STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SUITE 700, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243-0349
(615) 741-2848

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

October 19, 2011

ADDENDUM #1

Re: I-40, Widening from Central Pike to East of SR-109, Wilson County
PROJECT NUMBER IM-40-5(140); 95100-0105-44, PIN 114169.00
CONTRACT NO. DB1101

To Whom It May Concern:

This addendum revises the RFP Contract Book 1 (Instructions to Design-Builders (ITDB)), RFP Contract Book 2 (Contract) and RFP Contract Book 3 (Project Specific Information). All changes are in red. Added revised special provision: SP407DEN, SP411BDB, SP1247, and 712B.

You must acknowledge this addendum by completing the "Addendum Letter Acknowledgement" screen found in the Miscellaneous Data folder of the EBS bid file within your Price Proposal and found in RFP Contract Book 2 (Design-Build Contract) on the Technical Proposal Signature Page (Form TPSP) within your Technical Proposal. It is the bidder's responsibility to notify all affected manufacturers, suppliers and subcontractors of this change.

Sincerely,

Lia Obaid

Alternative Contracting Office

DESIGN-BUILD
RFP CONTRACT BOOK 1
INSTRUCTIONS TO
DESIGN-BUILDERS (ITDB)

I-40

Widening from Central Pike to East of SR-109
Wilson County- TENNESSEE

PROJECT IDENTIFICATION NUMBER (PIN 114169.00)

PROJECT NUMBER IM-40-5(140); 95100-0105-44

DB CONTRACT NO. DB1101

September16, 2011

Addendum #1 – October 19, 2011

Submittal of a Price Proposal and the execution by Design-Builders of the signature sheets contained in the RFP, shall constitute the Design-Builder's acknowledgement and understanding of the procurement process, submittal requirements, and evaluation criteria contained herein.

The Contract will include **Contract Book 1 (ITDB - Instructions to Design Builders), Contract Book 2 (Design-Build Contract),** and **Contract Book 3 (Project Specific Information), DB Standard Guidance** and all referenced documents, including, but not limited to, the listing in the **Contract Book 2 (Design Build Contract)** are to set forth the rights and obligations of the Parties and the terms and conditions governing completion of the work.

This project consists of I-40 construction from the Central Pike to the East of the SR-109 including grading, drainage, and paving, the construction and design of roadway and Bridge widening, possible retaining wall and installation of ~~signals~~ signs. The approximate Project length is approximately 8.5 miles.

The Design Builder's obligations shall include without limitation the following:

- Furnishing all design services, Quality Management, materials, equipment, labor, transportation, and incidentals required to complete the Project according to the approved Plans, the Department's Standard Specifications, as amended, and terms of the Contract;
- Performing the construction work according to the lines, grades, typical sections, dimensions, and other details shown on the approved Plans, as modified by Change Order or other written directive issued by the Department;
- Performing all work determined by the Department to be necessary to complete the Contract; and
- Contacting the Department Alternative Contracting Office for any necessary clarification or interpretation of the Contract prior to proceeding with the affected work.
- All Project components identified in the Contract and performance of all work described in accordance with all Contract requirements. The shall determine the full Project requirements through comprehensive examination of the Contract and the Project Site.
- Designing, furnishing, constructing, and installing all components of the Project, except for those components, if any, as may be stipulated within the **Contract Book 3 (Project Specific Information)** to be furnished and/or installed by the Department or others.

The Design-Builder shall be fully and totally responsible for the accuracy and completeness of all work performed under the Contract, and shall indemnify and hold the Department harmless for any additional costs and all claims against the Department which may arise due to errors or omissions of the Department in the Provided Materials, and of the Design-Builder in performing the work.

~~Deadline for Submittal of Initial Right-Of-Way Acquisition~~	~~October 17 24, 2011 4:00 p.m., CT~~
Deadline for Submittal of Alternate Technical Concepts	October 24, 2011 4:00 p.m., CT.
Deadline for Response to Alternate Technical Concepts, and ROW acquisition	November 7, 2011 4:30 p.m., CT.
Deadline for Submittal of Question Requests, and Requests for QPL Determination	November 21, 2011 4:00 p.m., CT.
Anticipated Deadline for Issuance of Last Addendum	November 23, 2011 4:00 p.m., CT.
Technical Proposal and Price Proposal Due Date and Time	December 2, 2011 4:00 p.m., CT.
Public Price Proposal Opening	December 16, 2011 9:00 a.m., CT.
Award of DB contract, or rejection of all proposal	On or before January 9, 2012
Anticipated Issuance of Initial Notice to Proceed	January 23, 2012

The Department will not consider any late Proposals. Proposals received after the Proposal Due Date will be returned to the unopened. The Department will not consider any Proposal modifications submitted after the Proposal Due Date. Nor will the Department acknowledge Proposal withdrawals submitted after the Proposal Due Date. Any such attempted withdrawal will be ineffective.

If the Design Builder does not submit a Proposal by the Due Date and the Department chooses to issue a new, revised, or modified RFP, the Proposal will be considered non-responsive to the requirements set forth herein. As a result, the Design Builder will not be eligible to respond to any additional RFP requests from the Department on this project.

6. CONTRACT DOCUMENTS

- Contract Book 1 (ITDB - Instructions to Design Builders);
- Contract Book 2 (Design-Build Contract);
- Contract Book 3 (Project Specific Information);
- DB Standard Guidance and Addendum;
- The Department Standard Specifications;

- Removal and Disposal

716-99.50 Design Build Striping/Pavement Markings

- Material
- Raised Pavement Markers
- Snowplowable Raised Pavement Markers

717-99.95 Design Build Mobilization

718-01.95 Design Build Noise Wall Barrier

- Payment under this item shall include all costs to construct the noise wall including but not limited to construction, materials, engineering, drilling and other preliminary costs. In the event that the Department determines the noise wall is not needed, the Department will notify the Design Builder and will reduce the LS payment for the contract by the amount the DB team has submitted for item ~~718-01.50~~ 718-01.95.

The Design Builder shall seek approval from the Alternative Contracting Office before proceeding with any design work on the noise wall. The Design Builder shall include in their cost proposal the price for the proposed wall under item ~~718-01.01~~ 718-01.95 Noise Barrier.

4) Issues Resolution Plan

c. PROJECT MANAGEMENT

1) Describe the administrative and operational structure that would be used to perform the proposed work, including:
   - Describe how design personnel will interface with the construction personnel.
   - Communicating and coordinating between the Department and the Design Builder. Include the approach for change management during construction for design initiated, field initiated, and the Department-initiated changes.
   - Describe existing design and/or construction quality management plan(s) that the Design Builder may have already developed, and how it (they) will be implemented into work performed. Describe coordination of design and construction activities to ensure consistency in quality. Explanation of how independence of quality staff and function will be maintained.
   - Approach to managing costs under this Contract while fulfilling required tasks and assuring quality of work. .
   - Describe or outline the process for constructability, durability, maintainability, safety, aesthetics and environmental mitigation in the design and construction processes.
   - Describe or outline the process for coordinating design and construction functions, including both design and construction components and all Subcontractor activities. Include a brief description (Construction

DESIGN-BUILD

RFP CONTRACT BOOK 2
CONTRACT

TENNESSEE DEPARTMENT OF TRANSPORTATION

I-40

Widening from Central Pike to East of SR-109

Wilson County- TENNESSEE

PROJECT IDENTIFICATION NUMBER (PIN 114169.00)
PROJECT NUMBER IM-40-5(140); 95100-0105-44

DB CONTRACT NO. DB1101

September 16, 2011

Addendum #1 – October 19, 2011

APPENDIX B

SPECIAL PROVISIONS

TITLE	SP#
EMPLOYING AND CONTRACTING WITH ILLEGAL IMMIGRANTS	102I
BUY AMERICAN REQUIREMENTS	106A
WATER QUALITY AND STORM WATER PERMITS	107FP
CONTRACTOR EMPLOYEE SAFETY AND HEALTH PROGRAM	107 SHP
PROJEET COMPLETION AND LIQUIDATED DAMAGES	108B
PAYMENT ADJUSTMENT FOR FUEL	109A
PRICE ADJUSTMENT FOR BITUMINOUS MATERIAL	109B
DRILLED CAISSONS	204DC
BITUMINOUS PLANT MIX PAVEMENTS (HOT MIX) ROADWAY DENSITY	407DEN
BITUMINOUS PLANT MIX MATERIAL TRANSFER DEVICE (MTD)	407G
ASPHALTIC CONCRETE SURFACE (HOT MIX)	411BDB
RETAINING WALLS	624
HIGHWAYS SIGNS, LUMINARIES, & TRAFFIC SIGNALS	700SIG
Uniform Police Officer	712PO
TRAFFIC CONTROL SUPERVISOR	712B
SOUND-ABSORBING NOISE BARRIERES	718NB
TECHNICAL SPECIFICATION	725
EQUAL EMPLOYMENT OPPORTUNITY	1230
STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)	1231
NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)	1232
TRAINING PROGRAM REQUIREMENTS	1240
DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION	1246
DBE CONTRACT GOALS	1247

STATE OF TENNESSEE

March 1, 2006

(Rev. 02-22-08)
(Rev. 11-10-08)
(Rev. 12-15-09)
(Rev. 12-28-10)
(Rev. 09-27-11)

SPECIAL PROVISION

REGARDING

BITUMINOUS PLANT MIX PAVEMENTS (HOT MIX)

ROADWAY DENSITY

Description: This specification covers the requirements for obtaining proper compaction and roadway density for the various layers of bituminous plant mix.

All sections of Section 407 of the Standard Specification, and Supplemental Specifications are applicable except as modified herein.

Section 407.03(D)2.(c)8.- Contractor Quality Control System- Replace the first paragraph of this section with:

8. Mix Design/Production Verification. The Contractor will be required to sample and test asphaltic concrete base and surface mixes throughout production to verify that the mix being produced is within the criteria listed below. This information shall also be recorded on control charts. This requirement applies only to mixes designed in keeping with the Marshall Method of Mix Design. In addition, the Contractor will be required to conduct quality control testing of surface and binder mixes for roadway density throughout placement to verify that the mixture being placed meets specified density requirements. A Quality Control Plan (QCP) for this density testing is required. Acceptable methods of quality control testing include coring, nuclear gauge testing, and non-nuclear gauge testing.

Section 407.07- Rollers. Replace the entire section with the following:

The Contractor shall use a sufficient number and type of rollers to obtain proper compaction and obtain the specified densities.

When the Contractor is paving the inside shoulder concurrently with the inside traffic lane, an additional roller, no more than 1 ft.(300 mm) wider than the inside shoulder being paved, shall be required to compact the shoulder. Neither the roller(s) on the inside traffic lane nor the roller on the shoulder shall be allowed to traverse between the inside shoulder and the inside traffic lane.

SP407DEN

Section 407.15- Compaction. – **Replace** the entire section with the following:

After the bituminous mixture has been spread, struck off, and surface irregularities adjusted, it shall be thoroughly compacted. The method employed must be determined by the contractor and be capable of compacting the mixture to the specified density while it is in a workable condition. Rollers shall not park on the bituminous pavement nor shall rollers be refueled on the bituminous pavements.

Density Requirements.

- Mix Types: B, BM, BM-2, D, E
- All levels of ADT
- %Gmm values specified here are for lot averages.

Travel Lane Density		
% Gmm		% Pay
Min	Max	
99.1	100	90
98.1	99	94
97.1	98	98
96.1	97	100
95.1	96	101
94.1	95	102
93.1	94	101
92.1	93	100
91.1	92	98
90.1	91	94
89.1	90	90
88.1	89	86
87.1	88	*
86.1	87	*
85.1	86	*
<85	85	*

Joint Density Incentive/Disincentive		
%Gmm		
Min	Max	$/L.F./Lot
99.1	100	*
98.1	99	*
97.1	98	-0.70
96.1	97	-0.42
95.1	96	0.00
94.1	95	0.00
93.1	94	0.07
92.1	93	0.14
91.1	92	0.07
90.1	91	0.00
89.1	90	-0.14
88.1	89	-0.42
87.1	88	-0.70
86.1	87	-0.98
85.1	86	*
<85	85	*

*Shall be removed and replaced at the contractors expense or as directed by the engineer.

Payment shall be for travel lanes only, even when the shoulder and travel lane are placed concurrently. No incentive shall be paid for the second travel lane mat unless the joint for that lot is a minimum of 90.1%.

Any lot of joint density tests averaging below 87% shall be sealed by a department-approved longitudinal joint sealer at the Contractor's expense. Sealing of deficient longitudinal joint lots will only be required for surface mixes.

- Mix Types: All shoulder mixes
- All levels of ADT
- %Gmm values specified here are for lot averages.

Shoulders		
%Gmm		%PAY
Min	Max	
99.1	100	*
98.1	99	*
97.1	98	96
96.1	97	98
95.1	**96**	**100**
94.1	**95**	**100**
93.1	**94**	**100**
92.1	**93**	**100**
91.1	**92**	**100**
90.1	**91**	**100**
89.1	**90**	**100**
88.1	**89**	**100**
87.1	88	98
86.1	87	94
85.1	86	90
<85	85	*

*Unacceptable or as directed by the engineer.

% Pay for shoulders shall be applied to the quantity of mix on the shoulder even when the travel lane and shoulder are place concurrently.

The density (bulk specific gravity) determination for a compacted asphalt mixture shall be performed in accordance with AASHTO T-166, Method A only. All core samples shall be COMPLETELY DRY before testing. Air drying is permitted provided core samples are weighed at 2-hour intervals until dry in accordance with AASHTO T166, Section 6.1. Cores may also be dried in accordance with ASTM D 7227.

Along forms, curbs, headers, walls and other places not accessible to the rollers, the mixture shall be compacted thoroughly with hot hand tampers, smoothing irons, or with mechanical tampers. On depressed areas, a trench roller may be used to compact the mix.

Any defective mixture shall be repaired or replaced to the satisfaction of the Engineer.

Test Strips.

The Contractor will be responsible for constructing Test Strips for all mixes to establish rolling patterns, to verify that the base course or surface course meets the density requirements of the specifications, and for mix design/ production verification as required.

1. The base course or other pavement course upon which a test strip is constructed shall have been approved by the Engineer prior to the construction of the test strip.

2. Equipment proposed for use in the compaction of test strips, shall meet the requirements set forth in this subsection and **Subsection 407.07**.

The test strip shall be constructed at the beginning of work on the pavement course. New test strips shall be required when:

1. A change in the job mix formula is necessary
2. A change in the source of materials occurs
3. A change in the material from the same source is observed
4. There is reason to believe that the test strip density is not representative of the bituminous mixture being placed.

Each test strip shall be constructed with approved bituminous mixture and shall remain in place as a section of the completed work. Each test strip shall be 1 paver width wide and have an area of at least 400 s.y.(350 m^2) and shall be of the depth specified for the pavement course concerned.

The Contractor shall provide the roller pattern, volumetric properties, and density results to TDOT which demonstrate the mixture meets all TDOT specifications.

In the event the density of the asphaltic concrete in the test strip does not meet specification requirements, the Contractor shall make whatever changes are necessary to obtain the specified density. Other sources and combinations of aggregates shall be used as required, subject to approval of the Engineer, to produce a mix meeting the required density.

Acceptance Testing

Mat Density- For density acceptance purposes, the pavement shall be divided into lots of 15,000 linear feet and sublots of 3,000 linear feet, or fraction thereof, per paving width per mixture type. Control strips shall not be included as part of acceptance lots. At the beginning

of the project, the first lot will begin immediately after the end of the control strip. When possible, attention should be provided to avoid cutting cores in areas where signal/loop wire may be affected. If random number selections indicate testing locations in these areas, a new random number should be selected.

Five randomly selected cores (4" min./ 6" max. diameter), from the travel lane, will be tested to determine density compliance and acceptance. One core shall be taken from each sublot. The Bulk Specific Gravity (G_{mb}) of the cores shall be determined as stated above and the average calculated. The maximum theoretical gravity (G_{mm}) from acceptance testing for that shift's production will be averaged and the percent density will be determined for compliance by dividing the G_{mb} average by the Gmm average. The Contractor will be responsible for obtaining the cores at the locations randomly selected by TDOT. Cores shall be tested by TDOT, by a certified plant technician.

Turn lane and ramp density cores shall be determined as described above when the total turn lane or ramp length is 15,000 linear feet or greater. When the total turn lane or ramp length is less than 15,000 linear feet, one density core shall be taken for each 3,000 linear feet. An average density shall be determined from the total number of cores taken from the turn lane or ramp.

Longitudinal Joints - Longitudinal density cores shall be taken after placement of adjoining traffic lane. The longitudinal joint shall be divided into lots of 15,000 linear feet and sublots of 3,000 linear feet.

For density acceptance purposes, one joint core (4" min./ 6" max. diameter) shall be cut at a randomly determined location along the longitudinal joint within each sublot. Each core taken shall be centered over the longitudinal joint. Joint density cores will be required only on the longitudinal joint between travel lanes and not on shoulder joints.

Longitudinal joint densities between travel lanes and turn lanes or ramps shall be determined as described above when the total turn lane or ramp longitudinal joint length is 15,000 linear feet or greater. When the total turn lane or ramp joint length is less than 15,000 linear feet, one longitudinal joint density core shall be taken for each 3,000 linear feet. An average density shall be determined from the total number of cores taken from the turn lane or ramp.

The Bulk Specific Gravity (G_{mb}) of the cores shall be determined as stated above and the average calculated. The maximum theoretical gravity (G_{mm}) from acceptance testing for both travel lanes will be averaged and the percent density will be determined for compliance by dividing the G_{mb} average by the G_{mm} average. The Contractor will be responsible for obtaining the cores at the locations randomly selected by TDOT. Cores shall be tested by TDOT, by a certified plant technician.

It is intended that acceptance density testing will be accomplished as soon as is practicable. If the average density of the lot does not conform to the requirements stated herein, or if an individual test value does not meet the requirements stated herein above, adjustments will be made as specified in section 407.20 B.5.

After obtaining the cores, all core holes shall be properly filled and compacted in kind with hot mix asphalt. There will be no additional compensation to comply with this section.

Cores shall be clearly labeled in a discrete, sequential manner (i.e. – M1, M2,...,M30; J1, J2,...,J15) throughout the course of the project. After testing, cores shall be retained along with copies of test results and will be periodically obtained by the regional materials office for spot-check verification testing.

Section 407.20, Basis of Payment, Revise section B.5. as follows:

5. Acceptance for Mix Density on the Roadway:

Mat Density -A deduction in payment, not as a penalty but as liquidated damages, shall be made for failure to meet the density requirements as outlined in Subsection 407.15. As soon as practical after the final rolling is completed on each lot, 5 density tests (1 per sublot) shall be performed by the Department at locations determined by the Engineer, and an average of all such tests shall be computed. Any deduction for failure to meet density requirements or incentive for exceeding density requirements shall be computed to the nearest 0.1% as a percentage of the total payment otherwise due for each lot. No incentive shall be paid for the second travel lane mat unless the joint for that lot is a minimum of 90.1%.

The percent of total payment shall be in accordance with tables shown in "Density Requirements" above. Any deduction in monies due the Contractor for failure to meet the Density Requirements shall be made under the item for Density Deduction.

Longitudinal Joints – The total incentive/disincentive payment shall be in accordance with tables shown in "Density Requirements" above. Any deduction in monies due the Contractor for failure to meet the Density Requirements shall be made under the item for Density Deduction. Any incentive payment due the contractor shall be under item Density Incentive. Any lot of joint density tests averaging below 87% shall be sealed by a department-approved longitudinal joint sealer at the Contractor's expense. Sealing will be required for surface mixes only.

SP411BDB

STATE OF TENNESSEE

County: Wilson
Project No.: IM-40-5(140)
Contract No.: DB1101

SPECIAL PROVISION

REGARDING

SECTION 411 – ASPHALTIC CONCRETE SURFACE (HOT MIX)

This provision sets up pavement smoothness requirements and how testing procedures, acceptance, and payment practices, will be handled by the Department.

Completed pavement surfaces of traffic lanes, including those on bridge deck surfaces on both the mainline and ramps between freeways that do not have stop or yield conditions shall be tested for smoothness with the Road Profiler in accordance with Department procedures.

For projects on all interstates and controlled access freeways that require the placement of BM or BM2 as a binder layer, the binder layer shall be tested for smoothness as soon as practicable after placement of the binder layer but prior to the placement of the final wearing surface. The binder layer shall have a maximum HCIRI of 60 in./mi. Any lot, or fraction thereof, of the binder layer that is greater than 60 in./mi. shall be corrected prior to placement of the final surface mix. Ramps with posted speeds less than 45 MPH shall be excluded. All corrective action shall be approved by the Engineer and shall be completed at the Contractors expense including, but not limited to, grinding and asphalt leveling.

The Contractor shall be paid monies due for items in the surface mix based on the payment table below. Any lot (one mile or fraction thereof) of pavement where the Road Profiler's Half Car International Roughness Index value exceeds 70 inches per mile, as shown in the payment table below, will require corrective action. Any unacceptable lot(s) will be divided into 0.1-mile sub-lots for closer evaluation. The Contractor, at his discretion, shall choose those sub-lots, within the unacceptable lot, to correct in order to bring the overall lot into the acceptable smoothness range. However, the Contractor may not choose more than 3 sub-lots for repair, unless they are adjacent to each other and there are no more than 6 transverse joints. Otherwise, the entire lot will require corrective action. The minimum corrective action shall be the length of the entire sub-lot of 0.1 mile. The only acceptable corrective action is mill and inlay. Payment for the corrected one mile lot(s) will be based on the Road Profiler's Half Car International Roughness Index after corrective action has been taken.

Each lot of pavement will be tested by one pass of the Road Profiler. If corrective action is required, a second pass will then be made to determine the payment for the corrected lot(s).

Payment table for smoothness based on Road Profiler Half Car International Roughness Index values

SPECIFICATION 411B			
Road Profiler Value Half Car IRI (IN/MI)	Dollars per mile of surface mix. Incentive/ disincentive ($)	Road Profiler Value Half Car IRI (IN/MI)	Dollars per mile of surface mix. Incentive/ disincentive ($)
Less than 25	4000	48	-1200
25	4000	49	-1600
26	3600	50	-2000
27	3200	51	-2400
28	2800	52	-2800
29	2400	53	-3200
30	2000	54	-3600
31	1600	55	-4000
32	1200	56	-4800
33	800	57	-5600
34	400	58	-6400
35	0	59	-7200
36	0	60	-8000
37	0	61	-9200
38	0	62	-10,400
39	0	63	-11,600
40	0	64	-12,800
41	0	65	-14,000
42	0	66	-15,600
43	0	67	-17,200
44	0	68	-18,800
45	0	69	-20,400
46	-400	70	-22,000
47	-800	Greater than 70	Mill and Inlay*

* The mill and inlay shall be the thickness as specified on the plans for the surface layer.

STATE OF TENNESSEE

(Rev. 12-01-06)
(Rev. 11-10-08)
(Rev. 9-17-11)

March 1, 2006

SPECIAL PROVISION

REGARDING

DBE CONTRACT GOAL

All contractors shall pursue affirmative action requirements to encourage and increase participation of disadvantaged individuals in business enterprises as set forth in this specification which is imposed pursuant to 49 CFR 26. The bidder shall arrange for ___ percent of the work to be performed by Disadvantaged Business Enterprises (DBEs) or clearly demonstrate adequate good faith efforts as described herein.

A. Disadvantaged Business Enterprise Policy.

The Contractor shall accept as operating policy and include in all subcontract agreements the following statement, which is designed to promote full participation of DBEs as suppliers and subcontractors through a continuous, positive result-oriented program on contracts let by the Department:

> *The Contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of Department assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the Department deems appropriate.*

B. Counting DBE Participation Toward Meeting Goals.

The Contractor shall count DBE participation toward goals in accordance with 49 CFR 26. The Contractor may count toward the goals only expenditures to DBEs that perform a commercially useful function of a contract, including those functions as a subcontractor. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. Work performed by a DBE firm

in a particular transaction may be counted toward the goal only if the Department determines that it involves a commercially useful function. The work performed by the DBE firm shall be necessary and useful to the completion of the contract, and consistent with normal highway construction industry practices in Tennessee. The bidder may count the following DBE expenditures towards the DBE commitment:

1. **Projects where the DBE is the Prime Contractor** - The portions of the contract to be completed by certified DBE firms will be counted toward meeting the goal. Items of the contract subcontracted to non-DBE firms will not be counted in the commitment.

2. **Portions of a bid from a Joint Venture** - A bid from a joint venture, between a DBE and non-DBE Contractor, shall include a "Statement of DBE Commitments" which must be approved by the Department prior to the Letting. Only the DBE's portion will be counted toward the goal. Joint venture agreements have to be approved separately from the bid documents, prior to the awarding of the contract.

3. **DBE Subcontractors** - The DBE subcontractor shall assume actual and contractual responsibility for provision of materials and supplies, subcontracted work, or other commercially useful functions of the items of work subcontracted to them. Cost of materials purchased from or the cost of equipment leased from the Contractor will not count toward the project DBE commitment. Prior written approval must be obtained from the Department's Civil Rights Office - Small Business Development Program (CRO - SBDP) for any DBE use of prime contractor's personnel or equipment.

4. **Manufacturers -** The Contractor may count toward the DBE commitment 100% of its expenditures for materials and supplies required under a contract and obtained from a DBE manufacturer only if the DBE firm produces and supplies goods manufactured from raw materials or substantially alters them before resale.

5. **Regular Dealers (e.g. Material Suppliers)** - The Contractor may count toward the DBE goal 60% of its expenditures for materials and supplies required under a contract and obtained from a DBE regular dealer only if the DBE firm performs a commercially useful function in the supply process. For purposes of this section, a regular dealer is a firm that owns; operates; or maintains a store, warehouse, or other establishment in which materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. To be a regular dealer, the firm shall engage in, as its principal business and in its own name, the purchase and sale of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock if it owns or operates the distribution equipment. If the DBE supplier does not own the distribution equipment, a lease containing the terms of the agreement shall be available and must be approved in writing by the CRO - SBDP.

6. **Brokers and Packagers** - Brokers and packagers will not be regarded as regular dealers within the meaning of this section. Only the cost of the service performed may be used towards meeting the DBE commitment.

7. **Transportation or Hauling of Materials** –The Department will continue to utilize the trucking regulations, under 49 CFR 26.55. This regulation allows for DBE goal hauling-credit in either DBE trucks or in trucks leased to or by DBE firms. The verification of truck drivers employed by DBE firms will continue to be by submission of payrolls independent from any Davis-Bacon regulations.

   a) The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.
   b) The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
   c) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.
   d) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
   e) The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to the total value of transportation services provided by non-DBE lessees not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE lessees receives credit only for the fee or commission it receives as a result of the lease arrangement.
   f) For purposes of this paragraph a lease must indicate that the DBE has exclusive use of and control over the truck. Leases cannot be Department contract-specific, must be long term, and must be approved by the CRO - SBDP Staff. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

   g) Prior to hauling, the Contractor and DBE shall provide the Department's Project Supervisor a complete list of trucks that will be used on the project for DBE goal participation. The Department will provide a form that shall be used by the Contractor and DBE to identify the trucks. A revised list will be required any time the trucks used changes. The Contractor and DBE must be able to adequately document the actual amount of hauling eligible for DBE goal participation.

7. **Contracted Labor / Temporary Employment Agencies** – utilization of these services via subcontract will be allowed to count toward DBE goal commitment, in accordance with 49 CFR part 26.55. The Department will count the entire amount of fees or commissions charged by a DBE for providing a bona fide service. Provided, the Department must find the fee to be reasonable and not excessive as compared to the fees customarily allowed for similar services.

8. **Other Commercially Useful Functions** - The fees paid to certified DBE firms, which are necessary for the completion of the contract and commonplace outside of the DBE program, may be counted towards the commitment.

C. Contract Award Procedures

The established DBE goal will be shown on the proposal as a percent of the total amount bid. If the total proposed DBE work submitted with the bid is less than the percentage of participation goals set by the Department, the bidder shall, within three (3) business days from the bid openings, propose sufficient additional DBE participation to meet the goal or shall clearly demonstrate by documentation that good faith efforts were made to meet the goal.

1. Bidder' Responsibility.

It is the bidder's responsibility to determine the level of professional competence and financial responsibility of any proposed DBE subcontractor. The bidder shall ascertain that the proposed DBE subcontractor has suitable experience and equipment to perform a commercially useful function for work that is common industry practice in the Tennessee highway construction industry.

Contractor shall develop and maintain records of negotiations with DBEs to reach agreeable prices, quotations and work schedules, including but not limited to a record of dates when the Contractor first contacted each DBE.

2. Proposals With Established Project DBE Goals.

For proposals with established project goals, the bidder will be required to complete computer generated Form 1247A. The bidder shall list the following information on Form 1247A that is submitted:

a. All DBE firms being used or being considered for use as part of the bidder's DBE commitment.

b. The type of work items on the contract for which the DBE will be used.

c. The "Amount to DBE" which has been committed to each DBE firm which will be used on the contract.

The completed 1247A form shall be submitted within three (3) business days of the Letting. Failure to provide a completed form or documentation clearly evidencing a good faith effort, as detailed in C.3. below, within three (3) business days of the Letting may cause the bid to be rejected as irregular. Only certified DBE firms may

be used. Contractor may access this information on the DBE list by viewing the Department's website or the certified DBE listing.

When DBE goal projects are involved and the prime contractor subcontracts to a non DBE, and the non-DBE subcontractor in turn subcontracts to a DBE as a second tier subcontractor, the prime contractor must affirm in writing his/her knowledge and approval of such an arrangement. Recognition of a second tier arrangement with a DBE subcontractor for goal work must be forwarded to the Director of the CRO - SBDP for verification, in writing, prior to any work performed by the DBE being counted toward the goal.

3. Bidder Selection and Good Faith Efforts

a. Bidders shall submit proposals that meet the DBE goal or shall submit documentation clearly evidencing that they made good faith effort to meet the DBE goal. Contractors who meet or exceed the contract goal will be assumed to have made good faith efforts to utilize DBE firms. DBE firms who bid as prime contractors will be considered to have met the goal.

b. The following are illustrative of factors which will be considered in determining whether the bidder has made adequate good faith efforts:

1) Whether the bidder selected portions of the work likely to attract DBE participation. The total dollar value of the portions selected should meet or exceed the contract DBE goal. If it is necessary, the bidder should break down subcontracts into economically feasible units in order to facilitate participation.

2) Whether the bidder provided notice to a reasonable number of specific DBEs, including those not regularly used by the bidder, that their participation in the contract is being solicited in sufficient time to allow them to participate effectively.

3) Whether the bidder provided interested DBEs with adequate information about the plans, specifications and requirements of the contract.

4) Whether the bidder advertised in general circulation, trade association, or minority-focus media concerning participation opportunities or effectively used the services of available minority, community organizations, minority contractors groups, local, state or federal minority business assistance offices, or other organizations that provide assistance in the recruitment and placement of DBEs.

5) Whether the bidder negotiated in good faith with interested DBEs, not rejecting DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities.

6) Whether the bidder made efforts to assist interested DBEs in obtaining bonding or insurance required by the bidder.

7) Whether the bidder submitted all quotations received from DBEs, and for those quotations not accepted, an explanation of why the DBE was not accepted including price comparisons. Receipt of a lower quotation from a non-DBE will not in itself excuse a bidder's failure to meet contract goal.

8) Whether the bidder has adequate records of its contacts and negotiations with DBEs

c) If the Contractor has not met the DBE goal or submitted documentation clearly evidencing good faith efforts within three (3) business days after the bid opening, the Contractor's bid will be considered non-responsive and the Department may consider the next lowest responsive bid for award.

d) Failure of the bidder to meet the DBE goal in its bid or failure to provide documentation clearly evidencing good faith efforts to meet the goal, may be cause for the forfeiture of the Proposal Guaranty which shall become the property of the Department, not as penalty, but in liquidation of damages sustained.

As soon as practical after award of the contract, the contractor shall submit copies of all binding subcontracts and purchase orders with DBEs to the Project Supervisor and the CRO - SBDP Director. No progress estimate shall be processed until this information is received.

4. Joint Checking Allowance for DBE

A DBE must receive pre-approval by the Department before using a joint check. Joint check requests shall be submitted, by the DBE, to the CRO - SBDP prior to the contract agreement.

The following are some general conditions that must be met regarding joint check use:

a. The second party (typically the prime contractor) acts solely as a guarantor.
b. The DBE must release the check to the supplier.
c. The use of joint checks must be a commonly recognized business practice in the industry.
d. The DBE remains responsible for all other elements of 49 CFR 26.55(c)(1)
e. The DBE is not required to use a specific supplier nor the prime contractor's negotiated unit price.
f. The DBE shall submit receipt/copy of cancelled checks to the CRO - SBDP.

D. Construction Period Requirements.

1. After adequate notice by the Contractor, if any DBE is unable to perform work committed toward the goal, the DBE shall provide to the CRO - SBDP a signed statement saying why they are unable to complete the work. The Contractor shall document their efforts to have another DBE perform the item or to have a DBE perform other items to replace the original DBE commitment amounts. In the event the Contractor is not able to find replacement DBE work, the Contractor must provide the CRO - SBDP documentation clearly evidencing good faith efforts, as detailed in C.3. above. Any request for substitution of a DBE subcontractor shall be made to the Department and approved by the CRO - SBDP.

2. Brokering of work by DBEs is not allowed and is a material breach of contract. A DBE firm involved in brokering of work may have their certification removed or suspended. Any firm involved in brokering of work that engages in willful falsification distortion, or misrepresentation with respect to any facts related to the project shall be referred to the U. S. Department of Transportation's Office of the Inspector General for prosecution under Title 18, U. S. Code, Section 100.20. Contractor shall place this provision in all subcontracts with DBEs.

3. A Department Project Supervisor/Inspector shall complete a Commercially Useful Function (CUF) Checklist to document the first date of work, work items, equipment, and forces of each DBE.

4. The Contractor shall provide monthly payment certification to the Department entitled "Prompt Payment Certification Form." The Department shall provide Contractor with the Prompt Payment Certification Form. An officer of the contractor shall sign the Prompt Payment Certification Form. The Department will hold estimate payments if information is not submitted. Reasons for non payment to a DBE could include the following:
   a) Whether the DBE is performing satisfactorily;
   b) Whether Contractor has reason to believe the DBE is not performing a commercially useful function, and if so, why and what steps Contractor is taking to rectify the situation.

   In the event the Contractor promptly reports questions on the Prompt Payment Certification Form regarding whether a DBE is independent and performing a commercially useful function and takes appropriate steps promptly to address the issue, then the Department will take this effort into account when considering contractor compliance measures as described below.

E. Post Construction Requirements.

Prior to receiving final payment, the Contractor shall provide to the Engineer certification of the dollars paid to each DBE firm, using Form CC3, Certification of DBE Accomplishment. The certification shall be dated and signed by a responsible officer of the contractor and by the DBE. Falsification of this certification will result in suspension of bidder qualifications.

The final estimate will not be paid to the Contractor until proper certifications have been made.

F. Required Records.

The Prime Contractor and all subcontractors shall retain, for a period of not less than 3 years after final acceptance of a project, copies of canceled checks or other documentation that substantiates payments to DBE firms. These records shall be available at reasonable times and places for inspection by authorized representatives of the Department and Federal Agencies.

G. Contractor Compliance

1. It is the intent of this Special Provision to require the Contractor to take full responsibility for the performance of a commercially useful function by all DBE subcontractors, manufacturers and materials suppliers who work on the project and are counted by the Contractor toward the project DBE goal. A DBE is considered to perform a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and carrying out its responsibilities by actually performing, managing and supervising the work involved (49 CFR Part 26).

2. If the Contractor fails to comply with this Special Provision 1247, the Department may take one or a combination of the following steps:

1) Require the Contractor to have its entire management staff attend DBE training arranged by the Department and paid by the Contractor.

2) The next bid when Contractor is the low bidder on a DBE goal project, require that Contractor shall achieve a DBE participation that is twice the stated goals.

3) For the Contractor's failure to find another DBE subcontractor to substitute for a DBE that is terminated or fails to complete its work on the contract for any reason or to provide the CRO - SBDP documentation clearly evidencing good faith efforts, as detailed in D.1. above, then the Department may withhold from the Contractor an amount not to exceed the amount of money originally committed to the non-complying DBE subcontractor, not as a penalty but as liquidated damages.

4) Suspend the Contractor from participation in Department bid lettings pursuant to rules promulgated by the Department.

5) For repeated failures to comply, debar the Contractor pursuant to rules promulgated by the Department.

6) Invoke other remedies available by law and/or in the contract.

7) Invoke remedy agreed upon by the Commissioner and Contractor in writing.

STATE OF TENNESSEE

(Rev. 07-01-04)
(Rev. 10-01-06)
(Rev. 10-10-11)

March 1, 2006

SPECIAL PROVISION

REGARDING

TRAFFIC CONTROL SUPERVISOR

At the preconstruction conference the Contractor shall designate a Worksite Traffic Supervisor other than the Superintendent to be responsible for initiating, installing, and maintaining all traffic control devices in accordance with all applicable special provisions, standard drawings, plans, specifications, and the most current edition of the Manual on Uniform Traffic Control Devices.

Qualifications. The Worksite Traffic Supervisor shall be certified by the American Traffic Safety Services Association Worksite Traffic Supervisor Certification Program, or the National Highway Institute by having satisfactorily completed training in "Design and Operation of Work Zone Traffic Control" taught by the University of Tennessee Transportation Center. In addition, they shall have at least one-year's experience directly related to worksite traffic control in a supervisory or responsible capacity.

Responsibilities. The Worksite Traffic Supervisor shall:

1. Oversee all operations which contribute to the convenience, safety and orderly movement of traffic.

2. Be available on a twenty-four hour basis with access to all manpower, equipment and materials needed to maintain traffic control devices and handle traffic related situations.

3. Maintain documentation to become part of the final project records of all daily activities including deficiencies found, how they were corrected and the personnel, equipment and traffic control devices utilized.

4. Correct routine deficiencies within a twenty-four (24) hour period after discovery.

5. Be available on the site within 45 minutes after notification of an emergency situation, prepared to effect corrective measures immediately.

6. Make daily inspections of all traffic control devices (at least every third inspection shall be at night).

7. Prepare and submit for approval any revisions to the existing traffic control plan sufficiently in advance to allow Department review prior to implementation.

8. Coordinate project traffic control activities with appropriate local law enforcement and emergency agencies.

9. Coordinate public awareness of changing traffic conditions through TDOT.

10. Educate all employees of the Contractor utilized as flaggers on proper flagging procedures.

Emergency Maintenance. Emergency maintenance shall consist of maintenance, repair, or replacement of traffic control devices that have been damaged, vandalized, or otherwise rendered ineffective to the extent that a serious hazard exists. The Traffic Control Supervisor shall cause such emergency work to begin within two (2) hours after being notified. When emergency maintenance is required during nonworking hours, devices that are classified as "unacceptable" according to ATSSA Quality Standards for Workzone Traffic Control Devices may be used, provided that the devices are effective in reducing the existing hazard, and further provided that they are replaced not later than the next business day. The Traffic Control Supervisor shall keep the Resident Engineer informed of the name, address, and telephone number of the individual responsible for performing emergency maintenance.

Failure to Comply. In the event a routine traffic control deficiency is not corrected within twenty-four (24) hours after discovery, a deduction in the amount of one hundred dollars ($100.00) shall be made from monies due the Contractor for each calendar day that the deficiency is allowed to remain, not as penalty, but as liquidated damages.

In the event that immediate action is not taken to correct an emergency situation, a deduction in accordance with Subsection 712.04 shall be made from monies due the Contractor. In addition, if deemed necessary by the Engineer due to lack of response by the Contractor, State Maintenance Forces may be mobilized to correct the emergency situation with all costs of the corrective action being assessed against monies due the Contractor. This assessment for costs incurred shall be in addition to the assessment of the amount in accordance with Subsection 712.04.

The preceding assessments shall be in addition to any liquidated damages which may be assessed in accordance with Subsection 108.07.

Basis of Payment. The labor costs involved in the provision of the Traffic Control Supervisor, and any equipment, tools, or incidentals necessary to complete the work, are to be compensated fully by the lump sum price bid for Traffic Control Supervisor, Item No. 712-01.04.

DESIGN-BUILD

RFP CONTRACT BOOK 3

PROJECT SPECIFIC INFORMATION

TENNESSEE DEPARTMENT OF TRANSPORTATION

I-40

Widening from Central Pike to East of SR-109

Wilson County- TENNESSEE

PROJECT IDENTIFICATION NUMBER (PIN 114169.00)

PROJECT NUMBER IM-40-5(140); 95100-0105-44

DB CONTRACT NO. DB1101

September 16, 2011

Addendum #1 – October 19, 2011

- The Design Builder shall be solely responsible for and obtain any necessary environmental permits or approvals from state and/or local agencies regarding the operation of any project-dedicated asphalt and/or concrete plants.
- Borrow and waste disposal areas shall be located in non-wetland areas and above the 100-year, Federal Emergency Management Agency floodplain. Borrow and waste disposal areas shall not affect any Waters of the State/U.S. unless these areas are specifically covered by an ARAP, 404, or NPDES permit, obtained solely by the Design Builder.

c. The assigned DBE goal for this Project is:

- The assigned DBE goal for this Project is **8%**.

The Design Builder shall exercise all necessary and reasonable steps to ensure that DBEs participate in at least the percent of the total project cost as set forth above as the goal. The design Builder shall make good faith efforts in achieving this goal and shall comply with all requirements of 49 CFR part 26.

d. Assigned On-the-Job/Apprenticeship Training

- ~~Not~~ required on this project.

e. The liquidated damage for non compliance ~~(including lane closures outside specified timeframes)~~ is **$12,376 per Calendar Day***. This is also the Time Value used for calculation of selection and for failure to complete the work on time. It shall be calculated as follows:

If the Project is NOT completed in time "B", then the following amount will be deducted from the monies due the Design Builder as:

(Actual Time Charged – B) x **$12,376/Calendar Day***

* Calendar Day amounts are applicable when the Contract Time is expressed on the Calendar Day or fixed date basis.

Any liquidated damages shall be addressed, not as a penalty, and computed as they occur with a separate item number subtracting from monies due the Design Builder.

f. All work shall be completed in accordance with the most current version of the Tennessee Department of Transportation Standard Specifications for Road and Bridge Construction, unless specifically stated herein.

g. The Department will be responsible for Construction Engineering Inspection (CEI) work.

h. A rideablility Special Provision (SP411B) will be included in this Project.

i. Bituminous Material, Portland Cement and Fuel Price Adjustments shall **be** available on this Project. Once the Contract is executed items for Bituminous Material and Fuel Price Adjustments will be added. The adjustments will be made on the Progress Payments approved by the Department.

acquisitions are unavoidable, the Design Builder will be responsible for all ROW activities including but not limited to appraisals, appraisal reviews, and acquisitions.

The Design Builder shall be responsible for all utility coordination and utility relocations.

The Design Builder shall ensure that minimum clearing and grubbing is performed beyond the toe of slopes, preserving as much vegetation as possible.

The Design Builder will be responsible for the replacement of all control access fence within the project limits. The new control access fence shall be 6' chain link fence. The following special note shall be added to the plans and adhered to during construction: "Removal of existing fence shall be performed by hand or suitable means to avoid damage to adjacent vegetation. Vegetation shall be removed only if it is entangled in the fence itself. Removal of all fence shall be as directed by the engineer and all costs for removal are to be included in the price bid for new fence."

The Design Builder shall identify the need for any special roadway design details (i.e. any special drainage structures, rock embankment, rock plating, special guardrail, retaining walls, concrete barrier designs, etc.) and shall provide special design drawings.

The Design Builder shall install ITS conduit and pull boxes along both sides of the roadway. ITS conduit is to be located outside of the cut and fill slope lines and close to the ROW line when possible. Conduit should also be located so that it will not conflict with or be damaged by other roadway items such as drainage structures, foundations, signing, lighting, guardrail, retaining walls, and landscaping. ITS conduit shall be Flexible Conduit (Bank Type 4) and shall meet the attached specifications for ITS Conduit. ITS conduit will be required to be bored under active roadways and ramps. ITS conduit shall be marked with cable markers. Pull boxes shall be located at a maximum spacing of 500 feet. The Design-Builder shall design and install the foundation for a future Dynamic Message sign in the proposed median barrier. The foundation for the future DMS sign will be at L.M. 4.65. The foundation shall be designed to accommodate a dynamic message sign in each direction and be capable of supporting a structure spanning both directions of traffic and providing a minimum of 6 feet clearance between the back or the guardrail on the outside shoulders and the sign support. The Design –Builder shall submit designs to the TDOT Design Division and TDOT Structures Division for approval prior to beginning construction. Upon project completion, the Design-Builder shall provide the TDOT Design Division with a survey using Tennessee State Plane Coordinates of the location of the completed foundations along with as-built plans and design calculations. Information is to be supplied in hard copy and MicroStation files using TDOT CADD standards.

Work shall be coordinated and approved by the TDOT Design Division (ITS, Signal, and Standards Office) prior to any construction taking place. Upon project completion, the Design Builder shall provide the TDOT Design Division with a survey using Tennessee

State Plane Coordinates showing the as built location of all ITS related items. Information is to be supplied in both hard copy and Microstation files using TDOT CADD standards.

All Design Documents and Design Reviews shall be provided by the Design Builder and performed in accordance with the Design Review schedule established in the Critical Path Method (CPM) Schedule, and in accordance with contract requirements.

The Design Builder shall design and construct two Emergency Pull Off Areas in each direction of travel. Specific guidance and details for design and construction of the Emergency Pull Off Areas is referenced in Appendix C. Locations of the Emergency Pull Off Areas are to be ultimately approved by the Department.

The Design Builder shall ensure that all applicable "General and Special Notes" found in Section VI of the current edition of the State of Tennessee Department of Transportation Design Division Roadway Design Guidelines are adhered to during construction.

The Design Builder shall be responsible for all open channels and storm drainage design and construction. The design of drainage facilities shall be compatible with existing or proposed drainage systems on adjacent properties, and shall preserve existing drainage patterns wherever possible. If existing drainage patters must be changed due to design of the Project, the Design Builder shall design and construct a solution that does not adversely impact property owners outside the ROW.

Roadway component geometric configurations shall be designed to provide adequate drainage and minimize hydroplaning. Cross slopes shall be in accordance with the requirements of the roadway section. The required Crown Point location occurs between the first inside two lanes, with the inside lane and shoulder draining towards the median barrier and the outer lanes and should draining to the outside. An example typical section of a recent project on the website.

Hydraulic design data shall be listed on the Readiness-for-Construction Design plans for each culvert.

The Design Builder shall cold plane and pave in the direction of traffic. The Pavement Design Report for this Project has been developed by the Department and is located as an Appendix A in this **Contract Book 3 (Project Specific Information)**.

- An aggregate or filter cloth underdrain with pipe throughout the project limits will be required, as there is a drainage layer within the pavement.
- Laterals for the underdrain will also be required.
- The Design Builder shall be responsible for the design of all temporary pavements and the evaluation of existing shoulders and roadways regarding their suitability for carrying traffic during construction, if necessary. If required, the Design

g. Use HL-93 live loading in the design.
h. The bridge design shall include 35 psf for future wearing surface.
i. The bridge parapet rail and median barrier must be specified according to current TDOT standards. They shall have a single-sloped face.
j. The Design-Builder shall perform a hydraulic analysis to determine the need for deck drains and/or end of bridge drains to handle the surface water on the bridge deck.
~~k. The Design-Builder shall provide a mechanically grooved finish to the bridge deck.~~
l. An applied texture finish is required on the parapet rail, cantilever slab and exterior beam. The side of the parapet facing traffic shall receive a white finish (Fed. Spec. No. 37886). All other locations are to be mountain grey (Fed. Spec. No. 36440). The exposed portions of the substructure including the wingwalls, endwalls, abutment beams, pier columns and pier caps are to be finished in mountain grey.
m. The bridge construction shall be phased such that two 12'traffic lanes are open at all times in each direction and shall correspond with the roadway phasing.
n. The existing dual bridge plans shall be reviewed and considered during the design of the new single structure.

The Design Builder shall be responsible for all culverts and culvert extensions.

a. The Design Builder shall adhere to all permit, FEMA, and hydraulic design criteria when designing culverts and culvert extensions. Design Builder shall use Drainage Manual found on TDOT Design Division website, and Design procedures for Hydraulic Structures 2004 found on TDOT Structure Division website. Design Builder shall use FHWA scour publication HEC-18, and shall use bridge deck drain design procedures contained in FHWA publication HEC-21 or HEC-22
b. The Design Builder shall analyze existing culverts, boxes and cross pipes, impacted or affected by the project's design.
c. The Design Builder shall replace or supplement any pipes or culverts that are deemed hydraulically deficient as a result of this project and replace any structurally deficient pipes or culverts within the project limits.

The Design Builder shall be responsible for wall envelopes, design, and construction of all retaining walls, slope momentum. If retaining walls are used, the retaining walls shall be designed according to TDOT's Earth Retaining Structures Manual and TDOT Standard Specifications for Road and Bridge Construction (2006 Edition) and Supplemental Specifications.

The Design-Builder shall be responsible for the design and construction of a noise wall on I-40 west-bound east of SR-171 (Mt. Juliet Road).

a. The noise wall shall be located at/near the edge of shoulder.

b. The top of noise wall elevation shall be 10 feet above finished grade of the outside lane.

c. The noise wall shall begin on the exit ramp at log mile 3.21 and extend a distance of 2600' to log mile 3.70.

d. The noise wall shall be designed using the AASHTO Guide Specifications for Structural Design of Sound Barriers, 1989 edition (with 1992 and 2002 interims).

e. The noise wall shall be constructed using concrete posts and concrete panels.

f. The concrete used in the posts and panels must have a compressive strength of at least 3000 psi.

g. The posts shall be centered between the panels. The post spacing shall not exceed 20 feet.

h. The panels shall be 2', 3' or 4' in height. The panels may be tapered. The horizontal joints between the panels shall align with adjacent panel sections.

i. The posts and panels shall be flush at the top. The top of wall elevation shall vary by no more than 2 feet.

j. The posts and panels shall be texture-coated mountain grey (Fed. Spec. No. 36440).

k. The noise wall panels shall have an ashlar stone pattern using a formliner on both sides. The pattern shall be approved by TDOT before fabrication may begin. The top panel in each section shall have a 12 inch smooth concrete band at the top of the panel.

l. The noise wall does not need to be absorptive.

m. The noise wall design shall address any conflicts with utilities and/or drainage structures.

The Design-Builder shall be responsible for the design and construction of all remaining structures necessary to complete the project.

The Design-Builder shall be responsible for the removal and disposal of all deficient structures, or portions thereof.

There are three existing bridges crossing Interstate 40 along the project limits. A minimum vertical clearance of at least 16'-0" over the roadway shall be provided ~~during and~~ after construction. It will be acceptable to maintain its existing vertical clearance during construction.

The Design-Builder shall be responsible for Bridge Repair of the spalls on the substructure of the existing bridges over Wilson creek. The Design-Builder shall contact TDOT Structures Division concerning all needed repairs to the existing bridges or any other structures.

1. The Design Builder shall remove the existing wearing surface.
2. The Design Builder shall be sounded the existing bridge to determine the areas of full and partial depth deck repairs. (Existing bridges already has a concrete overlay). Bridge deck survey referenced on Index C.

APPENDIX C

REFERENCE INFORMATION

- Technical Report http://www.tdot.state.tn.us/construction/DB1101_details.htm
- As Built Plans http://www.tdot.state.tn.us/construction/DB1101_details.htm
- I-40 DB Mapping http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Existing Structure details over Wilson Creek http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Environmental Document D-list C.E. http://www.tdot.state.tn.us/construction/DB1101_details.htm
- DB Geotechnical documents http://www.tdot.state.tn.us/construction/DB1101_details.htm
- NEPA Ecology Report http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Emergency Pull over Area Detail http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Latest Inspection Reports of the I-40 crossing of Wilson Creek http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Spall Repair Details http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Permit Forms Examples http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Signing Details http://www.tdot.state.tn.us/construction/DB1101_details.htm
- ITS conduit plans example http://www.tdot.state.tn.us/construction/DB1101_details.htm
- DMS detail http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Typical Sections example http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Green Sheet http://www.tdot.state.tn.us/construction/DB1101_details.htm