

DESIGN-BUILD FINAL Q/R

TENNESSEE DEPARTMENT OF TRANSPORTATION

Region 4 Bridge Bundle

Carroll, Fayette, Haywood, Lauderdale, and Madison Counties – Tennessee

**TO BE ATTACHED WITH COVER SHEET IN TECHNICAL
PROPOSAL**

(Where conflict arises, the responses provided in this form supersede the original Contract Book 1, 2, 3, and any Addendum issued prior to the date an individual Q/R response is posted. Addenda issued after a posted Q/R response supersede any prior Q/R response.)

CONTRACT NUMBER: DB1901



March 6, 2020

RFP QUESTION REQUEST FORM QR

PROJECT: Region 4 Bridge Bundle - Carroll, Fayette, Haywood, Lauderdale, and Madison Counties - Tennessee

DB CONTRACT No.: DB1901

DATE: 12/20/2019

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|-------|---|--|--|
| QR1-1 | Book 2 Section 4.a Key Personnel | Traffic Engineering Manager is listed as Key Personnel (Level 1 Personnel) in Book 2, however is was not listed in the RFQ as a Key Personnel position. Please clarify if this position is required as Key Personnel for the Technical Proposal. | Traffic Engineering Manager will not be required as a Key Personnel position. This will be revised by a forthcoming addendum. |
| QR1-2 | Book 2 Section 4.b Design Professionals | The RFQ included "Prequalified R.O.W. Acquisition/ Appraisals" as Level 2 Personnel, however this position is not listed as Level 2 Personnel in Book 2 of the RF. Instead Book 2 has "Utilities Design Engineering/ Coordination Supervisor" as Level 2 Personnel. Please clarify if this change in Level 2 positions is correct. | "Prequalified R.O.W. Acquisition/ Appraisals" will be required as Level 2 Personnel and "Utilities Design Engineering/ Coordination Supervisor" will not be required. This will be revised by a forthcoming addendum. |

RFP QUESTION REQUEST FORM QR

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|-------|---|--|--|
| QR1-3 | Book 3 Appendix A and Section 9.3 Temporary Lane/Road Closure | Roadway Design Criteria tables in Appendix A for all bridges except Madison County state: Stage construct with signals maintaining one lane for traffic . Section 9.3 Temporary Lane/Road Closure states that the DB shall maintain traffic via staged construction maintaining one traffic lane in each direction . Please clarify if one lane is acceptable as stated in the Roadway Design Criteria tables and the two lanes total (one lane in each direction) is not required as stated in Book 3. | Section 9.3 of the RFP, Temporary Lane/Road Closures, will be revised by a forthcoming addendum and the phrase “in each direction” will be removed. This will be revised by a forthcoming addendum. |
| QR1-4 | Book 3 Appendix A and Function Plans-Bridge Drawings | Appendix A Structure Design Criteria shows the hydraulic requirements for Low Girder Clearance as minimum 1' from Year Flood. The reference plans provided (specifically for Carroll County and Haywood over Muddy Creek) do not meet this criteria, based on the Lower Girder Elevation and 10 Year Highwater Elevation shown on the plans. (Carroll County shows a delta of 0.84 feet and Haywood County over Muddy Creek shows a delta of 0.31 feet.) Please clarify if we need to meet this requirement or can the proposed structure provide an equivalent hydraulic opening as the existing structure. | For Carroll County and Haywood 2.13 sites, the hydraulic design should achieve the minimum design performance as shown in the functional plans, including the hydraulic opening. Per the design criteria, design flood exceptions per Tennessee Hydraulics Memorandum – 03 (THM-03 pg. 5/5) will apply to Carroll County and Haywood County over Muddy Creek. |

RFP QUESTION REQUEST FORM QR

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|-------|---|--|--|
| QR1-5 | Book 1 Section E.1.a Total Proposal Submittal | Similar to the format of the SOQ, may the Technical Proposal be submitted as an electronic file only, with the requirements for the paper copies (three originals and eight copies) removed? | Yes, a forthcoming addendum will address this change. |

RFP QUESTION REQUEST FORM QR-RFP-2

PROJECT: Region 4 Bridge Bundle - Carroll, Fayette, Haywood, Lauderdale, and Madison Counties - Tennessee

DB CONTRACT No.: DB1901

DATE: 1/15/2020

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|-------|---|---|--|
| QR2-1 | Book 3 Section 3.2, pg. 17 Floodplain Requirements and Functional Plans | <p>Carroll County - RFP Contract Book 3, Page 17, "Floodplain Requirements states that "Design-Builder shall make every effort to design the Project to follow FEMA regulations in FEMA-regulated floodplains, according to requirements listed in Code of Federal Regulations (CFR) Parts 59, 60, 65, and 70." However, TDOT provided Functional Plans for Carroll County SR436 Over Reedy Creek, Bridge Plans show the design discharge to be 10-year (4,480 cfs). On Sheet 4C, Design Discharge is identified as both Q10 & Q100. Per FEMA regulations,</p> <p>https://www.tn.gov/content/dam/tn/tema/documents/national-flood-insurance/NFIP-No-RiseGuidanceDocument_TN%20final.pdf the design storm should be 100-yr, for bridges in Zone A. Please clarify if it is adequate to meet the Q10 shown on functional plans.</p> | <p>The design flood event is the equivalent event which would overtop the roadway. For this location, functional plans were developed for 10 year design flood event. For the 100 year design event, it was verified that there would be no increases to Base Flood Elevations (BFEs), as defined in the Existing Conditions model performed during the functional hydraulic analysis.</p> |
| QR2-2 | Functional Plans | <p>Carroll County - On Functional Plans for Carroll County SR436 Over Reedy Creek (Bridge Plan), the 10-year highwater elevation 385.28' appears to be marked at approx. 380' per the grid; Please confirm for accuracy.</p> | <p>The elevation view shown on the Bridge Plan for Carroll County is designated as "NOT TO SCALE". The elevation 385.28' refers to the 10-year highwater elevation as computed during the Functional Design. This value will be revised to 385.55'. Updated plans will be posted to the website.</p> |

RFP QUESTION REQUEST FORM QR-RFP-2

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|-------|---|---|--|
| QR2-3 | Book 3 Section 3.2, pg. 17 Floodplain Requirements and Functional Plans | <p>Haywood over Muddy - RFP Contract Book 3, Page 17, "Floodplain Requirements", states that "Design-Builder shall make every effort to design the Project to follow FEMA regulations in FEMA-regulated floodplains, according to requirements listed in Code of Federal Regulations (CFR) Parts 59, 60, 65, and 70." However, TDOT provided Functional Plans for SR1 Over Muddy River Bridge plan shows the design discharge to be 10-year (1950 cfs). Per FEMA regulations, https://www.tn.gov/content/dam/tn/tema/documents/national-flood-insurance/NFIP-No-RiseGuidanceDocument_TN%20final.pdf the design storm should be 100-yr, for bridges in Zone A. Please clarify if it is adequate to meet the Q10 shown on functional plans.</p> | <p>The design flood event is the equivalent event which would overtop the roadway. For this location, functional plans were developed for 10 year design flood event. For the 100 year design event, it was verified that there would be no increases to Base Flood Elevations (BFEs), as defined in the Existing Conditions model performed during the functional hydraulic analysis.</p> |
| QR2-4 | Functional Plans | <p>Madison County - The Q10 flow shown on functional plans for double (2) box culvert 12'x5' (SR 223, Madison County) is shown as 131cfs. Is this correct? The model uses 631cfs and flow from USGS Streamstats also matches 631cfs. Please confirm accuracy of data shown on plans.</p> | <p>631cfs corresponds to the 10-year discharge utilized for the Functional Hydraulic Model. The functional plans do not denote a Q10 for this site. The Q<1 = 131cfs as denoted on the Functional Plans corresponds to a flow rate which overtops the roadway according to the Functional Model. - The Design-Builder shall perform hydraulic analysis and design the improvements to meet the design criteria provided in Addendum #1.</p> |

RFP QUESTION REQUEST FORM QR-RFP-2

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|-------|-----------------------------|---|---|
| QR2-5 | Functional Plans | Madison County- The design discharge provided on proposed layout sheet 4c is showing “Q<1”; “Q<1” is shown in multiple places in the Hydraulic data table; Can the Department provide a revised plan with the corrected data? | The data presented in the plans is correct. The “Q<1” was shown to denote the hydraulic condition of the flood event of less than one year return interval overtopping the existing and proposed roadway per the Functional Model. The Design-Builder shall perform hydraulic analysis and design the improvements to meet the design criteria provided in Addendum #1. |
| QR2-6 | Functional Plans | Fayette County- The overtopping elevation is shown as 470.29’ instead of 407.29? Please verify & confirm for accuracy. | The Functional Plans intended to denote the elevation of 407.29’ for overtopping. Updated plans will be posted to the website. |
| QR2-7 | Functional Plans | Madison County- The cross culvert plans show the elliptical pipe is flowing north to south, while the bridge opening is flow south to north. Are there any separate hydraulic calculations for the 40”x22” oval cross culvert available? | There were no separate hydraulic calculations performed for this cross culvert. The cross culvert is included in the functional hydraulic model provided for the site. Elevations of pipe inverts are based on field survey. |
| QR2-8 | Book 3 Section 2.2.3 | Book 3 Section 2.2.3 states that LD's on the DB's completion date equals \$2,000 per Calendar Day for the first 30 days after the DB's completion date. Please clarify if LD's apply after the first 30 days of the DB's completion date. | The phrase “for the first thirty (30) calendar days” has been deleted in Addendum #1. |
| QR2-9 | Book 3, Appendix C | The Preliminary Pavement Design Letter dated April 24, 2019, contained under RFP Appendix C states the pavement design is valid until 2-28-2021 for SR-1 Bridge replacement over branch at LM 2.89, Haywood County. Our interpretation of this statement is the pavement design for this location will be valid as long as design is completed and approved by 2-28-2021, regardless of the date the pavement is constructed. Please confirm our interpretation. | The pavement design provided in Appendix C for SR-1 in Haywood County shall be used for design and construction of the improvements at SR-1 over Muddy Creek (L.M. 2.13) and SR-1 over Branch (L.M. 2.89) in Haywood County. |

RFP QUESTION REQUEST FORM QR-RFP-2

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|--------|-----------------------------|--|--|
| QR2-10 | | What are the Design-Builder's contractual obligations to the Railroad? | See CSXT Public Projects Manual, Special Provision 105C and Book 3 of the RFP for scope of work and other requirements. |
| QR2-11 | | What is the minimum distance between a TDOT bridge and a railroad bridge that requires coordination, review, or concurrence from the railroad on TDOT's design? | Design-Builder shall supply the hydraulic analysis including the affected railroad within the model limits to the Railroad. Design shall meet requirements of the CSXT Public Projects Manual and have no adverse effects to the existing Railroad Hydraulic Structures. Design-Builder shall coordinate with the Railroad during the design phase for the proposed design and hydraulic analysis. |
| QR2-12 | Book 3, Section 8.2 | Has a lead study been performed on all of these bridges? If not, will TDOT perform a lead study prior to the proposal due date? If not, will the Design-Builder be required to conduct a study and if lead is encountered, who will be responsible for added costs and delays? | See Addendum #1 RFP Book 3 for additional information. |
| QR2-13 | | Will TDOT define which bridge type is required at each location? | The bridge type will not defined for each location. See the Design Criteria and Scope of Work contained in Book 3 of Addendum #1. |
| QR2-14 | | Are approach slabs required at all locations? | Approach Slabs are required for all proposed bridges. This is further clarified by Addendum #1. |

RFP QUESTION REQUEST FORM QR-RFP-2

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|--------|-----------------------------|--|--|
| QR2-15 | | <p>The TIR for Madison County states, "There is potential for restrictions from TWRA for in-stream work...." When will TWRA make this determination and what are the potential restrictions?</p> | <p>TWRA coordination took place following the development of the TIR. Based on agency coordination dated 7/11/2018 (attached), TWRA stated that they have reviewed the project information, and "the implementation of standard BMP's will be sufficient to satisfy the needs of the Tennessee Wildlife Resources Agency for this proposed project." This determination remained valid through the approval of the Programmatic Categorical Exclusion (PCE) Reevaluation based on Preliminary Bridge Replacement Plans dated 6/12/2019. There were no restrictions regarding in-stream work; however, if there are changes to the design of the project, additional coordination may be necessary.</p> |
| QR2-16 | Book 3 Section 3 | <p>The bridges in Haywood County both have a CSX bridge upstream of the existing bridge. (Haywood over Branch has a CSX bridge roughly 490 feet upstream and Haywood over Muddy Creek has a CSX bridge roughly 270 feet upstream.)</p> <p>Are there any additional design requirements or criteria on the hydraulic design due to the proximity to the CSX bridges or will there be any CSX design review required that the DB should account for? If so, please clarify the review and durations for CSX.</p> | See response to QR2-11. |

RFP QUESTION REQUEST FORM QR-RFP-2

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
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| QR2-17 | Book 2 Section 7 | <p>Book 3 Section 7 states: "No additional compensation or time shall be granted for any delays, inconveniences, or damage sustained by the Design Builder or its subcontractors due to interference from utilities or the operation of relocating utilities."</p> <p>The DB does not have control over the utility's relocation or coordination schedule. As such would the Department allow delays due to the utility's relocation/coordination process be</p> | Time extension will be evaluated utilizing the procedures outlined in Section 108.07. |
| QR2-18 | | If the Design-Builder's design meets TDOT's design requirements in the RFP, can the railroad reject the design and if so, who will be responsible for added cost and time delays? | Design-Builder shall meet all requirements of the CSXT Public Projects Manual and have no adverse effects to the existing Railroad Hydraulic Structures. Design-Builder shall coordinate with the Railroad during the design phase to eliminate any delays associated with the Railroad. |

RFP QUESTION REQUEST FORM QR-RFP-3

PROJECT: Region 4 Bridge Bundle - Carroll, Fayette, Haywood, Lauderdale, and Madison Counties - Tennessee

DB CONTRACT No.: DB1901

DATE: 1/29/2020

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
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| QR3-1 | Book 1 Section E.1.a.1 Technical Proposal | Please clarify if the 75 page limit of the Technical Proposal includes pages for the CPM Schedule (to be included in the Proposal per RC III: Schedule Management) and the Conceptual Plans (to be included per RC IV: Technical Solution). | Proposal responses to Response Categories II through III IV shall be limited to the combined maximum total of 75 page count (not pages). The CPM Schedule shall be included as required according to Response Category III and the Conceptual Plans shall be included as required according to Response Category IV. Conceptual Plans will not be included in the 75 page limit. |
| QR3-2 | Book 1 Section 2.2.3 | Section 2.2.3 of Book 1 states that the DB shall complete the work in each County within two hundred Calendar Days after the construction start date in each County. Our understanding is that the "construction start date" is the start of bridge construction and does not include time or traffic impacts associated with utility relocation work – please confirm if this understanding is correct. | "Construction Start Date" will be the date of the first Construction Notice to Proceed for work in each County. |

RFP QUESTION REQUEST FORM QR-RFP-4

PROJECT: Region 4 Bridge Bundle - Carroll, Fayette, Haywood, Lauderdale, and Madison Counties - Tennessee

DB CONTRACT No.: DB1901

DATE: 2/27/2020

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|-------|--|--|--|
| QR4-1 | Design Build Standard Guidance 2.7 Submittals | Section 2.7 states “All submittals shall be stamped by the Design-Builder’s Construction Project Manager, a Professional Engineer licensed in Tennessee.” Please confirm the Design-Builders Construction Project Manager is not required to be a Professional Engineer licensed in Tennessee. | According to the RFQ, the Design-Builder’s Project Manager is not required to be licensed as a Professional Engineer in Tennessee. The Design Manager is required to be a Professional Engineer licensed in the State of Tennessee and will be responsible for sealing all submittals. |
| QR4-2 | Book 3, Section 9.3 Temporary Lane/Road Closure | The RFP states that, “...detours in excess of twenty-five (25) miles in length require approval through re-evaluation of the NEPA document.” The PCE for Madison Co. identifies a detour route, which is greater than 25 miles in length and states that per the FHWA, the processing of a D-List CE will be completed in-house (TDOT). Will any coordination with FHWA be required, and what will the timeframe be for review and approval? Also, will the D-List CE be solely for the detour, or will the entire document be updated to replace the current PCE? | For the Madison County site, two detours (official and local) were identified in the approved PCE, which were coordinated with FHWA. The FHWA concluded that the NEPA document could be processed as a PCE since there was a proposed local 7.1-mile detour. If there are no deviations from the detours as documented in the approved PCE and Reevaluation, no further coordination would be required for this site relating to the detour. If the official detour (30.6 miles) or the local detour (7.1 miles) is modified, the Design-Builder must determine if a Reevaluation is needed. If a Reevaluation is determined to be necessary, the Design-Builder would provide a Reevaluation for the entire project site, not just the detour. |

RFP QUESTION REQUEST FORM QR-RFP-4

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
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| QR4-3 | Book 3, Appendix A, Carroll Co. Design Criteria | The design criteria for Carroll Co. states, “Existing berms adjacent to SR-436 and Reedy Creek, if disturbed, are to be reconstructed inside Temporary Construction Easements as shown in the Functional Plans.” Do the right-of-way and temporary construction easements need to be exactly as on the Functional Plans? Will TDOT want to maintain the proposed ditch line within permanent right-of-way or is the way it is shown on the functional plans acceptable? | As stated in the RFP, if existing berms are disturbed they shall be reconstructed inside temporary construction easement. The limits of the temporary construction easement shall be established based on the Design-Builder’s design and are not required to match what is shown in the Functional Plans. |

RFP QUESTION REQUEST FORM QR-RFP-4

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
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| QR4-4 | Book 3, Section 5, Structures | <p>The RFP states, “The Design-Builder shall conduct and submit a load rating analysis for each of the new bridges to be constructed.” What software is the Design-Builder to utilize for the load ratings and in what format should they be submitted to TDOT?</p> | <p>The bridge load ratings shall be performed utilizing AASHTOWare BrR.</p> <p>The load rating shall include the following vehicles: HL-93, AASHTO HS-20-44 (both Truck and Lane Loading), AASHTO H-15-44 (both Truck and Lane Loading), AASHTO Type 3 Vehicle, AASHTO Type 3S2 Vehicle, AASHTO Type 3-3 Vehicle, AASHTO SU4 Vehicle, AASHTO SU5 Vehicle, AASHTO SU6 Vehicle, and AASHTO SU7 Vehicle.</p> <p>In addition to the above AASHTO vehicles, the bridge shall be load rated for the passage of a Test Permit Vehicle, two Annual Permit trucks and a Class 10 Gravel Truck, the FHWA EV2 and EV3 vehicles.</p> <p>The analysis method to be used is restricted to Load and Resistance Factor Rating (LRFR).</p> <p>The Design-Builder shall provide deliverables for this task consisting of an electronic report file, in PDF Format, for the Final Load Rating Report. In addition, electronic copies of the model data files shall be provided to the Department. The report shall include an executive summary section with a table of load rating factors for each bridge and vehicle rated. The report shall also include, AASHTOWare Bridge Rating Overall Summary sheets outlining the rating results for the controlling interior and exterior members.</p> |

RFP QUESTION REQUEST FORM QR-RFP-4

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
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| QR4-5 | Book 3, Appendix A, Structure Design Criteria | The RFP, nor any of the reference documents identify the criteria to be applied for the culvert embedment depth. Please identify what criteria should be applied for the design. | The culverts shown in the Functional Plans were designed utilizing HEC-26 in an effort to look at a worst case scenario for project scope and limits for the hydraulic structures. The Design-Builder shall determine permitting requirements for each site and including the associated culvert embedment requirements. |
| QR4-6 | Book 3 Section 3.1 Roadway, Section 6 ROW, Section 8 Environmental | <p>The RFP states that if the DB needs additional ROW, Permanent or Temporary Easement, outside of the limits shown on the Function (30%) Roadway Plans, they shall be responsible for any and all additional environmental technical studies and completion of the re-evaluations of the NEPA document, modification, and approvals to the ROW appraisals and acquisitions, utilities coordination/relocation and any environmental permits necessary.</p> <p>If the DB adjusts the ROW beyond the limits of the Function Plans, but still within the NEPA boundary, is a re-evaluation of the NEPA document required under any circumstance? Or are there changes within the NEPA boundary that would not trigger a re-evaluation?</p> | If the Design-Builder adjusts the ROW beyond the Proposed ROW limits, proposes changes to the scope, or shifts/extends the alignment shown on the Functional Plans or for any other changes, a Reevaluation will be necessary for the entire project site. The Design-Builder must determine if a Reevaluation is needed for any changes. |
| QR4-7 | Book 1 Section D.4.d | Book 1 Section D.4.d states, "The Technical Proposal shall include half-size plan sheets depicting those elements required by the RFP." Do these plans count toward the 75-page maximum page count? | Half-size plan sheets will not count toward the 75-page limit as shown in the RFP. Response provided in QR3-1 will be amended in the final QR form. |

RFP QUESTION REQUEST FORM QR-RFP-4

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
|--------|--------------------------------------|--|---|
| QR4-8 | Book 1 Section D.4.i | Considering the low ADT on the project roadways and the absence of the requirement to provide a detailed Traffic Analysis and Mitigation Report from Book 3 of the RFP, it is our understanding that providing a detailed Traffic Analysis and Mitigation report in Response Category IV of the Technical Proposal, as stated in Book 1 Section D.4.i, is not required. Please confirm. | A detailed Traffic Analysis and Mitigation Report will not be required. Response Category IV forms shall be completed as shown in Book 1 of the RFP. |
| QR4-9 | Reference Material – Geotech Reports | TDOT has provided preliminary site investigation data, as well as various liquefaction assessments based on different theoretical and empirical methodologies. Some of the methodologies indicate the potential for liquefaction to the depth of explorations, requiring any preliminary pile design to extrapolate data below the borings/CPT soundings. Please provide a preference for the methodology used to evaluate the liquefaction potential. | For the preliminary site investigations Idriss and Boulanger (2008) method was used to evaluate the liquefaction potential from the SPT “N” values obtained from the borings. In addition, CPT-based liquefaction was analyzed using the GeoLogismiki software Cliq version 3.0. The Design-Builder is responsible to perform their own liquefaction analysis according to AASHTO LRFD Bridge Design Specifications to determine the depth of liquefaction and what mitigation at the supports would be necessary to prevent it or design for it. |
| QR4-10 | Book 3 Section 8.2 | Does this project have access to the TDOT owned or managed mitigation bank and if so please provide a list of contacts for TDOT owned or managed mitigation banks for the HUC 8 areas of these locations? | The Bridge Bundle Project does not have access to TDOT mitigation banks or credits. |
| QR4-11 | Book 3 Section 8.2 | Is there a reduced mitigation credit purchase fee for use of a TDOT mitigation bank? | This is not applicable, see response to QR4-10. |

RFP QUESTION REQUEST FORM QR-RFP-4

| | RFP Book No. and Section ID | Question | Reserved for Agency Response |
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| QR4-12 | Book 3 Section 8.2 | The NEPA documents state that “on site mitigation is preferred over credit purchase” may the DB assume that TDOT is prepared to perform owner required tasks for onsite mitigation such as recording a deed restriction and in perpetuity maintenance by a third party? | See response QR4-13. |
| QR4-13 | Book 3 Section 8.2 | If TDOT does not prefer to perform deed restriction and in perpetuity maintenance of onsite mitigation may we assume that off-site credit purchase is preferred? | The Design-Builder shall be responsible for mitigation requirements deemed necessary by the regulatory agencies. |