPs (Form PCP), subject to meeting all preceding PCPs in the applicable PC, in accordance with DB Section 109-5.7.

**109-5.2 Unit Price Work**

For any unit price Work, the Design-Builder shall submit a summary table of quantities with the Request for Periodic Payment indicating location, item number and description, quantity, unit price, and total amount due for the period covered by the Request for Periodic Payment. The Design-Builder will attach copies of quantity measurement notes or field book entries stamped and signed by a Louisiana-licensed Professional Engineer or surveyor assigned to the Design-Builder's construction QC organization. The Design-Builder's Project Manager and the Construction QC Manager must sign and date the summary table.

The Design-Builder shall measure quantities for any unit price Work as per DB Section 109-2.7.

**109-5.3 Payment for Stockpiled or Stored Material**

**109-5.3.1 General**

Payment for stockpiled or stored Material will be considered only for Materials anticipated to be stored for periods in excess of 90 Calendar Days. When approved, advance payments may be made for fabricated or natural Materials that are to be incorporated in the Project when stockpiled Materials are stored on the Project or in a dedicated stockpile at an approved site outside the limits of the Project within the State of Louisiana. Payments will be limited to durable Materials described herein and will represent a significant portion of the project cost. Perishable articles and small warehouse items are not included. These Materials must meet the requirements of the Contract. Payment for stockpiled or stored Materials will not constitute acceptance. The Design-Builder shall protect the Material from damage while in storage.

Payment for Materials stored outside the State of Louisiana will be considered, subject to approval of the Department's Project Manager. This will generally be limited to adjacent states, except in cases where it will be in the best interest of the LA DOTD to pay for these Materials.

Payment may be made for the invoice price for the Materials, which must not exceed 85% of the PC which includes the Materials. For fabricated Materials purchased from commercial sources and delivered to approved storage, partial payment may be the invoice price plus freight and taxes. The Design-Builder shall allocate costs for Materials as part of the activities with which the Material is associated.

Partial payment for stockpiled materials must be requested by the Design-Builder in writing and the following documents must be furnished:

- A) A copy of the invoices from the supplier or manufacturer verifying the cost and quantity of the Material; and
- B) If storage is on private property, a copy of the lease or agreement granting the LA DOTD right of entry to property.

Within 30 Calendar Days after payment by the LA DOTD, the Design-Builder shall submit a certified copy of invoices from the suppliers for each item for which payment has been made. All such invoices submitted must state the amount received by the supplier as payment in full for the Materials. If this certification of payment is not presented within the 30 Calendar Day period, the advanced payment will be deducted from future periodic payments.

Title and ownership of Materials for which advancements have been made by the LA DOTD must not vest in the LA DOTD until such Materials are incorporated in the Work and the Work accepted by the LA DOTD. The making of advancements by the LA DOTD will not release the Design-Builder from the responsibility for any portion thereof.

**109-5.3.2 Fabricated or Manufactured Materials**

Fabricated or manufactured Materials may include, but are not limited to, the following:

- A) Structural steel;
- B) Fabricated structural steel items;
- C) Steel piling;

- D) Reinforcing steel;
- E) Electrical Equipment;
- F) Mechanical Equipment;
- G) Precast concrete items;
- H) Structural timber;
- I) Timber piling;
- J) Fencing and guard rail Materials;
- K) Fabricated sign structures; and
- L) Sign panels.

**109-5.3.3 Other Material**

These Materials will normally be large quantities of natural or manufactured aggregate. The Design-Builder's request for payment of stockpiled natural Material must give a detailed description of the Material, its intended use, and location of the site.

**109-5.4 Equipment Used to Construct the Project**

The LA DOTD will not pay for direct costs of Equipment used to construct the Project. The Design-Builder shall allocate costs for Equipment, whether new, used, or rented, as part of the activities with which the Equipment is associated.

**109-5.5 Bond Premiums**

The amount payable to the Design-Builder for bond premiums must be a dollar-for-dollar pass through of the Design-Builder's costs (not to exceed the amount shown on Form PC1 for such premiums).

**109-5.6 Permits**

The amount payable to the Design-Builder for permits must be a dollar-for-dollar pass-through of the Design-Builder's costs (not to exceed amount shown on Form PC1 for permits). The Design-Builder shall provide backup documentation supporting each cost in this category to the LA DOTD prior to any payment.

**109-5.7 Accelerated Payment**

The Design-Builder will be entitled to payment at a rate in excess of that shown on the PPS-C if a PCP is completed prior to the date shown on the Schedule of PCPs (Form PCP), provided all PCPs preceding the aforementioned PCP on the Schedule of PCPs (Form PCP) for that PC have also been completed. Periodic payment will be based on the percentages shown on the PPS-C for the date when the completed PCP was planned to be met.

*See also* DB Sections 109-1.5.3 and 109-1.5.4 for resulting adjustments to the Schedule of PCPs (Form PCP) and PPS-C.

**109-6 REVIEW AND PROCESSING OF REQUESTS FOR PERIODIC PAYMENT**

Upon receipt of a Request for Periodic Payment, the Department's Project Manager will proceed in accordance with this DB Section 109-6. At the same time, the Department's Project Manager will countersign the certificate of PCPs achieved (Form RPP) for PCPs met.

Any adjustments by the Department's Project Manager to a Request for Periodic Payment will be reasonable and in accordance with the Contract Documents.

Upon resolution of any problems with any draft certificate of PCPs that resulted in an adjustment in the amount of a prior Request for Periodic Payment, or upon satisfaction of any conditions that were the basis for such an adjustment, the Design-Builder may include the amount of the adjustment in the next Request for Periodic Payment.

**109-6.1 Payment Limitations and Partial Suspension of Payments**

There will be no advance payments or payments for mobilization except as specified in DB Section 109-1.2.2 and 109-1.4(F)(1).

The LA DOTD will not pay for construction Work, including Work being paid on a force account basis, unless the following conditions are met:

- A) The Design-Builder's Design Plans and Project specifications that have been released for construction as per DB Section 111-12.5 are on site for the Work being constructed;
- B) The Design-Builder's Design Plans and Project specifications have been checked and reviewed in accordance with DB Section 111-12 and design documentation maintained in accordance with DB Section 111-18;
- C) Construction Work has been inspected and sampling and testing conducted in accordance with DB Section 112-2;
- D) Items covered by Non-Conformance Reports (NCR) issued by the LA DOTD, the Design QC Manager, or Construction QC Manager are corrected and/or resolved to the satisfaction of the LA DOTD; and
- E) Construction documentation is completed and records and reports submitted and/or retained in accordance with DB Section 112-9.

If the Design-Builder does not meet the PCP by the date indicated on the Schedule of PCPs (Form PCP), all payment on that PC in which the PCP appears will be suspended at the level of the previous month's payment until the date the PCP is met, at which time the payment will be brought up to the appropriate level through the next Request for Periodic Payment.

As a condition precedent to consideration by the Department's Project Manager of any periodic payment for Work described in PC 1 for the preceding month, the monthly progress report completed in accordance with DB Section 108-2.3 must accompany each such application.

As a condition precedent to consideration by the Department's Project Manager of any periodic payment for Work described in PC 1 for the preceding month, all certified payrolls of the Design-Builder and all Construction Subcontractors must be up to date and submitted to the LA DOTD.

The LA DOTD may suspend payment for PCs' 1, 3, and/or 4 Work for any period if the Design-Builder's performance of Price Centers' 1, 3, and/or 4 continuing activities during the period resulted in any of the following:

- 1) Serious disruptions to necessary Maintenance of Traffic and access through the site;
- 2) Serious disruptions to the LA DOTD's access to the site or use of facilities provided for the LA DOTD's use;
- 3) Unacceptable safety performance as evidenced by the Design-Builder's accident record;
- 4) Non-compliance with environmental requirements that leads to citations, fines, and/or other penalties by environmental authorities;
- 5) Serious disruptions to procedures and documentation required by the Quality Plan and/or specified in the Contract;
- 6) Continued reports of blocked vehicular and/or pedestrian access to properties; or
- 7) Continued report of failure to comply with the requirements of Part 3 – Design Requirements and Performance Specifications, Traffic Control Plan Performance Specification.

The Department's Project Manager may determine that the three month PCPs for PCs 1, 3, and/or 4 continuing activities have not been met and may suspend payment for PCs' 1, 3, and/or 4 Work at the end of the three month period covered by the PCP if there is a continuing history of non-compliance and failure to correct deficiencies noted in the Department's Project Manager's monthly assessment of the Design-Builder's performance for PCs' 1, 3, and/or 4 continuing activities listed in DB Sections 109-2.

No payment will be made under PCs or Change Orders being paid on a force account basis for design or construction Work necessitated to correct deficiencies noted on an NCR. The Design-Builder shall clearly delineate in its records and on the force account report (*see* DB Section 109-8.2.3) personnel and Equipment used on any corrective force account Work on such deficiencies.

If the Design-Builder fails to actively prosecute Work within a PC, the Department's Project Manager may suspend payment in that PC at the previous month's level or, as agreed between the Design-Builder and the Department's Project Manager, adjust the payment to a level commensurate with actual progress made.

#### **109-6.2 Certification for Periodic Payment**

Within seven Calendar Days of receipt of a request in accordance with DB Section 109-5, the Department's Project Manager will issue to the LA DOTD, with a copy to the Design-Builder, a periodic payment certificate showing the amount of any periodic payment the Department's Project Manager considers payable by the LA DOTD to the Design-Builder. Such periodic payment certificate must be the sum of the following:

- A) The amounts shown to be due by reference to the Contract Periodic Payment Schedule; and
- B) The amounts determined by the Department's Project Manager to be due in respect of the following:
  - 1) Additional cost incurred and payable in accordance with the Contract;
  - 2) Work executed pursuant to a force account Change Order; and

- 3) Any other amount or allowance to which the Design-Builder is entitled under the Contract, unless account has been or will be taken of such amount or allowance by way of a revision of a PCV under DB Section 109-1.5.2;
- less:
- a) Any retention monies as provided for in DB Section 109-7;
  - b) Any amounts certified for payment on certificates previously issued; and
  - c) Any amounts recoverable from the Design-Builder in accordance with the Contract, including any amount withheld for PC 1 because the Design-Builder failed to provide the monthly progress report in the form and detail required in the Contract or failed to provide a revised Baseline Progress Schedule that the Department's Project Manager has Approved.

At the same time, the Department's Project Manager will countersign Form RPP to be based on the draft submitted by the Design-Builder pursuant to DB Section 109-5, amended as necessary, certifying the PCPs the Department's Project Manager considers the Design-Builder to have met. The Department's Project Manager will have power to omit from any such certificate the value of any Work with which the Department's Project Manager may, for the time being, be dissatisfied. The Department's Project Manager may by any certificate delete, correct, or modify any sum or statement of fact previously certified by him or her.

**109-6.3 Cap on Periodic Payment**

If there is a need, periodic payments may be limited by a cumulative cap set forth on the PPS-C. If a cap on payment is in place on the Project, at no time will the Design-Builder's cumulative total progress payments exceed the cumulative total expenditure shown on the PPS-C except for the Design-Builder's accelerated performance as defined and provided in DB Section 109-5.7. The initial PPS-C set forth in DB Section 109-1.3 hereto is subject to revision from time to time as appropriate to account for any changes in the Lump Sum Contract Price as evidenced by Change Orders.

**109-6.4 Payment by the Louisiana Department of Transportation and Development**

Within 30 Calendar Days after receipt by the LA DOTD of an acceptable request for periodic payment (such acceptability as determined by the LA DOTD), the LA DOTD will pay the Design-Builder the amount of the request approved for payment by the Department's Project Manager, less any applicable retention and less any amounts that the LA DOTD is otherwise entitled to withhold. If a cap on payment is in place on the Project, in no event will the LA DOTD have any obligation to pay the Design-Builder any amount which would result in payment for any activity in excess of the value of the activity shown on the PPS-C, except as provided in DB Section 109-5.7.

**109-6.5 Adjustment for Cost of Materials or Fuels**

There will be no cost adjustment for any Materials or fuels under this Contract.

**109-7 RETAINAGE**

If an election has been made to have retainage withheld from periodic payments due the Design-Builder, the LA DOTD will deduct from the periodic payment an amount equal to five percent of the requested periodic payment.

**109-8 EXTRA WORK, FORCE ACCOUNT WORK, AND RECORD KEEPING**

**109-8.1 New Work**

**109-8.1.1 Agreed Prices**

Agreed prices for new Work or Material may be incorporated in the Change Order as the Department's Project Manager may deem them to be just and fair and beneficial to the state. These prices must be supported by a complete price analysis in the Change Order, or if approved by the Department's Project Manager, by reference to the weighted average bid or proposal prices for similar types and quantity of Work from other recent contracts. The price analysis will be based on an estimated breakdown of charges listed in DB Section 109-8.2.2 unless some other basis is approved by the Secretary. Agreed prices may be lump sum or unit price Work.

**109-8.1.2 Force Account Charges**

Where there are no applicable unit prices for Extra Work ordered and agreed prices cannot be readily established or substantiated, the Design-Builder shall be paid on a force account basis. When force account is the method of payment, the Design-Builder will be paid the direct cost of the Work as determined and documented in DB Section 109-8.2.2(A) through (G). Jobsite and home office overhead indirect expenses, and profit for all parties will be considered fully compensated by a 15% mark-up on allowable direct cost items described in DB Section 109-8.2.2(A) through (D), and the mark-up on direct cost for any Subcontractors and the Design-Builder described in DB Section 109-8.2.2(E). The LA DOTD may consider additional reimbursement to the Design-Builder for indirect fixed jobsite overhead costs for excusable compensable delays as defined in DB Section 109-13 and 109-14, when the compensable delay results in extension of the Contract Time and the 15% mark-up is deemed by the LA DOTD to be insufficient, in its sole discretion:

A) Labor

For labor and working foremen in direct charge of operations, the Design-Builder shall receive the wage rates agreed on in writing before beginning Work for each hour that said labor and foremen are engaged in such Work. Jobsite and home office supervisory personnel must not be included as direct labor.

The Design-Builder shall receive the actual costs paid to, or on behalf of, workers for subsistence and travel allowances, health and welfare benefits, pension fund benefits, or other benefits when such amounts are required by collective bargaining agreement or other employment contract applicable to the classes of labor employed on the Work, but limited to a maximum daily rate for subsistence and travel allowances. This maximum must be agreed upon prior to the Design-Builder incurring such charges.

B) Bond, Insurance, and Tax

For property damage, liability, and workers' compensation insurance premiums, unemployment insurance contributions, and social security taxes, and additional bond costs on force account Work, the Design-Builder shall receive the actual cost thereof. The Design-Builder shall furnish satisfactory evidence of the rates paid for such additional bond, insurance, and tax.

C) Materials

For Materials used, the Design-Builder shall receive the actual cost of such Materials delivered to the Work including transportation charges and sales tax, if applicable.

D) Equipment

For machinery or special Equipment, the Design-Builder shall receive the rental rates agreed on in writing before such Work is begun. For Equipment rented from independent outside sources, the Design-Builder shall be reimbursed the reasonable actual cost as shown on paid rental invoices. For company-owned Equipment, the Design-Builder shall be reimbursed its internal cost recovery Equipment charge rate. The LA DOTD's Engineering Directives and Standards Manual, EDSM III.1.1.27, entitled Equipment Rental Rates, provides additional guidance concerning allowable Equipment rental rates and their application. If the Design-Builder chooses to use a rental rate guide book instead of its internal cost recovery rates to establish rental rates for company-owned Equipment, adjustments to the allowable type of Equipment and hours per day must be made as described in the EDSM III.1.1.27. In addition, no 15% mark-up on Equipment direct cost for jobsite and home office overhead expenses and profit will be allowed if the Design-Builder chooses to use rental rate guide book prices instead of its internal cost recovery rates.

E) Subcontracting

When the Work is to be performed by a Subcontractor, the Design-Builder will be paid the actual and reasonable cost of such subcontracted Work computed as outlined above, plus an additional allowance of ten percent of the first \$50,000.00 and five percent of all costs over \$50,000.00. Reimbursement for bond costs will be in accordance with DB Section 109-8.2.2(B).

F) Non-Allowable Costs

No additional Design-Builder cost reimbursement will be made for general superintendence, small tools or craft-specific tool allowances, or other direct or indirect costs not specifically included in DB Section 109-8.2.2(A) through (E).

**109-8.1.3 Statements**

No payment will be made for force account Work until the Design-Builder has furnished the Department's Project Manager with duplicate itemized statements of the cost of such Work detailed as follows:

- A) Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman;
- B) Designations, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and Equipment;
- C) Quantities of Materials, prices, and extensions;
- D) Transportation of Materials; and
- E) Cost of property damage, liability, and workers' compensation insurance premiums, unemployment insurance contributions, and social security tax.

The Design-Builder's Project Manager and the Department's Project Manager will compare records of the cost of Work done as ordered on a force account basis. Such comparison must be made daily. Statements must be accompanied by invoices for Materials used and transportation charges. If Materials used on force account Work are not purchased for such Work, but are taken from the Design-Builder's stock, in lieu of invoices, the Design-Builder shall furnish an itemized list of such Materials showing that the quantity claimed was actually used and that the price and transportation costs claimed represent the actual cost to the Design-Builder. Invoices must be accompanied by the Design-Builder's notarized statement that payment in full has been made for the Materials.

#### **109-9 ELIMINATED ITEMS**

Should any Work contained in the Contract be found unnecessary, the Department's Project Manager may, upon written order to the Design-Builder, eliminate such Work from the Contract. Such action will not invalidate the Contract.

When Work is eliminated, the Design-Builder will be reimbursed for activities done toward completion of the Work to be eliminated. No allowance, except as provided herein, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits claimed by the Design-Builder resulting directly from such elimination.

The Change Order authorizing reimbursements will show how the reimbursements were derived. Except when otherwise authorized by the Department's Project Manager, such derivation will show breakdowns of costs as detailed in DB Section 109-8.2.2.

#### **109-10 FINAL ACCEPTANCE**

Upon receipt of written notice from the Design-Builder of the projected completion date of all of the requirements for the Project, the Department's Project Manager will inspect or review all portions of the Project to verify that all Work, including surveys, As-Built Plans, and Design Acceptance, have been satisfactorily completed. Prior to receiving notification for Final Acceptance for the entire Project, the Design-Builder must complete any specified training for LA DOTD personnel.

The Design-Builder shall prepare and submit As-Built Plans of the following types in electronic format on Compact Disc – Read Only Memory (CD-ROM) and one reproducible hard copy set:

- A) Plan and profile sheets;
- B) Signing and striping;
- C) Pavement typical sections;
- D) All Bridge Plans;
- E) Retaining Structure Plans;
- F) Utility relocation Plans;
- G) Drainage Structure Plans;
- H) Cross sections in areas with retaining structures and/or cuts and/or fills in excess of ten feet high; and
- I) Plans of consolidated access points.

Upon verification that all items have been completed, the final inspection by the Department's Project Manager will be scheduled and conducted within 14 Calendar Days. If the inspection discloses Work, in whole or in part, as being unsatisfactory, the Department's Project Manager will give the Design-Builder the necessary written instructions within the time limit set by the Department's Project Manager. Upon correction of the Work, the Department's Project Manager will make an additional inspection and notify the Design-Builder accordingly as soon as reasonably possible thereafter.

If there are no outstanding items to be completed or corrected before Final Acceptance of the Project, the Design-Builder shall, following inspection:

- A) Submit to the Department's Project Manager special guarantees, warranties, maintenance agreements, final certifications, and similar documents required under the Contract;
- B) Deliver tools, spare parts, instructions, and similar items required to operate and maintain the Work; and
- C) Make changeover of locks to all Equipment and facilities and deliver keys and/or combinations to the Department's Project Manager.

When in the opinion of the Department's Project Manager the Design-Builder has fully performed the Work under this Contract, the Department's Project Manager will recommend to the appropriate LA DOTD officials the Final Acceptance of the Work so completed. If the appropriate LA DOTD officials accept the recommendation of the Department's Project Manager, he will thereupon by letter notify the Design-Builder of such Final Acceptance, and copies of such Final Acceptance will be sent to other interested parties.

Upon Final Acceptance of the Work, the LA DOTD will execute a certificate that the Work provided for in the Contract has been completed and accepted under the terms of the Contract. The Certificate of Acceptance will be recorded in the office of the Recorder of Mortgages of the parish in which the Work has been done.

Final Acceptance will be final and conclusive except for defects not readily ascertainable by the LA DOTD; actual or constructive fraud; gross mistakes amounting to fraud; or other errors which the Design-Builder knew or should have known about as well as the LA DOTD's rights under any warranty or guarantee. Final Acceptance may be revoked by the LA DOTD at any time prior to the issuance of the final payment upon the LA DOTD's discovery of such defects, mistakes, fraud, or errors in the Work.

Damage, theft, or vandalism to the items by the public after Final Acceptance will be repaired or replaced by the LA DOTD or by the Design-Builder. When the damage to an item is such that only partial repair or replacement is required and the Work is to be done by the Design-Builder, payment will be made as provided in DB Section 109-8.2. Items damaged due to negligence of the Design-Builder will be repaired or replaced at no cost to the state.

Final Acceptance does not relieve the Design-Builder's obligations pursuant to any guaranty or warranty under the terms of the Contract.

**109-11 FINAL PAYMENT**

The entire balance due to the Design-Builder, including any amounts withheld as retainage, will be paid; however, before the final payment, the Design-Builder shall submit to the LA DOTD a certificate from the Recorder of Mortgages of the parish in which the Work has been done to the effect that there are no claims or liens recorded against the Contract, in accordance with La. C. C. P. 5059 and Louisiana Revised Statutes 1:55. The date of the certificate must not be prior to the expiration of 45 Calendar Days, but must be prior to the expiration of 90 Calendar Days, after the Certificate of Acceptance was recorded in the Recorder of Mortgage's Office.

Prior to final payment, all releases or waivers on buildings, wells, utilities, and railroads must be furnished as well as any maintenance bonds, certificates from the Health Department, tracings, brochures, or other items required by the Contract.

Final payment will not release the Design-Builder or Sureties from liability for any fraud in construction; in obtaining periodic payments; in payment for Materials, labor, or other supplies or services for the Work; or for any claims for damages, loss, or injury sustained by any person through the fault, negligence or conduct of the Design-Builder or any employees, agents, Subcontractors, suppliers, or representatives.



**STATE OF LOUISIANA**  
**INTERSTATE-12 WIDENING**  
**DESIGN-BUILD PROJECT**

O'NEAL LANE INTERCHANGE TO WALKER  
EAST BATON ROUGE AND LIVINGSTON PARISHES  
STATE PROJECT NOS. 454-01-0047 AND 454-02-0025

**SCOPE OF SERVICES PACKAGE**  
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**APPENDIX 109A**  
**FORMS**



APPENDIX 109A

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Form RPP	Request for Periodic Payment and Periodic Certification Summary Sheet

FORM 109-06

**CERTIFICATION OF TITLE  
TO MATERIALS STORED, OR TO BE STORED,  
FOR INCORPORATION INTO LOUISIANA DEPARTMENT OF  
TRANSPORTATION AND DEVELOPMENT PROJECT**

WHEREAS, \_\_\_\_\_ hereafter referred to as the "Design-Builder," is engaged in the performance of the Contract with the Louisiana Department of Transportation and Development, hereafter referred to as the "LA DOTD," and

WHEREAS, in accord with the Design Plans and Project specifications, the Design-Builder has purchased certain Materials for incorporation into the Contract Work from \_\_\_\_\_, hereafter referred to as the "Vendor," and

WHEREAS, these Materials referred to are as follows:

and,

WHEREAS, to comply with the provisions of the Contract Documents regarding payment of stockpiled Materials requiring certification of the Design-Builder's absolute legal title to the Materials described above and warrant of title to the same Materials to the LA DOTD, the Design-Builder, and the Vendor have entered into the following agreement.

NOW, THEREFORE, and in consideration of the forgoing premises, the Design-Builder and the Vendor agree, with the intention of being bound hereby, as follows:

1. The Vendor has executed this document for the purpose of acknowledging that: the Vendor has made an outright sale and transfer of title for the above Materials to the Design-Builder free of all restrictions, filings, or liens; the Vendor is the lawful owner of the above Materials and has the right make such transfer of title; and the Vendor will not in the future make any claims whatsoever to such title.
2. The Design-Builder certifies and represents that it is the lawful holder of the absolute legal title to the above Materials and has full legal right, power, and authority to sell and transfer such title without restrictions, filings, or liens of any kind on the part of the Vendor and/or any Subcontractor.
3. The Design-Builder, Vendor, and/or any Subcontractor and their successors and assigns, will and do by these presents warrant title to the above described Materials to the LA DOTD.

Louisiana Department of Transportation and Development

4. In the event that the Vendor has sold the above described Materials to a Subcontractor of the Design-Builder, this Certification of Title is hereby amended at all applicable points to reflect this fact. By the execution of this certification, any such Subcontractor is acknowledging that: such Subcontractor has made an outright sale and transfer of title for the above Materials to the Design-Builder free of all restrictions, filings, or liens; such Subcontractor is the lawful owner of the above Materials and has the right to make such transfer of title; and such Subcontractor will not in the future make any claims whatsoever to such title.

IN WITNESS WHEREOF, the parties hereto have caused this Certification of Title to be executed this day of \_\_\_\_\_, 2008.

ATTEST: DESIGN-BUILDER

\_\_\_\_\_  
By \_\_\_\_\_  
Title \_\_\_\_\_

ATTEST: SUBCONTRACTOR

\_\_\_\_\_  
By \_\_\_\_\_  
Title \_\_\_\_\_

ATTEST: VENDOR

\_\_\_\_\_  
By \_\_\_\_\_  
Title \_\_\_\_\_

**FORM RPP**

**Request for Periodic Payment and Periodic Certifications  
Summary Sheet**

(1) Payment Request No. \_\_\_\_\_ (4) Date Request Received By Dept's Proj Mgr. \_\_\_\_\_  
 (2) Period of: \_\_\_\_\_ (5) Contract Price: \_\_\_\_\_  
 (3) Date Request Submitted: \_\_\_\_\_

(6) Price Center Code	(7) Price Center Value	(8) Cumulative Amount Earned at End of Last Period	(9) Planned Cumulative Payment per PPS-C	(10) Not Used	(11) Actual Cumulative Amount Earned End of This Period
Section A Total					
Section B Total					
Section C Total					
Section D Total					
Section E Total					
Section F Total					
(12) Total Amount Earned to Date					
(14) Total Amount Earned as of Last Period					
(15) Amount Earned This Period					
(16) Less Retention (5%)					
(17) Net Due This Period					

**Progress and Quality Certification:**

We hereby certify that all Work performed meets Contract requirements, that the indicated Progress Check Points have been met and that the cumulative amount earned at end of the period covered by this request and certificate are correct to the best of our knowledge.

**For the Design-Builder:**

Signed: \_\_\_\_\_  
 Printed or Typed Name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Design-Builder's Project Manager or Deputy \_\_\_\_\_ QC Manager \_\_\_\_\_

**Designer's Certification:**

I hereby certify that responsible design staff have examined the site and the Work under construction and have, based on their professional judgment, determined that the site conditions appear to be consistent with those represented by the design documents and that the Work is progressing in accordance with the Design Plans and Project specifications.

Signed: \_\_\_\_\_  
 Printed or Typed name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Design Manager \_\_\_\_\_

**Department Endorsement:**

I hereby confirm the achievement of the cumulative amount earned to date indicated herein and concur with this request and certificate except as noted below or attached.

For Department: \_\_\_\_\_ (Signature) \_\_\_\_\_ (Date)

Project Engineer \_\_\_\_\_ (Date)









**FORM RPP**

**Instructions**

A. All amounts shall be in US\$.

B. Request for Periodic Payment Sheet

- (1) Enter Payment Request Number (numbered sequentially starting with "1")
- (2) Enter month and year covered by this payment request
- (3) Enter date this payment request submitted to Department's Project Manager
- (4) Enter date received by Department's Project Manager
- (5) Enter Lump Sum Contract Price
- (6) Enter Price Center Code from PPS-C for each Price Center in the Section
- (7) Enter Price Center Value from PPS-C for each Price Center
- (8) Enter Amount Earned at End of Previous Period
- (9) Enter Planned Cumulative Amount Earned from PPS-C for each Price Center. Enter "N/A" for any Price Center being paid on a unit price or force account basis
- (10) If "Yes" in Column (10), enter amount shown in Column (9); if "No" in Column (10), enter amount shown in Column (8)
- (11) Total the amounts shown in (11) and enter in (12).
- (12) Enter total of Column (11)
- (13) Enter the PCP code of each PCP achieved (met) during the period.
- (14) Enter total of column (8)
- (15) Subtract (14) from (12)
- (16) Multiply (15) by 0.05
- (17) Subtract (16) from (15)

C. Periodic Certifications

The Design-Builder's Project Manager, QC Manager and Design Manager shall sign and date the Certifications

D. Department's Endorsement

The Department's Project Manager will sign and date the Department endorsement for the Periodic Completion Certificate

E. See DB Section 109 for documentation required for Unit Priced and Force Account Work.

F. Add additional worksheets for additional Project sections as required.



**STATE OF LOUISIANA**

**INTERSTATE-12 WIDENING**

**DESIGN-BUILD PROJECT**

**O'NEAL LANE INTERCHANGE TO WALKER  
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STATE PROJECT NOS. 454-01-0047 AND 454-02-0025**

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**DB SECTION 111**

**DESIGN MANAGEMENT AND**

**DESIGN QUALITY CONTROL**



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**DB SECTION 111**

**DESIGN MANAGEMENT AND DESIGN QUALITY CONTROL**

**DB 111-1 GENERAL DESIGN-BUILDER RESPONSIBILITIES**

The Work must be performed in accordance with the details as shown on the Design Plans, Project specifications, and Working Plans prepared by the Design-Builder, subject to the Louisiana Department of Transportation and Development's (LA DOTD) Consultation and Written Comment and/or Approval, as appropriate.

It is the Design-Builder's sole responsibility to provide Design Plans, Project specifications, and Working Plans of such a nature to develop a finished product in accordance with the Contract requirements. The Design-Builder shall verify pertinent dimensions in the field prior to the review of Design Plans, Project specifications, and Working Plans. Review of the Design-Builder's Design Plans, Project specifications, and/or Working Plans by the LA DOTD does not relieve the Design-Builder of the responsibility for the satisfactory completion of the Work.

Design Plans, Project specifications, and Working Plans are subject to the LA DOTD's Consultation and Written Comments per DB Section 111-12 before beginning construction Work covered by the Plans and the design intent must not be thereafter amended or altered without the prior approval of the Design-Builder's Designer and subsequent Consultation and Written Comment by the LA DOTD.

The Lump Sum Contract Price includes the cost of furnishing all Design Plans and Working Plans.

The Design-Builder shall perform the following:

- A) Manage the design and design Quality Control;
- B) Coordinate with and obtain necessary approvals from authorities having jurisdiction for temporary road diversions and detours, shutdowns, temporary diversions, utility relocations, temporary sidewalk closures, and pedestrian detours; and
- C) Ensure that the Designer properly checks the designs of the Project and that the Design Quality Control (QC) Manager certifies QC procedures in accordance with the Contract.

The procedures for the checking of design of permanent components also apply to design of major temporary components and construction sequences that affect the permanent components of the Project.

Please refer to Part 2 – Design-Build Section 101, Section 101-3, for the definitions of QC and Quality Assurance/Quality Control (QA/QC).

**DB 111-2 DESIGN-BUILDER'S DESIGN ORGANIZATION AND OBLIGATIONS**

**DB 111-2.1 Designer**

The Design-Builder shall appoint a suitably qualified and experienced Designer, which may be a consultant or an in-house design team, to undertake the design of the permanent components and the major temporary components of the Project. The Design-Builder shall require the Designer to be located in the Project office and maintain all necessary representation throughout the duration of the Contract to ensure the Designer can meet all its obligations under the Contract and to ensure that the design intent is

met by construction.

**DB 111-2.2 Location of Design-Builder's Designer**

The Designer may perform production design Work in the Project vicinity or elsewhere. However, the key design personnel must be in the Project vicinity for the duration of the design. What constitutes the "Project vicinity" will be determined in the sole discretion of the Department's Project Manager.

**DB 111-2.3 Completeness of Design**

The Designer must determine the following:

- A) Effects of all loading requirements;
- B) Dimensions of all elements;
- C) Structural redundancies, where they exist;
- D) Sub-soil interaction to support the loads from above;
- E) Effects of seismicity;
- F) Effects of fatigue;
- G) Durability and maintainability requirements, including a maintenance manual;
- H) Details of required Quality Control procedures, monitoring, and controls; and
- I) Effects of hydrology, design flows, and scour depths.

Working Drawings will be reviewed by the LA DOTD for conformance to Contract requirements. However, design will be considered complete upon the LA DOTD's Design Approval following submittal and review of the As-Built Plans.

**DB 111-2.4 Design Manager**

The Design-Builder shall designate and assign a Design Manager to manage all Work performed by the Design-Builder's Designer. The Design Manager must be in the Project vicinity as required for the design Work and must be in the Project vicinity as required thereafter to manage design support during construction, design changes, and completion of As-Built Plans. What constitutes the "Project vicinity" will be determined in the sole discretion of the Department's Project Manager.

The Design Manager and/or staff working under the direct supervision of the Design Manager must conduct an assessment and evaluation of design such that the Design Manager can certify to the Design-Builder and to the LA DOTD that the design satisfies the Contract requirements, including the following requirements:

- A) Accuracy;
- B) Adequacy;
- C) Conformance to standards of practice;
- D) Compliance with codes, standards, and permits;
- E) Cost effectiveness;

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- F) Quality; and
- G) Fitness for purpose and/or function as specified and/or implied in the Contract.

The Design Manager must include such written certification for all Work being subjected to a Design Review as per DB Section 111-12.

The Design Manager's activities must include, at a minimum, assessment and evaluation of the following:

- 1) Design reports;
- 2) Design Reviews;
- 3) Review of shop drawings;
- 4) Evaluation and mitigation of Non-Conformance Reports;
- 5) Analytical approach;
- 6) Drawing details for conformity to Contract requirements;
- 7) Project specifications for conformity to Contract requirements;
- 8) Design Plans and Working Drawings;
- 9) Major temporary components' effect on permanent components;
- 10) Field design changes;
- 11) Design approvals for Materials and procedures; and
- 12) As-Built Plans for conformity with final design and Contract requirements.

### **DB 111-2.5 Responsible Engineer**

The Designer must designate and assign a Responsible Engineer for each Design-Builder-designated Design Unit. The Responsible Engineer(s) must sign and seal design reports, Design Plans, Working Drawings, and Project specifications for the assigned Design Unit(s). Responsible Engineers must be Louisiana-licensed Professional Engineers.

Responsible Engineers must be in the Project vicinity as necessary to coordinate the Work on assigned Design Units. The Responsible Engineer must be physically located in the Project vicinity for, and must attend all Design Reviews for, assigned Design Unit(s). What constitutes the "Project vicinity" will be determined in the sole discretion of the Department's Project Manager.

### **DB 111-2.6 Design Quality Control Manager**

The Design-Builder shall assign a Design QC Manager, which is one of the Design-Builder's key personnel. The Design-Builder's Design QC Manager must report to the Design-Builder's QC Manager and must be a person who is independent from the production of the design.

The Design-Builder's Design QC Manager must be responsible for the QC of all Work conducted by the Designer. The Design-Builder's Design QC Manager must be in the Project vicinity as required throughout the design process and must be physically present in the Project vicinity to manage design QC related to design support during construction, design changes, and completion of As-Built Plans. What constitutes the "Project vicinity" will be determined in the sole discretion of the Department's Project

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Manager.

The Design-Builder's Design QC Manager must assess and evaluate the Design-Builder's design QC activities in order to be able to certify to the Design-Builder and to the LA DOTD that the design QC activities comply with the Contract requirements, including the Design-Builder's Quality Plan.

The Design-Builder shall ensure that its Design QC Manager carries out all duties expressed and implied in the Contract.

The Design-Builder's Design Quality Control Manager must have QC responsibilities related to the following:

- A) Design of permanent and major temporary components;
- B) Changes in design of permanent components; and
- C) As-Built Plans.

The Design-Builder's Design Quality Control Manager must also perform the following activities:

- 1) Identify and report non-conformities/non-compliance;
- 2) Track, monitor, and report on status of outstanding design-related Non-Conformance Reports;
- 3) Supply monthly reports (*see* DB Section 111-18.3.1); and
- 4) Submit specified certificates (permanent components and major temporary components).

These responsibilities are further specified in DB Section 111-12.

### **DB 111-2.7 Check by the Designer**

The requirement that the Design-Builder engage and use a Design QC Manager does not relieve the Designer from carrying out all the checks and reviews that a professional and prudent designer would normally carry out on the type of Work that is actually being designed.

### **DB 111-3 DESIGN UNITS**

The Design-Builder shall package all design and drawings for the Work into separate Design Units. Each Design Unit must comprise similar and coherent significant parts of the Project that can be checked and reviewed as a self contained package with due consideration for accommodating interfaces with other Project components.

Within 30 Calendar Days of Notice to Proceed (NTP), the Design-Builder shall provide a written report updating and identifying each Design Unit. The written report must include the following:

- A) Design Unit descriptions, including the scope of design Work within each Design Unit, limits, and interface points;
- B) Planned review stages and dates, including specific information to be reviewed, planned review dates (measured from the NTP date), and percent complete represented by each review. *See* Appendix 111A - Forms, Form DUS;

- C) The identity of the Responsible Engineer; and
- D) Locations where design Work will be performed.

The Design-Builder shall submit any revisions to the information provided in response to this DB Section 111-3 in writing to the LA DOTD concurrent with the monthly progress report.

**DB 111-4 RELATIONSHIP OF EARLY CONSTRUCTION STARTS TO DESIGN DEVELOPMENT AND REVIEW**

It is the intent of the LA DOTD to allow construction to begin on a Design Unit prior to completion of final design. Construction on any Design Unit may begin at any time after the applicable readiness for construction Design Review. Construction may progress in increments determined by the Design-Builder, at the Design-Builder's risk, provided each increment of construction is covered by plans and specifications that have been reviewed and meet the requirements for readiness for construction noted in DB Section 111-12.5.

**DB 111-5 SCHEDULE FOR DESIGN CHECKS, REVIEWS, AND SUBMISSION OF CHECKED DESIGN**

The Design-Builder, through its Design QC Manager, is responsible for scheduling and conducting Design Reviews to meet design and/or construction needs of the Baseline Progress Schedule. It is recognized and anticipated that the Design Review process and frequency, duration, and intensity of Design Reviews may vary with the complexity of the individual Design Units and the associated construction activities. The duration of Design Reviews must be discussed and mutually agreed between the LA DOTD and Design-Builder during the Design Workshop (*see* DB Section 111-16) and verified and modified, as needed, by mutual agreement during the course of the Project. The Design-Builder shall give written notice of scheduled Design-Reviews to the Department's Project Manager at least one week prior to any review.

The Design-Builder shall include the agreed Design Review schedule for all Design Units (including their components and elements) as part of the Baseline Progress Schedule. The Design Review schedule must be reviewed monthly until design Work is complete. The Design-Builder shall not schedule more than two concurrent Design Reviews without the LA DOTD's written concurrence.

Except for As-Built Plans, "submissions" must be in the form of sufficient copies [to accommodate participants in the Design Review(s)] of Design Plans and Project specifications and supporting data and reports assembled for review in the Designer's office. For final Design Reviews, "submissions" must be in the form of two hard copies and one electronic copy of Design Plans and Project specifications and supporting data.

The Design-Builder shall make specified submissions of checked designs in accordance with DB Section 111-12. Submissions must be completed for each Design Unit, but may be combined for multiple Design Units at any one time upon the LA DOTD's written concurrence. The Design-Builder shall submit each Design Unit for Consultation and Written Comment (*see* DB Section 105-11) in accordance with the Baseline Progress Schedule.

For each Design Unit designated by the Design-Builder, the Design-Builder shall include design checks and Design Reviews as indicated in Table 111-12 and such additional reviews as may arise as indicated in DB Section 111-12.4.4. The Design-Builder shall allow the time for the LA DOTD's participation and

input to any Design Review conducted by the Design-Builder's Design QC Manager as agreed as per this DB Section 111-5. The Design-Builder shall incorporate this schedule into the Design-Builder's Baseline Progress Schedule and report progress and updates in the monthly updates. The Design-Builder shall keep the LA DOTD up-to-date on exact timing of reviews and readiness for construction Design Reviews through the weekly progress meetings.

**DB 111-6 REVISIONS TO DESIGN**

The Design-Builder shall deal with any changes to design initiated by the Design-Builder and already checked by the Designer and certified by the Design QC Manager as an entirely new design. The Design-Builder shall not be entitled to any increase in the Lump Sum Contract Price or extension of time pursuant to DB Section 108-6 in such circumstances.

**DB 111-7 DESIGN REVIEW PLAN**

The Design-Builder shall prepare and submit a written Design Review Plan within 30 Calendar Days of NTP for Consultation and Written Comment by the LA DOTD. The Design Review Plan must describe the level of design that the Designer will accomplish for each of the planned stages of design development and provide a description and/or checklist for each Design Unit clearly identifying the design product that will be reviewed. The Design Review Plan must include proposed review times for each Design Review, including the review times for LA DOTD and Project stakeholders, if any.

**DB 111-8 STAGES OF DESIGN DEVELOPMENT**

The Design-Builder shall make a single comprehensive design check and Design Review for each Design Unit at the stages of design development specified herein.

The following are the six stages of design development:

- A) Definitive Design;
- B) Readiness for construction;
- C) Interim design;
- D) Final design;
- E) Working Drawings; and
- F) As-Built Plans.

The intent of each stage of design development and Design Review is the following:

- 1) Verify that the design complies with the Contract requirements;
- 2) Allow components of Design Units to be released for construction; and/or
- 3) In the case of reviews of Working Drawings, to allow construction to continue.

Design Reviews or design checks must be completed as specified in DB Section 111-12 for each Design Unit (and for each component or element within a Design Unit) at each stage of design development.

The Design-Builder shall time the Design Review and submissions (where specified) to be consistent with the Baseline Progress Schedule.

**DB 111-9 DESIGN REVIEWS**

The Design-Builder shall invite the LA DOTD to participate in Definitive, readiness for construction, interim, and final Design Reviews. The LA DOTD may invite other Project Stakeholders to participate. The Design-Builder shall resolve the LA DOTD's comments to the satisfaction of the LA DOTD prior to the Design Review process being considered complete. Any Stakeholder comments will be forwarded to the Design-Builder by the LA DOTD and must be addressed and/or resolved by the Design-Builder.

**DB 111-9.1 Definitive Design Review**

The Design Review of Definitive Design must be the first Design Review after Award and is intended to verify that the design concepts proposed by the Design-Builder meet Contract requirements. The Definitive Design Review may also serve as a readiness for construction review (DB Section 111-9.2 and DB Section 111-12.5). The Definitive Design Review must verify the following:

- A) The design concepts governing future design development are defined consistently with Contract requirements;
- B) The final Basic Project Configuration;
- C) The design concepts are substantiated and justified by adequate Site investigation and analysis;
- D) Final Right-of-Way requirements;
- E) The specific standards applicable to the proposed concepts are identified and appropriate;
- F) The proposed design concepts are constructible;
- G) The availability of required Materials/Equipment; and
- H) The design meets Project quality requirements and required design QC procedures have been followed.

If the Definitive Design is amended subsequent to the Definitive Design Review, the Design-Builder shall re-check and re-certify the design at an additional Definitive Design Review. The Design-Builder shall not be entitled to an increase in the Lump Sum Contract Price or a time extension for the re-check and re-certification except when the amended design results from a change order requested by the LA DOTD.

See also DB Section 111-13 regarding design deviations and exceptions.

**DB 111-9.2 Readiness for Construction Review**

The Design-Builder and the LA DOTD will use the Design Review(s) of readiness for construction design to verify that the concepts and parameters established and represented by Definitive Design are being followed and that Contract requirements continue to be met. The Design-Builder shall specifically highlight, check, and bring to the attention of the LA DOTD any changes to information presented at Definitive Design. The Design-Builder shall present the information for readiness for construction review to the LA DOTD for Consultation and Written Comment by the LA DOTD.

The Design-Builder shall not construct any permanent components or major temporary components until the design checks, Design Reviews, and Design QC Manager's certifications have been completed for the relevant Design Unit and the LA DOTD's provided Consultation and Written Comment (*see* DB Section 105-11) of the readiness for construction design have been resolved to the satisfaction of the LA DOTD.

The Design-Builder shall not commence any construction until any design-related NCRs have been addressed and resolved to the satisfaction of the LA DOTD.

If the readiness for construction design includes design information for Work that can be released for continuation of construction, the results of the readiness for construction Design Review, upon satisfaction of the LA DOTD's Consultation and Written Comment, may be used to satisfy a portion of the requirements of DB Section 111-12.5.

#### **DB 111-9.3 Interim Design Reviews**

If the Design-Builder does not initiate construction on a designated Design Unit prior to 100% completion of the design, thereby accomplishing a readiness for construction Design Review, the Design-Builder shall plan and conduct at least one interim Design Review between the Definitive Design Review and completion of design for that Design Unit. The Design-Builder shall schedule such interim reviews at a time when design is at the 60% to 80% stage of completion.

The Design-Builder and the LA DOTD will use the interim Design Review(s) to verify that the concepts and parameters established and represented by Definitive Design are being followed and that Contract requirements continue to be met. The Design-Builder shall specifically highlight, check, and bring to the attention of the LA DOTD any changes to information presented at Definitive Design. The Design-Builder shall submit the interim design for Consultation and Written Comment by the LA DOTD. The Design-Builder shall not move to the final Design Review until it has resolved the LA DOTD's Consultation and Written Comment on the interim design to the satisfaction of the LA DOTD.

#### **DB 111-9.4 Final Design Review**

The Design-Builder shall schedule and conduct a final design review when the Design Plans and Project specifications for a Design Unit are 100% complete. The Design-Builder shall specifically highlight, check, and bring to the attention of the LA DOTD any changes to information presented at previous Design Reviews. The Design-Builder shall submit final design for Consultation and Written Comment by the LA DOTD. The Design-Builder shall not move to construction until it has resolved the LA DOTD's Consultation and Written Comment on the final design to the satisfaction of the LA DOTD.

The final Design Review, upon satisfaction of the LA DOTD's Consultation and Written Comment, may be used to satisfy a portion of the requirements of DB Section 111-12.5.

#### **DB 111-10 WORKING PLANS**

Working Plans comprise the development and production of Working Drawings. The Design-Builder shall check, review, and certify Working Drawings in accordance with DB Section 111-12.1 through 111-12.3 and DB Section 111-14 prior to their being issued for construction.

The Design-Builder shall invite the LA DOTD to participate in the review of Working Plans. The LA DOTD may invite the Stakeholders to participate in reviews of Working Plans.

Working Plans includes, but is not limited to, the following:

- A) Working Drawings;

- B) Material and product data from Manufacturers; and
- C) Calculations.

**DB 111-11 AS-BUILT DESIGN**

The Design-Builder shall submit the As-Built Plans for each Design Unit in accordance with DB Sections 109-10.3 and 111-12.

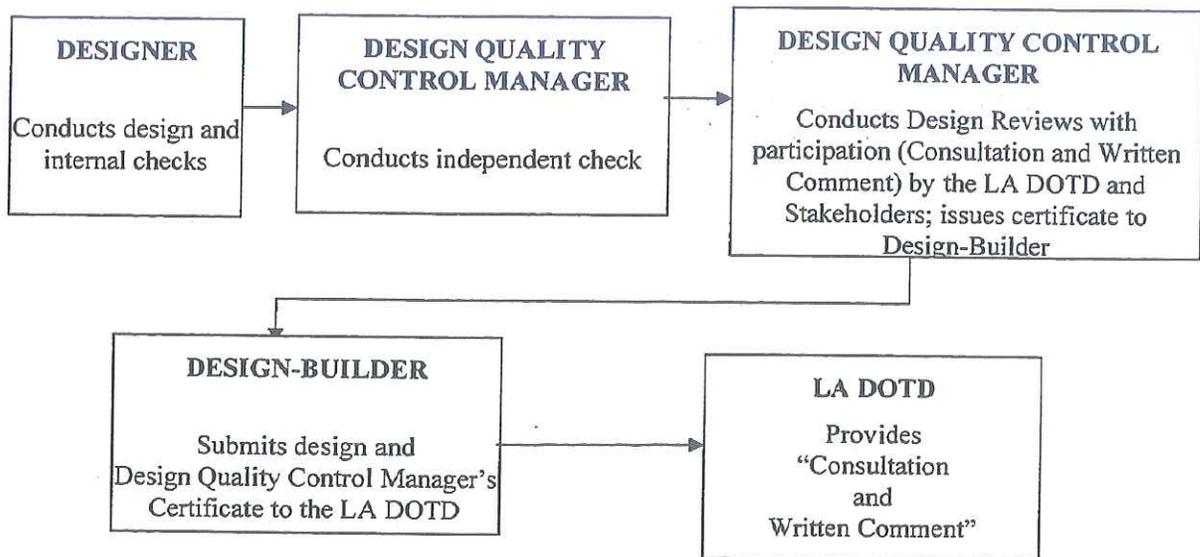
See DB Section 111-12.4.2 for additional requirements relating to As-Built Plans and information.

**DB 111-12 DESIGN CHECKS, CERTIFICATIONS, AND REVIEWS**

The Designer's organization must check all design documents (drawings, plans, specifications, calculations, and reports) produced by the Design-Builder's organization. The Design-Builder's Design QC Manager must certify that these documents have been checked as per Contract requirements and the Design-Builder's Quality Plan. The Design-Builder's Design QC Manager's written certification must provide the certification specified in DB Section 111-12.5.

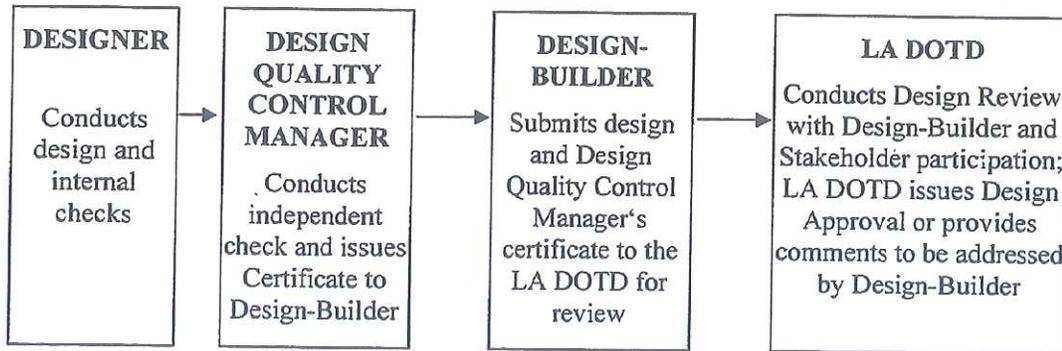
The Design-Builder and the LA DOTD will follow the process shown in Figure 111-12A for Design Reviews conducted by the Design-Builder's Design QC Manager (applies to all Design Reviews except As-Built Plan Design Reviews).

**FIGURE 111-12A  
DESIGN REVIEW FLOW CHART  
(DESIGN-BUILDER'S DESIGN QUALITY CONTROL MANAGER  
CONDUCTS DESIGN REVIEW)**



The Design-Builder and the LA DOTD will follow the process shown in Figure 111-12B for As-Built Plan Design Reviews.

**FIGURE 111-12B**  
**AS-BUILT PLAN DESIGN REVIEW FLOW CHART**  
**(LA DOTD CONDUCTS DESIGN REVIEWS)**



The Design-Builder shall conduct and complete the design checks, certifications, and reviews for each Design Unit by the entity specified in Table 111-12. The LA DOTD will provide Consultation and Written Comment of the design prior to the Design-Builder releasing designs for construction, which must be resolved to the satisfaction of the LA DOTD. The LA DOTD may also issue design NCRs which must be addressed and resolved to the satisfaction of the LA DOTD prior to releasing the design(s) for construction.

The Design-Builder shall conduct its Design Review or submit its design for review in accordance with Table 111-12, supported by a written certification issued by the Design-Builder's Design QC Manager, at the stages of design development shown in Table 111-12 for each Design Unit in accordance with the Design Review schedule in the Baseline Progress Schedule.

**TABLE 111-12  
DESIGN CHECKS, CERTIFICATIONS, AND REVIEWS  
FOR PERMANENT AND TEMPORARY COMPONENTS**

<b>STAGE OF DESIGN DEVELOPMENT</b>	<b>DESIGN CHECK AND CERTIFICATION TO DESIGN-BUILDER</b>	<b>DESIGN REVIEW</b>
Definitive design	Designer and Design Quality Control Manager	Design Quality Control Manager
Interim design	Designer and Design Quality Control Manager	Design Quality Control Manager
Readiness for construction design	Designer and Design Quality Control Manager	Design Quality Control Manager
Final design	Designer and Design Quality Control Manager	Design Quality Control Manager
Working Plans and related documents	Designer and Design Quality Control Manager	Design Quality Control Manager
As-Built Plans	Designer and Design Quality Control Manager	LA DOTD
Major temporary components	Designer and Design Quality Control Manager	Design Quality Control Manager
Temporary components	Designer and checker	Not applicable

**DB 111-12.1 Design-Builder's Independent Checks**

The Design-Builder shall carry out independent checks of permanent components, major temporary components, and effects of temporary components on the permanent components by senior engineers not involved in the production of the design being reviewed who have equal or greater qualifications and experience as the Responsible Engineer for the design being checked.

Independent design checks must comprise design assessment and analytical checks as specified in DB Sections 111-12.2 and 111-12.3.

**DB 111-12.2 Design Assessment**

Design assessment must be the review of general compliance with the requirements of the Contract, taking into consideration the proposed method of construction, and must cover the following areas:

- A) Loads;
- B) Codes and standards;
- C) Methods of analysis;
- D) Computer software and its validation;
- E) Interface requirements;

- F) Maintenance requirements;
- G) Materials and Material properties;
- H) Durability requirements;
- I) Fatigue performance;
- J) Hydrology; and
- K) Design flows.

**DB 111-12.3 Analytical Check**

The independent design check must include an independent analytical check using separate calculations (and without reference to the Designer's calculations) to establish the structural adequacy and integrity of critical structural members. This analytical check must include, but is not limited to, the following:

- A) The structural geometry and modeling;
- B) Material properties;
- C) Member properties;
- D) Loading intensities; and
- E) Structural boundary conditions.

**DB 111-12.4 Design Reviews**

The Design-Builder's time and cost impacts of revisions arising from LA DOTD's and Stakeholders' participation in Design Reviews and/or caused by Design-Builder's non-compliance with Contract requirements, including the LA DOTD's and Stakeholders' time for reviewing revisions, must be borne by the Design-Builder.

**DB 111-12.4.1 Design Reviews Conducted by the Design-Builder's Design Quality Control Manager**

The Design-Builder shall notify and invite the LA DOTD to participate in all Design Reviews conducted by the Design-Builder's Design QC Manager. The LA DOTD may also invite Project Stakeholders and affected utility owners to participate. The LA DOTD will provide Consultation and Written Comment (based on the LA DOTD and Stakeholder participation) regarding these Design Reviews.

For Design Reviews conducted by the Design-Builder's Design QC Manager (*see* Table 111-12), the Design-Builder's Design QC Manager must provide a Design Review report for each Design Unit at the conclusion of each Design Review. The Design Review reports will identify any actions arising from the review. The Design Review report must note items requiring corrective action on the design NCR, Form NCR-D (Appendix 111A - Forms). The Design-Builder's Design QC Manager must send the design NCR to the Designer and a copy to the LA DOTD.

The Design-Builder shall conduct Design Reviews in the offices of the Designer and/or Design-Builder in the Project vicinity. What constitutes the "Project vicinity" will be determined by the Department's Project Manager, in his sole discretion.

The Responsible Engineer and any specialists with significant input to the design or review must be

present. The Design-Builder shall provide to the LA DOTD all drawings, copies of calculations, reports, or other items pertinent to the Design Review.

**DB 111-12.4.2 As-Built Review**

As-Built Plans and Project specifications must incorporate complete information that defines the Work as constructed to meet the Contract requirements.

The Design-Builder shall submit As-Built Plans complete for each Design Unit to the LA DOTD for review and Design Approval in accordance with DB Section 111-11. The LA DOTD review will be one of the processes to verify if the Project has been designed and constructed in accordance with Contract requirements and to see if As-Built Plans comply with Contract requirements.

The Design-Builder shall make all corrections noted in the review of As-Built Plans and resubmit the corrected As-Built Plans to the LA DOTD for review and Design Approval.

Design Approval by the LA DOTD will not occur until the As-Built Plans are submitted, reviewed, and corrected to the satisfaction of the LA DOTD.

**DB 111-12.4.3 Design Review of Major Temporary Components**

The Design-Builder's Design QC Manager must conduct a Design Review of major temporary components that represent complex structures and that potentially can affect the safety, quality, and durability of the permanent components. The review must include the effect of the major temporary components on the permanent components.

**DB 111-12.4.4 Additional Reviews**

The LA DOTD (with Stakeholder participation, if invited by the LA DOTD) may conduct additional "over-the shoulder" reviews as considered necessary, in the sole determination of the LA DOTD, to ensure a continued and uniform consistency in the quality and effective incorporation of revisions to designs. The Design-Builder may also conduct reviews necessary to facilitate early release of designs for construction.

**DB 111-12.5 Readiness for Construction**

The Design-Builder may start construction of any element of the permanent components only after all the following items have occurred:

- A) The Designer has conducted its design QC checks throughout the design process in compliance with the Quality Plan and certifies in writing that the design is complete to the appropriate level or stage of review, checked, and ready to be released for construction;
- B) The Design-Builder's Design QC Manager has signed the title sheet for the drawings, certifying to the following (the title sheet can be formatted to include the items of certification):
  - 1) Design checks have been completed;
  - 2) Work conforms to Contract requirements;
  - 3) Any deviations or design exceptions have been approved in writing by the LA DOTD (DB Section 111-13);

- 4) Design Quality Control activities are following the Design-Builder's Quality Plan; and
  - 5) All outstanding issues or comments from Design Reviews have been resolved to the satisfaction of the LA DOTD;
- C) The Responsible Engineer has signed all drawings prepared under his/her direction. For those drawings and documents included in the submittal that are prepared by a Manufacturer or Supplier or other Persons not under the Responsible Engineer's direct supervision, the Responsible Engineer will affix a stamp that indicates the design shown on the sheet or document conforms to the overall design and Contract requirements;
- D) The Design Manager has signed the title sheet to the drawings certifying to the items contained in DB 111-2.4(A) through (G). (The title sheet can be formatted to include the items of certification);
- E) The Design-Builder has verified the following:
- 1) Working Plans, Project specifications, and related documents for the portion of the Project to be constructed are complete and checked in accordance with this DB Section 111-12;
  - 2) The design and drawings for Maintenance of Traffic (MOT) and temporary erosion control and environmental measures applicable to the Work are complete; and
  - 3) Adequate stakes, lines, and/or monuments necessary to control the Work have been established on the Site; and
- F) The LA DOTD will provide Consultation and Written Comment regarding the design and applicable MOT, temporary erosion control measures, and environmental requirements.

The LA DOTD's Consultation and Written Comment will not constitute Approval or Design Acceptance of the design or subsequent construction. All Consultation and Written Comment must be resolved by the Design-Builder to the satisfaction of the LA DOTD.

Any design NCRs issued by the Design-Builder's Design QC Manager or the LA DOTD must be addressed and resolved by the Design-Builder to the satisfaction of the LA DOTD prior to any design being released for construction.

The Design-Builder may proceed with construction on the Project at the Design-Builder's risk to the extent Work is covered by relevant design documents that have been processed as shown in Figure 111-12A. Prior to construction proceeding further, the Design-Builder shall complete the next stage of design and Design Review and/or submission.

#### **DB 111-12.6 Comment Resolution**

The LA DOTD's and Stakeholders' comments from Design Reviews will be recorded on Form DR (Appendix 111A) and transmitted to the Design-Builder. The Design-Builder shall record its proposed disposition and response to each comment and meet with the LA DOTD to resolve outstanding comments and dispositions to the LA DOTD's satisfaction. Final disposition and resolution will be documented on Form DR.

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If the Design Review reveals non-conformance with Contract requirements, the LA DOTD will prepare Form NCR-D (Appendix 111A) and submit it to the Design-Builder for action. The Design-Builder shall complete Form NCR-D when the non-conformance is corrected and return Form NCR-D to the LA DOTD.

All Design Reviews must include a comment and NCR resolution process where unresolved comments and NCRs are discussed and a written action plan and schedule for resolution of unresolved comments and NCRs is developed. The Design-Builder's Design QC Manager will lead the process.

### **DB 111-13 DESIGN EXCEPTIONS**

All deviations (design exceptions) from the Contract requirements must be submitted to the LA DOTD for review and Approval. All requests for deviations and exceptions must be submitted with a justification report detailing the reasons to retain a non-standard or substandard feature or for providing an improvement that does not bring the feature up to standard. Requests for design deviations and exceptions must be submitted not later than the Definitive Design Review and Approved by the LA DOTD in writing before the affected Design Units will be released for construction (DB Section 111-12.5). If the LA DOTD does not Approve a design exception, it is the Design-Builder's sole responsibility to provide design in accordance with this Contract. The LA DOTD will not consider providing the Design-Builder additional time or compensation under this Contract due to the rejection of a design exception request.

### **DB 111-14 DESIGN CHANGES BEFORE CONSTRUCTION**

Design changes may occur prior to construction or may occur after final design and may be initiated by the Design-Builder, through its Designer, or the LA DOTD.

For all design changes requiring calculations, the Designer and the Design-Builder's Design QC Manager must conduct a documented check of all calculations. All design changes requiring alteration of design documents released for construction must undergo all review procedures included for original design documents in the Design-Builder's Quality Plan and DB Section 111-12.

### **DB 111-15 DESIGN SUPPORT DURING CONSTRUCTION**

The Designer and Design-Builder's Design QC Manager must verify during construction that the conditions actually encountered are consistent with the design and related Design Plans, Working Plans, and Project Specifications. The Designer must prepare necessary adjustments in the Design Plans, Working Plans, and Project Specifications and the Design-Builder shall obtain required LA DOTD Consultation and Written Comment. The Design-Builder shall be responsible for obtaining Stakeholder permits or approvals. The Designer and Design-Builder's Design QC Manager must check any such changes in accordance with the Design-Builder's Quality Plan. The Design-Builder's Design QC Manager must certify the change in writing as meeting the Contract requirements. The Design-Builder shall incorporate the adjustments in the As-Built Plans. The Design-Builder shall retain copies of its Design QC Manager's written certifications and submit the certifications to the LA DOTD.

### **DB 111-16 DESIGN WORKSHOP**

Within 45 Working Days of NTP, the Design-Builder shall arrange a design workshop to familiarize the Designer's personnel and the LA DOTD's (and Stakeholders', if invited by the LA DOTD) review

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personnel with the design concepts, issues, status, and review procedures. The agenda must include developing agreements regarding time allowed for design reviews (*see* DB Section 111-5). The LA DOTD and Design-Builder will jointly develop the agenda of the workshop and how it will be organized (i.e., by Design Unit and engineering discipline). The intent of the workshop is to make the subsequent Design Reviews more effective and efficient for all parties.

All agreements, schedules, and understandings reached during the design workshop must be documented in writing and signed off by the Design-Builder's and Department's Project Managers.

### **DB 111-17 QUANTITY ESTIMATES**

To facilitate determining sampling and testing requirements, the Design-Builder shall provide quantity estimates for the Work on its Plans. The quantity estimates must be in units that facilitate sampling and testing (i.e., the units must be consistent with the units used to determine frequency of sampling and testing). For example, if "X" numbers of compaction tests are specified to be taken for every "Y" cubic yards of embankment, the quantity estimate would need to be in cubic yards of embankment.

*See also* DB Section 111-19.4.

### **DB 111-18 DESIGN DOCUMENTATION**

#### **DB 111-18.1 Progress Tracking**

The Design-Builder shall include engineering and design progress and changes in its Baseline Progress Schedule (including Work on any design change) in the monthly updates.

#### **DB 111-18.2 Design Quality Records**

The Design-Builder's Design QC Manager must prepare and submit monitoring reports to the LA DOTD of all design issues and review comments resulting from the scheduled and additional checks and reviews, including "over-the-shoulder" reviews.

The Design-Builder shall also maintain an auditable record of all of its Quality Plan procedures. An independent auditor must be able to determine by reviewing documentation if all procedures included in the Design-Builder's Quality Plan have been followed.

The Design-Builder shall submit reports of checks and reviews within seven Calendar Days of the completion of the review.

The Design-Builder shall develop, implement, and maintain a log of design NCRs and/or notices indicating dates issued, reasons, status, or resolution and date of resolution.

The Design-Builder shall prepare and maintain daily records of design activities on forms acceptable to the LA DOTD.

#### **DB 111-18.3 The Design-Builder's Design Quality Control Manager Reports**

##### **DB 111-18.3.1 Monthly Report to the Louisiana Department of Transportation and Development**

The Design-Builder's Design QC Manager must submit a monthly report directly to the LA DOTD by the third Working Day of the following month that includes the following:

- A) A summary of reviews conducted;
- B) Identification of nonconforming Work and current status and/or disposition (based on design non-conformance log, DB Section 111-18.2); and
- C) A listing of submission(s) from the Design-Builder and status.

**DB 111-18.3.2 Final Design Report**

Upon completion of the final design for each Design Unit, including all its components and elements, the Design-Builder's Design QC Manager must notify the Design-Builder, with a copy to the LA DOTD, of any outstanding monitoring report issues or unresolved review comments.

**DB 111-19 DESIGN PLANS, WORKING PLANS, AND PROJECT SPECIFICATIONS**

The Lump Sum Contract Price will include the cost of furnishing all Design Plans, Project Specifications, Working Plans, and As-Built Plans.

The Contract Documents establish the minimum standards of quality and define requirements that the design and construction must satisfy.

During the design process, the Design-Builder shall develop Project Specifications and Design Plans based on the Contract Documents that are applicable to the specific Materials, products, Equipment, procedures, and methods that the Design-Builder intends to use.

During the Design Reviews, the Design Plans and Project Specifications will be evaluated by the LA DOTD to determine if they meet the Contract requirements.

**DB 111-19.1 Plans**

The Work must be performed in accordance with the details as shown on the Design Plans prepared by the Designer and those Working Plans prepared by the Design-Builder. The Design-Builder shall provide Working Plans of such a nature as to develop a finished product in accordance with Design Plans, Project Specifications, and Contract requirements. The Design-Builder shall verify pertinent dimensions in the field prior to conducting a Working Plan review. Participation in the review of the Design-Builder's Design Plans and/or Working Plans by the LA DOTD (or Stakeholders, if invited by the LA DOTD) will not relieve the Design-Builder of the responsibility for the satisfactory completion of the Work.

Working Plans must be reviewed and approved in writing by the Designer before beginning the construction Work and will not thereafter be amended or altered without prior written approval of the Designer and the LA DOTD's Consultation and Written Comment. Prior to moving forward with any construction, the LA DOTD's Consultation and Written Comment must be resolved to the satisfaction of the LA DOTD.

All readiness for construction design, final design, and As-Built Plans must be signed and stamped/sealed by the appropriate Responsible Engineer and must include on the title sheet for the plans certification signatures of the Design Manager and the Design-Builder's Design QC Manager (the title sheet can be formatted to cite the appropriate certification requirements of DB 111-2.4 and 111-12.5).

## Louisiana Department of Transportation and Development

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### DB 111-19.2 Design and As-Built Plans Format and Organization

The Design-Builder shall organize and format Design and As-Built Plans in a logical and orderly fashion, and in accordance with generally accepted practices in the State of Louisiana. The As-Built Plans must be submitted in hard copy for signature by the Chief Engineer as per Louisiana Revised Statutes Section 36:508 and 48:92.

### DB 111-19.3 CADD Standards

CADD formatting for Design and As-Built Plans must be consistent and logical for all plans created by the Design-Builder and must comply with the most recent version of the LA DOTD's "Electronic Standards for Plans" found at [http://www.dotd.la.gov/highways/project\\_devel/design/electronic\\_standards\\_disclaimer.asp](http://www.dotd.la.gov/highways/project_devel/design/electronic_standards_disclaimer.asp). The Design-Builder shall install updates to appropriate software as instructed by the Department's Project Manager.

As-Built Plans must be delivered on CD-ROM or DVD media, and labeled with media-compatible indelible ink on separate lines as follows:

State Project Nos. 454-01-0047 and 454-02-0025  
As-Built Plan Submittal  
Electronic Deliverables  
[Design-Builder's name]

The Department's Project Manager may require delivery of the As-Built Plans by other methods, including, but not limited to, upload to the LA DOTD's ProjectWise repository.

### DB 111-19.4 Project Specifications

The Design-Builder shall prepare Project Specifications based on Contract requirements. The Design-Builder may perform the following activities:

- A) Use the Louisiana Department of Transportation and Development's Standard Specifications for Roads and Bridges 2006 Edition, supplemented as needed by the Design-Builder; and/or
- B) Prepare new specifications to cover Work.

Project Specifications, including the LA DOTD's Standard Specifications for Roads and Bridges 2006 Edition, if used, will be reviewed by the Design-Builder and the LA DOTD during Design Reviews to verify that the Project Specifications provide a level of quality that meets or exceeds the Contract requirements and are suitable and appropriate to control the Work. The Design-Builder shall be responsible for demonstrating that the Project Specifications meet or exceed the standard of quality established by the LA DOTD's Standard Specifications for Roads and Bridges 2006 Edition. Any deviation that results in a lesser standard of quality will require LA DOTD Approval and may require the execution of a Change Order. The LA DOTD will determine, at its sole discretion, if the Project Specifications meet the Contract requirements.

Project Specifications must define the type and frequency of QC sampling and testing to be conducted for the Work covered by a Project Specification. The Design-Builder shall use DB Section 112 to determine the type and frequency of QC sampling and testing.



**STATE OF LOUISIANA**  
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**DESIGN-BUILD PROJECT**

O'NEAL LANE INTERCHANGE TO WALKER  
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STATE PROJECT NOS. 454-01-0047 AND 454-02-0025

**SCOPE OF SERVICES PACKAGE**  
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**DB SECTION 111**

**APPENDIX 111A - FORMS**



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FORMS  
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Form NCR-D	Design Non-Conformance Report



**FORM DUS**

Design Unit Schedule

Design Unit Designation/ Code	Design Unit Description	Planned Review Stages <sup>1</sup>	Information/Components to be Reviewed	Planned Review Dates (Month After NTP)	Percent Complete Represented by Review
		Definitive			
		Final			100%
		Definitive			
		Final			100%
		Definitive			
		Final			100%

<sup>1</sup> Provide information as necessary to reflect additional interim and/or readiness for construction reviews planned between Definitive Design and Final Design Reviews.

**FORM NCR-D**

**DESIGN NON-CONFORMANCE REPORT**

From: \_\_\_\_\_ Date: \_\_\_\_\_  
(Name and initials of Design QC Manager or Department's Project Manager or Designee)

To: \_\_\_\_\_  
(Names of Design-Builder and Responsible Engineer)

Project name/Number: \_\_\_\_\_ Design Unit ID: \_\_\_\_\_

Copy: **Department's Project Manager**

Transmittal/File No. \_\_\_\_\_ Applicable Contract Requirement: \_\_\_\_\_  
(Part and Section Number)

The design Work on the referenced Design Unit is not in conformance with the noted Contract requirement for the reasons stated below (Attach additional sheets as necessary):

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**RESOLUTION:** \_\_\_\_\_ Date: \_\_\_\_\_

From: \_\_\_\_\_  
(Names and initials of Design-Builder's Project Manager and Responsible Engineer)

To: **Department's Design Compliance Engineer and Project Manager**

The above noted design non-conformance has been corrected and/or resolved as indicated below (attach additional sheets as necessary):

Acknowledgement of Receipt: \_\_\_\_\_ Date: \_\_\_\_\_  
(Name and initials of Department's Project Manager or Designee)

Send copy of completed, acknowledged form to the Design-Builder's and Department's Project Manager's files.



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**DB SECTION 112**

**CONSTRUCTION QUALITY CONTROL**



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**DESIGN-BUILD SECTION 112  
CONSTRUCTION QUALITY CONTROL**

**DB 112-1 GENERAL**

As per Design-Build (DB) Section 113, and prior to the commencement of any design or construction activities, the Design-Builder shall develop and implement a quality program for all phases of the Project, including design, construction, maintenance, and environmental compliance. The Design-Builder, through its Design-Builder Quality Plan, shall have the primary responsibility for the quality of the Work, including all Work and products of Subcontractors, fabricators, Suppliers, and vendors both on-site and off-site. The Louisiana Department of Transportation and Development (LA DOTD), in its role of Quality Assurance/Quality Control (QA/QC), reserves the right to and will conduct verification oversight inspections, audits, sampling and testing, and Independent Assurance (IA).

The quality program must ensure that procurement, shipping, handling, fabrication, installation, cleaning, Inspection, construction, testing, storage, examination, repair, maintenance, and required modifications of all Materials, Equipment, and elements of the Work will comply with the requirements of the Contract Documents and that all Materials incorporated in the Work and all Equipment and all elements of the Work will perform satisfactorily for the purpose intended.

**DB 112-1.1 Definitions**

See Design-Build Section 101-3 for definitions, including definitions of Quality Control and Quality Assurance/Quality Control.

**DB 112-1.2 Construction Quality Control Inspection**

All construction processes, procedures, and workmanship must be inspected by the Design-Builder's Construction Quality Control (QC) Inspectors. The Construction QC inspections must include the observations, measurements, and documentation specified in Appendix 112A – Construction QC Inspection to this DB Section 112 and the Design-Builder's Quality Plan. Inspection observations, measurements, results, non-conformances, and corrective actions must be documented on the forms in Appendix 112B - Forms to this DB Section 112 or on the Design-Builder's forms acceptable to the LA DOTD. Inspection observation and documentation must include a description of construction activity and location. See also Design-Build Section 112-10.

**DB 112-2 INSPECTION AND TESTING OF MATERIALS**

**DB 112-2.1 General**

All Materials are subject to Inspection, sampling, and testing at any time before Final Acceptance of the Work.

References in the Contract to a Louisiana test method or test designation of the American Association of State Highway and Transportation Officials (AASHTO), the American Society for Testing and Materials (ASTM), or any other recognized national organization means the latest revision of that test method or specification for the Work in effect on the Proposal due date.

Materials will be sampled and tested by the construction QC testers and samplers. Copies of all test results will be furnished to the Design-Builder's Project Manager, the QC Manager, and the Department's Project Manager and other LA DOTD designated representatives. When a test is done for the Design-

Builder as process control assuring that its process and Materials source is producing an acceptable product, test results are not furnished to the above stated individuals but are Design-Builder internal documents. These process control tests usually occur when an operation is begun and when changes occur in the source of Materials or method of production.

The LA DOTD's designated representative may observe any sampling testing performed by the QC testers and samplers. If the LA DOTD's designated representative observe a deviation from the specified sampling or testing procedures, the LA DOTD's designated representative will verbally describe the observed deviation to the Design-Builder's Construction QC Manager, followed by a written Non-Conformance Report (NCR) covering the deviation to the Design-Builder's Construction QC Manager and Project Manager within 24 hours. *See also* Design-Build Section 109-4.4.

#### **DB 112-2.2 Construction Quality Control Testing and Sampling**

The Design-Builder's construction QC testers and samplers must perform sampling and testing for process control and for acceptance of Materials to be used on the Project. Construction QC testers and samplers must be certified, including, among other prudent and necessary certifications, LA DOTD certifications, for the level appropriate for the Work being sampled/tested. The Design-Builder shall maintain a list of construction QC testers and samplers that indicates what test certifications each person currently holds. Testers and samplers will be allowed 90 Working Days from execution of the Contract to obtain the certifications.

The construction QC testers and samplers will test and sample only those Materials for which they are certified to sample and test. Reports of each test must be recorded on the form prescribed for that test. All tests that do not pass specified requirements will be added to a log of failed tests. This log of failed tests will be used to assure that the Work is reconciled by a passing test.

The minimum frequency of QC sampling and testing must be consistent with Contract requirements and the individual Project Specifications accepted by the Department's Project Manager.

The Design-Builder shall utilize an electronic system to document and track Material and field test results. The minimum information in the electronic system must be that required to populate the LA DOTD's MATT system. The Design-Builder shall develop a method to transfer and transfer the Material and field test result information to MATT or, alternatively, may make arrangements with the appropriate LA DOTD sections and/or offices to use MATT.

#### **DB 112-3 QUALITY ASSURANCE/QUALITY CONTROL INSPECTION**

Quality Assurance/Quality Control (QA/QC) Inspection will be performed by the LA DOTD's designated representative assigned to the Project.

The LA DOTD's designated representative will periodically audit sampling and testing results. The review, audit, and subsequent feedback to the Design-Builder's Construction QC Manager are intended to assess the adequacy of the construction QC.

The Design-Builder's Project Manager will provide information to the LA DOTD's designated representative regarding verification that Progress Check Points (PCP) are met as per the Design-Builder's Schedule of PCPs and quantities of any unit price Work items. A monthly audit of PCPs and quantities of any unit price Work items will be performed and any required correction will be made to the subsequent progress payment. The LA DOTD's designated representative's review and audit will assure

that the PCP achievement and correct quantities are shown. Documents for payment of Change Orders must also contain sufficient information to satisfy an audit. Documents for the closure of each Change Order will be reviewed and included in the final payment. Additionally, in accordance with DB Sections 105 and 109, the Department's Project Manager will have the authority to suspend the Work if at any time he determines that the Design-Builder is not in conformance with Contract requirements.

See Design-Build Section 109 regarding payment processing.

Verification Sampling and Testing will be performed by the LA DOTD or its designated representative assigned to this Project.

#### **DB 112-4 INDEPENDENT REFEREE LABORATORY**

The LA DOTD will retain the services of an independent AASHTO accredited laboratory on an "on-call" basis to act as a "referee" laboratory for resolution of disputes regarding sampling and testing results reported by the LA DOTD's verification samplers and testers and the Design-Builder's construction QC testers and samplers. The "referee" laboratory may be the LA DOTD's materials laboratory. The services of the "referee" laboratory may be requested by the LA DOTD or by the Design-Builder. The sampling and testing results determined by the "referee" laboratory will be final and binding on both parties and not subject to disputes resolution under DB Section 107-31. The party whose sampling and testing results are not confirmed and/or supported by the "referee" laboratory (i.e., the unsuccessful party) will be responsible for payment for the "referee" services. If the LA DOTD is the unsuccessful party, it will make payment directly to the "referee" laboratory. If the Design-Builder is the unsuccessful party, the cost of the "referee" laboratory services will be deducted from payment(s) otherwise due and the LA DOTD will make payment to the "referee" laboratory on behalf of the Design-Builder.

The "referee" laboratory will not be associated with the Project in any capacity or be affiliated with any party to the Contract or with any Principal Participant and/or the Design-Builder. The "referee" laboratory will not be a department, agency, or office of any Stakeholder.

#### **DB 112-5 COMPETENCE**

If a concern arises as to the competence of any certified individual, this concern must be documented in writing to the Design-Builder's Project Manager and the Department's Project Manager. The concern will be investigated as deemed necessary by the Department's Project Manager. If this investigation substantiates the concern, corrective action, or decertification will be implemented in accordance with procedures established by the LA DOTD. See also DB Section 108.

#### **DB 112-6 DESIGN-BUILDER QUALITY CONTROL**

The Design-Builder shall provide process control measures adequate to produce a constructed product of acceptable quality that conforms to the Contract Documents. The Design-Builder shall perform process control sampling, testing, and Inspection during all phases of the Work at a rate sufficient to assure that the Work conforms to the Contract requirements.

The Design-Builder shall provide personnel and Equipment capable of providing a product that conforms to specified requirements and shall provide personnel and Equipment capable of verifying and documenting this conformance. Continual production of non-conforming Work will not be allowed.

**DB 112-7 DESIGN-BUILDER'S CONSTRUCTION QUALITY CONTROL ORGANIZATION**

The Design-Builder's Quality Plan must provide the information regarding the construction Quality Control organization.

**DB 112-7.1 Construction Quality Control Manager**

The Design-Builder shall assign an on-site Construction QC Manager. This individual will be considered one of the Project's key personnel.

The Design-Builder's Construction QC Manager will be responsible for overall management and supervision of the Design-Builder's construction QC programs. The Design-Builder's Construction QC Manager must be a Louisiana-licensed Professional Engineer. The Design-Builder's Construction QC Manager must report directly to the Design-Builder's QC Manager.

The Design-Builder's Construction QC Manager, or his/her designees, must be delegated the authority to make needed improvements to the quality of Work, including the suspension of the Work if required.

The Design-Builder's Construction QC Manager must be responsible for coordinating the schedules of the Design-Builder's construction QC Inspectors and construction QC testers and samplers with the Design-Builder's construction activities so as not to delay the Design-Builder's operations due to Construction QC Inspection, sampling, and testing activities.

**DB 112-7.2 Staffing Levels**

The actual size of the field/Site staff will reflect the complexity, needs, shifts, and composition of QC activities consistent with Work in progress.

The Design-Builder's Quality Plan (*see* DB Section 113) must identify administrative and clerical support for the maintenance and management of records and documents pertinent to QC activities.

The QC staffing schedule must be updated as necessary throughout the Contract duration to reflect accurate forecasting of QC staffing requirements.

**DB 112-7.3 Laboratories**

Laboratory QC testing must be conducted by testing laboratories retained by the Design-Builder under subcontract that comply with the requirements for LA DOTD certification for applicable tests. Laboratories must be accredited by the AASHTO Material Reference Laboratory (AMRL), the Concrete Cement Reference Laboratory (CCRL), the National Precast Concrete Association (NPCA) for precasters, or the Prestressed Concrete Institute (PCI), as appropriate, for the Work to be constructed. Louisiana Department of Transportation and Development certification must be obtained for all AASHTO and ASTM test methods to be performed by the testing laboratory. Certification must also be obtained for AASHTO and ASTM test methods that are modified or referenced by Louisiana test methods.

Satellites (field laboratories) of these laboratories may be used where appropriate for the tests being conducted. The Equipment in the satellite laboratories must be certified at the start of Work and annually thereafter. Certification must be by an independent party.

The laboratory must have written policies and procedures to assure portable and satellite laboratories performing testing activities on the Project are capable of providing testing services in compliance with

applicable test methods. The policy and procedures must address Inspection and calibration of testing Equipment as well as a correlation testing program between the accredited laboratory and portable or satellite facilities.

The LA DOTD reserves the right to check testing Equipment for compliance with specified standards and to check testing procedures and techniques.

The LA DOTD also reserves the right to access the testing facilities of the testing laboratories with no additional cost to the LA DOTD to witness the testing and verify compliance of the testing procedures, testing techniques, and test results.

The LA DOTD's rights to check Equipment, procedures, and techniques and to access testing facilities will also apply to Project Stakeholders when the Design-Builder is performing Work on their facilities.

**DB 112-8      DESIGN-BUILDER SCHEDULING AND NOTICE TO THE LOUISIANA  
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT**

The Design-Builder shall notify the LA DOTD in writing by Friday noon of each week of planned construction activities, including fabrication, for the following two weeks to allow the LA DOTD to schedule its resources. The Design-Builder shall deliver this information at the weekly progress meeting where related discussion will occur. For activities (such as fabrication) occurring out of the immediate Project area (beyond 100 miles of the Project), the Design-Builder shall give the LA DOTD at least 21 Calendar Days of notice of planned Work.

**DB 112-9      DOCUMENTATION**

The Design-Builder shall collect and preserve each of the following types of data in a computer-generated form concurrently during Design-Builder's performance of the Work, all of which must be in a format acceptable to the LA DOTD:

- A) Daily Inspection Reports;
- B) As-Built Plans;
- C) Secure databases, such as spreadsheets, standard database software, and computation books;
- D) Materials acceptance records;
- E) Photographs; and
- F) Field change sheets.

Daily manpower and Equipment reports for the Design-Builder and each Subcontractor for construction-related activities must be prepared and maintained by the Design-Builder, using the forms in Appendix 112B – Forms to this DB Section 112 or other forms with a format acceptable to the Department's Project Manager.

A daily log for construction-related activities must be maintained by the Design-Builder's Project Manager or his/her designee(s), using a form acceptable to the Department's Project Manager, in which all significant occurrences on the Project must be recorded daily in a narrative form, including, unusual weather, asserted occurrences, events and conditions causing or threatening to cause any significant delay or disruption or interference with the progress of any of the Work, significant injuries to person or

property, and a listing of each activity depicted on the current monthly plan update which is being actively prosecuted. Also, traffic accidents in the Project area will be noted as well as lane closures in effect at the time of the accident.

For utility-related Work such data must be maintained separately for each utility facility.

For harmful/Hazardous Material remediation Work, such data must be maintained separately for each site.

Records must document all QC operations, Inspections, activities, and tests performed, including the Work of Subcontractors. The Design-Builder may use the forms provided by the LA DOTD or its own forms providing equivalent information. Such records must include any delays encountered and Work noted that does not conform to the requirements of the Contract and design together with the corrective actions taken regarding such Work.

The Design-Builder shall complete and submit appropriate documentation at the following times and frequencies:

A) Monthly:

See Design-Build Section 108;

B) Weekly:

The Design-Builder shall maintain and submit records that include factual evidence that required activities or tests have been performed, including the following:

- 1) Type, number, and results of QC and control activities, including, reviews, Inspections, tests, audits, monitoring of Work performance, and Materials analysis;
- 2) Closely-related data, such as, qualifications of personnel, procedures, and Equipment used;
- 3) The identity of the Design-Builder's QC Inspector or data recorder, the type of test or observation employed, the results, and the acceptability of the Work, and action taken in connection with any deficiencies noted;
- 4) Nature of non-conforming Work and causes for rejection;
- 5) Proposed corrective action;
- 6) Corrective actions taken; and
- 7) Results of corrective actions.

#### **DB 112-10 MATERIAL CERTIFICATIONS**

WHEN THE DESIGN-BUILDER PURCHASES MATERIALS FROM PROVIDERS/SUPPLIERS SHOWN ON THE LA DOTD'S APPROVED MATERIALS OR SOURCE LIST, THE DESIGN-BUILDER SHALL OBTAIN AND RETAIN A MATERIALS CERTIFICATION (CERTIFICATE OF DELIVERY, CERTIFICATE OF ANALYSIS, OR CERTIFICATE OF COMPLIANCE, AS REQUIRED) FROM THE PROVIDER/SUPPLIER COVERING THE MATERIAL AND/OR THE SOURCE.

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Documentary evidence that Material and Equipment conform to the procurement requirements must be available at the job Site no less than 24 hours prior to installation or use of such Material and Equipment. This documentary evidence must be retained at the job Site and must be sufficient to identify the specific requirements, such as, Contract Documents, codes, standards, or specifications, met by the purchased Material and Equipment. Additionally, a copy of all documentary evidence that Material and Equipment conform to the procurement requirements must be provided to the LA DOTD, or its designated representative, at the same time the Design-Builder receives such documentary evidence. The effectiveness of the QC by the Design-Builder's own forces and Subcontractors must be assessed by the Design-Builder and the LA DOTD's designated representative at intervals consistent with the importance, complexity, and quantity of the product or services.

The Louisiana Department of Transportation and Development reserves the right to inspect and review these documents at any time.

At the completion of the Project, the Design-Builder shall submit with the final invoice a certificate of compliance signed by the Design-Builder's Project Manager and Construction QC Manager indicating that all materials incorporated in the Project conform to the Contract requirements.

### DB 112-11 FINAL ACCEPTANCE

The Louisiana Department of Transportation and Development has the responsibility and authority for Final Acceptance of all Work.

The Design-Builder shall complete all Work and provide all documents, certifications, and other information in accordance with the Contract Documents. Final Acceptance will be based on QC testing verified by verification testing and the final Inspection. Any deviations from the sampling and testing methods and frequencies indicated in the Contract Documents or the Design-Builder's Project Specifications will require LA DOTD's Approval prior to the start of construction on any affected Work. If there is a discrepancy between the Design-Builder's Project Specifications and the Contract the more stringent requirements will apply unless otherwise agreed in writing by the LA DOTD.

Final Acceptance will be based on certificates of compliance and/or Manufacturer's test results where specified in the Design-Builder's Project Specifications or the Contract.

Deficient Materials and products must be brought into compliance with Contract requirements or replaced. The method of reconciliation will be noted in the log of failed tests.



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**SCOPE OF SERVICES PACKAGE**  
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**APPENDIX 112A**

**CONSTRUCTION QUALITY CONTROL**  
**INSPECTION**



Louisiana Department of Transportation and Development

ACTIVITY	INSPECTION REQUIREMENT	DOCUMENTATION FORMS(S)
All	<ul style="list-style-type: none"> <li>• Location and type of work</li> <li>• Personnel and Equipment</li> <li>• Weather and Site conditions</li> <li>• Checks for compliance with Design Plans and Project Specifications</li> <li>• Extent of Work</li> <li>• Problems encountered</li> </ul>	DOTD Form 03-40-3093, Project Diary
Signs and Barricades	<ul style="list-style-type: none"> <li>• Location, stationing and distance from edge of road</li> <li>• Visibility, height above road, condition of signs</li> <li>• Daily to ensure condition</li> <li>• Night inspections initial and periodic for reflectivity</li> </ul>	
Clearing and Grubbing	<ul style="list-style-type: none"> <li>• Clearing and grubbing limits</li> <li>• Disposal</li> <li>• Protection of surroundings from damage</li> <li>• Removal of large roots and stumps</li> <li>• Blading the site to ensure drainage</li> <li>• Temporary erosion control</li> <li>~ Mulch</li> <li>~ Seeding</li> <li>~ Slope drains</li> <li>~ Silt Fencing</li> <li>~ Hay bales</li> </ul>	
Removals	<ul style="list-style-type: none"> <li>• Ensure that only designated structures, facilities, or obstructions are removed or relocated</li> <li>• Obtain certificates of release</li> <li>• Proper notifications given for removal of Underground Storage Tanks (UST) and other hazardous materials</li> <li>• Disposal of materials</li> </ul>	DOTD Form 03-42-0671, Certificate of Release  202 Sample Form

I-12 Widening DB Project  
 Scope of Services Package  
 Contract Docs  
 Part 2 – DB Section 100  
 DB Section 112  
 Appendix 112A - Const. QC Inspection

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ACTIVITY	INSPECTION REQUIREMENT	DOCUMENTATION FORMS(S)
Utility Relocation	<ul style="list-style-type: none"> <li>• Located clear of construction</li> <li>• Backfills adequately compacted</li> </ul>	
Culverts and Storm Drains	<ul style="list-style-type: none"> <li>• Adequate structure</li> <li>• Backfill material, bedding material, and fabrics sampled and approved</li> <li>• Damage in transit</li> <li>• Certificate of Delivery</li> <li>• Excavation</li> <li>• Laying pipe</li> <li>• Bedding and backfill</li> <li>• Joints closed and wrapped</li> <li>• Compaction and compactive effort</li> </ul>	DOTD Form 03-22-0750, Density and Moisture Content Worksheet  Certificate of Delivery – Culverts 701 Sample Form
Earthwork	<ul style="list-style-type: none"> <li>• Area preparation</li> <li>• Soils sampled and approved</li> <li>• Lift thickness</li> <li>• Compaction and compactive effort</li> <li>• Slope and grade</li> </ul>	DOTD Form 03-22-0750, Density and Moisture Content Worksheet  203 Sample Form
Trench, Culvert, and Structural Excavation	<ul style="list-style-type: none"> <li>• Safety</li> <li>• Support and protective system</li> <li>• Disposal of excavated material</li> </ul>	
Geotextile	<ul style="list-style-type: none"> <li>• Brand name and type</li> <li>• Protection of material</li> <li>• Material acceptance</li> </ul>	

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ACTIVITY	INSPECTION REQUIREMENT	DOCUMENTATION FORMS(S)
Cement Stabilized Base and Sub-base Course	<ul style="list-style-type: none"> <li>• Subgrade approved</li> <li>• Select soils sampled and approved</li> <li>• Cement approved</li> <li>• Pulverization and moisture content</li> <li>• Compaction and compactive effort</li> <li>• Spread rate</li> <li>• Shaping and finishing</li> <li>• Time limitations</li> <li>• Curing</li> </ul>	DOTD Form 03-22-0750, Density and Moisture Content Worksheet  Certificate of Delivery – Cement 301 Sample Form
Lime Treatment	<ul style="list-style-type: none"> <li>• Area preparation</li> <li>• Lime approved</li> <li>• Equipment used</li> <li>• Compaction and compactive effort</li> <li>• Spread rate</li> <li>• Shaping and finishing</li> <li>• Curing</li> </ul>	DOTD Form 03-22-0750, Density and Moisture Content Worksheet  Certificate of Delivery – Lime 304 Sample Form
Stone Base	<ul style="list-style-type: none"> <li>• Area preparation</li> <li>• Material sampled and approved</li> <li>• Compaction and compactive effort</li> <li>• Curing membrane</li> </ul>	DOTD Form 03-22-0750, Density and Moisture Content Worksheet  301 Sample Form

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ACTIVITY	INSPECTION REQUIREMENT	DOCUMENTATION FORMS(S)
Asphaltic Concrete	<ul style="list-style-type: none"> <li>• Surface prepared</li> <li>• Materials sampled and approved</li> <li>• Plant and Equipment calibrated and approved</li> <li>• Temporary traffic tape</li> <li>• Signing and flagging</li> <li>• Certified technicians</li> <li>• Weather conditions</li> <li>• Mix design submitted and approved</li> <li>• Plant operation</li> <li>• Temperature of mix</li> <li>• Spreading and finishing</li> <li>• Compaction/pavement density</li> <li>• Joints</li> <li>• Surface tolerances</li> </ul>	<p>DOTD Form 03-22-3080, Asphaltic Concrete Pavement Report</p> <p>501 Sample Form</p> <p>Certificate of Delivery – Asphaltic Materials</p> <p>Asphaltic Concrete Plant Report</p>

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ACTIVITY	INSPECTION REQUIREMENT	DOCUMENTATION FORMS(S)
Portland Cement Concrete Paving	<ul style="list-style-type: none"> <li>• Surface prepared</li> <li>• Materials sampled and approved</li> <li>• Plant and Equipment calibrated and approved</li> <li>• Forms</li> <li>• Dowels and load transfer devices</li> <li>• Mix design submitted and approved</li> <li>• Placing and spreading concrete</li> <li>• Finishing and texturing</li> <li>• Joints</li> <li>• Surface tolerance</li> <li>• Slump and air</li> <li>• Curing</li> <li>• Removing forms (fixed form paving)</li> <li>• Protection of pavement</li> <li>• Sealing joints</li> </ul>	<p>DOTD Form 03-22-4028, Batch Certification</p> <p>DOTD Form 03-22-4035, Portland Cement Concrete Pavement Report</p>
Aggregate Surface Course	<ul style="list-style-type: none"> <li>• Surface prepared</li> <li>• Materials sampled and approved</li> <li>• Equipment approved</li> <li>• Compaction and compactive effort</li> </ul>	401 Sample Form
Incidental Concrete Work – Sidewalks and Drives	<ul style="list-style-type: none"> <li>• Surface prepared</li> <li>• Forms</li> <li>• Mix design submitted and approved</li> <li>• Depth</li> <li>• Cylinders</li> <li>• Curing</li> </ul>	706 Sample Form

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ACTIVITY	INSPECTION REQUIREMENT	DOCUMENTATION FORMS(S)
Driven Piles	<ul style="list-style-type: none"> <li>• Type, size, and length of pile</li> <li>• Test piles driven and loaded</li> <li>• Pile lengths approved</li> <li>• Installation plan and equipment approved</li> <li>• Location of piles</li> <li>• Storing, handling, and damage to piles before and during driving</li> <li>• Adequate bearing capacity achieved</li> </ul>	804-01 Sample Form
Drilled Shafts	<ul style="list-style-type: none"> <li>• Installation plan</li> <li>• Safety</li> <li>• Excavation methods</li> <li>• Casings – temporary and/or permanent</li> <li>• Slurry</li> <li>• Location, size, and alignment</li> <li>• Reinforcing steel</li> <li>• Concrete placement and finishing</li> <li>• Verification of integrity of shafts</li> </ul>	

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ACTIVITY	INSPECTION REQUIREMENT	DOCUMENTATION FORMS(S)
Structural Concrete	<ul style="list-style-type: none"> <li>• Forms, re-steel, and equipment</li> <li>• Weather</li> <li>• Ambient temperature</li> <li>• Slump and air tests</li> <li>• Placement and vibrating</li> <li>• Cylinders</li> <li>• Surface finish</li> <li>• Curing</li> </ul>	805-01 Sample Form
Reinforcing Steel	<ul style="list-style-type: none"> <li>• Storage and handling</li> <li>• Sampled and approved</li> <li>• Placement and fastening</li> <li>• Splices</li> </ul>	805-01 and 805-03 Sample Forms
Prestressed Concrete Units	<ul style="list-style-type: none"> <li>• Fabrication                             <ul style="list-style-type: none"> <li>~ Equipment approval</li> <li>~ Concrete mix design</li> <li>~ Concrete placement and vibration</li> <li>~ Approved forms</li> <li>~ Curing</li> <li>~ Tensioning</li> <li>~ Storage and transportation</li> </ul> </li> <li>• When receiving units                             <ul style="list-style-type: none"> <li>~ Inspector's stamp of approval</li> <li>~ Certificate of delivery</li> <li>~ Damage during shipment</li> <li>~ Dimensional tolerance and camber</li> <li>~ Visual defects</li> </ul> </li> <li>• Erection</li> <li>• Repair of defects</li> </ul>	

I-12 Widening DB Project  
 Scope of Services Package  
 Contract Docs  
 Part 2 - DB Section 100  
 DB Section 112  
 Appendix 112A - Const. QC Inspection

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Structural Steel	<ul style="list-style-type: none"> <li>● Fabrication</li> <li>~ Shop drawings</li> <li>~ Mill test reports</li> <li>~ Storage of materials and fabricated items</li> <li>~ Shop assembly</li> <li>~ Certified test reports for bolts and nuts</li> <li>~ Coating</li> <li>● Field Erection</li> <li>~ Sequence</li> <li>~ Falsework</li> <li>~ Site storage and handling</li> <li>~ Connections</li> </ul>	
Bridge Bearings	<ul style="list-style-type: none"> <li>● Materials</li> <li>● Fabrication</li> <li>● Protective coatings</li> <li>● Bearing surface preparation</li> <li>● Anchor bolts</li> <li>● Pad installation</li> </ul>	
Bridge Joint Systems	<ul style="list-style-type: none"> <li>● Materials</li> <li>● Fabrication</li> <li>● Cleaning</li> <li>● Assembly</li> <li>● Installation</li> <li>~ Preparation</li> <li>~ Handling and storage</li> </ul>	

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<p>Structural Steel Paint System</p>	<ul style="list-style-type: none"> <li>● Materials</li> <li>~ Abrasive</li> <li>~ Paint</li> <li>~ Paint Inspection Equipment</li> <li>● Cleaning</li> <li>● Paint application methods</li> <li>● Shop painting</li> <li>● Field painting</li> </ul>	
<p>Superstructure Slabs and Approach Slabs</p>	<ul style="list-style-type: none"> <li>● Forming</li> <li>~ Forms</li> <li>~ Support Systems</li> <li>~ Haunch depths</li> <li>~ Joints</li> <li>~ Drainage</li> <li>● Placing and fastening reinforcing steel</li> <li>● Concrete Operations</li> <li>~ Prior to placing</li> <li>~ Placing sequence</li> <li>~ Adequacy of personnel and equipment</li> <li>~ Concrete supply</li> <li>~ Curing materials</li> <li>~ Admixtures                             <ul style="list-style-type: none"> <li>○ Weather and temperature</li> <li>○ Placing</li> <li>○ Finishing</li> <li>○ Curing</li> </ul> </li> </ul>	<p>805-03 and 806-01 Sample Forms</p>
<p>Permanent Erosion Control</p>	<ul style="list-style-type: none"> <li>● Final dressing of area</li> <li>● Area determinations</li> <li>● Spread rate for seed and fertilizer</li> <li>● Watering</li> </ul>	<p>714-01 thru 720-01 Sample Forms</p>

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<p>Maintenance and Protection of Traffic</p>	<ul style="list-style-type: none"> <li>• Materials</li> <li>• Surface condition</li> <li>• Intersecting traffic</li> <li>• Dust control and spillages</li> <li>• Flaggers</li> <li>• Delineation and guiding devices</li> <li>• Construction signs, temporary barriers, barricades and lighting</li> <li>• Pavement markings</li> <li>• Pavement drop-off protection</li> </ul>	
<p>Signs</p>	<ul style="list-style-type: none"> <li>• Materials</li> <li>• Fabrication</li> <li>• Sign face construction</li> <li>• Work sequence</li> <li>• Location</li> <li>• Erection</li> <li>• Transporting, handling, and storage</li> <li>• Foundations</li> <li>• Sign posts</li> <li>• Breakaway bases</li> </ul>	

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<p>Traffic Signals</p>	<ul style="list-style-type: none"> <li>• Materials</li> <li>• Underground facilities</li> <li>• Schedule</li> <li>• Excavation</li> <li>• Pole excavation and concrete foundations</li> <li>• Poles</li> <li>• Grounding</li> <li>• Conduit and direct burial cable</li> <li>• Pull boxes</li> <li>• Signal control cable and shielded communications cable</li> <li>• Cable splices</li> <li>• Span wire assemblies</li> <li>• Messenger assemblies</li> <li>• Buy assemblies</li> <li>• Signal heads</li> <li>• Wiring color code</li> <li>• Concrete base for controller assembly</li> <li>• Power meter base</li> <li>• Overhead traffic signs</li> </ul>	
<p>Pavement Markings</p>	<ul style="list-style-type: none"> <li>• Atmospheric conditions</li> <li>• General requirements</li> <li>• Materials</li> <li>• Surface cleaning and preparation</li> <li>• Equipment</li> <li>• Application of markings</li> </ul>	



**STATE OF LOUISIANA**

**INTERSTATE-12 WIDENING**

**DESIGN-BUILD PROJECT**

O'NEAL LANE INTERCHANGE TO WALKER  
EAST BATON ROUGE AND LIVINGSTON PARISHES  
STATE PROJECT NOS. 454-01-0047 AND 454-02-0025

**SCOPE OF SERVICES PACKAGE**

**CONTRACT DOCUMENTS**

**APPENDIX 112B**

**FORMS**



APPENDIX 112B  
FORMS  
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Form NCR-C, Construction Non-Conformance Report

FORM NCR-C

CONSTRUCTION NON-CONFORMANCE REPORT

From: \_\_\_\_\_ Date: \_\_\_\_\_  
(Name of Construction QC Manager or Department's Project Manager or Designee)

To: \_\_\_\_\_  
(Name of Design-Builder)

Interstate-12 Widening Design-Build Project  
State Project Nos. 454-01-0047 and 454-02-0025

Price Center Code: \_\_\_\_\_

Transmittal/File No. \_\_\_\_\_ Applicable Contract Requirement: \_\_\_\_\_  
(Part & Section No.)

**The Work on the referenced Price Center is not in conformance with the noted Contract requirement for the reasons stated below (Attach additional sheets as necessary):**

RESOLUTION: \_\_\_\_\_ Date: \_\_\_\_\_

From: \_\_\_\_\_  
(Names of Design-Builder's Project Manager and Construction Quality Control Manager)

To: \_\_\_\_\_  
(Name of Department's Project Manager)

The above noted construction non-conformance has been corrected and/or resolved as indicated below (attach additional sheets as necessary):

Acknowledgement of Receipt: \_\_\_\_\_ Date: \_\_\_\_\_  
(Name of Department's Project Manager or Designee)

Comments by Department's Project Manager, if any: [See attached sheet(s)]

Send copy of completed, acknowledged form to Design-Builder's and Department's Project Manager's files.



**STATE OF LOUISIANA**  
**INTERSTATE-12 WIDENING**  
**DESIGN-BUILD PROJECT**

O'NEAL LANE INTERCHANGE TO WALKER  
EAST BATON ROUGE AND LIVINGSTON PARISHES  
STATE PROJECT NOS. 454-01-0047 AND 454-02-0025

**SCOPE OF SERVICES PACKAGE**  
**CONTRACT DOCUMENTS**

**DB SECTION 113**

**DESIGN-BUILDER'S QUALITY PLAN**



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**DB SECTION 113**

**DESIGN-BUILDER'S QUALITY PLAN**

**DB 113-1 GENERAL REQUIREMENTS**

Prior to commencement of any design or construction activities, the Design-Builder shall submit a Quality Plan, updated as necessary, to the Louisiana Department of Transportation and Development (LA DOTD) for Approval.

The Quality Plan must address the topics contained in this DB Section 113 in the order listed therein and must meet the specified requirements of this DB Section 113.

The Quality Plan must set up a "quality system team" which will be distinct and separate from the design and construction production organization. The quality system team shall report directly to the Design-Builder's management through the Design-Builder's Quality Control (QC) Manager. The Quality Plan shall describe the quality system to be implemented at all levels of the Design-Builder's organization, to include Subcontractors (design and construction) at all levels, including labor only.

Please refer to Part 2 – Design-Build Section 101, Section 101-3, for the definitions of QC and Quality Assurance (QA).

**DB 113-1.1 Quality Plan Submittal**

The Design-Builder shall submit its Quality Plan within 30 calendar days of Notice to Proceed.

**DB 113-1.2 Quality Plan Reviews and Updates**

The Design-Builder shall conduct management reviews of its quality system as specified in this DB Section 113.

As Work progresses, the Design-Builder shall update the Quality Plan to reflect current conditions. The Design-Builder and/or the LA DOTD's Project Manager may identify the need for revisions to the Quality Plan. The Design-Builder shall submit any revisions or updates to the Quality Plan to the LA DOTD's Project Manager for approval within 30 calendar days of the identification of the need for a revision.

In addition, the Design-Builder shall submit its Quality Plan for review by the LA DOTD's Project Manager annually [within 12 months of Notice to Proceed (NTP) or receipt of the last Approval from the LA DOTD's Project Manager] even if no revisions have occurred during that 12-month period. The Design-Builder shall submit a conformed copy of the updated Quality Plan with revisions highlighted.

**DB 113-1.3 Environmental Mitigation**

In developing its Quality Plan, the Design-Builder shall establish appropriate controls in its management, design, construction/installation, and documentation procedures to ensure that environmental mitigation requirements are met and documented.

**DB 113-1.4 Organizational Requirements**

The Design-Builder shall designate a QC Manager who shall be classified as one of the Key Personnel and be responsible for overseeing the overall quality program and the preparation, implementation, and update of the Quality Plan for the Design-Builder, including management, design, and construction. The Design-Builder's QC Manager shall not report to the Design-Builder's Project Manager, but shall be directly responsible to and report to the Joint Venture (JV) board, senior management, or similar level of the Design-Builder's organization not directly responsible for design or construction.

The Design-Builder's QC Manager shall be present and available for consultation with the LA DOTD's Project Manager and other LA DOTD staff on an on-call basis throughout the duration of the Project. The Design-Builder's QC Manager shall attend the weekly progress meetings at a minimum and such other meetings as the LA DOTD's Project Manager may request, including individual meetings between the Design-Builder's QC Manager and LA DOTD staff.

The Design-Builder's QC Manager shall be the primary point of contact to the LA DOTD for all issues relating to the Design-Builder's Quality Plan (preparation, review, implementation, and updates).

The Design-Builder's Design QC Manager and Construction QC Manager and their respective staffs shall report directly to the Design-Builder's QC Manager.

See DB Section 112 for responsibilities and qualification requirements of construction QC staff. See DB Section 111 for responsibilities and qualification requirements of design QC staff.

**DB 113-1.5 Abbreviations**

C/A	Corrective Action
HSPPD	Handling/Storage/Packaging/Preservation/Delivery
P/A	Preventive Action

**DB 113-2 QUALITY SYSTEM REQUIREMENTS**

**DB 113-2.1 Management Responsibility**

**DB 113-2.1.1 Quality Policy**

The Design-Builder's executive management shall define and document its policy for quality, including objectives for quality and its commitment to quality. (In the context of this DB Section 113, "executive management" shall mean those persons to whom the Design-Builder's Project Manager Reports and who has overall responsibility for the Design-Builder's performance.) The quality policy shall be relevant to the Design-Builder's organizational goals and the expectations and needs of the LA DOTD. The Design-Builder shall ensure that this policy is understood, implemented, and maintained at all levels of the organization.

The Design-Builder shall have a published statement of its commitment to quality and the organization's quality objectives signed by its responsible executive(s). It shall explain the commitment in terms of the services provided to the LA DOTD and the responsibilities assumed by the Design-Builder to discharge its contracted accountabilities, relative to the LA DOTD's overall responsibility to Stakeholders and the public-at-large for assuring quality in the constructed facility. The statement shall be made known to and understood by all staff and be included in the Quality Plan.

Executive management's commitment to quality could be demonstrated by the quality policy being signed by the responsible executive(s) and management's direct involvement in verifying the implementation and understanding of the quality policy.

All employees shall be made aware of the Design-Builder's quality policy. The indoctrination on quality policy may be formal and can be accomplished by various means depending on the size of the Project, the structure of the Design-Builder's management staff, and the number of employees.

**DB 113-2.1.2 Organization**

A) Responsibility and Authority

Executive management shall have the responsibility to plan and determine the overall direction of the Design-Builder and its relationship to the quality efforts. Executive management shall ensure the quality policy is documented and understood by all employees and management shall further ensure the implementation of the quality policy by everyone in the organization.

The quality system shall be an integral part of the overall management system and as such shall be supported and implemented from the top down. On a Design-Build (DB) project, most employees are involved in managing, performing, or verifying work that affects quality. It shall not be the sole domain of the design checkers, QC inspectors, or QC personnel. All workers, including design and construction production personnel (including those of Subcontractors), shall be aware of the quality system requirements that govern their respective Work.

A description of the organizational arrangements (such as, a chart) shall be available and maintained. All key roles and persons and lines of communication and authority between the Design-Builder and the LA DOTD and their representative(s) and with other organizations involved shall be identified.

The responsibility, authority, and interrelation of personnel who manage, perform, and verify work affecting quality shall be defined and documented, particularly for personnel who need the organizational freedom and authority to do any of the following:

- 1) Initiate action to prevent the occurrence of any nonconformities relating to the product, process, and quality system;
- 2) Identify and record any problems relating to the product, process, and quality system;
- 3) Initiate, recommend, or provide solutions through designated channels. It shall be everyone's responsibility to report any and all quality and safety problems;
- 4) Verify the implementation of solutions. Verifying the implementation of the solutions to quality problems shall be performed in a timely manner. The verification shall also investigate if the solution to the identified problem created another quality problem; and
- 5) Control further processing, delivery, or installation of nonconforming product until the deficiency or unsatisfactory condition has been corrected. Controls shall be established, including stopping work, if necessary, once a significant quality problem is identified until the cause of the problem can be identified and the required corrective action can be implemented.

B) Resources

The Design-Builder shall identify resource requirements and provide adequate resources, including the assignment of trained personnel (*see* DB Section 113-2.18) for management, performance of Work, verification activities, and internal quality audits.

The Design-Builder shall have a system for assuring that projects are adequately staffed and that resources are provided adequate training to perform such activities as design reviews (DB Section 113-2.4), verification activities, receiving, in-process and final inspections (DB Section 113-2.10), and internal quality audits (DB Section 113-2.17).

The Quality Plan shall identify the source of staffing (management, professional, technical, and labor) and shall deal with the integration of resources into the specific Contract requirements.

Other resources shall also be addressed, such as, computers, craft tools, equipment, and facilities.

C) Design-Builder's Quality Control Manager

The Design-Builder's executive management shall appoint a QC Manager who, irrespective of other responsibilities, shall have a defined authority for the following activities:

- 1) Ensuring that a quality system is established, implemented, and maintained; and
- 2) Reporting on the performance of the quality system to the Design-Builder's management for review and as a basis for improvement of the quality system.

The Design-Builder's QC Manager shall have direct access to executive management to report on the performance of the quality system and shall not work under the Design-Builder's Project Manager or anyone else responsible for design or construction production.

**DB 113-2.1.3 Management Review**

The Design-Builder's executive management shall review the quality system at defined intervals sufficient to ensure its continuing suitability and effectiveness in satisfying the requirements of this standard and the Design-Builder's stated quality policy and objectives (*see* DB Section 113-2.1.1). Management reviews shall be held at least at three-month intervals.

Records of such reviews shall be maintained (*see* DB Section 113-2.16). Minutes shall be taken of the review meetings and these minutes shall be maintained as quality records. Copies of minutes shall be provided to the LA DOTD's Project Manager on request.

**DB 113-2.2 Quality System**

**DB 113-2.2.1 General**

The Design-Builder shall establish, document, and maintain a quality system as a means of ensuring that product conforms to specified requirements. The Design-Builder shall prepare a Quality Plan covering the requirements of this DB Section 113. The Quality Plan shall include or make reference to the quality system procedures and outline the structure of the documentation used in the quality system.

## Louisiana Department of Transportation and Development

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The Quality Plan shall cover temporary and permanent components; the Design-Builder; all Principal Participants; and all Subcontractors, suppliers, and vendors (design, construction, and materials) at all tiers.

The Quality Plan shall either contain or reference the procedures and documentation structure outline critical to quality.

The Quality Plan shall also establish or reference the procedures that make up the quality system. Should the Quality Plan only reference the procedures, it shall also detail the levels of the documented system, its contents, and the interrelationship of the document types.

There shall be a "road map" within the Quality Plan that is lined up to the applicable element that describes the quality system. This roadmap may be a cross-reference, narrative, chart, index, or some similar method.

The Quality Plan shall detail the role of the Design-Builder, each Principal Participant, the Designer, the Design-Builder's Design and Construction QC Managers, and other team members having a significant quality role.

The Quality Plan shall define policies, goals, and objectives of the organization and organizational interfaces.

### DB 113-2.2.2 Quality-System Procedures

- A) The Design-Builder shall prepare documented procedures consistent with the requirements of this DB Section 113 and the Design-Builder's stated quality policy.
- B) The Design-Builder shall document standard Work methods in procedures (*see* DB Section 113-2.2.1) and enforce the implementation of these "Best Practices." However, it is inevitable that situations will arise which require a departure from the norm. These conditions shall be anticipated in the procedures and shall allow for control of these activities.
- C) The Quality Plan shall define the liaison and interface between the quality organization and the design and construction arms of the Design-Builder.
- D) The quality procedures shall, as a primary objective, be written with the intent of gaining employee understanding of the system.
- E) It is the Design-Builder's responsibility to describe to the LA DOTD the rationale for the procedures selected and, if the procedures do not address every provision of this DB Section 113, to explain why the standard is not applicable in a particular situation. The following common pitfalls should be avoided:
  - 1) Too much emphasis placed on creating multiple tiered documents when a simple Quality Plan will suffice;
  - 2) Procedures which are too restrictive;
  - 3) Procedures which are inconsistent;
  - 4) Inordinate emphasis on documentation requirements; and
  - 5) Overcommitment to procedures which provide little or no information to assist employees.

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- F) The following list of procedures (1 through 21) shall serve as the starting point for defining the Design-Builder's quality management system.
- 1) A procedure for preparation, control and distribution of Project Quality Plan;
  - 2) Scope;
  - 3) Key personnel;
  - 4) Organizational/technical interfaces;
  - 5) Design input requirements;
  - 6) Design output requirements (deliverables);
  - 7) Design reviews;
  - 8) Louisiana Department of Transportation and Development participation;
  - 9) Levels of responsibility and authority for the following personnel:
    - a) On-site staff;
    - b) Other local office staff;
    - c) Executive management; and
    - d) The Design-Builder's Quality Control Manager;
  - 10) A procedure to control, verify, and validate the design;
  - 11) A procedure to control, verify, and validate that construction is performed in accordance with the Contract requirements; the Design-Builder's Project specifications; and the Design-Builder's plans, including design assumptions and intent;
  - 12) A procedure for document issue, approval, and revision;
  - 13) A procedure for verification, storage, and maintenance of LA DOTD-supplied Materials or Equipment;
  - 14) A procedure for the identification of (and where required by Contract the traceability of) deliverable items, such as, Design Plans, Project Specifications, Working Plans, and As-Built Plans;
  - 15) A procedure for verification and control of computer programs used in design;
  - 16) Procedures for inspecting, testing, and calibrating Equipment;
  - 17) Procedures for handling nonconformances;
  - 18) Procedures for corrective/preventive actions;
  - 19) Procedures for handling, storing, packaging, and delivering Contract deliverables;
  - 20) Training processes;
  - 21) Procedures for internal quality audits; and
  - 22) A procedure for management review.

- a) The Design-Builder shall identify its standard procedures applicable to the Project. Design-Builder shall develop Project-specific procedures for all elements of the Project that are important to quality for the Project, but are not addressed adequately by its standard procedures. Both types of procedures shall be included in the Project's Quality Plan.
- b) The Design-Builder shall effectively implement the quality system and its documented procedures. Implementation shall be demonstrated by internal quality audit reports, trending of nonconformances, records of root cause analysis, records of corrective and preventive actions, and/or records of how the LA DOTD's complaints were handled.
- c) For the purposes of this DB Section 113, the range and detail of the procedures that form part of the quality system depend on the complexity of the Work, the methods used, and the skills and training needed by personnel involved in carrying out the activity. The procedures shall accurately reflect the Work that is to be accomplished and shall benefit the organization/Project.
- d) Documented procedures may make reference to specifications that define how an activity is performed. Procedures shall describe the process steps of "what" needs to be done and Work instructions shall prescribe "how" it is to be done.

**DB 113-2.2.3 Quality Planning**

A specific Project Quality Plan is required. There shall be evidence of quality planning that ensures specific Contract/Project requirements have been identified and incorporated into the documented quality system. The LA DOTD's requirements represent the minimum requirements. The Design-Builder shall develop a fully comprehensive plan.

The Design-Builder shall define and document how the requirements for quality will be met. Quality planning shall be consistent with all other requirements of a Design-Builder's quality system and shall be documented in a format to suit the Design-Builder's methods of operation. The Design-Builder shall give consideration to the following activities, as appropriate, in meeting the specified requirements for the Project:

- A) Preparing the Quality Plan;
- B) If the Design-Builder already has a quality management system, blending the unique Project requirements into the quality system by completing the following for this Project:
  - 1) Stating the Project objectives to be obtained;
  - 2) Identifying responsibilities, authorities, and interfaces (both internal and external);
  - 3) Identifying specific procedures, methods, and instructions to be used (standard and Project specific);
  - 4) Identifying inspections, tests, audits, and surveillances to be used;
  - 5) Controlling modifications and change; and
  - 6) Incorporating Project requirements into the standard documents;

- C) Identifying and acquiring any controls, processes, Equipment (including inspection and test Equipment), fixtures, resources, and skills that may be needed to achieve the required quality;
- D) Ensuring the compatibility of the design, production process, installation, service, inspection and test procedures, and applicable documentation. The Design-Builder shall have significant interface obligations and shall describe in its Quality Plan how these obligations shall be met;
- E) Updating, as necessary, QC, inspection, and testing techniques, including the development of new instrumentation;
- F) Identifying suitable verification at appropriate stages;
- G) Clarifying standards of acceptability for all features and requirements, including those which contain a subjective element; and
- H) Identifying and preparing quality records. Quality records are comprised of such documents as audit inspection reports, approved designs, Specifications, Plans, calculations, purchase orders, Design Review records, vendor evaluation reports, cumulative progress reports, and audit reports.

**DB 113-2.3 Change Order and Amendment Review**

**DB 113-2.3.1 General**

The Design-Builder shall establish and maintain documented procedures for change order and Amendment review and for the coordination of these activities.

The methodology of the review shall be adequately defined and documented in procedure(s). The objective is to ensure that all Contract commitments are reviewed and agreed prior to issue or "execution."

This DB Section 113-2.3 applies to the Contract between the Design-Builder and the LA DOTD.

**DB 113-2.3.2 Review**

The change review is a process which should begin with the request for change and continues during the change order or Amendment preparation. The review process could be "graded" (i.e., different for change orders versus Contract Amendments) and could also be different based on the dollar value and legal framework (i.e., specific to the perceived risk of not doing so).

Change review shall take place for each request for change order or Contract Amendment.

Before submission of a proposal or the acceptance of a change order or Contract Amendment, the proposal shall be reviewed by the Design-Builder to ensure the following:

- A) The requirements are adequately defined and documented. Where no written statement of requirement is available for an order received by verbal means, the Design-Builder shall ensure that the order requirements are agreed before their acceptance. The identification and documentation of the LA DOTD's requirements is required;
- B) The standard also acknowledges that a written statement of requirements may not always be received from the LA DOTD. Where verbal orders are received from an authorized representative of the LA DOTD, the Design-Builder shall ensure requirements are

defined, reviewed, and confirmed in writing. In any case, the Design-Builder shall be responsible to ensure the change requirements are understood and have been agreed to by both parties before acceptance;

- C) Any differences between the Contract or accepted order requirements and those in the proposal are resolved. Differences between a proposal and the requested change shall be reconciled and reviewed for impact and action, clearly and mutually agreed; and
- D) The Design-Builder has the capability to meet the Contract or accepted order requirements. The Design-Builder shall have the capability to fulfill the Project Contract requirements before acceptance of the change order or Amendment. This capability can reside in-house, with Subcontractors, or with subconsultants.

**DB 113-2.3.3 Amendment to a Contract**

The Design-Builder shall identify how an amendment to a Contract is made and correctly transferred to the functions concerned within the Design-Builder's organization.

The Contract review procedure shall include processing all Amendments to the Contract. Amendments and change order requests should be subject to an appropriate level of review as the initial Contract. The review shall include impact on Work already performed, schedule, and costs.

**DB 113-2.3.4 Records**

Change order and Amendment reviews correspondence, meeting minutes, signed documents, and records of negotiation shall be maintained as Project records. Records of negotiations shall also be attached to a Change Order.

Channels for communication and interfaces with the LA DOTD's organization in these Contract matters shall be established and maintained.

**DB 113-2.4 Design Control**

**DB 113-2.4.1 General**

The Design-Builder shall establish and maintain documented procedures to control and verify the design of the product in order to ensure that the specified requirements are met.

Design control must be applied to computer programs, spreadsheets, design tables, and other products that provide analytical results which are used to develop or check designs.

The Quality Plan shall detail the roles of the following Design-Builder personnel:

- A) Designer;
- B) Design Manager;
- C) Design Quality Control Manager; and
- D) Responsible Engineer(s).

**DB 113-2.4.2 Design and Development Planning**

The Design-Builder shall prepare plans for each design and development activity. The plans shall describe or reference these activities and define responsibility for their implementation. The design and

development activities shall be assigned to qualified personnel equipped with adequate resources. The plans shall be updated as the design evolves.

The Project design control procedures shall define the technical interfaces among the different groups which provide input to the design process or receive output. The necessary information shall be documented, transmitted, and regularly reviewed. If not defined in these procedures, a separate description shall be required.

**DB 113-2.4.3 Design Input**

Design-input requirements relating to the product, including applicable statutory and regulatory requirements, shall be identified, documented, and reviewed by the Design-Builder for adequacy. Incomplete, ambiguous, or conflicting requirements shall be resolved with those responsible for imposing these requirements.

The essence of this sub-element is that the Design-Builder determines what information is needed and the available sources for information, reviews all pertinent available data, assures itself that there is sufficient information to carry out its assignment, and resolves with the LA DOTD and other appropriate authorities any actual or apparent conflicts or inconsistencies in the information so gathered. The information, sources, and decisions shall be documented and treated as a quality record (DB Section 113-2.16).

**DB 113-2.4.4 Design Output**

The Design-Builder shall document design output and express output in terms that can be verified against design-input requirements and validated (*see* DB Section 113-2.4.8).

Design outputs are usually captured in documents such as Plans, reports and Specifications. The control of these outputs is an integral part of the Design-Builder's document control process.

Output documentation shall be reviewed for compliance with design requirements.

Design output shall comply with the following:

- A) Meet the design-input requirements;
- B) Contain or make reference to acceptance criteria; and
- C) Identify those characteristics of the design that are crucial to the safe and proper functioning of the product (e.g., requirements for operating, storing, handling, maintaining, and disposing).

Design-output documents shall be reviewed before release.

**DB 113-2.4.5 Design Review**

At appropriate stages of design, documented reviews of the design results shall be planned and conducted. Participants at each Design Review shall include representatives of all functions concerned with the design stage being reviewed, as well as other specialist personnel as required. Records of such reviews shall be maintained (*see* DB Section 113-2.16).

This element reinforces the principle of qualified staff to perform verification functions. The purpose here is to ensure an unbiased look at the Work output being produced, to verify with a "fresh set of eyes" that the LA DOTD's contractual requirements and needs are being met fully. Reviews shall include consideration of the Project's usability, reliability, maintainability, availability, and operability along with

safety, cost, and aesthetics. In reviews it is prudent to address environmental impacts, community impacts, and similar concerns. Note that Design Reviews shall be recorded and retained as quality records. Any computer software used to perform alternative calculations or verify clearances through use of scale models or CADD techniques shall be validated before use for the application made and the validation documented in accordance with DB Section 113-2.16.

In addition to conducting Design Reviews, design verification may include the following activities:

- A) Performing alternative calculations;
- B) Comparing the new design with a similar proven design, if available;
- C) Undertaking tests and demonstrations; and
- D) Reviewing the design-stage documents before release.

**DB 113-2.4.6 Design Verification**

Design verification is the process of ensuring specified requirements have been met.

At each stage of design development the Design-Builder shall verify that the design stage output meets the design stage input requirements. The design verification measures shall be recorded (*see* DB Section 113-2.16).

The Design-Builder shall establish and the Quality Plan shall include procedures for verifying and documenting that the design output meets the design input requirements. Verification shall include independent checks, tests, and/or reviews.

Verification shall be performed under the direction of the Design-Builder's Design Quality Control Manager.

Designs provided by subconsultants shall be independently verified and documented under the direction of the Design-Builder's Design QC Manager prior to its acceptance and incorporation into the Work of others.

**DB 113-2.4.7 Design Validation**

The Design-Builder shall perform design validation to ensure that Project conforms to defined user needs and/or requirements.

Design validation is the process of ensuring "requirements for a specific intended use are fulfilled." In other words, design validation is conformity with the user's needs rather than only specified requirements. In most cases, the Design-Builder cannot determine if the LA DOTD's "needs" have been fulfilled until the Project is complete and operational.

Design validation seeks to ensure that the final product conforms to the LA DOTD's needs. Design validation follows successful design verification. Validation may only be applicable for electronic, electrical, and/or mechanical components of a Project. Validation is normally performed under defined operating conditions. Validation is normally performed on the final product, but may be necessary in earlier stages prior to Project completion.

Multiple validations may be performed if there are different intended uses.

**DB 113-2.4.8 Design Changes**

After a design is complete and the Work is ready to be executed, is being executed, or is complete all subsequent design changes and modifications shall be identified, documented, reviewed, and approved by authorized personnel before their implementation.

The Design-Builder shall establish and include in the Quality Plan procedures on how design changes are initiated, reviewed, approved, implemented, and recorded in order to maintain configuration control. Changes may originate at the LA DOTD's request, internal and external design organizations, and site or field personnel.

The persons authorized to approve design changes shall be identified in the procedures. The mechanism for changes in the design can be detailed as part of the procedure for the original Work or addressed in a specific design change procedure(s). It is important that any proposed changes should be reviewed and approved by the Responsible Engineer that produced the original Work. The degree and nature of control on design changes shall be at least equivalent to that under which the original Work was accomplished. Changes shall be responsive to the design input and shall be verified and approved. An administrative system shall be in place to ensure that approved changes are documented and provided to holders of the original material in a timely manner. Also, there shall be a documented process that ensures that superseded information is removed from use when the updated document or record is received.

A master list of currently effective documents shall be maintained to reflect design changes approved. A listing of the design changes shall be communicated to the construction site on a timely basis consistent with the progress of construction activities. Under no circumstances shall Work be performed without current knowledge of the approved design changes to be incorporated into the Work product.

**DB 113-2.5 Document and Data Control**

**DB 113-2.5.1 General**

The Design-Builder shall establish and maintain documented procedures to control all documents and data that relate to the requirements of this DB Section 113-2.5 including, to the extent applicable, documents of external origin such as standards and the LA DOTD's plans.

The Design-Builder shall be responsible for the establishment and implementation of documented procedures for ensuring all documents essential to the quality of the delivered product or service are properly controlled. This shall include, but is not limited to, contracts, Plans, Specifications, master drawing lists or equivalent documents, critical procedures and Work instructions, quality system manuals, Project quality plans, and data (e.g., computer data bases and computer files).

Procedures should recognize that there is a finite life to electronic storage media. Consideration should be made for those "documents" which only exist in the electronic media.

**DB 113-2.5.2 Document and Data Approval and Issue**

The Design-Builder shall be responsible to see that the documents and data are reviewed and approved for adequacy by authorized personnel prior to issue. A master list or equivalent document control procedure identifying the current revision status of documents shall be established and be readily available to preclude the use of invalid and/or obsolete documents.

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The Design-Builder shall be responsible for establishing, documenting, maintaining, and implementing a procedure which clearly defines the process for document review, resolution of comments, and approval authority.

Quality management system documentation shall also be controlled to ensure its proper authorization and distribution.

No construction Work activities shall be accomplished using unreleased, unauthorized, or outdated design documents.

This control shall ensure the following:

- A) The pertinent issues of appropriate documents are available at all locations where operations essential to the effective functioning of the quality system are performed; and
- B) Invalid and/or obsolete documents are promptly removed from all points of issue or use or otherwise assured against unintended use in the following ways:
  - 1) Superseded, revised, and voided documents shall be removed from all Work areas and the employees whose Work is governed by those documents shall be informed of the changes to ensure compliance to the new or revised requirements;
  - 2) A master document list or equivalent shall be maintained to identify the status and current revision of all controlled documents. The master list or equivalent shall be controlled and be available to all holders of controlled documents; and
  - 3) Any obsolete documents retained for legal and/or knowledge-preservation purposes are suitably identified. Superseded, revised, and voided documents can be maintained for legal and/or historic information. However, the documented procedure must describe the method of identifying and storing these documents in a manner that ensures they are not inadvertently used by an unknowing individual. There shall also be a record retention plan for the Design-Builder.

### **DB 113-2.5.3 Document and Data Changes**

The Design-Builder shall identify and include in the Quality Plan the process for the initiation, review, and approval of all document changes prior to issuance of those changes.

Changes to documents and data shall be reviewed and approved by the same functions/organizations that performed the original review and approval unless specifically designated otherwise. If this is not possible then the designated approval authority shall have adequate background and experience upon which to base the decision. The designated functions/organizations shall have access to pertinent background information upon which to base their review and approval.

Where practical, the nature of the change shall be identified in the document or the appropriate attachments.

**DB 113-2.6 Procurement and Purchasing**

**DB 113-2.6.1 General**

The Design-Builder shall establish and maintain documented procedures to ensure that purchased services and products conform to specified requirements.

The Design-Builder shall be responsible for establishing, documenting, and maintaining procedures for the evaluation and selection of suppliers, vendors, and subcontractors. The procedures shall detail the requirements for all important activities, such as, preparation of purchase orders; contracts for services; bid lists; and vendor quality requirements, including, pre-award audits, in-process inspections, and product acceptance.

**DB 113-2.6.2 Evaluation of Subcontractors, Suppliers, and Vendors**

The Design-Builder shall perform the following functions:

- A) Evaluate and select Subcontractors on the basis of their ability to meet subcontract requirements, including the quality system and any specific QC requirements;
- B) Control the evaluation and selection of suppliers, vendors, and Subcontractors. Procedures, rather than just a statement of policy in the Quality Plan, shall be used;
- C) Describe the evaluation and selection process for suppliers, vendors, and Subcontractors of all tiers and describe the priority of quality in the evaluation and selection criteria in the Quality Plan;
- D) Define the type and extent of control exercised by the Design-Builder over Subcontractors. This shall be dependent upon the type of services or products, the impact of subcontracted Work on the quality of final product, and where applicable on the quality audit reports and/or quality records of the previously demonstrated capability and performance of Subcontractors; and
- E) Establish and maintain quality records of acceptable Subcontractors (*see* DB Section 113-2.16). Records shall be maintained to document the selection, control exercised over, performance, delivery, and quality of all Subcontractors.

The methods the Design-Builder elects to use to control the delivery of the subcontracted service or product may include, but are not limited to the following:

- 1) Design Reviews;
- 2) Shop inspections;
- 3) Receiving inspections;
- 4) Witnessed inspection hold points;
- 5) Issuance of a certificate of compliance or analysis;
- 6) Testing and approval of a prototype or sample;
- 7) Provision and approval of a Quality Plan prior to contract award; and
- 8) Quality system audits.

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The procedures shall detail how Subcontractors (including consultants) will be reported to the LA DOTD (DB Section 108-2.3.5).

### **DB 113-2.6.3 Procurement and Purchasing Data**

- A) Procurement and purchasing documents shall contain data clearly describing the service or product ordered, including where applicable:
- B) The type, class, grade, or other precise identification;
- C) The title or other positive identification and applicable issues of Specifications; Plans; process requirements; inspection instructions; and other relevant technical data, including requirements for approval or qualification of product, procedures, process Equipment, and personnel; and
- D) The title, number, and issue of the quality system standard to be applied.

The Design-Builder shall review and approve procurement/purchasing documents for adequacy of the specified requirements prior to release.

The documented procedure shall identify how and by whom procurement and purchasing documents are reviewed, how comments are resolved, and who in the organization has the authorization for final approval of the document.

### **DB 113-2.6.4 Verification of Purchased Service or Product**

- A) Design-Builder Verification at Subcontractor's Premises

Where the Design-Builder proposes to verify purchased product or service at the Subcontractor's premises, the Design-Builder shall specify verification arrangements and the method of product release in the procurement/purchasing documents.

The procurement/purchasing document shall include any requirement for the organization performing verification at its Subcontractor's facilities. The method of verification and release of the product or service shall be specified in advance. This may also mean the purchase order or Specifications carry specific instructions on how the process verification will be performed to assure the final product will meet all of the procurement/purchasing requirements.

- B) The Louisiana Department of Transportation and Development Verification of Subcontracted Product or Service

Where specified in the Contract, the Design-Builder or the LA DOTD's representative shall be afforded the right to verify at the Subcontractor's premises and the Design-Builder's premises that subcontracted product or service conforms to specified requirements. Such verification shall not be used by the Design-Builder as evidence of effective control of quality by the Subcontractor.

When specified in the Contract Documents, the LA DOTD shall have the right of access to the Design-Builder and/or Subcontractor facility to inspect, audit, or otherwise verify the specified procurement/purchasing requirements are being fulfilled. The right of access may be extended to authorized personnel and contracted third parties. The Design-Builder is obligated to perform verification actions regardless of what the LA DOTD does. The LA DOTD's verification may not be substituted for the Design-Builder's actions.

Verification by the LA DOTD shall not absolve the Design-Builder of the responsibility to provide acceptable product or service nor shall it preclude subsequent rejection by the LA DOTD.

The Subcontractors shall be responsible for fulfilling all of the specified procurement requirements regardless if the LA DOTD, Design-Builder, or agent thereof performed any tests or inspections. The Design-Builder shall provide the LA DOTD an acceptable product or service regardless of the extent of the LA DOTD's verification. Even if the LA DOTD has performed verification actions at the Design-Builder's facilities, the product may still be rejected if it is not acceptable.

**DB 113-2.7 Control of Louisiana Department of Transportation and Development-Supplied Items**

The Design-Builder shall establish and maintain documented procedures for the control of verification, storage, and maintenance of any LA DOTD-supplied items provided for incorporation into the supplies or for related activities. Any such item that is lost, damaged, or is otherwise unsuitable for use shall be recorded and reported to the LA DOTD (*see* DB Section 113-2.16).

One of the most significant products provided to the Design-Builder by the LA DOTD is design information in the form of Plans and Specifications as well as proprietary information, and these items shall be protected with the same vigilance as any hardware items supplied. Any apparent deficiency or ambiguity shall be identified to the LA DOTD for its necessary action.

The technical characterizations of the site, such as, the boring log or soil report data supplied by the LA DOTD for consideration in designing the structural system for the product are examples of the LA DOTD-supplied products for the structural consultant.

When such items are encountered documented procedures shall exist which detail the receipt/ acceptance, storage, and maintenance (preservation) of these items.

When items are considered inadequate for the task required documented procedures shall detail the process used to report such deficiencies to the LA DOTD.

**DB 113-2.8 Product Identification and Traceability**

Where appropriate, the Design-Builder shall establish and maintain documented procedures for identifying the product by suitable means from receipt and during all stages of production, delivery, and installation.

This means that the Design-Builder shall establish and maintain documented procedures whereby items of Work for which records are to be kept shall be identifiable. Examples of this on a construction site include the numbering of concrete pours in a structure or the establishment of a grid matrix for identifying columns.

The Design-Builder shall include the document title, the unique number, the LA DOTD's name, the Design-Builder's name, the preparer's name, and the date and revision number on all Project deliverables.

The filing and retrieval of operating manuals, certificates of compliance and/or analysis, heat numbers, inspection status, and nonconforming product shall be traceable to the items. Records shall be kept that identify the installed location of the Equipment.

Where and to the extent that traceability is a specified requirement, the Design-Builder shall establish and maintain documented procedures for unique identification of individual product or batches. This identification shall be recorded (*see* DB Section 113-2.5).

The intent of this DB Section 113-2.8 is to ensure the Design-Builder can effectively identify the root cause of a problem and implement effective corrective and preventive actions to resolve and prevent future occurrences of the problem.

**DB 113-2.9 Process Control**

The Design-Builder shall plan and control the Work and, when necessary, prepare a documented process plan defining how Work is to be carried out. Documentation may be in the form of a narrative, flow chart, or control points.

The Design-Builder shall identify and plan the production, installation, and servicing processes which directly affect quality and shall ensure that these processes are carried out under controlled conditions. Controlled conditions shall include the following:

- A) Documentation of procedures defining the manner of production, installation, and servicing where the absence of such procedures could adversely affect quality. This requirement deals with the planning and control of all Work processes other than design control processes that are critical to the adequacy of the delivered Project;
- B) Establishment and documentation of the method(s) for scheduling, monitoring, and reporting on the status of each significant aspect of the design or other Project tasks. The methods shall be consistent with the size and complexity of the effort. Such schedules shall identify required inputs from others and submittals to the LA DOTD and to relevant government authorities;
- C) An assessment by the Design-Builder of this requirement. The key phrase of this requirement is "where the absence of such procedures could adversely affect quality";
- D) Use of suitable production, installation, and servicing Equipment and a suitable working environment;
- E) Compliance with reference standards/codes, quality plans, and/or documented procedures. Referenced standards shall be available to the people at the location where the Work is to be performed to ensure compliance to the specified requirements;
- F) Monitoring and control of suitable process parameters and product characteristics;
- G) The approval of processes and Equipment, as appropriate. Procedures shall identify who has the responsibility, authority, and expertise for the approval of various processes to ensure their adequacy;
- H) Criteria for workmanship which shall be stipulated in the clearest practical manner (e.g., written standards, representative samples, or illustrations); and
- I) Suitable maintenance of Equipment to ensure continuing process capability.

**DB 113-2.10 Inspection and Testing**

**DB 113-2.10.1 General**

The Design-Builder shall establish and maintain documented procedures for inspection and testing activities in order to verify that the specified requirements for the Project are met. The required inspection and testing and the records to be established shall be detailed in the Quality Plan or documented procedures.

This section shall address inspection/testing methodology, methods of control, documentation, acceptance, and distribution of results.

Written procedures are required. In general, QC inspections shall be performed to written criteria with specified levels of acceptability based on clearly defined accept/reject criteria. Reports shall be signed and dated by QC inspection personnel and results clearly indicated.

The Design-Builder shall establish, document, and maintain procedures for inspection and testing activities.

Quality Control inspection and testing shall be performed in accordance with written procedures developed by the Design-Builder or the proper issue of test procedures issued by industry, government, and/or code bodies available to test personnel.

Verification of compliance with Specifications and/or requirements by means of inspection and testing is required at the following times:

- A) On receipt of Materials;
- B) At intermediate stages; and
- C) When Work is completed.

The criteria for compliance are defined in the Contract as are appropriate sampling and testing requirements.

Checkpoints and hold points (Work that must be inspected and approved by the assigned QC inspector before Work can proceed) shall be clearly established and identified on the Project execution schedule or other suitable means. Quality Control inspection procedures, logistics, and reporting of results shall be clearly defined, developed, and implemented.

**DB 113-2.10.2 Incoming Product Inspection and Testing**

The Design-Builder shall ensure that incoming product is not used or processed (except in the circumstances described in DB Section 113-2.10.2.3) until it has been inspected or otherwise verified as conforming to specified requirements. Verification of the specified requirements shall be in accordance with the Quality Plan and/or documented procedures.

The Quality Plan shall include incoming product inspection that shall include, but not be limited to, the following:

- A) Documentation review;
- B) Physical inspection of Materials and/or Equipment;

- C) Identify items per the purchase order and shipping list, tag number, or marking;
- D) Verification of quantity and size;
- E) Dimensional checks, when applicable;
- F) Verification of protective coatings, if applicable; and
- G) Examination of item(s) for condition and shipping damage.

The Design-Builder shall maintain an adequate checking and approving procedure to ensure that all its Work, including, the monitoring, testing, and approving of such Work at the head office and on-site, meets the LA DOTD's requirements and the Contract.

In determining the amount and nature of receiving inspection, the Design-Builder shall consider the amount of control exercised at the Subcontractor's premises and the recorded evidence of conformance provided.

**DB 113-2.10.3 In-Process Inspection and Testing**

The Design-Builder shall provide the following functions:

- A) Inspect and test the product as required by the Quality Plan and/or documented procedures; and
- B) Hold product until the required inspection and tests have been completed or necessary reports have been received and verified.

**DB 113-2.10.4 Final Inspection and Testing**

The Design-Builder shall jointly conduct all final inspection and testing with the LA DOTD in accordance with the Contract requirements and the Quality Plan and/or documented procedures to complete the evidence of conformance of the finished Project to the specified requirements.

The Design-Builder shall have documented procedures to ensure that the final observation and testing where applicable have been completed.

Records of final inspection and tests are required to verify compliance to specified requirements has been achieved (*see* DB Section 113-2.16).

The Quality Plan and/or documented procedures for final inspection and testing shall require that all specified inspection and tests, including those specified either on receipt of product or in-process, have been carried out and that the results meet specified requirements.

**DB 113-2.10.5 Inspection and Test Records**

The Design-Builder shall establish and maintain records which provide evidence that the product has been inspected and/or tested. These records shall show clearly whether the product has passed or failed the inspections and/or tests according to defined acceptance criteria. Where the product fails to pass any inspection and/or test, the procedures for control of nonconforming product shall apply (*see* DB Section 113-2.13).

Inspection and test records for inspections and tests performed by Design-Builder, the LA DOTD, and/or a third party shall show whether the product has passed or failed according to defined acceptance criteria.

Product that fails inspection becomes nonconforming product. Also, the records shall identify the inspection authority responsible.

**DB 113-2.11 Control of Inspection, Measuring, and Test Equipment**

**DB 113-2.11.1 General**

The Design-Builder shall establish and maintain documented procedures to control, calibrate, and maintain inspection, measuring, and test Equipment (including test software) used by the Design-Builder to demonstrate the conformance of product to the specified requirements. Inspection, measuring, and test Equipment shall be used in a manner which ensures that the measurement uncertainty is known and is consistent with the required measurement capability.

Where test software or comparative references, such as test hardware, are used as suitable forms of inspection they shall be checked to prove that they are capable of verifying the acceptability of product prior to release for use during production, installation, or servicing and shall be rechecked at prescribed intervals. The Design-Builder shall establish the extent and frequency of such checks and shall maintain records as evidence of control (*see* DB Section 113-2.16).

Where the availability of technical data pertaining to the measuring Equipment is a specified requirement such data shall be made available when required by the LA DOTD for verification that the measuring Equipment is functionally adequate.

Effective test procedures shall contain comprehensive listings of required Equipment, tools, and apparatus to successfully and conclusively perform the test. Matters of "repeatability" and "reproduceability" shall also be addressed, together with precision of measured results and calibration thresholds of measuring devices.

Comprehensive operations, maintenance, setup, and dimensional arrangements for the measuring, testing devices, and Equipment shall also be included in order to allow for their practical layout and installation at the measuring location. The Design-Builder shall establish, document, and maintain procedures for the control of inspection, measuring, and test equipment. It shall be the Design-Builder's responsibility through its QC Manager to assess the Subcontractor (*see* DB Section 113-2.6.2) to ensure the required procedures exist and are implemented.

The Design-Builder shall be responsible for ensuring applicable requirements of this DB Section 113 are addressed.

This DB Section 113-2.11 applies to inspection or testing and surveying Equipment. The Quality Plan shall address the following:

- A) Definition of the responsibility and authority for the inspection, measuring, and test Equipment;
- B) Procedures for selecting measurements, determining accuracy and precision required, and obtaining Equipment which meets those requirements;
- C) Disposition of nonconforming Equipment;
- D) Procedures for identification, maintenance, and storage of measuring Equipment;
- E) Record keeping;

- F) Calibration frequency;
- G) Calibration status including indicators;
- H) Disposition of items checked with Equipment found to be out of calibration; and
- I) Traceability of primary and secondary calibration standards.

**DB 113-2.11.2 Control Procedure**

The Design-Builder shall provide the following function:

- A) Determine the measurements to be made and the accuracy required, and select the appropriate inspection, measuring, and test Equipment that is capable of the necessary accuracy and precision;
- B) Identify all inspection, measuring, and test Equipment that can affect product quality and calibrate and adjust them at prescribed intervals or prior to use against certified Equipment having a known valid relationship to internationally or nationally recognized standards. Where no such standards exist, the Design-Builder shall document the basis used for calibration;
- C) Develop a master calibration listing indicating the inspection and test Equipment that is used. The log shall include at a minimum the identification number, item description, and required frequency of calibration and accuracy requirements. It is not intended that calibration is required for nonprecision tools and instruments, such as, measuring tapes, concrete slump cones, rulers, and weld radius gauges;
- D) Define the process employed for the calibration of inspection, measuring and test Equipment, including, details of equipment type, unique identification, location, frequency of checks, check method, acceptance criteria, and the action to be taken when results are unsatisfactory;
- E) Identify inspection, measuring, and test Equipment with a suitable indicator or approved identification record to show the calibration status;
- F) Maintain calibration records for inspection, measuring, and test Equipment (*see* DB Section 113-2.16);
- G) Assess and document the validity of previous inspection and test results when inspection, measuring, or test Equipment is found to be out of calibration;
- H) Ensure that the environmental conditions are suitable for the calibrations, inspections, measurements, and tests being carried out;
- I) Ensure that the handling, preservation, and storage of inspection, measuring, and test Equipment is such that the accuracy and fitness for use are maintained; and
- J) Safeguard inspection, measuring, and test facilities, including both test hardware and test software, from adjustments which would invalidate the calibration setting.

**DB 113-2.12 Inspection and Test Status**

The inspection and test status of product shall be identified by suitable means which indicate the conformance or nonconformance of product with regard to inspection and test performed. The identification of inspection and test status shall be maintained as defined in the Quality Plan and/or

documented procedures throughout production, installation, and servicing of the product to ensure that only product that has passed the required inspections and tests is dispatched, used, or installed.

The Design-Builder shall establish, document, implement, and maintain an effective system for identifying and implementing the inspection and test status of Project products and services. The system shall utilize a method to identify conforming, nonconforming, indeterminate, downgraded, scrap, and rejected Material.

Lack of nonconformance identification shall not be an indication of acceptance.

#### **DB 113-2.13 Control of Nonconforming Product**

##### **DB 113-2.13.1 General**

The Design-Builder shall establish and maintain documented procedures to ensure that product that does not conform to specified requirements is prevented from unintended use or installation. This control shall provide for identification, documentation, evaluation, segregation (when practical), and disposition of nonconforming product and for notification to the functions concerned.

There shall be documented procedures to assess nonconformance in the Design-Builder's Work and in the work provided by other contractors, including the LA DOTD. The procedures shall safeguard against use of inaccurate or otherwise inappropriate information or data.

The procedures shall identify the individual(s) responsible for verifying the nonconformance, documenting it, processing the documentation in accordance with the procedures, and determining the effective corrective action/preventive action (*see* DB Section 113-2.14) to resolve the nonconformance.

Procedures shall also cover nonconformances which arise during construction. The procedures shall address the situation where it is discovered that Work does not conform to the requirements after the Work item has previously been subjected to the established checking and approval process. The procedures shall also address Work that is discovered or suspected to contain errors or omissions after delivery to the LA DOTD.

Work shall be immediately brought under control to limit the impact it could have on associated Work where it may have been used as input. Procedures shall include methods to inform those to whom the nonconforming Material had been provided as valid information and to retrieve and isolate from use known copies of the Material until a determination can be made about how to proceed. Nonconformances might be manifested as incorrect plans, errors in calculation (numerical or procedural), survey data that might be based on an incorrect benchmark or route, or even a correct design based on superseded Specifications.

##### **DB 113-2.13.2 Review and Disposition of Nonconforming Product**

The Design-Builder shall define the responsibility for review and authority for the disposition of nonconforming product.

A nonconformance shall be defined as any condition in Equipment, Materials, or processes which does not comply with required Plans, Specifications, codes, standards, documentation, records, procedures, or Contract requirements which cause the acceptability of Equipment, Materials, or processes to be unacceptable or indeterminate.

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Nonconforming product shall be reviewed in accordance with documented procedures. The review may result in the following:

- A) Rework to meet the specified requirements;
- B) Acceptance with or without repair by consent of the Louisiana Department of Transportation and Development;
- C) Regard for alternative applications; or
- D) Rejection or scrapping.

The procedures shall also address the disposition of nonconforming items and the steps necessary to verify that the nonconformances have been adequately addressed and that the item then be characterized as conforming.

Where required by the Contract, the proposed use or repair of product which does not conform to specified requirements shall be reported for consent by the LA DOTD. The description of the nonconformity that has been accepted and repairs shall be recorded to denote the actual condition (*see* DB Section 113-2.16).

The Design-Builder shall keep and maintain records of nonconforming findings (*see* DB Section 113-2.16). Also, each nonconformance record shall contain all deliberations, retesting, resolution activities, findings, and decisions.

Repaired and/or reworked product shall be re-inspected in accordance with the Quality Plan and/or documented procedures.

Repair shall require the involvement of the LA DOTD, the Designer, and/or an authorized third party to review the condition and determine that although it does not meet the specified requirements, the overall impact is such that the resulting condition is acceptable.

### **DB 113-2.14 Corrective and Preventive Action**

#### **DB 113-2.14.1 General**

The Design-Builder shall establish and maintain documented procedures for implementing corrective and preventive action.

This DB Section 113-2.14 encompasses two aspects of dealing with nonconformities. The first is implementation and effectiveness of previously implemented corrective actions.

The second is preventive action, which plays a major role in this requirement. Most procedures addressing corrective action need to include preventive action. The investigation of nonconformances needs to look into three possible causes. They are the product, the process, and the quality system.

These nonconformances may be identified by either internal or external audits or during regular inspections or Design Reviews. The appropriate authority to implement, verify, and review the effectiveness of both preventive and corrective actions shall be identified. Written procedures shall be prepared and implemented to determine the root causes of nonconformances and to revise existing procedures and Work instructions or to establish new ones to prevent the identified situations that cause or allow nonconformances to develop.

Any corrective or preventive action taken to eliminate the causes of actual or potential nonconformities shall be to a degree appropriate to the magnitude of problems and commensurate with the risks encountered.

The Design-Builder shall implement and record any changes to the documented procedures resulting from corrective and preventive action.

**DB 113-2.14.2 Corrective Action**

The Design-Builder shall maintain and document a procedure for dealing with complaints ensuring the recording, investigating, and determining of the appropriate corrective action, if any, that shall be taken.

The procedures for corrective action shall include the following:

- A) The effective handling of complaints and reports of product nonconformities;
- B) Investigation of the cause of nonconformities relating to the product, process, and quality system and recording the results of the investigation (*see* DB Section 113-2.16);
- C) Determination of the corrective action needed to eliminate the cause of nonconformities;
- D) Application of controls to ensure that corrective action is taken and that it is effective; and
- E) The tracking of complaints and identified nonconformance and the actions taken to resolve them as an indicator of the effectiveness of the quality system.

Determination and implementation of an effective corrective action requires knowing the root cause of the problem and planning the most effective method of resolving the problem.

Follow-up action shall investigate to see if the corrective action resolved the identified problem and also to ensure the corrective action did not have an undesirable effect on another element of the quality system.

**DB 113-2.14.3 Preventive Action**

The Design-Builder shall establish, document, and maintain procedures for implementing preventive actions.

The procedures for preventive action shall include the following:

- A) The use of appropriate sources of information, such as processes and Work operations, which affect product quality, concessions, audit results, quality records, service reports, and the complaints to detect, analyze, and eliminate potential causes of nonconformities;
- B) Determination of the steps needed to deal with any problems requiring preventive action;
- C) Initiation of preventive action and application of controls to ensure that it is effective; and
- D) Confirmation that relevant information on actions taken is submitted for management review (*see* DB Section 113-2.1.3).

**DB 113-2.15 Handling, Storage, Packaging, Preservation, and Delivery**

**DB 113-2.15.1 General**

The Design-Builder shall establish and maintain documented procedures for handling, storage, packaging, preservation, and delivery of product.

The procedures which shall be developed apply to all parties involved on a Project beginning with the Design-Builder writing the Specifications all the way through to the personnel responsible for the start-up and turn over of the facility to the LA DOTD. The specific application of the requirements is determined by the function performed: Design-Builder, manufacturer, distributor, vendor, warehousing, Equipment operator, and installer.

The engineer writing the Specifications shall be responsible for identifying any special handling, storage, packaging, preservation, and delivery requirements and assuring the requirements are identified in the appropriate Project documents. Procurement shall be responsible for assuring the vendor, distributor, and/or Subcontractors are aware of the requirements and are also aware of their responsibilities to identify all requirements to their Subcontractors.

Procedures shall be developed and implemented for designating which items require special handling, storage, or maintenance. Development of the handling, storage, packaging, preservation, and delivery procedures and Work instructions are affected by the other elements of this DB Section 113 and therefore should be reviewed for applicability and requirement inclusion.

**DB 113-2.15.2 Handling**

The Design-Builder shall provide methods of handling products that prevent damage or deterioration.

Handling is any physical or electronic movement. Project Materials are usually handled numerous times from producer to installation and start-up. Procedures appropriate to the circumstances shall be developed and implemented to assure handling is done in a manner that prevents damage or deterioration of the material/equipment. There shall be assurances that handling requirements are documented and understood.

The procedures shall cover special handling by people and/or machines.

Special handling clothing and precautions shall be identified for all hazardous materials with assurances that only qualified and trained personnel handle the hazardous material. The handling procedures shall include instructions to follow for decontamination and notification of authorities and responsible parties in the event of an accident.

**DB 113-2.15.3 Storage**

The Design-Builder shall use designated storage areas or stock rooms to prevent damage or deterioration of product pending use or delivery. Appropriate methods for authorizing receipt to and dispatch from such areas shall be stipulated.

In order to detect deterioration the condition of product in stock shall be assessed at appropriate intervals.

Items requiring protection shall be identified and protected as necessary to prevent loss, damage, deterioration, or loss of identification.

Special storage requirements shall be clearly defined for Materials and Equipment which are received on the Project, including, plans, records and operating manuals. A master list shall be maintained indicating applicable purchase orders, including, quantity, product identification, documentation and records required, receiving inspection requirements, and items requiring special storage or maintenance.

Materials shall be segregated to prevent cross contamination or environmental contamination.

Material with limited shelf life shall be identified and procedures developed and implemented to identify means of assuring usage of Material prior to its expiration date. The procedures shall also identify the disposal of Materials that may be toxic or hazardous or might otherwise have an adverse effect on the environment or on unsuspecting humans.

**DB 113-2.15.4 Packaging**

The Design-Builder shall control packing, packaging, and marking processes (including materials used) to the extent necessary to ensure conformance to specified requirements.

Engineering or procurement documents shall specify applicable packaging requirements to ensure no damage, contamination, or deterioration occurs in the course of packaging and transporting the Material and Equipment. Procedures/Work instructions shall clearly define all special packing and packaging and marking process requirements (i.e., export crating, moisture barrier, regulatory requirements, climate control, identification, and all Contract requirements).

Labeling of hazardous materials, special handling instructions, and notification of authorities and the Design-Builder shall be clearly and plainly identified on the packaging.

**DB 113-2.15.5 Preservation**

The Design-Builder shall apply appropriate methods for preservation and segregation of product when the product is under the Design-Builder's control.

Procedures shall include special unpacking instructions, controlled conditions necessary to prevent or deter deterioration of Material or Equipment, prevention of corrosion and/or contamination, and required servicing.

**DB 113-2.15.6 Delivery**

The Design-Builder shall arrange for the protection of the quality of product after final inspection and test. Where contractually specified, this protection shall be extended to include delivery to destination.

When delivery of Equipment and/or Materials to the job site is the responsibility of the Design-Builder, it shall develop procedures or reference appropriate standards to protect the items during delivery.

**DB 113-2.16 Control of Quality Records**

The Design-Builder shall establish and maintain documented procedures for identification, collection, indexing, access, filing, storage, maintenance, and disposition of quality records.

Quality records shall be maintained to demonstrate conformance to specified requirements and the effective operation of the quality system. Pertinent quality records from the Subcontractor shall be an element of these data.

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Records shall be kept of documents which serve as evidence that quality is achieved in Work on the Project. Records shall be adequately identified, filed, and stored. Retention periods and the storage medium of such records shall be established in accordance with Contract requirements.

All quality records shall be legible and shall be stored and retained in such a way that they are readily retrievable in facilities that provide a suitable environment to prevent damage or deterioration and to prevent loss. Quality records shall be made available for evaluation by the LA DOTD as per Contract requirements.

The Design-Builder shall develop and implement procedures to store, retrieve, and dispose of the documents required by the quality management system, including, but not limited to, correspondence, certifications, design calculations, Plans, reports of Design Reviews, and audit reports. In storage, whether active Project files or long term archives, documents that are designated as records shall be originals or reproducible copies and shall be legible, accurate, identified, and indexed so they can be associated with specific Projects. Documents shall be retrievable in a timely manner. Storage criteria shall be set to specify allowable storage media and ensure physical protection from damage or loss, which could involve duplicate storage facilities for some types of records.

Management shall identify records necessary to provide objective evidence of Contract review, procedure compliance, Design Review (when applicable), training, and completion and acceptance of inspection and testing or to provide traceability of Equipment or items to documentation.

A list of Project-required records shall be developed, retained, and/or turned over to the LA DOTD prior to completing the Work.

### **DB 113-2.17 Internal Quality Audits**

The Design-Builder shall establish and maintain documented procedures for planning and implementing internal quality audits to verify whether quality activities and related results comply with planned arrangements and to determine the effectiveness of the quality system.

Internal quality audits shall be conducted in accordance with sound auditing principles. The frequency of the audits shall be appropriate to the importance and complexity of a Project or corporate operation but shall at least be on a quarterly basis. Audits shall be initiated early enough in the life of a Project to assure effective QC during all phases. The audits shall include Project management as well as technical Work activities.

Internal quality audits shall be carried out by personnel independent of those having direct responsibility for the activity being audited.

The internal quality audit program shall provide verification that the quality system is operating and being implemented as planned. Audits should be conducted on a planned and scheduled basis consistent with the importance of the activities being performed.

The results of the audits shall be recorded (*see* DB Section 113-2.16) and brought to the attention of the personnel having responsibility in the area audited. The management personnel responsible for the area shall take timely corrective action on deficiencies found during the audit.

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Follow-up audit activities shall verify and record the implementation and effectiveness of the corrective action taken (*see* DB Section 1132.16).

The results of internal quality audits shall be reviewed in management review meetings. In accomplishing management review the results of internal audits and their attendant corrective action status shall be reviewed for adequacy and effectiveness.

Auditor qualifications shall be established and documented by the Design-Builder. Staff assigned auditing tasks shall be qualified accordingly with qualification records maintained as quality records. Auditing need not be a full time assignment but staff assigned auditing tasks shall have no direct responsibilities for the function or Work they audit.

Audits shall be carefully planned and executed to avoid or minimize disruption of the audited activity. Results shall be provided promptly to personnel responsible for the audited activity and their management. Corrective action shall be developed to identify the root causes and to institute measures to prevent the types of deficiencies identified in the audit. Corrective actions shall be monitored through review of documents, surveillance, or follow-up audits. These actions should be conducted in a timely manner to determine the effectiveness of corrective action that is implemented. Records of corrective actions should be kept together with the respective audit records.

Records of internal audits shall be maintained by the Design-Builder.

### **DB 113-2.18 Training**

The Design-Builder shall establish and maintain documented procedures for identifying training needs and provide for the training of all personnel performing activities affecting quality. Personnel performing specific assigned tasks shall be qualified on the basis of appropriate education, training, and/or experience, as required. Appropriate records of training shall be maintained (*see* DB Section 113-2.16).

The Design-Builder shall establish documented procedures and records to ensure that the skills and professional judgement of their personnel are developed appropriately for their intended roles through training and/or the recorded accumulation of experience, with systematic reviews of their competence at determined levels, and before any deployment of new roles.

Training shall focus on improving competency and skill for those performing activities that materially impact quality.

Procedures established shall include the following:

- A) Position descriptions defining the requirements of the various positions required in conducting activities affecting quality;
- B) Personnel records documenting each person's experience and current education and training accomplished, both formal and informal, relative to current or projected position assignments;
- C) Documented evaluation of that experience and training, including a determination of what training is required to become fully qualified for the activities to which the person is intended to be assigned;
- D) A documented plan to accomplish the training deficiency;

- E) Records documenting accomplishment of that training; and
- F) Education, experience, and licensure used as a basis for qualifications of individuals, which should be verified.

All qualification and training records are quality records and shall be maintained accordingly (DB Section 113-2.16).

Project personnel shall be trained in all the special Project procedures applicable to their Work.

Craft journeymen with special skills need not be trained but their competency shall be verified and a record maintained of the verification.

#### **DB 113-2.19 Servicing**

Where servicing is a specified requirement, the Design-Builder shall establish and maintain documented procedures for performing, verifying, and reporting that the servicing meets the specified requirements.

The requirement of this DB Section 113-2.19 is applicable only where it is specified in a Contract.

Should such a requirement exist the Design-Builder shall document procedures which detail the methodologies to be used while performing the service, how compliance to these operations and the LA DOTD's requirements are verified, and the agreed upon method of reporting compliance of service operations to Contract requirements.

With respect to the design perspective this requirement deals with the service rendered to the LA DOTD during the defects liability period, if any.

#### **DB 113-2.20 Statistical Techniques**

##### **DB 113-2.20.1 Identification of Need**

The Design-Builder shall identify the need for statistical techniques required for establishing, controlling, and verifying process capability and product characteristics.

The Design-Builder shall review its operations for activities which may benefit from the use of statistical techniques as a means of establishing a level of control, the maintenance of an existing level of performance, and the verification of performance. The needs assessment could include determining an activity impact on cost, time management/utilization, and quality of deliverables. It could also identify areas where the application of statistics would provide an indication of variation, activities efficiencies, and deviation control.

##### **DB 113-2.20.2 Procedures**

The Design-Builder shall establish and maintain documented procedures to implement and control the application of the statistical techniques identified in DB Section 113-2.20.1.

Should the need for statistical programs be established the Design-Builder shall document procedures detailing the methods to be applied.



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**INTERSTATE-12 WIDENING  
DESIGN-BUILD PROJECT**

**O'NEAL LANE INTERCHANGE TO WALKER  
EAST BATON ROUGE AND LIVINGSTON PARISHES  
STATE PROJECT NOS. 454-01-0047 AND 454-02-0025**

**SCOPE OF SERVICES PACKAGE  
CONTRACT DOCUMENTS  
PART 3 - DESIGN REQUIREMENTS AND  
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**1.0 GENERAL**

**1.1 PURPOSE**

This Part 3 – Design Requirements and Performance Specifications establishes basic design and performance goals to be used in the design and construction of the Project. In addition, directive and indicative Plans (*see* Part 4 – Scope of Services Packages Plans) have been prepared during Preliminary Engineering (PE) to guide the design activities through final design and the preparation of procurement and construction documents.

Section 2.0 provides direction on certain aspects of design applicable throughout the Project and the requirements to be followed for the design in the event a Project element or component is not covered by a Performance Specification.

Section 3.0 includes both the broad design and performance parameters, usually in the form of recognized standards, under which components and elements of the Project are to be designed and the specifically defined design and performance requirements relative to the Project. The Performance Specifications also relate the applicability of the Plans contained in Part 4 – Scope of Services Packages Plans.

**2.0 DESIGN REQUIREMENTS**

Design is to be directed toward minimum feasible costs for design, construction, and maintenance expense and minimum disruption of local access and communities.

**2.1 SCOPE**

The design requirements, both broad and flexible as defined by the performance goals contained in each Performance Specification, will guide the design of that Project element. Each Performance Specification provides the LA DOTD's performance goals and provides specific design requirements.

The Design-Builder shall use the performance goals and other information contained in the Performance Specifications to design and construct the Project to assure that it meets the Contract requirements.

**2.2 PROCEDURES**

**2.2.1 Format**

The Design-Builder shall prepare Design Plans and Project Specifications for the Project to the LA DOTD's standards for general content and format and in accordance with the Contract.

**2.2.2 Deviations**

Deviations may be made within the framework of these design requirements to meet the requirements of this Section 2.0 and the Performance Specifications to meet the requirements of a particular problem. However, any deviation, discrepancy, or unusual solution requires Approval by the LA DOTD's Project Manager before it can be included in the design. It is the responsibility of the Design-Builder to identify, explain, and justify any deviation from the established criteria and to secure the necessary Approval from the LA DOTD's Project Manager as described in the Project's management plan.

**2.3 SUPPORTING ENGINEERING INFORMATION**

**2.3.1 Geotechnical**

Aquaterra, Inc., was is under contract with the LA DOTD to obtain deep and shallow boring data including approximately 60 shallow borings at 750 foot spacing along the centerline of I-12 with standard subgrade testing. Additionally, Aquaterra, Inc., will conduct 26 deep borings along the existing Amite River bridge to elevation -150 feet and two deep borings to elevation -190 feet for a total of 28 deep

borings to expand on the existing data. Fifteen of the deep borings will be full depth, and the rest will be washdown borings with sampling beginning at the termination depths of the existing boring information. The placement of the deep borings are along the centerlines of the existing bridges, with no more than 200 foot separation between borings along centerline but an average of ~110 foot separation. The geotechnical information conducted by Aquaterra, Inc., is only warranted to be accurate for the location in which the boring was taken.

The Design-Builder shall conduct additional geotechnical investigations, analyses, design, and construction as it deems necessary to complete the design and construction of the Project in accordance with the Geotechnical Performance Specification (*see* Appendix A – Performance Specifications to this Part 3 – Design Requirements and Performance Specifications).

### 2.3.2 CADD

CADD formatting for Design and As-Built Plans must conform Part 2 – Design-Build (DB) Section 100, DB Section 111, Section 111-19.3.

### 2.3.3 Traffic Data

*See* Part 5 - Engineering Data.

## 2.4 DESIGN CODES AND MANUALS

In addition to these requirements listed in this Section 2.0 and the Performance Specifications, the Designer must comply with all other applicable and currently effective engineering codes and standards, including those of the various federal, state, and local jurisdictions.

If codes, standards, and/or manuals are specified herein for the design of an element of the Project, then the edition(s) in effect at the Proposal due date will be applicable to the Project. Responsibility for design remains with the Design-Builder in accordance with the terms and conditions of the Contract. If a code, manual, or standard is subsequently modified, the Design-Builder shall notify the LA DOTD of such modification(s) and request the LA DOTD's decision regarding application of the modification(s). If the LA DOTD directs the Design-Builder to comply with the modifications and any change in the cost or time of performance results, such change will be covered by a change order.

Specific codes and standards include, but are not limited to, the following:

- A) AASHTO A Policy on Geometric Design of Highways and Streets (Green Book), 2002;
- B) AASHTO Roadside Design Guide, 2002; and
- C) Manual of Uniform Traffic Control Devices (MUTCD), 2001.

## 2.5 PROJECT-SPECIFIC DESIGN PARAMETERS

Project-specific design parameters are included under their appropriate and respective Performance Specifications. Project-specific design parameters may include, but are not limited to, design parameters specific to the Project, such as, bridge loadings, design life, design speed, forecasted traffic volumes, number of lanes and lane widths, stopping sight distance, horizontal curvature, superelevation, vertical curves, horizontal and vertical alignments, grades, roadside clear zone width, and minimum bridge clearances.

## 2.6 SAFETY CONSIDERATIONS

The Design-Builder shall consider safety during construction and for the completed facility as a function of design. Design features and construction components will be selected that provide a safe and efficient Project.

### 3.0 PERFORMANCE SPECIFICATIONS

The Performance Specifications included in this Part 3 – Design Requirements and Performance Specifications establish requirements that the Design-Builder’s Work must achieve. The Performance Specifications are intended to provide the LA DOTD’s goals for how the finished product is to perform while allowing the Design-Builder considerable flexibility in selecting the design, means, materials, components, and construction methods used to achieve the specified performance goals.

#### 3.1 STANDARDS AND REFERENCES

Standards and references are cited within the Performance Specifications. The following distinction between “standards” and “references” apply. Standards constitute a further elaboration of the requirement. References constitute advisory or information material, provided for the Design-Builder’s benefit, that need not be followed but in some cases provide acceptable solutions already in use by the LA DOTD. In some cases, specific parts of the references are cited in Performance Specifications as requirements.

#### 3.2 RELATION TO PART 4 – SCOPE OF SERVICES PACKAGE PLANS

The Performance Specifications contained in Appendix A – Performance Specifications to this Part 3 – Design Requirements and Performance Specifications also govern the applicability of the Scope of Services Package Plans contained in Part 4 – Scope of Services Packages Plans. Individual Performance Specifications establish which of the Scope of Services Package Plans apply and the extent to which those Scope of Services Package Plans apply. Indicative plans are, for the most part, for reference as described in Section 3.1. The presence or lack of presence of an indicative plan, or the lack of a directive plan, relative to an element or component of the Project should not be interpreted as reducing the flexibility or range of choices provided to the Design-Builder under a Performance Specification. Part 4 – Scope of Services Package Plans further addresses the distinction between directive and indicative plans and the applicability of directive and indicative plans.

#### 3.3 LIST OF PERFORMANCE SPECIFICATIONS

The following is a list of the Performance Specifications contained in Appendix A – Performance Specifications to this Part 3 – Design Requirements and Performance Specifications:

- A) Geotechnical;
- B) Roadway;
- C) Pavement Structure;
- D) Drainage;
- E) Structures;
- F) Lighting;
- G) Intelligent Transportation Systems (ITS);
- H) Traffic Management Plan;
- I) Permanent Signage;
- J) Environmental;
- K) Utility;
- L) Maintenance during Construction;
- M) Public Information; and

N) Warranty.



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**INTERSTATE-12 WIDENING  
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**O'NEAL LANE INTERCHANGE TO WALKER  
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## DRAINAGE PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design-Builder shall provide drainage facilities designed to safely handle storm runoff and other culvert facilities as required to satisfy environmental commitments. The Design-Builder shall abide by the standards in this Performance Specification and elsewhere in the Design-Build (DB) Contract as they pertain to drainage facilities, including NPDES and other permit requirements. The Design-Builder shall obtain clarification of any unresolved ambiguity prior to proceeding with design or construction.

### 2.0 PERFORMANCE GOALS

The Design-Builder shall meet the following performance goals, in the sole determination of the LA DOTD:

- A) Cross drain pipes with 70-year design service life;
- B) Side drain pipes with 30-year design service life;
- C) Hydraulic design that does not create design exception requirements;
- D) Hydraulic design that does not create or increase the magnitude of existing deficiencies;  
and
- E) Effective drainage throughout the Project limits.

### 3.0 STANDARDS AND REFERENCES

The Design-Builder shall plan, design, construct, and implement drainage in accordance with this Drainage Performance Specification and the requirements of the following standards. Standards and references specifically cited in the body of this Performance Specification establish requirements that have precedence over all others. In this Drainage Performance Specification, if the requirements in any standard conflict with those in another, the standard highest on the list will govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Performance Specification prior to proceeding with design or construction.

#### 3.1 STANDARDS

The standards for this Drainage Performance Specification are contained in the Engineering Directives and Standards Manual (EDSM), Louisiana Department of Transportation and Development <http://webmail.dotd.louisiana.gov.ppmemos.nsf>. Standards are listed in descending order of precedence. In case of conflict between or among standards, the order of precedence established by the LA DOTD will govern. See the table below for applicable EDSMs.

Applicable EDSMs

EDSM Reference	Title	Comment
II-2.1.1	Design Policy for Cross Drains, Drains, Side Drains, Underdrains and Storm Drains	The (3-20-07) "Revised Pipe Policy" will have precedence over any conflicting requirements
II-2.1.6	Procedure for Determining Coating and Thickness Requirements for Metal Pipe	
II-2.1.8	Shoulder Drainage Systems	
II-2.1.12	Pavement Structure Design	
II-2.1.13	Procedure for Determining Type of Plastic Pipe, Permissible Usage, Quality Control and Installation Requirement	
III-1.1.4	Form No. 4206 Right of Entry	
III-1.1.13	Encroachments	
III-1.1.23	Development of a Traffic Control Plan	
III-2.5.1	Construction Joints Bridges and Structures	
III-2.6.3	Conduit Backfill Requirements	
IV-2.1.8	Communication Cable Installation on Highway Structures	
IV-2.1.9	Pipeline Crossings and the Use of Thermoplastic Pipe	
V-1.1.1	Policy for Using Embankment Materials With Swell Potential	

### 3.2 REFERENCES

The version of the following references in effect on the Proposal due date may apply:

- A) The Louisiana Department of Transportation and Development's Roadway Design Procedures and Details;
- B) The Louisiana Department of Transportation and Development's Bridge Design Manual;
- C) The Louisiana Department of Transportation and Development's Hydraulics Manual; and
- D) The Louisiana Department of Transportation and Development's User's Manual for Hydraulic Programs.

### 4.0 SCOPE

The design and construction of all drainage and other culvert facilities must adequately address runoff control, safety, functionality, erosion mitigation, durability, ease of maintenance, maintenance access, and current uses. All ditches, outfalls, and pipe crossings must be designed to address all performance goals as well as functionality, headwater, discharge, design storm, minimum cover, and pipe/box size.

**5.0 PERFORMANCE MEASURES**

LA DOTD shall be satisfied that the drainage design and materials will meet the performance goals and that the design and system will provide effective drainage throughout the project limits.

**6.0 REQUIREMENTS**

- (A) Plastic pipe will not be allowed except in the application as described in the referenced Revised Pipe Policy (EDSM II-2.1.1).
- (B) Metal culverts are not allowed.

## ENVIRONMENTAL PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

This Environmental Performance Specification specifies general roles and responsibilities. Other than identified in Section 4.3, the LA DOTD will be responsible for obtaining all environmental permits required for this Project. The Design-Builder shall prepare its design and conduct its construction activities in accordance with this Environmental Performance Specification such that no action or inaction on the part of the Design-Builder shall result in non-compliance with state or federal environmental laws, regulations, and Executive Orders, including but not limited to, the Clean Water Act, Sections 401, 402, and 404, as amended; the Clean Air Act, as amended; the Endangered Species Act, as amended; Section 106 of the National Historic Preservation Act, as amended; the State and Local Coastal Resources Management Act, as amended; and Title VI of the Civil Rights Act, as amended. It is the Design-Builder's responsibility to obtain clarification of any unresolved ambiguity prior to proceeding with design or construction.

The Design-Builder shall not proceed with any Work within 200 feet on either side of the Amite River bridge prior to the LA DOTD's obtaining of any and all environmental permits necessary for this Project.

### 2.0 PERFORMANCE GOALS

The Design-Builder shall meet the following performance goals, in the sole discretion of the LA DOTD:

- A) Environmentally friendly highway design and construction;
- B) Adherence/compliance with all environmental permits and their conditions throughout the life of the Project; and
- C) Minimization of impacts to the natural and social environment.

### 3.0 STANDARDS AND REFERENCES

The Design-Builder shall plan, design, construct, and implement the Work in accordance with this Environmental Performance Specification and the requirements of the following standards. Standards specifically cited in the body of this Environmental Performance Specification establish requirements that have precedence over all others. In this Performance Specification, if the requirements in any standard conflict with those in another, the standard highest on the list will govern. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Environmental Performance Specification prior to proceeding with design or construction.

#### 3.1 STANDARDS

- A) The terms and conditions listed in the United States Army Corps of Engineers' (USACOE) Sections 10/404 permits; and
- B) The Louisiana Department of Transportation and Development's Standard Specifications for Roads and Bridges 2006 Edition, with specific reference to Section 204.

### 3.2 REFERENCES

Not Applicable

### 4.0 SCOPE

#### 4.1 GENERAL PHILOSOPHY

The philosophy followed by the LA DOTD during the development of the Project is to avoid and minimize impacts to the natural and human environments to the extent feasible and practical. The Design-Builder shall continue this approach and philosophy during the preparation of design plans and through Project implementation and construction.

#### 4.2 GENERAL ROLES AND RESPONSIBILITIES

The LA DOTD is responsible for obtaining the environmental permits (referenced below) for the widening of Interstate-12 (I-12) between the O'Neal Lane and Walker interchanges. The scope of work for which the permit applications were submitted calls for the construction of additional lanes within the existing Right-of-Way (ROW) and the removal and replacement of the existing Amite River Bridges and the Amite River Relief Bridges including the removal of the island embankment between the bridges. For this concept, the LA DOTD will provide the cultural resource concurrence letter from the State Historic Preservation Office (SHPO); the U. S. Army Corps of Engineers, Section 10 and Section 404 Permits; the Department of Environmental Quality Clean Water Act Section 401, Water Quality Certification; and the Department of Environmental Quality Clean Water Act Section 402, Storm Water permit (Louisiana Pollutant Discharge Elimination System (LPDES) Storm Water General Permit for Construction Activities). All other permits and clearances are the responsibility of the Design-Builder.

Material changes to the original concept or highway alignment that result in environmental, cultural, or community impacts beyond those identified in the original permits will not be allowed without the prior written consent of the LA DOTD. All changes must be supported by the necessary investigations, documentation, and approvals of applicable resource management and permitting agencies. The Design-Builder is responsible for all work effort and document preparation required to obtain all necessary approvals, permits, or permit modifications prior to implementing any scope changes.

Any work performed by the Design-Builder that is determined by the LA DOTD or any relevant governmental agency to be outside the scope of the permits must be performed at the Design-Builder's own risk, including any additional environmental work, studies, reports, assessments, or permits that must be completed.

The Design-Builder shall be responsible for obtaining the necessary environmental and cultural resources permits and/or clearances for all construction related activities such as, but not limited to, material pits, staging yards, and haul roads that are located outside the scope of the original permits. The Design-Builder is responsible for ensuring that all required permits are obtained from the appropriate entities prior to implementing any work requiring such a permit.

## 5.0 PERFORMANCE MEASURES

LA DOTD is satisfied that the design and construction meet all of the environmental performance goals, as well as all requirements as outlined and specified in the permits.

## 6.0 REQUIREMENTS

### 6.1 MITIGATION MEASURES AND COMMITMENTS

The mitigation measures and Project commitments included in the original permits must be incorporated in the Design-Builder's plans and Project Specifications and implemented as part of Project construction. The specific mitigation measures and commitments to be implemented by the Design-Builder are listed in Sections 5.1.1 through 5.1.4.

#### 6.1.1 Threatened and Endangered Species Protection Plan

The Amite River is home to the inflated heelsplitter mussel, a federally listed, threatened species. The United States (US) Fish and Wildlife Service has concurred that the originally proposed Project is not likely to adversely affect the inflated heelsplitter mussel, provided that the Design-Builder adheres to the erosion control measures outlined in the Louisiana Standard Specifications for Roads and Bridges 2006 Edition to ensure water quality impacts are confined to the immediate Project area.

If the scope of the Project changes from what was originally proposed or if construction is not started by July 8, 2009, follow-up consultation with the US Fish and Wildlife Service will be required. The Design-Builder shall perform any additional work necessary to comply with the conditions of the follow-up consultation.

#### 6.1.2 Wetland and Coastal Use Mitigation

The LA DOTD will obtain a Water Quality Certification from the Louisiana Department of Environmental Quality and a Clean Water Act Section 404 permit from the USACOE for impacts to jurisdictional wetlands and other waters of the US for the Project. The Design-Builder shall adhere to the terms and conditions of these permits. The LA DOTD will contract with private sector mitigation banks to execute compensatory mitigation in the amount required by the New Orleans District, USACOE.

The Louisiana Department of Natural Resources' current position is that a Coastal Use Permit is not necessary for this Project.

If the Design-Builder changes the scope of Work in a manner that requires a new permit or an amendment or modification to an existing permit, the Design-Builder shall obtain the new permit, amendment, or modification. Any fees or compensatory mitigation required by the permitting agencies will be the responsibility of the Design-Builder.

If the Design-Builder discovers an additional need for ROW as it selects borrow, staging, or other Project-related sites, the Design-Builder shall comply with all environmental laws and regulations and obtain the necessary approvals and permits. If the use of additional ROW requires a modification to the existing permits obtained by the LA DOTD, the Design-Builder shall obtain the required modifications. Any fees or compensatory mitigation required by the permitting agencies will be the responsibility of the Design-Builder.

### 6.1.3 Water Quality and Storm Water

The LA DOTD will be responsible for obtaining the Section 401 (Water Quality Certification) and 402 (LPDES Storm Water General) permits from the Louisiana Department of Environmental Quality. As part of the Section 402 permit requirements, the Design-Builder shall prepare a Storm Water Pollution Prevention Plan (SWPPP). This SWPPP must incorporate Best Management Practices (BMPs) for spill prevention, erosion control, and sediment control. During construction, the Design-Builder shall make every effort practicable to avoid and minimize the introduction of suspended solids and sediment into the Amite River and its tributaries. The Design-Builder shall follow all applicable rules and regulations including, but not limited to, maintaining a copy of the LPDES permit and SWPPP on the construction site.

### 6.1.4 Cultural Resources

The LA DOTD has received concurrence from SHPO that no further Section 106 coordination is required for the Project. If archaeological sites or historic artifacts are encountered during construction, the Design-Builder will notify the LA DOTD immediately and comply with the provisions of Contract Documents, Part 2 – Design-Build (DB) Section 100, DB Section 107-30.

## GEOTECHNICAL PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design-Builder shall implement a Geotechnical Design Plan for this Project that meets or exceeds the performance goals and measures as outlined in this Geotechnical Performance Specification. It is the Design-Builder's responsibility to obtain clarification of any unresolved ambiguity prior to proceeding with design or construction.

### 2.0 PERFORMANCE GOALS

- (A) The Design-Builder shall design and construct a foundation system for this Project that will support all applicable loads and load combinations with acceptable deformation throughout the design life of the structures.
- (B) New bridge structures that provide a 75 year service life.

### 3.0 STANDARDS AND REFERENCES

Standards and references specifically cited in the body of this Geotechnical Performance Specification establish DOTD's Standards and suggested Reference guidelines (Refer to the Instructions to Proposers (ITP) Section governing Standards and References). In this Performance Specification, should the requirements in any standard conflict with those in another, the standard highest on the list shall govern. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Performance Specification prior to proceeding with design or construction. The version of the following references in effect on the Proposal due date may apply:

#### 3.1 STANDARDS

Not applicable for this Specification

#### 3.2 REFERENCES

- A) The American Association of Highway and Transportation Officials' (AASHTO) LRFD Bridge Design Specifications, 4<sup>th</sup> Edition with 2008 Revisions;
- B) The Louisiana Department of Transportation and Development's Standard Specifications for Roads and Bridges 2006 Edition;
- C) Design and Construction of Driven Pile Foundations, Volumes 1 and 2, FHWA HI-95-038, 1998; and
- D) Drilled Shafts: Construction Procedures and Design Methods Manual, FHWA IF-99-025, 1999.

#### 4.0 SCOPE

The Design-Builder shall submit a Geotechnical Planning Report and Investigation with its design approach and criteria for all of the foundations.

#### 5.0 PERFORMANCE MEASURES

The Design-Builder's performance will be evaluated on the ability of the structures to provide the required service life and the following:

- A) Predictability of and verification of driven pile capacities;
- B) Drivability of piles in the field;
- C) Predictability of and verification of drilled shaft capacities;
- D) Repeatability of drilled shaft installations;
- E) Durability of concrete and steel foundation materials;
- F) Long-term settlement performance of embankments and foundations; and
- G) Scour modeling.

#### 6.0 REQUIREMENTS

Not applicable for this Specification

## INTELLIGENT TRANSPORTATION SYSTEMS PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design-Builder shall install all necessary supporting infrastructure to facilitate the installation of a fully functioning Intelligent Transportation System (ITS) under a separate contract at some point in the future. It is the Design-Builder's responsibility to obtain clarification of any unresolved ambiguity prior to proceeding with design or construction.

### 2.0 PERFORMANCE GOALS

The Design-Builder shall meet the following performance goals:

- A) Installation of conduit infrastructure allowing for future state of the art Intelligent Transportation System;
- B) Ease of access and maintenance pending a future project; and
- C) Compatibility of design, materials, and equipment infrastructure with needs of future project as outlined in Section 4.0.

### 3.0 STANDARDS AND REFERENCES

Standards and references specifically cited in the body of this ITS Performance Specification establish the LA DOTD's standards and suggested reference guidelines. Standards specifically cited in the body of this ITS Performance Specification establish requirements that have precedence over all others. Should the requirements in any standard conflict with those in another, the standard highest on the list will govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Performance Specification prior to proceeding with design or construction.

#### 3.1 STANDARDS

The standards for this ITS Performance Specification are listed in descending order of precedence. In case of conflict between or among standards, the order of precedence established by the LA DOTD will govern.

- A) Manual of Uniform Traffic Control Devices (MUTCD);
- B) ASTM D3350 Polyethylene Plastic Pipe and Fittings Materials;
- C) ASTM C1028 Standard Test Method for Determining the Static Coefficient of Friction; and
- D) ANSI/SCTE 77 2008 Specification for Underground Enclosure Integrity for Tier 15.

**3.2 REFERENCES**

The Louisiana Standard Specifications for Roads and Bridges 2006 Edition may apply.

**4.0 SCOPE**

The Design-Builder shall develop a concept-level ITS design sufficient to verify the conduit infrastructure needed to support the ultimate ITS layout for the Project, which ITS will be installed under a separate future contract. Only the conduit infrastructure will be constructed with this Project.

**5.0 PERFORMANCE MEASURES**

LA DOTD shall be satisfied that the ITS design and proposed materials meet the performance goals.

**6.0 REQUIREMENTS**

The conduit infrastructure must include conduit suitable for underground installation and underground enclosures. The underground enclosure box and cover must comply to all test provisions of ANSI/SCTE 77 (Specification for Underground Enclosure Integrity) for Tier 15 applications.

Conduit shall be placed throughout the project limits. In addition, lateral drops shall be placed outside of the clear zone every 5000 feet between interchanges and as per the following (Stationing based on Part 4 – Scope of Services Package Plans; Section 3.0 Indicative plans):

<u>Eastbound (Rt of CL)</u>	<u>Westbound (Lt of CL)</u>
167+50	209+50
287+50	247+50
336+50	377+50

The Design-Builder shall install the conduit infrastructure only sufficient to allow for the future construction and installation of an ITS that will provide for the following functions:

- A) Reliable, high-speed ethernet communications to ITS field devices and the statewide ITS backbone using fiber-optic technology, field-hardened network switching equipment, and conduit infrastructure in accordance with LA DOTD standards;
- B) A reliable electrical distribution system needed to adequately support the future Intelligent Transportation System;
- C) Deployment of operations-ready, industry-standard ITS field devices throughout the corridor including:

- 1) Closed Circuit Television Cameras (CCTV) for contiguous traffic monitoring and surveillance;
  - 2) Dynamic Message Signage (DMS) for disseminating traveler information and Traffic-Incident Management (TIM);
  - 3) Interstate ramp flow meters/signals for management of traffic ingress;
  - 4) Automated vehicle detection sensors for real-time monitoring of traffic conditions and traffic data, such as, volume, travel speeds, lane occupancy, and vehicle classification; and
  - 5) Intelligent Transportation System infrastructure necessary to facilitate a future managed lane concept (e.g., High Occupancy Vehicle/High Occupancy Toll (HOV/HOT) lane);
- D) System engineering and integration of ITS equipment necessary to facilitate the regional Advanced Traffic Management System (ATMS) and the Louisiana Traffic Information System (LaTIS);
- E) Sufficient conduit runs to provide for communications, power, and maintenance; and
- F) Allowance for maintenance activities as needed to provide for additional communications or electrical distribution.

## LIGHTING PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design-Builder shall design and construct any necessary modifications to the existing roadway lighting system.

### 2.0 PERFORMANCE GOALS

The performance goal for this Lighting Performance Specification is to provide new (as necessary) and/or modify existing lighting that provides sufficient levels of illumination for the widened Interstate in the areas along I-12 that currently have roadway lighting. The Design-Builder shall provide the following while meeting the performance goals:

- A) Interstate lighting that continues to provide a safe traveling environment for the public;
- B) Ease of access and maintenance pending a future project; and
- C) Equipment with a 25 year service life.

### 3.0 STANDARDS AND REFERENCES

Standards and references specifically cited in the body of this Lighting Performance Specification establish the LA DOTD's standards and suggested reference guidelines. Standards specifically cited in the body of the specification establish requirements that will have precedence over all others. Should the requirements in any standard conflict with those in another, the standard highest on the list will govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Lighting Performance Specification prior to proceeding with design or construction.

#### 3.1 STANDARDS

The standards for this Lighting Performance Specification are listed in descending order of precedence. In case of conflict between or among standards, the order of precedence established by the LA DOTD will govern.

- A) The Louisiana Department of Transportation and Development's "A Guide to Constructing, Operating, and Maintaining Highway Lighting Systems";
- B) The Louisiana Department of Transportation and Development's Bridge Design Manual, Fourth English Edition, Chapter 3, Bridge Aesthetics, including memoranda and any revisions issued by the State Bridge Engineer prior to the Proposal due date; and
- C) IBC/ASCE Wind Speed Map.

### 3.2 REFERENCES

The version of the following references in effect on the Proposal due date may apply:

- A) The Louisiana Department of Transportation and Development's Standard Signing Details;
- B) The Louisiana Department of Transportation and Development's Standard Plans, Standard Lighting Details, and Lighting Notes & Specifications;
- C) The American Association of State Highway and Transportation Officials' (AASHTO) "Roadway Lighting Design Guide";
- D) The National Electric Code;
- E) National Electric Safety Code, NFPA 70E;
- F) The Louisiana Department of Transportation and Development's Standard Specifications for Roads and Bridges 2006 Edition; and
- G) The Louisiana Department of Transportation and Development's Special Provisions and Supplemental Specifications.

### 4.0 SCOPE

#### 4.1 EXISTING LIGHTING

The Design-Builder shall design and construct a replacement or retrofitted lighting system in the areas of the Project that are currently lighted that meets current standards (*see* Section 3.1). Untouched portions of the existing system that fit in the new system are to be reconditioned as necessary to bring them up to original working order and are to remain as part of the new system. Any section of the existing lighting system that proves in the photometric report to meet the illumination requirements of the new roadway will be considered "untouched." Every new segment of lighting that is required to be added will interface seamlessly with the original segments. The Design-Builder shall deliver the photometric report covering the entire system showing compliance prior to construction.

#### 4.2 PREPARATION FOR FUTURE LIGHTING

No provision will be made for future lighting

### 5.0 PERFORMANCE MEASURES

LA DOTD shall be satisfied that the lighting design and materials will meet the performance goals.

## 6.0 REQUIREMENTS

### 6.1 ILLUMINATION DESIGN

Illumination design must be according to the standards (*see* Section 3.1). The Design-Builder shall minimize light trespass. Glare must not exceed the AASHTO maximum. The layout/system style must match existing and/or neighboring systems, using highmast, low mount, and underpass lights in appropriate configurations. All luminaries must be High Pressure Sodium (HPS) or equivalent lumens-per-watt efficiency and color temperature.

### 6.2 ELECTRICAL DESIGN

The maximum voltage drop must not exceed five percent in relation to the service point. Loads for each service point are to be centrally controlled and the system must Fail On. Conductors downstream from the controller must be energized only when controller turns lights on. Conduit fill shall be designed around a 25% capacity except in sections where the National Electric Code allows for greater than 40% fill. Minimum bury depth of underground conduit must be 36 inches. Service and system voltage must be single phase 480 volts center tapped. No system conductor will be greater than 240 volts to ground.

### 6.3 EQUIPMENT

Equipment must be specified with a 25 year service life in mind, with the exclusion of normal owner-serviceable parts such as lamps and ballasts. Electrical equipment is to be UL listed for the use. Contactors must be NEMA rated with current capacity no less than two times the expected steady-state line current. All enclosures must be rated to withstand weather conditions to a minimum of a NEMA four times rating. Ground mount and structure mounted low mast luminaries must be 3G vibration certified.

### 6.5 WIND LOAD RATING

Wind load calculations for light poles must be according to the IBC/ASCE Wind Speed Map.

## MAINTENANCE DURING CONSTRUCTION PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design-Builder shall implement a Maintenance Plan for the existing Interstate system in Project corridor that meets or exceeds the performance goals and measures as outline in this Maintenance during Construction Performance Specification.

### 2.0 PERFORMANCE GOALS

The Design-Builder shall meet the following performance goals:

- A) The roadway and shoulders, including pavement and bridge decks, must be maintained in a safe, smooth, debris free condition which allows for use as intended by Interstate traffic;
- B) All roadside features, appurtenances, and devices, including, but not limited to, drainage structures, guard rail, and permanent signs must be maintained in a manner that allows these items to function as intended;
- C) The roadside vegetation must be maintained in a manner that allows the side slopes, end slopes, and ditches to function as intended and provide a pleasing aesthetic appearance which does not impede drainage or any other function of roadside features, appurtenances, or devices; and
- D) Litter and other roadside debris must be managed to maintain a pleasing, aesthetic appearance.

### 3.0 STANDARDS AND REFERENCES

The Design-Builder shall plan, design, construct, and implement drainage in accordance with this Maintenance during Construction Performance Specification and the requirements of the following standards. Standards and references specifically cited in the body of this Maintenance during Construction Performance Specification establish requirements that have precedence over all others. In this Maintenance during Construction Performance Specification, if the requirements in any standard conflict with those in another, the standard highest on the list will govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Maintenance during Construction Performance Specification prior to proceeding with design or construction.

#### 3.1 STANDARDS

The standards for this Maintenance during Construction Performance Specification are listed in descending order of precedence. In case of conflict between or among standards, the order of precedence established by the LA DOTD will govern.

- A) Manual for Uniform Traffic Control Devices (MUTCD), (2003 with Revisions 1 and 2); and

- B) The Louisiana Department of Transportation and Development's Guardrail Design Standards (GR-200 and GR-201).

### 3.2 REFERENCES

The version of the following references in effect on the Proposal due date may apply:

- A) The Louisiana Department of Transportation and Development's Maintenance Manual;
- B) The American Association of State Highway and Transportation Officials' (AASHTO) Maintenance Manual for Roadways and Bridges (2007);
- C) The Louisiana Department of Transportation and Development's Policy for Roadside Vegetation Management;
- D) The American Association of State Highway and Transportation Officials' Roadside Design Guide 3<sup>rd</sup> Edition 2006; and
- E) Engineering Directives and Standards Manual (EDSM), LA DOTD.

### 4.0 SCOPE

The Design-Builder shall provide all necessary maintenance of the existing Interstate-12 (I-12) roadway, bridges, and all associated roadside features, including, but not limited to, permanent signs, guardrail, vegetation, and drainage structures for the duration of the Design-Build (DB) Contract.

### 5.0 PERFORMANCE MEASURES

The Design-Builder's performance will be evaluated in accordance with the measures identified in Sections 5.1 through 5.7.

#### 5.1 PAVEMENT (TRAVEL LANES AND SHOULDERS)

The following measures will be used to evaluate pavement maintenance during construction:

- A) Surface defects;
- B) Drainage aspects;
- C) Pavement and shoulder edge conditions;
- D) Rutting;
- E) Joints and cracking;
- F) Ride quality;
- G) Friction;
- H) Timeliness of repair strategy; and
- I) Debris removal.

**5.2 BRIDGES AND STRUCTURES**

The following measures will be used to evaluate bridge and structures (other than structures covered in Section 5.3) maintenance during construction:

- A) Surface defects;
- B) Drainage aspects;
- C) Joints and cracking;
- D) Ride quality;
- E) Friction;
- F) Timeliness of repair strategy; and
- G) Debris removal.

Approval for repairs and/or replacement of bridge or structures must be obtained from the Department's Project Manager prior to Work being performed.

**5.3 PIPES, CULVERTS, AND MISCELLANEOUS STRUCTURES (SUCH AS, DROP INLETS AND MEDIAN DRAINS)**

The following measures will be used to evaluate pipe, culvert, and miscellaneous structure maintenance during construction:

- A) Effectiveness and function;
- B) Debris/vegetation;
- C) Erosion/scour;
- D) Structural condition; and
- E) Flooding.

**5.4 RETAINING WALLS**

The following measures will be used to evaluate retaining wall maintenance during construction:

- A) Effectiveness and function;
- B) Debris/vegetation;
- C) Erosion/scour; and
- D) Structural condition.

**5.5 GUARDRAIL**

The following measures will be used to evaluate guardrail maintenance during construction:

- A) Effectiveness and function; and
- B) Timeliness of repair strategy.

Approval for repairs and/or replacement of guardrail must be obtained from the Department's Project Manager prior to Work being performed.

**5.6 PERMANENT SIGNS**

The following measures will be used to evaluate permanent sign maintenance during construction:

- A) Visibility and legibility during daytime and at night;

- B) Timeliness of repair strategy;
- C) Functionality; and
- D) Debris.

## 5.7 ROADSIDE VEGETATION

The following measures will be used to evaluate roadside vegetation maintenance during construction:

- A) Maintenance of primary turf;
- B) Landscaped areas and all other roadside vegetation; and
- C) Control of noxious weeds and the collection/disposal of litter.

## 6.0 REQUIREMENTS

### 6.1 SIGNS

The Design-Builder shall immediately mitigate damaged overhead signs and sign structures that pose an imminent risk to the traveling public. Non-functional "Do Not Enter," "Wrong Way," and "Yield" signs must be repaired and/or replaced within eight hours of notification or discovery.

Approval for repairs and/or replacement of overhead sign trusses, directional guide signs, or other signs 48 inches by 48 inches or larger must be obtained from the Department's Project Manager prior to Work being performed.

### 6.2 LICENSES AND SPECIAL TRAINING

The Design-Builder shall possess the appropriate qualifications, certifications, and/or licenses for the following.

#### A) Pesticide Applicator

The Design-Builder shall possess, or employ a person who possesses, a Louisiana Department of Agriculture and Forestry (LDA&F) Commercial Pesticide Applicator License, within the Right-of-Way (ROW) usage and turf and ornamental category, to apply pesticide/herbicide within the highway system, as required. The Design-Builder shall provide the LA DOTD with documentation of the Commercial Pesticide Applicator License prior to beginning Work. Mixing, transporting, handling, spraying, and disposal of materials must be done by licensed personnel.

#### B) Aquatic License

The Design-Builder shall possess an aquatic license to make pesticide applications to target species located in bodies of water.

## PAVEMENT STRUCTURE PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

This Pavement Structure Performance Specification outlines performance goals and measures that the Design-Builder shall utilize in designing and constructing pavement sections such that the pavement will perform under the conditions (climate and loading) for the specified periods. These criteria apply to all pavements to be constructed as a part of the Project, and must result in the construction of a pavement structure that will be acceptable to the Federal Highway Administration (FHWA) for an Interstate system.

### 2.0 PERFORMANCE GOALS

Pavement sections must be designed and constructed to accommodate 20 years of projected traffic from the date of Final Acceptance for either Portland Cement Concrete Pavements or Superpave Hot Mix Asphalt Concrete Pavements. Additionally, the Design-Builder shall meet the following performance goals, in the sole discretion of the LA DOTD:

- A) Minimization of life cycle costs;
- B) A typical pavement section that is carried through the shoulders;
- C) Pavement sections that are designed for projected ESAL loadings plus any percentage increases;
- D) Pavement that provides adequate load transfer (if applicable);
- E) Pavement that is designed to meet in-situ soil properties;
- F) Performance of adequate dust abatement during construction; and
- G) The same surface type material on all travel lanes.

### 3.0 STANDARDS AND REFERENCES

The Design-Builder shall plan, design, and construct pavement structures in accordance with this Pavement Structure Performance Specification and the requirements of the following standards. Standards and references specifically cited in the body of this Pavement Structure Performance Specification establish requirements that have precedence over all others. In this Pavement Structure Performance Specification, if the requirements in any standard conflict with those in another, the standard highest on the list will govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Pavement Structure Performance Specification prior to proceeding with design or construction.

### 3.1 STANDARDS

The standards for this Pavement Structure Performance Specification are listed in descending order of precedence. In case of conflict between or among standards, the order of precedence established by the LA DOTD will govern.

- A) AASHTO Guide for Design of Pavement Structures (1993); and
- B) Louisiana Department of Transportation and Development's Standard Specifications for Roads and Bridges 2006 Edition, Sections 502 and 601.

### 3.2 REFERENCES

The version of the following references in effect on the Proposal due date may apply:

- A) Louisiana Department of Transportation and Development's Standard Specifications for Roads and Bridges 2006 Edition, Sections 201 through 204, 301 through 308, 401 through 403, 501, 503 through 510, 602 through 602, 703, 713, 731 through 734, 813, 901, 1001 through 1003, 1005, 1011, 1015, and 1019;
- B) The Louisiana Department of Transportation and Development's Standard Plans;
- C) ASTM E274;
- D) DARWin Pavement Design Software.

### 4.0 SCOPE

The Design-Builder shall design and construct pavement to accommodate 20 years of projected traffic. The Design-Builder shall provide either a rigid, flexible, or composite pavement structure according to the criteria set forth in this Pavement Structure Performance Specification that gives due consideration to surface and subsurface drainage as well as the elimination of trapped water.

### 5.0 PERFORMANCE MEASURES

The parameters that will be used by the LA DOTD to evaluate performance of all newly constructed and rehabilitated pavements at Final Acceptance for this Project are identified in Sections 5.1 through 5.4.

These parameters will be evaluated by the Design-Builder in coordination with the LA DOTD, both during construction and at Final Acceptance.

#### 5.1 RIDE QUALITY

Ride quality will be evaluated in all lanes using an inertial profiler (or equivalent substitute device as outlined in LA DOTD's Standard Specifications for Roads and Bridges 2006 Edition Sections 502 and 601).

For concrete, the IRI must be 75 or less (85 for the Amite River Bridge) using the testing procedure

described in LA DOTD's Standard Specifications for Roads and Bridges 2006 Edition Section 601. The IRI for asphalt must be 65 or less using the testing procedure described in LA DOTD's Standard Specifications for Roads and Bridges 2006 Edition Section 502.

## 5.2 SKID RESISTANCE

Final Acceptance will require a value for skid resistance greater than 36.

## 5.3 STRUCTURAL CAPACITY

LA DOTD shall be satisfied that the structural capacity of the pavement will provide 20 years of satisfactory service. The structural capacity (thickness and strength) of pavement sections must be evaluated during the construction phase through the Design-Builder's approved Quality Control (QC) program. The parameters that will be evaluated include thickness, strength, and quality of materials. The thickness, strength, and quality of materials will be evaluated to ensure compliance with the approved design.

## 5.4 MATERIAL QUALITY

LA DOTD shall be satisfied that the materials used meet or exceed LA DOTD specifications. Material quality must be evaluated prior to and during construction through the Design-Builder's approved QC program.

## 6.0 REQUIREMENTS

During construction, the Design-Builder shall achieve 95% base course density after compaction as per Louisiana Department of Transportation and Development's Standard Specifications for Roads and Bridges 2006 Edition.

## 6.1 DESIGN

The Design-Builder shall submit its design for both existing and new pavements which will include, but not be limited to the following:

- A) Information on design criteria and methods;
- B) Materials/mixes to be used;
- C) Load transfer/contact details between pavement types
- D) Replacement of all existing approach slabs;
- E) Crack control when using composite pavements (i.e., saw and seal AC);
- F) Replacement of existing pavements that are currently or were former transitions of

- G) pavement thickness due to bridge overpasses or approaches; and  
Patching of existing pavements to remain in place with like materials and with respect to cracked slabs and joints faulted greater than or equal to ¼ inch.

## 6.2 MATERIALS

The Design-Builder shall not use the following materials in its mix designs:

- A) Bottom ash;
- B) Type C flyash; and
- C) Fines from recycled material.

## 7.0 FINAL ACCEPTANCE

There will be no defects in the pavement structure at Final Acceptance.

## PERMANENT SIGNAGE PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design-Builder shall design, prepare plans, and install all signs, including, new signs and modifications to existing sign panels and structures, necessary for the safe traffic operations of the final widened roadway. It is the Design-Builder's responsibility to obtain clarification of any unresolved ambiguity prior to proceeding with design or construction.

### 2.0 PERFORMANCE GOALS

The Design-Builder shall meet the following performance goals, in the sole discretion of the LA DOTD:

- A) Permanent signage that provides for safe and efficient traffic flow and operations;
- B) A permanent signing plan that is easily understood by the traveling public;
- C) A permanent signing plan that follows LA DOTD and national transportation standards; and
- D) Unobstructed views of permanent signs.

### 3.0 STANDARDS AND REFERENCES

The Design-Builder shall plan, design, and install permanent signage in accordance with this Permanent Signage Performance Specification and the requirements of the following standards. Standards and references specifically cited in the body of this Permanent Signage Performance Specification establish requirements that have precedence over all others. In this Permanent Signage Performance Specification, if the requirements in any standard conflict with those in another, the standard highest on the list will govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Permanent Signage Performance Specification prior to proceeding with design or construction.

#### 3.1 STANDARDS

The standard for this Permanent Signage Performance Specification is the Manual of Uniform Traffic Control Devices (MUTCD).

#### 3.2 REFERENCES

The version of the following references in effect on the Proposal due date may apply:

- A) The Louisiana Department of Transportation and Development's Standard Signing Details; and
- B) The Louisiana Department of Transportation and Development's Bridge Design Manual.

#### 4.0 SCOPE

The signing design must include the locations of ground-mounted and overhead signs, graphic representation of all signs, proposed striping, delineation placement, guide sign and special sign details, and structural and foundation requirements. Signs must be located and installed in a manner that avoids conflicts with other signs, vegetation, DMS, lighting, and structures. The Design-Builder shall ensure that signs are clearly visible, provide clear direction and information for users, and comply with all applicable MUTCD requirements.

#### 5.0 PERFORMANCE MEASURES

LA DOTD shall be satisfied that the permanent signing plan will meet the performance goals.

#### 6.0 REQUIREMENTS

All new signs, including traffic generators, and modifications of existing sign text will be submitted to the LA DOTD for review and comment prior to installation.

## PUBLIC INFORMATION PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

It is anticipated that during the course of the I-12 Design-Build Project public information needs will arise. The Department and/or its designee will be responsible for disseminating information to the public. The Design-Builder will be responsible for supporting the public information efforts of and cooperating with the Department and/or its designee.

### 2.0 PERFORMANCE GOALS

The goal of the Design-Builder's involvement in the public information efforts will include the timely response to requests for information by the Department and/or its designee, and close coordination of the design and construction activities to assure that the Department has the ability to provide the public with timely information that allows the public to keep abreast of the project developments and make travel decisions accordingly.

### 3.0 STANDARDS AND REFERENCES

No Standards or References apply to this Public Information Performance Specification.

### 4.0 SCOPE

The Design-Builder's Project Manager or his designee will be responsible for interfacing with the Department and/or its designee to assure that the Department is apprised of upcoming activities that might impact or otherwise be of interest to the traveling public. This will include but is not limited to the regularly scheduled meetings and briefings as well as impromptu meetings and teleconferences to discuss the public information needs of the Project.

The Design-Builder will develop resources that document and explain the Project and will make these resources available to the Department for purposes of public information efforts. The Design-Builder will maintain and update these resources as necessary to assure that current information is available for use by the Department in the public information activities.

The Design-Builder will assist the Department in preparing presentations, articles, and interviews to address public concerns or promote a better public understanding of the project.

The Design-Builder will not make any verbal or written statements to the public or media without the prior consent of the Department's Project Manager.

## 5.0 PERFORMANCE MEASURES

The Design-Builder's performance will be measured by the Department's satisfaction with the timeliness of the response for information and overall quality and clarity of the materials supplied by the Design-Builder.

## 6.0 REQUIREMENTS

The Design-Builder shall provide information necessary to interface with the public. This information shall include but not be limited to the following:

- A) High resolution photographs taken at regular intervals that document the Project progress.
- B) Video clips that document the construction phasing and operations.
- C) Graphic layout drawings that show project sequencing and maintenance of traffic plans.
- D) Aerial photographs that show the key work zones of the Project, as well as the completed Project.
- E) Written descriptions of the design and construction work suitable for use in technical and non-technical articles.
- F) Project briefings and site tours as requested by the Department.

## ROADWAY PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design-Builder shall design and construct a six-lane main roadway including travel lanes, shoulders and median barrier, transitions and all other roadway-related facilities as required by this specification and Project scope for the safe operation of the new six-lane I-12 roadway. The design shall provide a workable solution to the corridor's needs. The roadway and bridge geometry shall meet the Goals established herein, as well as all Standards for Roadway design as outlined within this specification.

The Design-Builder may, however, find ways to improve this geometry. Any innovative alternatives that increase benefits and/or savings to the Department and/or the Design-Builder are encouraged and will be evaluated accordingly.

### 2.0 PERFORMANCE GOALS

- Roadway and related features designed & constructed to National Interstate standards.
- Provide a safe facility for the travelling public.
- Permanent pavement markings that give sufficient illumination and reflectorization in daytime and at night.
- Provide driver safety and awareness features (i.e. Rumble strips/stripes)
- Smooth horizontal and vertical ride for the travelling public.
- Median barriers that provide a functional and safe environment for the public and maintenance crews, as well as provides adequate glare screen.
- Curves that provide adequate sight distance.

### 3.0 STANDARDS AND REFERENCES

Standards and references specifically cited in the body of this Roadway Performance Specification establish DOTD's Standards and suggested Reference guidelines (Refer to the Instructions to Proposers (ITP) Section governing Standards and References). In this Performance Specification, should the requirements in any standard conflict with those in another, the standard highest on the list shall govern. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Performance Specification prior to proceeding with design or construction. The version of the following references in effect on the Proposal due date may apply:

#### 3.1 STANDARDS

- LA DOTD Design Standards for Freeways (F-3)
- Manual of Uniform Traffic Control Devices (MUTCD)
- LA DOTD Standard Plans GR-200, GR-201 and GR-202
- LA DOTD Standard Plan (PM-01)

### 3.2 REFERENCES

- LA DOTD Engineering Directives and Standards Manual (EDSM)
- LA DOTD Roadway Design Procedures and Details<sup>1</sup>
- AASHTO Policy on Geometric Design of Highways and Streets (Green Book).
- AASHTO Roadside Design Guide
- A Guide to Constructing Operating and Maintaining Highway Lighting Systems
- Highway Capacity Manual, Special Report 209. Third Edition.
- FHWA Code of Federal Regulations (CFRs)
- Louisiana Standard Specifications for Roads and Bridges, 2006, Sections 731, 732, and 1015.
- LA DOTD Highway Specifications Workbook
- LA DOTD Special Details
- National Cooperative Highway Research Program Report 350.

<sup>1</sup> Section 2.3 EXCEPTIONS TO DESIGN STANDARDS AND POLICIES. Delete the first paragraph in its entirety and replace with the following:

“Every effort shall be made to meet the approved DOTD Design Standards for all roadway or bridge projects. Exceptions to design standards shall only be considered when the exception supports an alternative technical concept or value engineering or on a case-by-case basis, at specific locations, where the Contractor demonstrates that substantial benefits to the Department and the public would accrue from the Contractor’s recommendation. However, no assurance is made that such Design Exceptions will be approved. All Design Exception Requests shall be submitted in accordance with the Louisiana DOTD Design Exception Request Process utilizing the “Design Exception/Design Waiver Form.”

### 4.0 SCOPE

The Design-Builder shall design all roadway geometrics including, but not limited to, horizontal alignments, vertical alignments, superelevation, typical sections, median barriers, permanent pavement markings, rumble strips/stripes, and all other required roadway features. The design and construction of this project will be a six-lane divided interstate in accordance with the requirements of the Scope of Services Package. The centerline of the six-lane I-12 roadway shall be collinear with the line in the median that is equidistant from the centerlines of the eastbound and westbound two-lane roadways. The new 6-lane roadway will be built completely within the existing state-owned right-of-way.

The objective of this design work is to result in constructed project facilities within specified criteria while allowing the Design-Builder the flexibility to make changes that produce benefits or savings to the LADOTD or the Design-Builder without impairing essential functions and characteristics of the project, including safety, traffic operations, desired appearance, and maintainability.

The Design-Builder shall clearly document any changes to the alignment and stationing of the centerline and maintain a complete record of all such changes for LA DOTD reference.

**5.0 PERFORMANCE MEASURES**

LA DOTD is satisfied that the roadway design features meet the performance goals and applicable standards. The Design-BUILDER's design and construction methodology shall provide for the safe and efficient movement of people and goods.

**6.0 REQUIREMENTS**

**6.1 Design Criteria**

- The roadway design criteria shall be in accordance with Section 3.1 of this Specification.
- Ramp modifications are not part of the original scope of this project; however, should it become necessary as part of the Design-Build process then all ramp design will be in accordance with LA DOTD Standard plans SC-01 and SC-02.

**6.2 Permanent Pavement Markings**

- Centerlines on asphalt shall be 4 inch wide white preformed plastic markings (Type V).
- Centerlines on concrete shall be 4 inch wide white with a 1 1/2 inch black contrast all of which shall be preformed plastic markings (Type V).
- Edge lines on both surfaces shall be 4 inch wide 90 mil thermoplastic markings
- Centerline markings shall be supplemented with 4 crystal/red raised pavement markers in each gap, spaced at 24" centers. Black backing will be required for white pavement striping used on concrete pavements.

**6.3 Rumble Strips and Rumble Stripes**

- Rumble strips are not allowed more than 2" beyond the inside edge of final striping.
- Rumble Strip/Stripe application will be as follows:

Type of Surfacing	Inside Shoulder	Outside Shoulder
Asphaltic Concrete Pavement	Ground-in/Milled Rumble Stripe	Ground-in/Milled Rumble Stripe
PCC Pavement	Raised Pavement Markings Rumble Strip	Ground-in/Milled Rumble Stripe

**6.4 Median Barriers**

- The concrete barriers will be constructed at a location beyond the 12-foot width of the inside shoulder section centered equidistantly from the inside edge of the travel lanes of the six-lane roadway on an independent reinforced concrete footing.
- Minimum height is 54 inches.
- Cable will not be allowed.
- Incidental concrete paving shall be provided within the median if the median width between the barrier rails is equal to or less than 20 feet.
- Median barriers shall meet NCHRP 350, Test Level-5 requirements.

## STRUCTURES PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design Builder shall design and construct permanent structures such as permanent bridges, retaining walls, box culvert drainage structures, and any major sign structures in accordance with the criteria and Performance Goals established in this Structures Performance Specification. The Design and construction work on permanent structures will include new bridge structures as well as the widening of existing overpasses and all other bridge-related facilities as required by this specification and Project scope. The completed structures shall be functional, durable, easy to inspect and maintain, safe, and provide pleasant aesthetics.

The Design-Builder is encouraged to find innovative alternatives that increase benefits to the Department and the Design-Builder.

### 2.0 PERFORMANCE GOALS

- Structures and related features designed & constructed to National Interstate standards.
- Provide a safe facility for the travelling public.
- Ease of access for long term inspection of superstructure, joints, bearings, etc.
- Structures designed for all applicable loads and predicted scour.
- Smooth ride for the travelling public transitioning to and from roadway surface and bridge structure.
- Median barriers that provide a functional and safe environment for the public and maintenance crews, as well as provides adequate glare screen.
- Barriers that meet National crash test requirements.
- New structures that provide a 75 year service life.

### 3.0 STANDARDS AND REFERENCES

The Design-Builder shall plan, design, and construct pavement structures in accordance with this Structures Performance Specification and the requirements of the following standards. Standards and references specifically cited in the body of this Structures Performance Specification establish requirements that have precedence over all others. In this Structures Performance Specification, if the requirements in any standard conflict with those in another, the standard highest on the list will govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Pavement Structure Performance Specification prior to proceeding with design or construction.

#### 3.1 STANDARDS

- AASHTO LRFD Bridge Design Specifications, Fourth Edition, 2007 and 2008 Interim

- LA DOTD Bridge Design Manual, Fourth English Edition
- AASHTO LRFD Bridge Construction Specifications, Second Edition, 2004 and 2005 through 2008 Interims

### 3.2 REFERENCES

- LA DOTD Engineering Directives and Standards Manual (EDSM)
- Special Provisions for the Project;
- AASHTO A Policy on Geometric Design of Highways and Streets, Fifth Edition, 2004;
- AASHTO/AWS D1.5M/D1.5:2008 Bridge Welding Code;
- AASHTO Guide Manual for Condition Evaluation and Load and Resistance Factor Rating (LRFR) of Highway Bridges, 2005 Interim
- AASHTO Standard for Overhead Sign Design;
- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition, with 2002, 2003, and 2006 Interims
- LA DOTD Standard Specifications for Roads and Bridges, 2006 Edition;
- LADOTD Standard Plans GR-200, GR-201 and GR-202
- LA DOTD Special Provisions and Supplemental Specifications;
- AASHTO Guide Design Specifications for Bridge Temporary Works, 1st Edition, 2008 Interim Revisions;
- LA DOTD Standard Plans and Standard Bridge Details;
- FHWA Hydraulic Engineering Circular No. 21 "Design of Bridge Deck Drainage."
- ACI 305 R-99, Hot Weather Concreting;
- ACI 207.1 R-99, Mass Concrete;
- FHWA NHI-001, Hydraulic Engineering Circular Manual 18; and
- NCHRP Report 489, Design of Highway Bridges for Extreme Events, 2003.
- LA DOTD Routine Permit Vehicles Table, 2008
- Epoxy Urethane Copolymer Overlay Specifications For Bridge Decks
- AASHTO Guide Specifications for Design and Construction of Segmental Concrete Bridges, 2nd Edition, 2003 Revisions
- Partial Existing Preliminary Plans
- The Environmental Documents for the Project
- LA DOTD MSEW Design Guide, Pavement and Geotechnical Design Section
- Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines, FHWA Demonstration Project 82 Ground Improvement, FHWA-SA-96-071, current edition
- Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, FHWA Demonstration Project 82 Ground Improvement, FHWA-SA-96-072, current edition
- Geosynthetic Design and Construction Guidelines, FHWA HI-95-038, current edition;
- NCHRP 445, Forces on Highway Bridges

#### 4.0 SCOPE

The design and construction of this project will be a six-lane divided interstate in accordance with the requirements of the Scope of Services Package. The new facility will be built completely within the existing state-owned right-of-way.

The Design-Builder shall design and construct all structures (new and widened) to account for and include, but not limited to, foundation design, all applicable loads, bridge geometry, decks and joints, approach slabs, substructure and superstructure, retaining walls, and all other required bridge components and features.

The structures-related objective of this Project is to provide constructed facilities within specified criteria while allowing the Design-Builder the flexibility to develop/utilize/provide innovative solutions that benefits the LADOTD and the Design-Builder without impairing essential functions and characteristics of the project, including safety, traffic operations, desired appearance, and maintainability.

This Project includes the following bridge structure modifications and/or replacements:

- **O'Neal lane Interchange (LA 3245):** Providing interior widening of the Interchange overpass structure.
- **Amite River Bridge:** New single or twin bridge structure(s) to replace the existing four (4) bridge structures. Approximately 2,600 feet of main line bridge structure and the degrading of the existing embankment plug.
- **4-H Road Overpass (LA 1032):** Providing interior widening of the overpass structure.
- **Range Ave. Interchange (LA 3002):** Providing interior widening of the Interchange overpass structure.
- **Grey's Creek Bridge:** Replacement or widening.
- **Coyell Creek Bridge:** Replacement or widening.

#### 5.0 PERFORMANCE MEASURES

- **LA DOTD shall be satisfied that the completed structures will meet the performance goals, requirements, and applicable standards.**
- **LA DOTD shall be satisfied that the completed structures are functional, durable, easy to inspect and maintain, safe, and aesthetically pleasing.**

## 6.0 REQUIREMENTS

### 6.1 Design Criteria

- Minimum pile design safety factors shall be in accordance with the LA DOTD Bridge Design Manual, Chapter 6.
- Minimum vertical clearance under structures is 16.5 feet.
- Approach slabs shall be 40 feet.

### 6.2 Median Barriers

- The concrete barriers will be constructed at a location beyond the 12-foot width of the inside shoulder section centered equidistantly from the inside edge of the travel lanes of the six-lane roadway on an independent reinforced concrete footing.
- Minimum height of 54 inches.
- Cable barriers will not be allowed.

### 6.3 Mass Concrete

The allowable cement types shall be Type II Portland cement, Type IP Portland-pozzolan cement, or Type IS portland blast-furnace slag cement.

### 6.4 Decks and Deck Joints

- Decks shall be of concrete with a minimum designed deck thickness of eight inches. Pre-tensioned, pre-cast concrete deck forms may be used provided that a minimum of four inches of cast in place deck thickness is provided over the pre-cast deck forms.
- Open or filled grating decks and orthotropic decks are not permitted.
- Strip seals can only be used for total movements not exceeding 3.5 inches. Expansion movements greater than 3.5" will be handled with the use of finger joints.
- Modular joints, Sliding plate joints, Compression seals, and Silicone seals are not permitted for the new Amite River Bridge.
- The existing expansion joint and detail will be used for all existing structures to be widened.
- Aluminum finger joints are permitted. Steel Finger plate joints shall be hot dipped galvanized.

### 6.5 Loads

- For the determination of load factors, the following variables shall be used.
  - $\eta_D = 1.05$
  - $\eta_L = 1.05$
  - $\eta_R = 1.05$  all others
  - 1.0 Box Girder with multiple webs

#### 6.5.1 Dead Loads

Add 25 psf unit dead load for a future wearing surface to all bridge structures. Metal stay in place forms may be used on this project. If these forms are used, the additional

dead load due to the stay in place forms shall be included in the design of the structure.

#### 6.5.2 Live Loads

Bridges shall be designed for HL-93 vehicular live load. For fatigue use ADT and traffic provided by LADOTD. For Limit State Strength II the new bridge structural elements shall be checked for the three Louisiana routine permit vehicles.

### 6.6 Bridge Type

Bridge type will not be restricted to those traditionally used by the LA DOTD. Other types and components may be used, but will be allowed only if they have been accepted for general use by other Department of Transportation in the United States and the Design-Builder can demonstrate that its design of the bridge type and components will perform according to these specifications.

Experimental bridge types, timber bridges, masonry bridges, and structural plate arches are not permitted. Pre-cast concrete flat slab bridges will not be allowed without a reinforced structural concrete overlay and transverse post-tensioning.

The Design-Builder shall minimize the number of expansion joints through the use of continuous superstructure units.

For concrete segmental bridges, the principal tensile stress in the girder webs shall be limited to  $3.5 \sqrt{f'_c}$  under AASHTO LRFD Bridge Design Specifications Load Combination, Service State III. For prestressed concrete bridges, under AASHTO LRFD Bridge Design Specifications Load Combination, Service State III, the  $\Phi$  factor shall be taken as 1.0.

### 6.7 Retaining Walls

- The Design-Builder shall have sole responsibility for the type, material, performance, and safety of temporary retaining structures. Temporary retaining structures are walls used during construction only and are not in place at the end of construction.
- Exposed metal walls including bin walls and sheet pile walls, recycled material walls, timber walls, or walls utilizing geofabrics will not be permitted for permanent retaining walls.

### 6.8 Aesthetics

Bridge aesthetics shall be considered. See reference materials for aesthetics minimums. If weathering steel is used, the requirements listed in NCHRP, Report 314 should be followed.

### 6.9 Bearings

Design and location of bearings shall provide for maintenance accessibility and future replacement. Elastomeric bearings are required. Existing steel bearings shall be repainted with a paint system compatible with the present system.

#### 6.10 Pier Caps, Pile Bents and Column Bents

The type of pier cap shall be consistent with the bridge system and aesthetic strategy proposed for the corridor. For either column bent or pile bents, the connection needs to be able to resist moment. For span units where pile bents are the chosen support type, at least the center span bent shall contain batter piles which are able to restrain longitudinal and transverse movements.

#### 6.11 Miscellaneous

- Structural steel members shall be painted steel.
- Abutment front slopes shall be 4:1 (H:V) or flatter.
- Regarding Thermal Forces, The uniform temperature ranges shall be calculated using Procedure B as specified in the LRFD Bridge Design Specifications.
- The seismic performance category for all structures shall be Zone 1. The importance classification for the Amite River Bridges shall be critical.
- Design for Stream Pressure based on a design high water elevation of 42 feet NGVD with discharge flow to be determined by analysis. The forces shall include the effects of debris in accordance with NCHRP 445.
- During design, The Design-Builder shall provide a detailed Corrosion Control Plan including material selection modeling process and estimates of life-cycle costs, to assure the stated service lives for the structural elements of the bridges. Cathodic protection is not required.
- Hot weather concrete shall be in accordance with ACI 305 R-99 Hot Weather Concreting.
- The Design-Builder shall have a plan to address securing and protection of the project site during a hurricane event. The Design-Builder shall provide a copy of the plan within 90 days of NTP to LA DOTD for review and comment.
- Spread footings and auger cast piles for bridge structure foundations are not permitted.
- No exposed steel piles will be allowed above ground elevation.
- Timber piles shall not extend above the ground water elevation.
- The deck drainage shall be based on hydrologic analysis and use horizontal drain slots through the barrier.
- For wildlife crossing structures, see the Environmental Mitigation and Compliance Performance Specification for the numbers, sizes, and locations of wildlife crossings. All structures shall be designed in accordance with AASHTO LRFD Bridge Design Specifications.

### 6.12 Bridge Records-Structural Design And Rating-Documentation

The Design Builder needs to submit the final bridge plans in electronic form, .dgn format. In addition, it is necessary to submit in electronic form, .pdf files of the final structural calculations documenting, design, design assumptions, engineering software outputs. Upon completion of the widening of the existing structures and construction of the new Amite River Bridges, the Design Builder needs to submit a new rating of all affected structures using the Virtis software, version 6.0. The rating of any structure shall cover the entire bridge. The girder line approach is not adequate.

### 7.0 FINAL ACCEPTANCE

There will be no defects in the new structures or widened portions of the existing structures at Final Acceptance.

## TRAFFIC MANAGEMENT PLAN PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design-Builder shall implement a Traffic Management Plan for this Project that meets or exceeds the Performance Goals and Measures as outline in this Specification. It is the Design-Builder's responsibility to obtain clarification of any unresolved ambiguity prior to proceeding with design or construction.

### 2.0 PERFORMANCE GOALS

- Provide a Traffic Management Plan (TMP) that maintains or improves safe traffic flows through the project limits for the duration of the Project.
- No injury or loss of life to the Public or Design-Builder's workforce.
- Minimize & Mitigate Liability with traffic-related incidents.
- No Claims as a result of traffic operations for the duration of the Project.
- Expeditious handling of incident and emergency operations.

### 3.0 STANDARDS AND REFERENCES

The Design-Builder shall plan, design, and construct pavement structures in accordance with this Traffic Management Plan Performance Specification and the requirements of the following standards. Standards and references specifically cited in the body of this Traffic Management Plan Performance Specification establish requirements that have precedence over all others. In this Pavement Structure Performance Specification, if the requirements in any standard conflict with those in another, the standard highest on the list will govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design Builder's responsibility to obtain clarification of any ambiguity within this Traffic Management Plan Performance Specification prior to proceeding with design or construction.

#### 3.1 STANDARDS

- LA DOTD Standard Specification for Roads and Bridges 2006, Section 713
- LaDOTD Temporary Traffic Control Details (TC-00 – TC-19)
- Manual of Uniform Traffic Control Devices (MUTCD)
- Design-Builder's own Standard Special Provisions and Specifications

#### 3.2 REFERENCES

- LA DOTD Highway Design Manual
- AASHTO Roadside Design Guide, 2002

- LA DOTD Traffic Signal Details (TSD-00 – TSD-10)
- LA DOTD Qualified Products List (QPL)
- MUTCD Standard Highway Signs Policy
- LA DOTD Public Convenience Specifications
- National Cooperative Highway Research Board (NCHRP) Report 350
- ATSSA “Quality Guideline for Work Zone Traffic Control Devices”

#### 4.0 SCOPE

The Design-Builder shall plan, design, construct and implement temporary traffic control measures that provide a safe construction work zone while simultaneously maintaining traffic flow through the project limits for the duration of the Project. The Design-Builder shall also provide documentation for the mitigation of accident litigation.

#### 5.0 PERFORMANCE MEASURES

- Management and inspection of traffic control activities.
- Protection and adequate guidance for traffic control during construction.
- Traffic control operations within the Project Site during construction and periods of suspension of the Work, particularly at intersections with State or local highways and Interstate Accesses.
- Placement, condition, maintenance and protection of traffic control devices (TCD).
- Traffic control methods relating to access to private and public properties within the Project Site.
- Traffic control operations related to Incident and Emergency activities.
- Quality control of submittals
- Modeling and model updating

#### 6.0 REQUIREMENTS

The Design-Builder will be required, for potential litigation and claims purposes, to provide a Mitigation and Limitation of Liability/Claims Plan (M&LP).

##### 6.1 M&LP EVALUATION CRITERIA

- Documentation of on-site conditions
- Qualifications of traffic control supervisors and technicians
- Accident investigation documentation (written and visual)
- Responsibility and authority assignments

- Submittals for permanent records (written and visual)

## 6.2 DESIGN-BUILDER'S RESPONSIBILITIES (EXECUTION OF M&LP)

- Properly supervise the implementation, maintenance and Inspection of TCP measures and details, through certified and accepted Traffic Control Supervisors (TCSs) and Traffic Control Technicians (TCTs).
- Record crash details; time and date of notification; take photos at the scene; video the project signs in the approach direction and provide to the Design Builder PM and LA DOTD PM.
- Perform daily video of the project signage prior to starting work and changes at work locations.
- Perform night video of project signage once per week.
- Provide weekly reports certifying adherence to the Design-Builder's TMP and that all traffic controls meet the standards.
- The Design-Builder Quality Control (DBQC) will review and certify that the TMP has been checked and meets all contract requirements.
- Provide daily Traffic control inspection reports.
- Provide TMP Diary(ies) and Project Video(s).
- Provide TMP Details and Inspection frequency.
- Provide copies of the TMP Diary(ies) with the Monthly Progress Report.

## UTILITY PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

The Design-Builder (D-B) may choose to design around existing utility lines where not restricted elsewhere; otherwise the D-B will be responsible for resolving the relocation of any utility conflicts in accordance to LADOTD policies and procedures so that there is no loss of service during the contract period.

### 2.0 PERFORMANCE GOALS

- A) Design that avoids all utility conflicts;
- B) Construction methods that ensure existing utilities are not disrupted.

### 3.0 STANDARDS AND REFERENCES

The relocation of utility lines conflicting with the construction of the project shall be done in accordance with this Utility Relocation Performance Specification and the relevant requirements of the following standards, unless otherwise stipulated in this performance specification. Standards and references specifically cited in the body of the Utility Relocation Performance Specification establish requirements that shall have precedence over all others. Standards listed are placed in the descending order of precedence. In case of conflict between or among standards listed, the order of precedence established by the LADOTD shall govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design-Builder's responsibility to obtain clarification of any unresolved ambiguity prior to proceeding with design or construction.

#### 3.1 STANDARDS

The standards for this Utility Performance Specification are listed in descending order of precedence. In case of conflict between or among standards, the order of precedence established by the LA DOTD will govern.

- A) Louisiana Revised Statute 48:381.; and
- B) Louisiana Administrative Code, Title 70 – Transportation, Part II – Utilities.
- C) “ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.”; CI/ASCE 38-02.
- D) LADOTD “Standards Manual for Accommodating Utilities, Driveways and Other Facilities on Highway Right-of-Way”; September 1, 1994 edition.

### 3.2 REFERENCES

The version of the following references in effect on the Proposal due date may apply:

- A) Part I – General Provisions; Section 105.06: Cooperation with Utilities
  - 1.) Throughout. References to any mentioned action of duties by “the Department” shall be changed to refer to the “LADOTD’s representative/Design-Builder”.
  - 2.) Throughout. References to acceptance by “the Department” still remains “the Department”;
- B) Part I – General Provisions; Section 107.20: Utility Property and Services
  - Throughout. References to any mention of “contractor” shall be changed to refer to the “LADOTD’s representative/Design-Builder”.

### 4.0 SCOPE

It is not anticipated that there will be any utility conflicts within the scope and limits of this Project. However, if the DB should encounter any conflicts between the existing facilities and the proposed design and/or construction, the DB shall follow the standards as outlined in this Performance Specification.

### 5.0 PERFORMANCE MEASURES

LA DOTD shall be satisfied that utility avoidance or relocation plan and its execution meets the stated performance goals.

### 6.0 REQUIREMENTS

#### 6.1 EXISTING UTILITY LINES

The Design-Builder is responsible for gathering any additional information as may be required to determine any conflicts between utility lines and the scope of the project.

Utility lines may remain in their existing locations within the project R/W if the existing location will not adversely affect the construction, operation, safety, maintenance and/or use of the project.

#### 6.2 RELOCATION OF UTILITY LINES

##### 6.2.1 Coordination

If utility relocation is required, the Design-Builder shall communicate, cooperate, and coordinate with LADOTD, the Utility Owners and potentially affected third parties, as necessary for performance of the Utility Relocation Work.

When utility lines are to be relocated, the D-B shall coordinate with the Utility Owner to determine which of the following three options will be utilized:

- A.)The Utility Owner produces the design of the relocation of the utility line and also physically relocates the line themselves.
- B.)The Utility Owner produces the design of the relocation of the utility line and the D-B physically relocates the line.
- C.)The D-B produces the design of the relocation of the utility line, and then after the Utility Owner approves the design, the D-B physically relocates the line.

In Cases B and C above, the D-B is to allow and/or provide the Utility Owner inspection of the construction of relocating the utility line. The D-B will work with the Utility Owner on a mutually agreed upon written procedure for the Utility Owner to notify the D-B of any unacceptable work in the construction of the relocation of the utility line. The D-B is to ensure complete satisfaction of the Utility Owner in the relocation of the utility line so that the Utility Owner will accept the utility line and responsibility for maintenance and upkeep to the utility line once it has been relocated.

The Design-Builder is notified to comply with any state and federal laws/codes governing the design and construction of a utility line.

#### **6.2.2 Agreements & Permits**

The LADOTD will not become owner or responsible for maintenance and upkeep of any utility line from a previous Utility Owner that must be relocated.

The Design-Builder shall be responsible for coordinating all efforts in the relocation of any utility lines located within the LADOTD right-of-way that are in conflict with the construction of the project, including the verification of existing lines, and preparing (unless prepared by the utility Owner) and securing execution (by the Department and the Utility Owner) of all necessary agreements and permits for such relocation.

The LADOTD requires agreements and/or permits between the Utility Owner and the Department for the following situations:

- A.)An agreement is required whenever a utility line located within LADOTD right-of-way is required to be relocated. In this agreement, the cost distribution and responsibility of the work to be done is specified.
- B.)The LADOTD requires a permit whenever a utility line is to be relocated inside the LADOTD right-of-way.
- C.)An agreement is required if the Utility Owner relocates their utility line outside of the LADOTD right-of-way stating that the utility line will be moved to private property and includes the cost distribution required between the Department and Utility Owner.

The said agreements and/or permits must be approved and signed by the Utility Owner and LADOTD Utility Relocation Engineer prior to taking effect.

**6.2.3 Status**

The Design-Builder is responsible of providing written documentation to the LADOTD Headquarters Utility Relocation Section of any written agreements and procedures affecting the utilities on the project.

**7.0 COST OF RELOCATING UTILITY LINES**

**7.1 PRIOR RIGHTS**

When a Utility Owner can produce documents indicating prior rights, as per the LA Administrative Code, Title 70, the cost of relocating that portion of the Utility Owner's line will be paid out of the Design-Builder's funds for this project.

**7.2 BETTERMENTS**

Replacements for existing Utilities shall be designed and constructed to provide service at least equal to that offered by the existing Utilities, unless the Utility Owner specifies a lesser replacement. Utility Enhancements are not included in the Work. All betterments will be at 100% the Utility Owner cost, regardless of location.

## WARRANTY PERFORMANCE SPECIFICATION

### 1.0 INTRODUCTION

As part of the Interstate-12 (I-12) Widening Design-Build (DB) Project the Design-Builder shall provide a warranty for the Project. Pursuant to the Scope of Services Package for the Project, the Design-Builder submitted a Technical Proposal and Lump Sum Price Proposal for each of Project Scopes A and B. If the Secretary, in his sole discretion, opts to award a Contract for Project Scope B, the warranties and conditions contained within this Warranty Performance Specification will apply.

### 2.0 PERFORMANCE GOALS

The Design-Builder shall maintain and warrant all pavements either constructed or improved under the contract for a period of ten years from the date of Final Acceptance. Pavements include travel lanes, shoulders, and ramps.

The Design-Builder shall maintain and warrant all new bridge structures and new approach slabs constructed under this Contract for a period of 15 years from the date of Final Acceptance.

The Design-Builder shall maintain and warrant all widened portions of existing structures and the splice of the new bridge structures to the existing bridge structures including new approach slabs for a period of 15 years from the date of Final Acceptance.

### 3.0 STANDARDS AND REFERENCES

No standards or references have been identified for this Warranty Performance Specification.

### 4.0 SCOPE

In addition to the three year warranty provided by the Design-Builder for both a Scope A or Scope B proposal as provided for in DB 104-6, the Design-Builder shall maintain and warrant all new barrier walls, and highway drainage structures associated with new or widened bridges for a period of 15 years from the date of Final Acceptance and associated with the new or improved pavement for a period of ten years from the date of Final Acceptance.

The Design-Builder shall maintain and warrant all new lighting, signs, embankments, embankment slopes, retaining walls, vegetation, and pavement drainage systems constructed, placed, or installed under this Contract for a period of six years from the date of Final Acceptance.

The warranty for striping, markings and guardrail fall under the provisions of DB-104-6

The Design-Builder shall inspect the completed work at least every two years during the maintenance and warranty period. Should inspection reveal any situations or deficiencies that in the Design-Builder's opinion require maintenance or repair, the Design-Builder shall timely request, via permit, authority to maintain or repair the identified situation or deficiency. During the warranty period, should the LA DOTD become aware of any situation of deficiency that in the LA DOTD's opinion may benefit from maintenance or repair, the LA DOTD shall timely notify the Design-Builder of same. The Design-Builder shall request, via permit, authority to maintain or repair the LA DOTD identified situation or deficiency.

During the warranty period, should the LA DOTD become aware of any condition or situation that, in its opinion, adversely affects the safety of the traveling public or is declared an emergency by the Secretary, the Design-Builder shall be immediately notified by the LA DOTD of the unsafe or emergency situation or condition. Upon notification, the Design-Builder shall immediately marshal all materials, equipment, and personnel necessary to timely correct the unsafe or emergency situation with as little disruption to the traveling public as possible. Should the Design-Builder not respond or correct the unsafe or emergency in a timely manner, in the sole estimation of the LA DOTD, the LA DOTD may correct the unsafe or emergency condition with its own forces or may contract out the work without violating the Design-Builder's warranty under this provision. The Design-Builder will be back charged all actual expenses incurred by the LA DOTD under this situation

## 5.0 PERFORMANCE TO BE EVALUATED

The Design-Builder shall correct any of the following conditions if the conditions are present during the warranty periods identified in Sections 2.0 and 4.0. Specific corrective actions proposed by the Design-Builder must be agreed to by the LADOTD prior to the action being taken. The significance of the defect or defects on the long term performance and maintenance of the pavement, bridges and other warranted features and the need for the Design-Builder to make corrective actions is at the sole discretion of the LADOTD.

### 5.1 PAVEMENTS

#### 5.1.1 Concrete Surface

If any of the following conditions arise on a concrete surface, the Design-Builder shall take corrective action:

- A) Longitudinal surface tolerance having an International Roughness Index (IRI) of more than 75 inches per mile;
- B) Significant cracking of any kind;
- C) Joint faulting above 0.1 inches;

- D) Surface or joint spalling;
- E) Average skid number below 35;
- F) Longitudinal joint separation or spalling;
- G) Damaged, missing, split, and/or un-adhered joint seals; and/or
- H) Pop outs greater than 4.0 square inches.

### 5.1.2 Asphaltic Concrete Surface

If any of the following conditions arise on an asphaltic concrete surface, the Design-Builder shall take corrective action:

- A) Longitudinal surface tolerance having an IRI of more than 65 inches per mile;
- B) Rutting of more than 0.375 inches;
- C) Significant cracking of any kind, including reflective cracking;
- D) Shoving of any asphalt concrete lift;
- E) Average skid number below 35;
- F) Longitudinal joint separation;
- G) Significant raveling of the surface course or of any joint; and
- H) Potholes greater than six square inches in surface area or greater than 1.0 inches in depth.

## 5.2 STRUCTURES AND FOUNDATIONS

If any of the following conditions arise on structures and foundations, the Design-Builder shall take corrective action:

- A) Working, growing, or spalled cracks in any reinforced concrete bridge or foundation component;
- B) Significant signs of corrosion;
- C) Signs of leakage of water through joints or cracks;
- D) Total settlement of greater than  $L/140$  inches at any bent (where  $L$  = span length in feet);

- E) Differential settlement greater than  $L/280$  inches between any two bents (where  $L$  = span length in feet);
- F) Spalling of concrete bridge deck;
- G) Fatigue cracks in any steel member;
- H) Visible cracks in any prestressed concrete member;
- I) Evidence of unsatisfactory performance, deterioration, and/or damage to expansion joints, bearing devices, and deck drainage components; and
- J) Longitudinal surface tolerance having an IRI of more than 85 inches per mile.

### 5.3 APPROACH SLABS

If any of the following conditions arise on approach slabs, the Design-Builder shall take corrective action:

- A) Significant cracking of any kind;
- B) Differential settlement along slab length greater than 0.5 inches; and
- C) Differential settlement (fault) between end of pavement and beginning of slab greater than 0.4 inches.

### 5.4 OTHER

#### 5.4.1 Signing

If any of the following conditions arise on signing, the Design-Builder shall take corrective action:

- A) Significant loss of reflectivity;
- B) Missing, significantly damaged or significantly worn.

#### 5.4.2 Barrier Wall

If any of the barrier walls become damaged, spalled, cracked, or displaced from the original horizontal and/or vertical position, the Design-Builder shall take corrective action.

#### 5.4.3 Drainage Structures

If any of the drainage structures significantly leak, buckle, or become damaged or clogged, the Design-Builder shall take corrective action.

#### 5.4.4 Retaining Walls

If any of the retaining walls become displaced from the original horizontal and/or vertical position, the Design-Builder shall take corrective action.

#### 5.4.5 Vegetation

If any grass dies or there is not full grass coverage on slopes, the Design-Builder shall take corrective action.

#### 5.4.6 Embankment

If any embankment is not stable or undergoes significant differential settlement, the Design-Builder shall take corrective action.

#### 5.4.7 Embankment Slopes

If any of embankment slopes is not stable or has significant erosion, the Design-Builder shall take corrective action.

### 6.0 REQUIREMENTS

Prior to the end of each warranty period identified in Sections 2.0 and 4.0, the Design-Builder and the LA DOTD will evaluate the condition of each feature covered under the warranty. Should any repair, corrective action, replacement, or rehabilitation be necessary, the Design-Builder and LA DOTD will agree upon corrective actions. Once agreement on the corrective action is reached, the Design-Builder shall request a permit to perform such corrective action; the Design-Builder shall not perform any corrective action without an approved permit. Should the corrective actions not be started or completed by the end of the warranty period, the Design-Builder is not relieved of the requirements of the warranty and must complete the corrective measures to the satisfaction of the LA DOTD. Latent defects or ineffective or improper corrective actions by the Design-Builder found within six months after completion of the warranty work will be corrected again or removed and replaced by the Design-Builder at the Design-Builder's expense.

The LA DOTD does not represent to the Design-Builder the condition or the strength characteristics of the existing Interstate embankment or the embankment's short or long term ability to support added embankment materials, pavements, approach slabs, and traffic. The LA DOTD does not guarantee the accuracy of the total anticipated traffic or the total loading during the 20 year design period for pavements

or the 75 year anticipated life of the bridges. Total truck traffic, total accumulated axle loading, and maximum gross vehicle weight are estimates and may not accurately predict those the pavement and bridges will be required to support during the warranty period or the design life. Actual truck/axle loading exceeding the estimated truck/axle loading will not and does not invalidate the warranty. Damage of any nature due to normal or abnormal wear and tear or overloading will not invalidate this warranty.

The LA DOTD is not responsible for force majeure events during the warranty periods. The LA DOTD is responsible for collision, fire, explosion, or chemical damage to the pavement, bridges and appurtenances during the warranty periods.

The LA DOTD will be responsible for replacing pavement striping and markings after the three year warranty period provided for in BD 104-6 with the exception that if pavement striping and marking replacement becomes necessary due to a warranty repair action taken by the Design-Builder, the Design-Builder shall be responsible for such replacement. The LADOTD will be responsible for damaged guardrail after Final Acceptance. The Design-builder is responsible for defects in materials and workmanship during the three year warranty period provided for in DB 104-6

This Warranty Performance Specification cannot be modified, voided, or nullified except by court order.



**STATE OF LOUISIANA**

**INTERSTATE-12 WIDENING**

**DESIGN-BUILD PROJECT**

O'NEAL LANE INTERCHANGE TO WALKER  
EAST BATON ROUGE AND LIVINGSTON PARISHES  
STATE PROJECT NOS. 454-01-0047 AND 454-02-0025

**SCOPE OF SERVICES PACKAGE**

**CONTRACT DOCUMENTS**

**PART 4**

**SCOPE OF SERVICES PACKAGE PLANS**



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APPENDIX A – DIRECTIVE PLANS  
APPENDIX B – INDICATIVE PLANS

## 1.0 INTRODUCTION

This Part 4 – Scope of Services Package Plans contains the Scope of Services Package Plans that must be used for the Project. The Scope of Services Package Plan types contained herein are categorized as directive or indicative plans.

## 2.0 DIRECTIVE PLANS

Directive plans are those plans that depict required elements and components of the Project within specifically defined parameters. The Design-Builder has limited or no latitude to adjust components or details shown on directive plans. The directive plans for this Project are the Right-of-Way (ROW) plans. The ROW plans depict the Project limits, including the following:

- A) Interstate-12 (I-12) ROW maps for O-Neal Lane to Denham Springs (State Project Numbers 454-01-01, 454-01-06, and 454-02-02);
- B) Interstate-12 ROW maps for Denham Springs to Walker (State Project Number 454-0202); and
- C) Juban Road interchange at I-12 ROW maps (State Project Number 454-02-0058).

The directive plans for this Project are contained in Appendix A – Directive Plans to this Part 4 – Scope of Services Package Plans.

## 3.0 INDICATIVE PLANS

Indicative plans represent the nature and type of work to be designed and constructed as part of the Project and reflect items for which the LA DOTD has no particular view on the specific configuration or material used in the final product. Indicative plans do not necessarily reflect the final locations, quantities, or all elements required to complete the design. The Design-Builder has more latitude in determining the requirements and limits of features illustrated on indicative plans. Indicative plans are used to represent the type of work intended to be designed and constructed.

The indicative plans for this Project are the Preliminary Plans that show a widening scheme for I-12 from O'Neal Lane to Pete's Highway (State Project Numbers 454-01-0047 and 454-02-0025).

The indicative plans for this Project are contained in Appendix B - Indicative Plans to this Part 4 – Scope of Services Package Plans.



**STATE OF LOUISIANA**

**INTERSTATE-12 WIDENING**

**DESIGN-BUILD PROJECT**

O'NEAL LANE INTERCHANGE TO WALKER  
EAST BATON ROUGE AND LIVINGSTON PARISHES  
STATE PROJECT NOS. 454-01-0047 AND 454-02-0025

**SCOPE OF SERVICES PACKAGE**

**CONTRACT DOCUMENTS**

**PART 5**

**ENGINEERING DATA**



**1.0 REFERENCE DOCUMENTS**

Reference Documents, including plans contained therein and/or so designated, are not Contract Documents and are provided to the Proposers for informational purposes and for use in the Proposer's Proposal preparation, at the Proposer's discretion.

**2.0 CONTENTS OF REFERENCE DOCUMENTS**

The documents identified in Sections 2.1 through 2.3 are Reference Documents for the purposes of this Project.

**2.1 AS-BUILT PLANS**

- A) Interstate-12 Original Construction  
State Project Numbers: 454-01-07 and 454-02-07  
Dated: 2-7-66 (Chief Engineer's signature line)
- B) Interstate-12 Rubblize and Resurface Project  
O'Neal Lane to Walker  
State Project Numbers: 454-01-0063 and 454-02-0043  
Dated: 2-25-99 (Chief Engineer's signature line)

**2.2 FINAL PLANS**

- A) Interstate-12 Patch Joints and Overlay Project  
Millerville Road to Livingston Parish Line  
State Project Number: 454-01-0080  
Dated: 10-01-07 (Chief Engineer's signature line)  
*Note: This Project is currently under construction*

**2.3 SURVEY INFORMATION**

- A) Survey Data Points (comma separated data)  
Prepared for Preliminary I-12 Widening Project  
State Project Numbers: 454-01-0047 and 454-02-0025



**STATE OF LOUISIANA**

**INTERSTATE-12 WIDENING**

**DESIGN-BUILD PROJECT**

O'NEAL LANE INTERCHANGE TO WALKER  
EAST BATON ROUGE AND LIVINGSTON PARISHES  
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**SCOPE OF SERVICES PACKAGE**

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**TRAFFIC STUDIES:**

Interstate 12 Traffic data. Prepared 15 May 2008  
State Project Numbers: 454-02-0025 and 454-01-0047  
O'Neal Lane to Range Avenue

**GEOTECHNICAL DATA:**

Soil Profile – Soil Borings B1 to B61  
Geotechnical Borings for Amite River Bridge – DB-3-08, DB-14-08, DB-21-08, and DB-25-08  
Prepared by Aquaterra Engineering, dated 8/29/2008