



City of Bartlett

A. Keith McDonald, Mayor

BOARD OF MAYOR AND ALDERMEN MEETING MINUTES

TUESDAY, SEPTEMBER 9, 2014 - BARTLETT CITY HALL - 7:00 PM

CALL TO ORDER

Mayor A. Keith McDonald: Present, Alderman W.C. Pleasant: Present, Alderman Emily Elliott: Present, Alderman David Parsons: Present, Alderman Bobby Simmons: Absent, Vice Mayor Jack Young: Present, Alderman Paula Sedgwick: Present.

INVOCATION

Opening Prayer by Father Russell Harbaugh St. Ann's Catholic Church

FUTURE MEETINGS

Parks and Recreation Advisory Board, September 11 at 7 p.m.

Historic Preservation Commission, September 15 at 7 p.m.

BPACC Advisory Board, September 16 at 6 p.m.

Design Review Commission, September 16 at 7 p.m.

Board of Mayor and Aldermen Work Session, September 23 at 5:30 p.m.

RECOGNITIONS

Proclamation for Claude Humphrey upon his induction into the NFL Hall of Fame

Mayor McDonald proclaimed September 9, 2014 as Claude Humphrey Day in Bartlett. Mr. Humphrey was recently inducted into the National Football League Hall of Fame in Canton, Ohio. In 1968, the Atlanta Falcons drafted him in the first round. He played for the Falcons for ten years; then joined the Philadelphia Eagles in 1979. Mr. Humphrey retired from the NFL in 1981.

Mr. Humphrey was humbled by the honor. He has been a resident of Bartlett for 25 years.

Shelby County Trustee David Lenoir

Mr. Lenoir made his semi-annual State of the County finances to the Board.

He noted that out of the \$4.37 Shelby County tax rate, \$0.13 goes to Bartlett City Schools and \$2.14 goes to Shelby County Schools.

Mr. Lenoir noted that the Bartlett housing market has no clear direction. Countywide, home sales are down, but prices have increased.

The Shelby County Trustee's Office closed the fiscal year with a surplus.

*****Official Business of the Day*******MINUTES ACCEPTANCE****Minutes of the August 26, 2014 Board of Mayor and Aldermen Regular Meeting**

RESULT:	ACCEPTED [UNANIMOUS]
MOVER:	Emily Elliott, Alderman
SECONDER:	Jack Young, Vice Mayor
AYES:	Pleasant, Elliott, Parsons, Young, Sedgwick

PUBLIC HEARING

Individuals will have a maximum of three minutes to speak either for or against the item, with a total of 20 minutes for each side.

- I. Ordinance 14-07, an ordinance to delete water and sewer rates and tap fees from the codified ordinances.

No one spoke in favor or in opposition.

UNFINISHED BUSINESS

- I **Third Reading of Ordinance 14-07, an ordinance to delete water and sewer rates and tap fees from the codified ordinances. (Mark Brown, Chief Administrative Officer)**

Mayor McDonald stated this amendment removes the water and sewer rates from the Codified Ordinances. The rates will now only be maintained in the annual budget ordinance.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Jack Young, Vice Mayor
SECONDER:	Emily Elliott, Alderman
AYES:	Pleasant, Elliott, Parsons, Young, Sedgwick

CONSENT AGENDA

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Jack Young, Vice Mayor
SECONDER:	Emily Elliott, Alderman
AYES:	Pleasant, Elliott, Parsons, Young, Sedgwick

- I **Special event permit for St. Vincent DePaul Garage Sale Fundraiser. (Jim Brown, Director of Code Enforcement)**
The event will be held on Saturday, October 11 from 6 a.m. to 1 p.m. at St Ann. Catholic Church.

2 Authorization to auction surplus property. (Dick Phebus, Director of Finance)

Thirty-seven items have been identified as having a potential auction-value of \$500 or more and will be auctioned on GovDeals.com.

3 Bid for Bartlett Road Bridge and Approaches over Harrington Creek. (Wade Towles, Assistant Director of Engineering)

Recommend accepting the lowest bid from Dement Construction in the amount of \$1,004,590.88, plus a contingency amount of \$25,000.00 for a total cost of \$1,029,590.88. Also recommend awarding the Construction Engineering and Inspection Contract to A2H for this project in the amount of \$140,000.00 for all of the inspections and records required by TDOT. The total funding for this project would be \$1,169,590.88; the City's portion is \$282,487.78. Funds are available in Account 311.48311.780.426.

Mr. McClanahan said the bridge will be completely rebuilt, and will be out of service for at least nine months. Construction will hopefully start right after Veterans Day, November 11.

NEW BUSINESS

I First Reading of Ordinance 14-08, an ordinance to amend Ordinance 98-15. (Rick McClanahan, Director of Engineering)

Mr. McClanahan explained that this amendment was mainly for housekeeping purposes by updating the associated fees and maps. Credits will be assigned to the property, as opposed to the developer. Mayor McDonald asked if the Planning Commission approved this ordinance. Mr. McClanahan stated that the ordinance has not been presented to the Planning Commission.

RESULT:	APPROVED ON FIRST READING [UNANIMOUS]	Next: 9/23/2014 7:00 PM
MOVER:	Jack Young, Vice Mayor	
SECONDER:	David Parsons, Alderman	
AYES:	Pleasant, Elliott, Parsons, Young, Sedgwick	

OPEN DISCUSSION

Alderman Elliott noted that Safe Choice Security named Bartlett the seventh safest city in Tennessee.

ADJOURNMENT

Meeting adjourned at 7:26 PM

W.C. Pleasant, Register to the
Board of Mayor and Alderman

A. Keith McDonald
Mayor



City of Bartlett
A. Keith McDonald, Mayor

BOARD OF MAYOR AND ALDERMEN MEETING MINUTES

TUESDAY, AUGUST 26, 2014 - BARTLETT CITY HALL - 7:00 PM

CALL TO ORDER

Mayor A. Keith McDonald: Present, Alderman W.C. Pleasant: Present, Alderman Emily Elliott: Present, Alderman David Parsons: Present, Alderman Bobby Simmons: Present, Vice Mayor Jack Young: Present, Alderman Paula Sedgwick: Absent.

INVOCATION

Opening Prayer by Mayor McDonald

FUTURE MEETINGS

Planning Commission, September 2 at 7 p.m.

Bartlett Station Commission, September 3 at 7:30 a.m.

City Beautiful Commission, September 4 at 7 p.m.

Family Assistance Commission, September 8 at 7 p.m.

Bartlett Historical Society, September 8 at 7 p.m.

RECOGNITIONS

Presentation of "Best of" Awards by The Bartlett Express

Jackie Butler, a sales executive with *The Bartlett Express*, presented the newspaper's "Best of" Awards to the City's winners.

Man of the Year - Mayor McDonald
Best Firefighter - Assistant Fire Chief Danny Baxter
Best Fitness Center - Bartlett Recreation Center
Best Police Officer - Colin Green
Best City Employee - Colin Green

Youth Leadership Bartlett

Youth Leadership Bartlett Class of 2015 spent afternoon learning about local government with Mayor McDonald.

Minutes Acceptance: Minutes of Aug 26, 2014 7:00 PM (MINUTES ACCEPTANCE)

*****Official Business of the Day*******MINUTES ACCEPTANCE****Minutes of the August 12, 2014 Board of Mayor and Aldermen Regular Meeting**

RESULT:	ACCEPTED [UNANIMOUS]
MOVER:	Bobby Simmons, Alderman
SECONDER:	David Parsons, Alderman
AYES:	McDonald, Pleasant, Elliott, Parsons, Simmons, Young

PUBLIC HEARINGS

Individuals will have a maximum of three minutes to speak either for or against the item, with a total of 20 minutes for each side.

- I. **Resolution 21-14, a Resolution Approving a Special Use Permit for AAA Collision to operate an Automobile Paint and Body Shop located at Grace Subdivision Lot 2 on Summer Avenue within the "C-H" Highway Business Zoning District.**

No one spoke in favor of Resolution 21-14.

In opposition

*Tracy Payne, 6313 Ivanhoe, said the Commercial Highway zoning district is generous enough. If a project needs a special use permit, then it doesn't need to be constructed. She is concerned that vehicles left at the business overnight will invite crime. She also voiced concern about the shared access on Elmore Road being used by tow trucks.

*Tommy Spencer, 6332 Elmore Road, believes that 30 percent of the parcel in question drains to Lot 3 and then to his property. Mr. Spencer claims the sample runoff he brought to the Board meeting is from a current AAA Collision location. He claims the sample, contained in an old peanut butter jar, contains transmission fluid, antifreeze and other pollutants that he doesn't want draining into his yard.

*Vicki Jackson, 2455 E. Hawthorne Road, believes the business will be aesthetically unappealing, and believes the owner can find a better-suited location in Bartlett.

Mayor McDonald read a letter from Del and Mary Ann Schmand, 2462 E Hawthorne. The Schmands oppose AAA Collision building on this lot because of increased traffic, noise, water and fluid pollution. They would like a buffer between residential and commercial areas.

The public hearing adjourned at 7:26 p.m.

UNFINISHED BUSINESS**I Resolution 21-14, a Resolution Approving a Special Use Permit for AAA Collision to operate an Automobile Paint and Body Shop located at Grace Subdivision Lot 2 on Summer Avenue within the "C-H" Highway Business Zoning District. (Terry Emerick, Director of Planning and Economic Development)**

Mr. Emerick explained that AAA Collision would like to construct and operate a facility on Lot 2 of Grace Subdivision. This lot fronts Summer Avenue just north of Elmore Road. A vacant lot and a self-storage facility are adjacent to this property. A motorcycle service facility is located south of Lot 2. The lot is across Summer Ave from the City of Memphis.

The site plan concept places a small office building on the front of the property and two workshops buildings in the rear for painting and auto repair. The business would share an access drive with the motorcycle business to its south.

The developer would be required to install a detention basin on Summer Ave to handle this parcel's drainage and the nearby vacant lot. The detention basin would go where an existing billboard is, which would have to be removed.

Mr. Emerick said the Planning Commission heard this application July 7, and voted eight to one with a favorable recommendation. Neighbors spoke against the development during the Planning Commission's public hearing.

If the Board approves this special use permit, the Planning Commission and the Design Review Commission would have to approve a detailed site plan.

Alderman Parsons asked Mr. Emerick to address the neighbors' concerns of water and pollution draining onto their properties.

Mr. Emerick explained that all new development is required to detain, on site, all water/runoff generated by the development. The purpose is not to have any more water running downstream after the development is complete than prior to its construction. City Engineering has determined that all drainage from Lot 2 will flow toward Summer Avenue. Staff will ensure that drainage is designed to flow away from the residential area.

Mr. McClanahan explained that the original grading plan for Grace Subdivision set the ridge line. He said some water may be traveling west. When the site plan is approved, he and his staff will ensure that the grading sends the lot's drainage toward Summer Ave. Mr. McClanahan said it could be necessary, after development is complete, to install a grease/oil separator to deal with the polluted water.

Alderman Elliott asked if runoff isn't regulated by the Environmental Protection Agency (EPA). Mr. McClanahan stated that it is, but EPA enforcement occurs after the act. The EPA would not initially require a separator, but the Board could place that condition in the special use permit.

Alderman Parsons asked if the separator would be placed on the outflow of the detention basin. Mr. McClanahan said it would be placed close to the building to separate out the pollutants before hitting the detention basin. Alderman Parsons asked if the outflow would ever go to the neighboring residential areas. Mr. McClanahan said the outflow would most likely flow to the Loosahatchie River.

Vice Mayor Young asked who determines if the separator is installed. Mr. McClanahan said the Board or the Planning Commission could make that decision.

Alderman Elliott noted that regardless of the location of this kind of business, a special use permit would be required. Mr. Emerick added that an automobile paint and body shop is only allowed in Commercial Highway zoning with a special use permit.

Alderman Parsons asked when the special use permit would be nullified. Mr. Emerick explained that the Board can link a special use permit to the parcel or to a specific business, so that any subsequent user would have to reapply for a special use permit. City Attorney Ed McKenney said the permit typically is linked with the land, but the Board has the authority to link it to the business.

Alderman Elliott asked to amend the resolution that the special use permit is for AAA Collision only. Both the motion maker and seconder, Aldermen Pleasant and Simmons, respectively, accepted the friendly amendment.

RESULT: APPROVED [UNANIMOUS]
MOVER: W.C. Pleasant, Alderman
SECONDER: Bobby Simmons, Alderman
AYES: Pleasant, Elliott, Parsons, Simmons, Young

- 2 **Second Reading of Ordinance 14-07, An ordinance to delete water and sewer rates and tap fees from the codified ordinances. (Mark Brown, Chief Administrative Officer)**

RESULT: APPROVED ON SECOND READING [UNANIMOUS] Next: 9/9/2014 7:00 PM
MOVER: Bobby Simmons, Alderman
SECONDER: Emily Elliott, Alderman
AYES: Pleasant, Elliott, Parsons, Simmons, Young

CONSENT AGENDA

RESULT: APPROVED [UNANIMOUS]
MOVER: Jack Young, Vice Mayor
SECONDER: Bobby Simmons, Alderman
AYES: Pleasant, Elliott, Parsons, Simmons, Young

- 1 **Special event permit for One Less Ministries 5K Race. (Jim Brown, Director of Code Enforcement)**
The event will be held on Saturday, November 1 from 9 to 10:30 a.m. at beginning and ending at Faith Baptist Church.
- 2 **Special event permit for Hunters Walk Neighborhood Sale. (Jim Brown, Director of Code Enforcement)**
The event will be held on Saturday, October 4 from 6 a.m. to 3 p.m. within Hunters Walk Subdivision.
- 3 **Special event permit for St. Ann Bartlett Block Party. (Jim Brown, Director of Code Enforcement)**
The event will be held on Friday, September 12 from 5 to 10 p.m. and Saturday, September 13 from 11 a.m. to 10 p.m. at St. Ann Church.
- 4 **Special event permit for Memphis Euro Fest Car Show. (Jim Brown, Director of Code Enforcement)**
The event will be held on Friday, September 26 and Saturday, September 27 from 8 a.m. to 4 p.m. at Youth Villages.
- 5 **Special event permit for Ellendale Elementary 5K Fun Run. (Jim Brown, Director of Code Enforcement)**
The event will be held on Saturday, October 18 from 12 to 4 p.m. on the school campus.

Minutes Acceptance: Minutes of Aug 26, 2014 7:00 PM (MINUTES ACCEPTANCE)

- 6 Special seasonal event permit for Big Jim's Christmas Trees and Pumpkins. (Jim Brown, Director of Code Enforcement)**
The event will be held September 20 thru December 20 from 9 a.m. to 8 p.m. at 6777 Stage Road.
- 7 Softball Tournament requests for 2014. (David Thompson, Director of Parks and Recreation)**
- 8 Renewal of Computer-Assisted Dispatch maintenance agreements. (Gary Rikard, Chief of Police)**
Request to renew service agreement from Tritech Software Systems for a total cost of \$47,449.13. This project is in conjunction with the VisionAir conversion project. Funds are available in Account 110.42100.264.
- 9 Bid for Concrete Driveway Repair Project for Fire Stations 3 and 4. (Rick McClanahan, Director of Engineering)**
Recommend accepting the lowest bid from Barnes and Brower, Inc. in the amount of \$44,296.75, plus a contingency amount of \$4,500.00, for a total cost of \$48,796.75. Funds are available in Account 110.42200.921.

NEW BUSINESS

- I Debt Obligation Report for General Obligation Capital Outlay Note, Series 2014. (Dick Phebus, Director of Finance)**

The State Comptroller's Office requires this form be presented to the Board for transparency.

RESULT: NO VOTE REQUIRED

OPEN DISCUSSION

Alderman Pleasant thanked everyone for prayers in regard to his open heart surgery.

ADJOURNMENT

Meeting adjourned at 7:52 PM

W.C. Pleasant, Register to the
Board of Mayor and Alderman

A. Keith McDonald
Mayor

Minutes Acceptance: Minutes of Aug 26, 2014 7:00 PM (MINUTES ACCEPTANCE)



Board of Mayor and Aldermen

6400 Stage Road
Bartlett, TN 38134

ADOPTED

ORDINANCE (ID # 1318)

Meeting: 09/09/14 07:00 PM
Department: Administration
Category: Amendment
Prepared By: Stefanie McGee
Initiator: Mark Brown
Sponsors:
DOC ID: 1318

Ordinance 14-07, An ordinance to delete water and sewer rates and tap fees from the codified ordinances.

WHEREAS, the City's water and sewer tap fees and usage rates are currently contained within the Codified Ordinances, and

WHEREAS, the City's water and sewer tap fees and usage rates are amended via the annual budget ordinances, and

WHEREAS, annual budget ordinances are not included in codification, therefore, water and sewer tap fees and usage rates cannot be updated within the codified volumes, these specified fees and rates should be removed from codification and be located and maintained solely within the City's annual fiscal year budget-adoption ordinance.

NOW THEREFORE BE IT HEREBY ORDAINED that the **Board of Mayor and Aldermen** remove the following sections from the **Codified Ordinances**:

18-106 Water Rates

Water rates - Residential

	South Basin		North Basin	
	City	Rural	City	Rural
First 2,000 gal	\$4.00	\$6.00	\$4.00	\$6.00
Next 8,000 gal per 1,000 gal	\$1.24	\$1.86	\$1.24	\$1.86
Over 10,000 gal per 1,000 gal	\$1.14	\$1.71	\$1.14	\$1.71

Water rates - Commercial

	South Basin		North Basin	
	City	Rural	City	Rural
First 2,000 gal	\$7.50	\$10.75	\$7.50	\$10.75
Next 8,000 gal, per 1,000 gal	\$1.45	\$2.17	\$1.45	\$2.17
Over 10,000 gal	\$1.32	\$1.99	\$1.32	\$1.99

per 1,000 gal				
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The above rates are for 3/4" meter. The following surcharges are added for meters above 3/4":

	South Basin		North Basin	
	City	Rural	City	Rural
1" meter	\$2.50	\$4.25	\$2.50	\$4.25
1 1/2" meter	\$5.00	\$7.50	\$5.00	\$7.50
2" meter	\$10.00	\$15.00	\$10.00	\$15.00

(Ord. #94-9, July 1994, as amended by Ord. #05-03, June 2005)

18-111. Water tap fee. The water tap fee for the City of Bartlett shall be one thousand five hundred dollars (\$1,500.00) per residential lot, connection or dwelling unit within the city service area. The water tap fee for commercial and industrial connections shall be two thousand three hundred dollars (\$2,300.00) per connection. (Ord. #96-07, July 1996)

18-202. Sewer tap fee. Except for Buckhead and Oliver Creek, whose sewer tap fee is two thousand dollars (\$2,000.00) per residential lot, the sewer tap fee for the City of Bartlett shall be one thousand five hundred dollars (\$1,500.00) per residential lot or dwelling unit for all residential service connections, including churches and schools per service connection, within the city service area. The service connection fee for commercial and industrial connections shall be one thousand seven hundred fifty dollars (\$1,750.00) per acre or twenty-five dollars (\$25.00) per front foot, plus cost of installation, whichever is greater. (Ord. #96-07, July 1996, modified)

18-203. Sewer rates.

	South Basin		North Basin	
Sewer rates -residential/mo.	City	Rural	City	Rural
First 2,000 gallons	\$4.27	\$6.27	\$4.27	\$6.27
Over 2,000 gal, per 1,000 gal	\$1.133	\$1.233	\$1.133	\$1.233
Maximum	\$22.00	\$27.60	\$22.00	\$1.233

	South Basin		North Basin	
Sewer rates -commercial/mo	City	Rural	City	Rural
First 2,000 gallons	\$10.27	\$15.27	\$10.27	\$15.27

Over 2,000 gal, per 1,000 gal	\$1.233	\$1.333	\$1.233	\$1.333
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(Ord. #05-01, March 2005)

SEVERABILITY - Should any provision or part of this Ordinance be rendered void or unenforceable by any court of law, statute or other authority, the rest and remainder of this Ordinance shall remain in full force and effect.

EFFECTIVE DATE - This Ordinance shall be effective from and after its final passage, the public welfare requiring it.

First Reading: August 12, 2014

Second Reading: August 26, 2014

Third Reading: September 9, 2014

W. C. Pleasant, Register to
the Board of Mayor and Aldermen

A. Keith McDonald, Mayor

Stefanie McGee, City Clerk

HISTORY:

08/12/14 Board of Mayor and Aldermen **APPROVED ON FIRST READING**
Next: 08/26/14

08/26/14 Board of Mayor and Aldermen **APPROVED ON SECOND READING**
Next: 09/09/14

RESULT: **APPROVED [UNANIMOUS]**
MOVER: Jack Young, Vice Mayor
SECONDER: Emily Elliott, Alderman
AYES: Pleasant, Elliott, Parsons, Young, Sedgwick

**Board of Mayor and Aldermen**

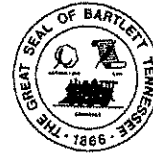
6400 Stage Road
Bartlett, TN 38134

ADOPTED**AGENDA ITEM**

Meeting: 09/09/14 07:00 PM
Department: Code Enforcement
Category: Special event permit
Prepared By: Valerie Brantley
Department Head: Jim Brown

**Special event permit for St.Vincent DePaul Garage Sale
Fundraiser.**

RESULT: **APPROVED BY CONSENT VOTE [UNANIMOUS]**
MOVER: Jack Young, Vice Mayor
SECONDER: Emily Elliott, Alderman
AYES: Pleasant, Elliott, Parsons, Young, Sedgwick



APPLICATION FOR SPECIAL EVENT

OFFICE OF
BARTLETT CODE ENFORCEMENT
6382 STAGE ROAD
BARTLETT TN 38134
901-385-6425

Address 6529 STAGE RD Zip Code 38134
 Dates of the Event OCT 11, 2014 Hours of the Event 6 am - 1 pm
 Type of Event (Fund Raiser, Seasonal, Tent Sale, Sidewalk Sale, Public Attraction) FUND RAISER / GARAGE - YARD SALE
 Property Owner ST ANN CATHOLIC CHURCH
 Special Event Permit Applicant ST VINCENT DE PAUL Address of Applicant 6529 STAGE RD
 Phone Number 901-283-2760/373-6011 Fax Number 373-9030

Check all items that apply:

For information call (901) 385-6425.

☒ Letter of Permission
☐ Insurance
☒ Tents (Fire Retardant letter included)
☒ Special Event Checklist
☒ Map
☒ Sign or Banner

 \$60.00 Special Event Fee
 \$4.00 Permit Issuing Fee

 Total

JOHN VETTER
 Responsible Person

8/18/14
 Date

****Notify building department 10 days prior to Special Event to be held unless it is a Public Attraction which requires approval from the Board of Mayor & Aldermen.****

APPROVAL

This application is not a permit and grants no rights or privileges.

Attachment: ST VINCENT DePAUL GARAGE SALE FUNDRAISER-FALL 2014 (1331 : St Vincent DePaul Garage Sale Fundraiser)

Special Event Checklist

Event: ST ANN / ST VINCENT DE PAUL YARD SALE
 Location: 65291 STAGE RD
 Dates: OCT 11, 2014

Type of special event: (Check one.)

- | | |
|---|---|
| <p>☐ <i>Type 1: Noncommercial Events.</i> Fund-raising or non-commercial events held outside an enclosed permanent structure, including parades, advertised demonstrations, or events, including structures used in conjunction with the event.</p> <p>☐ <i>Type 2: Special Seasonal Events.</i> Farmers' market, Christmas tree sales, fruit, flower or vegetable sales, or sale of other seasonal products, when sold other than on the site where grown, constructed or assembled.</p> | <p>☐ <i>Type 3: Commercial Events.</i> Significant commercial events such as tent sales, sidewalk sales, trade shows, merchandise sales, product demonstrations or transient merchants.</p> <p>☒ <i>Type 4: Public Attractions.</i> Significant outdoor public events intended primarily for entertainment or amusement, such as carnivals, concerts, or festivals, including fireworks displays. Requires approval by the Board of Mayor and Aldermen.</p> |
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Exempt events: (If any of these apply, the special event is exempt from the permit requirement.)

- | | |
|---|--|
| <p>☐ <i>Public property.</i> Any special event wholly on public streets and right-of-ways or other property of the City, excluding public parks, which special event is allowed specifically or generally by action of the Board of Mayor and Aldermen.</p> <p>☐ <i>Public parks.</i> Any special event held within a public park. (Although exempt from this Section, these types of special events shall be governed by other provisions of the Codified Ordinances regulating conduct in City parks and recreation areas.)</p> <p>☐ <i>City sponsorship.</i> Any special event sponsored or co-sponsored by the City. Such event shall, however, be in compliance with the performance standards in Section 27.F.</p> <p>☐ <i>Special use permit or site plan.</i> Any business already operating under a special use permit or site plan that authorizes the display and sale of outdoor goods or authorizes the operation of any special event as defined herein.</p> <p>☐ <i>Yard sales.</i> Yard sales regulated under Article VI, Section 1 of the Zoning Ordinance.</p> | <p>☐ <i>Auctions/estate sales.</i> Auctions/estate sale for individual property that is not considered a special event and is conducted by duly licensed auctioneers.</p> <p>☐ <i>Business deliveries.</i> Newspaper delivery or bona fide merchants who deliver goods in the regular course of business.</p> <p>☐ <i>Certain solicitations.</i> Solicitors for charitable, non-profit or religious organizations who go from dwelling to dwelling, business to business, street to street, taking or attempting to take orders for goods, wares and merchandise are exempt from these provisions, provided these organizations meet the Internal Revenue Service Criteria to qualify as a charitable, non-profit or religious organization.</p> <p>☐ <i>First Amendment activity.</i> The dispensing of religious pamphlets or other literature which is protected by the United States Constitution under Freedom of Speech, Religion or Press.</p> <p>☐ <i>Political campaigning.</i> Campaigning for public office.</p> |
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Performance standards:

	Sub- mitted ✓ or X	OK	N/A		Comments
1	X			<i>Location.</i> Special events that do not require the use of public right-of-way shall be conducted on private property in a commercial or industrial zoning district, except that non-profit organizations may conduct special events on any property where the owner has granted permission.	
2			X	For all special events that require the use of public right-of-way, the permit granted shall clearly specify the streets to be used for the event and the time that the streets will be closed, if applicable.	
3			X	Type 3 outdoor sales must be conducted by an existing permanent business adjacent to and on the property of the location of the permanent business. The outdoor sales are to be conducted as an adjunct to the existing permanent business.	
4	X			<i>Land-use compatibility.</i> The special event shall be compatible with the purpose and intent of this Section and with adjacent land uses.	
5	X			The special event shall not impair the normal, safe and effective operation of a permanent use on the same site.	
6	X			The special event shall not endanger or be detrimental to the public health, safety or welfare or injurious to property or improvements in the immediate vicinity of the special event, given the nature of the activity, its location on the site and its relationship to parking and access points.	
7	X			<i>Compliance with other regulations.</i> All structures shall meet all applicable provisions of the Building Code.	
8	X			Any temporary structure shall be promptly removed upon the cessation of the event. Within forty-eight (48) hours of cessation of the event, the site shall be returned to its previous condition, including the removal of all litter, signage, attention-attracting devices or other evidence of the special event. If the site is not returned to its previous condition, the City may restore the site at the event coordinator's expense.	

	Sub- mitted ✓ or X	OK	N/A		Comments										
9	X			<i>Hours of operation and duration.</i> The duration and hours of operation of a special event shall be consistent with the surrounding land uses. The total duration of a special event shall not exceed the duration set forth in Table VI.27-1; however, the duration of the special event may be modified by conditions attached to the issuance of the special event permit, as set forth in Section 27.F. Table V.27-1: Special Event Maximum Duration <table><tr><th>Type of Special Event</th><th>Duration</th></tr><tr><td>Type 1: Noncommercial</td><td>30 days</td></tr><tr><td>Type 2: Special Seasonal</td><td>90 days</td></tr><tr><td>Type 3: Commercial</td><td>14 days</td></tr><tr><td>Type 4: Public Attractions</td><td>14 days</td></tr></table>	Type of Special Event	Duration	Type 1: Noncommercial	30 days	Type 2: Special Seasonal	90 days	Type 3: Commercial	14 days	Type 4: Public Attractions	14 days	
Type of Special Event	Duration														
Type 1: Noncommercial	30 days														
Type 2: Special Seasonal	90 days														
Type 3: Commercial	14 days														
Type 4: Public Attractions	14 days														
10			X	In addition to the maximum duration as set forth in Table VI.27-1, a shopping center may hold centralized special events, not connected to individual businesses within the shopping center, which do not exceed sixty (60) days in a calendar year. The duration of all special events in a shopping center may be extended on a case by case basis if the special event(s) take place in shopping center parking areas not required for the primary businesses.											
11	X			<i>Frequency.</i> Except as otherwise provided herein, the maximum frequency of a special event on the same property shall be two (2) times per calendar year, excluding a shopping center. A shopping center shall be allowed to hold four (4) centralized events not connected to any individual business located within the center in addition to those events held by the individual businesses located within the shopping center.											

	Sub- mitted ✓ or X	OK	N/A		Comments
12	X			Type 3 outdoor sales at a specific location may be permitted only as follows: a. Outdoor sales may be permitted once in each calendar month if the duration is not more than three (3) days. b. Outdoor sales may be permitted once in each calendar quarter if the duration is more than three (3) days but not more than ten (10) days. c. The minimum time between consecutive outdoor sales periods for the same business on the same property shall be fourteen (14) days from the beginning of one period to the beginning of the next period. Permitted durations are not cumulative in any time period, that is, the time periods in both "a" and "b" may not be added together.	
13	X			Traffic circulation. The special event shall not cause undue traffic congestion or accident potential, given anticipated attendance and the design of adjacent streets, intersections, parking and traffic controls. All sidewalks shall be left open for pedestrian traffic unless special approval is received for blockage. No alleys, driveways, fire lanes or other access points shall be blocked by the special event unless specific approval is granted for the special event.	
14			X	Street closings. The special event permit recipients shall be responsible for securing, installing and immediate removal upon cessation all barricades and signs when street closings are approved. Large Class III barricades shall be sandbagged to prevent blowing over.	

	Sub- mitted ✓ or X	OK	N/A		Comments
15	X			<i>Fire safety.</i> The fire department shall be consulted for the following requirements and inspection, as necessary. a. Fire lanes a minimum of 20 feet in width and 12 feet in height or as otherwise approved by the Fire Chief must be provided in order to allow Fire Department access within 150 feet of all structures and on at least two sides of all two-story structures within 500 feet of the location of the special event. b. All fire hydrants in the area of the special event must be left with five (5) feet of clearance on all sides and shall be accessible from the fire lanes that are designated with the event. c. No open fires shall be permitted unless advance approval is obtained from the Fire Department. d. Fire extinguishers shall be available as determined by the Fire Chief. e. Temporary electrical wiring for the special event shall be installed in accordance with the requirements of the National Electrical Code. f. Tents shall comply with the Fire Code and applicable building codes. g. Exit signs and proper exiting aisles shall be provided in temporary special event structures.	
16	X			<i>Off-street parking.</i> The event shall not create a parking shortage for any other use. All off-street parking surfaces used for the special event shall be concrete or asphalt.	
17	X			<i>Public conveniences and litter control.</i> Adequate on-site rest room facilities and solid waste containers shall be provided. The applicant shall calculate the demand for such facilities and specify how the need will be addressed.	
18	X			<i>Nuisances.</i> The special event shall not generate excessive noise, dust, smoke, glare, spillover lighting or other forms of environmental or visual pollution.	

	Sub- mitted ✓ or X	OK	N/A		Comments
19	X			<i>Area of parking lot dedicated to outdoor special events.</i> a. No more than ten (10) percent of the parking stalls required for the structure associated with the parking lot in which the special event occurs shall be permitted to be used for a special event. Regardless of how many stalls are occupied by the special event, no special event that occurs in the parking lot for a permanent structure may cause a parking shortage for primary and accessory uses associated with that structure. b. No spikes, nails, anchors or other devices shall be driven into any public street, sidewalk or parking lot surface or into any existing concrete or asphalt. Such devices may be used on private parking lots provided any damage resulting therefrom shall be fixed upon cessation of the event and removal of the devices.	
20			X	<i>City services.</i> If the applicant requests the City to provide services or equipment, including but not limited to traffic control or security personnel, or if the City otherwise determines that services or equipment are required to protect the public health, safety, or general welfare, the applicant shall be required to reimburse the City for the cost of the services. The City may require the applicant to submit a security deposit, in an amount determined by the Chief Administrative Officer and in the form approved by the City Attorney, prior to the event to ensure that the applicant complies with this provision.	
21	X			<i>Insurance coverage.</i> Special event permit recipients must show proof of liability insurance at time of application. If the special event will take place on public property, said certificate of insurance shall name the City as an additional insured party in an amount determined by the Chief Administrative Officer based on the nature of the special event.	

Conditions

Conditions deemed necessary to ensure compatibility with adjacent land-uses and to minimize potential adverse impacts on nearby uses:

	Required ✓ or X	N/A		Comments
22		X	Limitations on signs.	
23		X	Temporary arrangements for parking and traffic circulation.	
24		✓	Requirements for screening/buffering and guarantees for site restoration and cleanup following the special event.	
25		X	Modifications or restrictions on the hours of operation, duration of the event, size of the event or other operational characteristics.	
26		X	The posting of security in an amount required by the Permitting Official to help ensure that the operation of the event and the subsequent restoration of the site are conducted according to required special event standards and conditions of approval.	
27		X	The provision of traffic control or security personnel to ensure the public safety and convenience.	
28		X	Execution of a "Special event agreement" in a form acceptable to the City Attorney to ensure the indemnification of the City and that public property will be protected and/or restored to its condition prior to the special event.	

Special event permit application, content and submission requirements

A complete application shall be submitted to the Permitting Official at least **ten (10) days** prior to the requested start date of any special event.

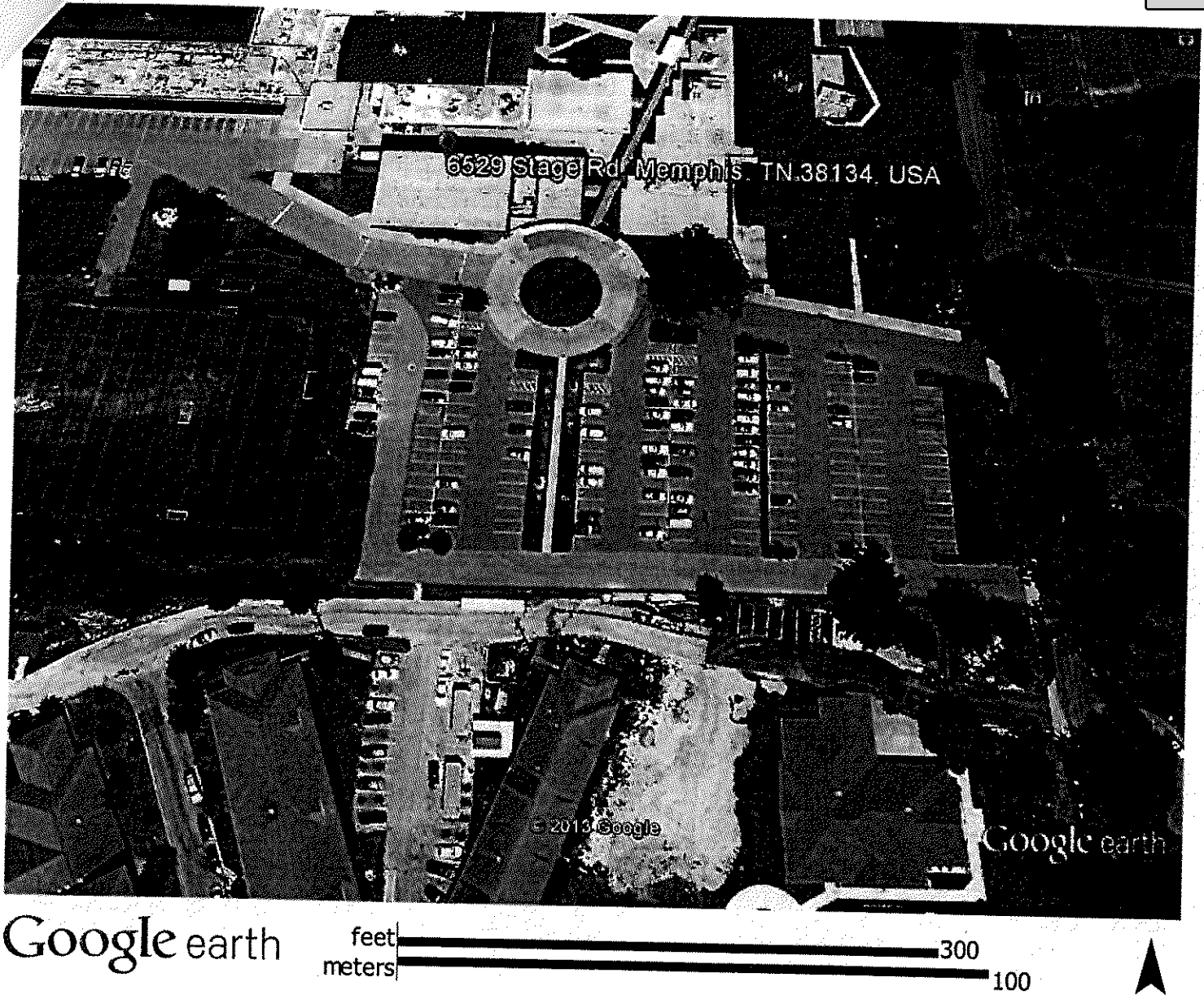
The application shall set forth and contain the following information:

	Sub- mitted ✓ or X	OK	N/A		Comments
29	X			Name and address of the applicant.	
30	X			Names and address of the owner of the premises on which the proposed event is to be held.	
31	X			Written approval from the property owner agreeing to the proposed event, if the applicant is not the same as the property owner.	
32	X			Description of the site on which the proposed event is to be held.	
33	X			Date of the proposed event.	
34	X			A narrative written description of the proposed event, the hours of operation, anticipated attendance, and any buildings/ structures, signs or attention-attracting devices proposed to be used in conjunction with the event, as well as a statement that the standards set forth in this Section have been satisfied. The narrative written description shall also state what public streets, if any, are requested to be used for the special event.	
35	X			A site plan in the form and the level of detail as required by the Permitting Official, showing the location of all existing or proposed uses, structures, parking areas, outdoor display areas, signs, streets, and property lines.	
36	X			Location and number of proposed temporary public toilets.	
37	X			Proposed temporary potable water supplies, which shall be subject to approval by the Director of Code Enforcement, pursuant to applicable authority of the City.	
38	X			Any other information deemed necessary by the Permitting Official to ensure compliance with the standards set forth in this Section.	

Special event permit - authorization by Permitting Official

Type 1, 2 and 3 special events (as defined in part B) may be issued a special event permit by the Permitting Official on the form provided by the City when all of the following conditions have been satisfied and continue to be met throughout the special event:

	OK ✓ or X	N/A		Comments
39	X		A complete application is made on the form provided by the City and a fee paid in accordance with City ordinances.	
40	X		The application has been reviewed and approved in writing by the Code Enforcement, Fire, Police, and Public Works Departments for traffic control and other safety concerns.	
41	X		An electrical plan, if required for the special event, is approved by the Director of Code Enforcement.	
42	X		The Permitting Official determines the following: a. The special event will comply with the special event performance standards...;	
43	X		b. The special event will not endanger the public health, safety, or general welfare given the nature of the activity, its location on the site, and its relationship to parking and access points;	
44	X		c. The special event will not impair the usefulness, enjoyment or value of adjacent property due to the generation of excessive noise, smoke, odor, glare, litter, or visual pollution;	
45	X		d. The special event shall comply with all applicable state and federal health, safety, environmental and other applicable requirements.	



Certificate of Coverage

Date: 8/13/2014

Certificate Holder

Bishop of the Diocese of Memphis and His Successors in
Office, Diocese of Memphis
Catholic Center
5825 Shelby Oaks Drive
Memphis, TN 38134

This Certificate is issued as a matter of information only and
confers no rights upon the holder of this certificate. This certificate
does not amend, extend or alter the coverage afforded below.

Company Affording Coverage

THE CATHOLIC MUTUAL RELIEF
SOCIETY OF AMERICA
10843 OLD MILL RD
OMAHA, NE 68154

Covered Location

St. Ann Catholic Church
6529 Stage Road
Bartlett, TN 38134

Coverages

This is to certify that the coverages listed below have been issued to the certificate holder named above for the certificate indicated, notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the coverage afforded described herein is subject to all the terms, exclusions and conditions of such coverage. Limits shown may have been reduced by paid claims.

Type of Coverage	Certificate Number	Coverage Effective Date	Coverage Expiration Date	Limits	
Property				Real & Personal Property	
D. General Liability	8576	7/1/2014	7/1/2015	Each Occurrence	500,000
☒ Occurrence				General Aggregate	
☐ Claims Made				Products-Comp/OP Agg	
				Personal & Adv Injury	
				Fire Damage (Any one fire)	
				Med Exp (Any one person)	
Excess Liability	8576	7/1/2014	7/1/2015	Each Occurrence	500,000
				Annual Aggregate	
Other				Each Occurrence	
				Claims Made	
				Annual Aggregate	
				Limit/Coverage	

Description of Operations/Locations/Vehicles/Special Items (the following language supersedes any other language in this endorsement or the Certificate in conflict with this language)

Coverage is verified for claims arising out of St. Ann Church's Block Party Fundraiser on September 12 and 13, 2014.

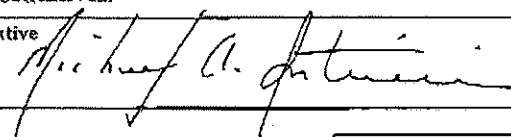
Holder of Certificate

City of Bartlett
c/o Code Compliance
PO Box 341148
Bartlett, TN 38134

Cancellation

Should any of the above described coverages be cancelled before the expiration date thereof, the issuing company will endeavor to mail 30 days written notice to the holder of certificate named to the left, but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives.

Authorized Representative



0277001153

~~St. Vincent de Paul Society~~

~~St Ann Catholic Church * 6529 Stage Road * Bartlett, Tn 38134~~

August 18, 2014

Bartlett Code Enforcement
6462 Stage Rd
Bartlett, TN 38134
Phone 385-6425

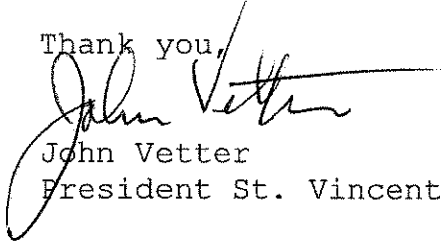
Re: Permit to display sign for Yard Sale

From St. Ann Catholic Church
St. Vincent de Paul Society
6529 Stage Rd
Bartlett, TN 38134

Dear Sir/Madam

We are requesting a permit to display a sign to advertise for a yard/garage sale that will be held Saturday October 11, 2014, from 7AM to approximately 2PM in the old gym at St Ann School. This sign will be displayed from September 27, 2014, through the sale date. The sign would be about 8 ft. x 4 ft. The proceeds of this sale will be used to help the sick, poor and the needy who call the church asking for assistance to pay their utility bills, rent, prescriptions, groceries or medical bills etc.

Thank you,



John Vetter

President St. Vincent de Paul Society

Attachment: ST VINCENT DePAUL GARAGE SALE FUNDRAISER-FALL 2014 (1331 : St Vincent DePaul Garage Sale Fundraiser)



Board of Mayor and Aldermen

6400 Stage Road
Bartlett, TN 38134

ADOPTED

AGENDA ITEM

Meeting: 09/09/14 07:00 PM
Department: Finance
Category: Proposal
Prepared By: Stefanie McGee
Department Head: Dick Phebus

Authorization to auction surplus property.

MEMORANDUM

Date: September 3, 2014

To: Mayor and Board of Aldermen

From: Dick Phebus, Director of Finance

Re: Authorization to Auction Surplus Property

Article V Section 4 of the Charter of the City of Bartlett designates the authority to the Mayor to sell surplus property with Board approval for items valued over \$500. The following items have been identified as surplus with a potential value of over \$500 and are eligible to be sold at public auction.

Department	Year	Make/Model	Color	Vehicle ID#
Police	1995	Oldsmobile Cutless	Maroon	1G3WH52M95D372223
Police	1991	Dodge Dynasty	White	1B3XC46R1MD254058
Police	1999	Ford Expedition	White	1FMRU176XXLA06985
Police	1998	Chevrolet Lumina	Silver	2G1WL52MXW912408 6
Police	1999	Toyota Tacoma	Black	4TANM92NXXZ486230
Police	1992	Pontiac Firebird	Green	1G2FS33E6NL211923
Police	2005	BMW 745I	Silver	WBAGL63585DP74574
Police	1990	Honda Accord	Blue	1HGCB725XLA004775
Police	2001	Chevrolet Silverado	White	2GCEC19T911403402
Police	1998	Lexus GS300	Green	JT8BD68S6W0006902
Police	2000	Honda Accord	White	1HGCF8645YA130982
Police	2001	Pontiac GrandAM	White	1G2NF52E61C105754
Police	1995	Chevrolet Sierra 1500	Blue	2GCEK19K0S1108121
Police	2000	Chevrolet Impala	White	2G1WF55K4Y9345414
Police	2003	Ford Crown Vic	White	2FAFP71W83X131691
Police	2004	Dodge Intrepid	White	2B3HD46VXG626403
Police	2005	Ford Crown Vic	White	2FAHP71W75X149739
Police	2007	Ford Crown Vic	White	2FAHP71W87X104691
Police	2008	Ford Crown Vic	BLK/White	2FAFP71V08X100708
Police	2003	Ford Crown Vic	White	2FAFP71W53X131695
Police	2001	Ford Crown Vic	White	2FAFP71W11X190451
Police	2005	Ford Crown Vic	White	2FAHP71W85X149734

Police	2001	Ford Crown Vic	Maroon	2FAFP71W2YXI40163
Police	2004	Ford Crown Vic	White	2FAFP71W74XI66305
Police		John Deere Grass Trimer		
Police		Worx Hedge Trimmer		
Police		Worx Edger		
Police		Yardman 21" Mower		
Police		Honda 21" Mower		
Police		Craftsman 22" Mower		
Police		Childs 4 Wheeler		
Police		Go Cart		
Police		Earthquake Tiller		
Police		Excell 2300		
Police		Briggs/Stratton MUY2250 Motor		
Police		Dewalt Honda Motor		
Police		Stanlet/Bostitch Air Compressor		

It is our recommendation that these items be approved to be sold at public auction. If approved, the City of Bartlett will advertise the items to be auctioned on the GovDeals website (www.govdeals.com).

Thank you for your consideration of the above item.

RESULT: **APPROVED BY CONSENT VOTE [UNANIMOUS]**

MOVER: Jack Young, Vice Mayor

SECONDER: Emily Elliott, Alderman

AYES: Pleasant, Elliott, Parsons, Young, Sedgwick



Board of Mayor and Aldermen

6400 Stage Road
Bartlett, TN 38134

ADOPTED

AGENDA ITEM

Meeting: 09/09/14 07:00 PM

Department: Engineering

Category: Bid

Prepared By: Wade Towles

Department Head: Wade Towles

Bid for Bartlett Road Bridge and Approaches over Harrington Creek.

The City of Bartlett in conjunction with A2H, Inc. has prepared plans and specifications for the replacement of the bridge located on Bartlett Road north of Bartlett Boulevard and near the intersection of Bartlett Road and Ferguson Road.

Attached is the proposal from A2H for the Construction Engineering and Inspection Services on this locally funded project.

The Bartlett Road Bridge and Approaches over Harrington Creek at LM 0.070 Project No. STP-M-9419(6) LPLM-F-3-037 PIN 112819.00 was advertised in *The Commercial Appeal* and the *Tri-State Defender* on July 3, 2014. There were two addenda sent out on this project and all of the bidders acknowledged receiving the addendum. Bids were opened on July 31, 2014 and four bids were received.

The contractors that picked up Bid Documents are as follows:

Dement Construction
Jones Brothers, Inc.
Chris-Hill Construction, LLC
Ford Construction Company
B&C Construction
Ferrell Paving
Chancellor & Son

On July 31, 2014, we received four bids for the construction of the Bartlett Road Bridge and Approaches over Harrington Creek. The apparent low bidder, Dement Construction, submitted a Total Base Bid of **\$1,004,590.88**. Based on the bid prices submitted, I recommend awarding this bid based on the Base Bid Price. These bids were submitted to TDOT for review and the City of Bartlett did receive Bid Concurrence from TDOT that they agree that the bid from Dement Construction is low and acceptable.

The bids received have been reviewed by the Consultant/Contract Review Committee, and it concluded that Dement Construction has submitted the lowest and best bid and recommends the City of Bartlett award this contract to Dement Construction in the **base bid** amount of **\$1,004,590.88**, plus an additional amount of **\$25,000.00** for potential necessities for a total not to exceed **\$1,029,590.88**. Plus the amount of **\$140,000.00** for the CEI Services provided by A2H on this project during construction for a project total not to exceed **\$1,169,590.88**.

Funding is available in **Account 311.48311.780.426 Bartlett Road Bridge.**

Bidder	Total Base Bid
Dement Construction	\$1,004,590.88
Jones Brothers, Inc.	\$1,035,561.77
Chris-Hill Construction, LLC	\$1,136,363.54
Ford Construction Company	\$1,144,047.93

A copy of the bid document (plans and bid book) is located in the Alderman's Conference Room for review. A copy of the bid tabulation is located in the Alderman's Conference Room for review. A copy of the proposal for the CEI by A2H is attached. These documents have also been attached to this MinuteTraq file.

This project is funded with TDOT STP funding and requires a City of Bartlett match of 20 percent and the State will be responsible for 80 percent of all costs except the water line relocation and the AT&T relocation costs.

The following is how the funding will be broken down on the locally-managed STP funded project:

	State's 80 percent	City's 20 percent	Total cost
Bridge	\$368,282.38	\$92,070.60	\$460,352.98
Roadway	\$381,820.72	\$95,455.18	\$477,275.90
Water Line	\$0	\$61,962.00	\$61,962.00
Fiber Optic	\$0	\$5,000.00	\$5,000.00
Totals	\$750,103.10	\$254,487.78	\$1,004,590.88

The \$5,000 for the Fiber Optics will be paid for by AT&T.

Construction Engineering and Inspection Services: State (80 percent) is \$112,000.00 and the City of Bartlett (20 percent) is \$28,000.00 for a total of \$140,000.00.

RESULT: APPROVED BY CONSENT VOTE [UNANIMOUS]
MOVER: Jack Young, Vice Mayor
SECONDER: Emily Elliott, Alderman
AYES: Pleasant, Elliott, Parsons, Young, Sedgwick



August 1, 2014

Mr. W. R. McClanahan, P.E.
City Engineer
City of Bartlett
6382 Stage Road
Bartlett, Tennessee 38134

RE: Bartlett Road Bridge over Harrington Creek at L.M. 0.070
Project No. STP-M-9419(6)/79LPLM-F3-067
PIN 112819.00
Shelby County, TN

A2H # 09292

Dear Mr. McClanahan:

This is to inform you that the bid have been reviewed for completeness. We are recommending that **Dement Construction Company LLC** of **Jackson, Tennessee**, be awarded the contract in the Base Bid amount of **\$1,004,590.88**. Enclosed are bid tabulation and TDOT Construction Advertising and Award Checklist.

Sincerely,

A2H, INC.

Tet Chiou, P.E.
Senior Civil Engineer

TC/dk

Enclosure

I:\2009\09292\0 Project Management\Construction Documents\Front End-Specs\Bid Open\2014-08-01 Letter of Recommendation.doc

Item #	Description	Quantity	Unit	Demient Construction Company, LLC		Jones Brothers, Inc.		Chirle-Hill Construction Company, LLC		Ford Construction Company		Engineer's Estimate	
				Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
A. ESTIMATED BRIDGE QUANTITIES													
202-04.01	REMOVAL OF STRUCTURE (BR. AT STA. 10+00)	1	L.S.	\$45,000.00	\$45,000.00	\$60,000.00	\$60,000.00	\$39,670.00	\$39,670.00	\$80,000.00	\$80,000.00	\$30,000.00	\$30,000.00
202-04.02	REMOVAL OF STRUCTURE (PEDESTRIAN METAL BRIDGE)	1	L.S.	\$23,000.00	\$23,000.00	\$30,000.00	\$30,000.00	\$13,560.00	\$13,560.00	\$10,000.00	\$10,000.00	\$45,000.00	\$45,000.00
204-02.01	DRY EXCAVATION (BRIDGES)	262	C.Y.	\$15.00	\$3,930.00	\$12.00	\$3,144.00	\$12.65	\$3,312.30	\$11.00	\$2,872.00	\$21.00	\$5,502.00
303-01.02	GRANULAR BACKFILL (BRIDGES)	36	TON	\$50.00	\$1,800.00	\$40.00	\$1,440.00	\$41.00	\$1,476.00	\$38.00	\$1,368.00	\$40.00	\$1,440.00
804-02.03	EPOXY COATED REINFORCING STEEL	35,182	LB.	\$0.87	\$30,608.34	\$1.00	\$35,182.00	\$1.28	\$45,032.96	\$0.94	\$33,071.08	\$1.00	\$35,182.00
804-03.01	CLASS A CONCRETE (BRIDGES)	123	C.Y.	\$650.00	\$79,950.00	\$550.00	\$67,650.00	\$560.00	\$68,880.00	\$455.00	\$55,965.00	\$654.00	\$80,442.00
804-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	11,596	LB.	\$0.74	\$8,581.04	\$1.00	\$11,596.00	\$1.20	\$13,915.20	\$0.90	\$10,436.40	\$1.20	\$13,915.20
804-03.09	CLASS D CONCRETE (BRIDGE DECK)	138	C.Y.	\$439.00	\$60,582.00	\$400.00	\$55,200.00	\$475.00	\$65,550.00	\$430.00	\$59,340.00	\$536.00	\$73,968.00
804-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	231	S.Y.	\$12.00	\$2,772.00	\$9.00	\$2,079.00	\$16.75	\$3,868.25	\$11.00	\$2,541.00	\$10.25	\$2,367.75
808-09.01	TEST PILES (PRECAST CONCRETE, SIZE 1)	130	L.F.	\$50.00	\$6,500.00	\$75.00	\$9,750.00	\$70.00	\$9,100.00	\$45.00	\$5,850.00	\$49.00	\$6,370.00
808-09.02	LOAD TEST (PRECAST CONCRETE, SIZE 1)	1	EACH	\$1,500.00	\$1,500.00	\$12,000.00	\$12,000.00	\$5,500.00	\$5,500.00	\$5,100.00	\$5,100.00	\$4,800.00	\$4,800.00
808-09.03	PRECAST CONCRETE PILES (SIZE 1)	1,540	L.F.	\$32.00	\$49,280.00	\$35.00	\$53,900.00	\$45.00	\$69,300.00	\$40.00	\$61,600.00	\$40.00	\$61,600.00
808-12.01	PILE ANCHORAGE SYSTEM (SEISMIC)	26	EACH	\$120.00	\$3,120.00	\$150.00	\$3,900.00	\$140.00	\$3,640.00	\$105.00	\$2,730.00	\$127.50	\$3,315.00
815-02.52	PRESTRESSED CONCRETE BOX BEAM (27"x48")	538	L.F.	\$185.00	\$98,830.00	\$187.05	\$100,255.80	\$232.25	\$124,486.00	\$208.00	\$111,488.00	\$240.00	\$129,640.00
820-05	CONCRETE PARAPET WITH STRUCTURE TUBING	184.84	L.F.	\$190.00	\$35,119.60	\$200.00	\$36,968.00	\$304.00	\$56,191.36	\$245.00	\$45,285.80	\$180.00	\$33,270.00
710-09.01	6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	82	L.F.	\$110.00	\$9,020.00	\$23.00	\$1,886.00	\$44.50	\$3,658.00	\$13.00	\$1,066.00	\$47.50	\$3,895.00
710-09.02	6" PIPE UNDERDRAIN	40	L.F.	\$12.00	\$480.00	\$10.00	\$400.00	\$30.00	\$1,200.00	\$10.00	\$400.00	\$18.50	\$740.00
	SUB-TOTAL (A) ESTIMATED BRIDGE COST			\$460,352.98		\$485,313.80		\$529,058.57		\$458,088.28		\$526,621.35	
B. ESTIMATED ROADWAY QUANTITIES													
105-01	CONSTRUCTION STAKES, LINES AND GRADES	1	L.S.	\$22,000.00	\$22,000.00	\$9,500.00	\$9,500.00	\$19,900.00	\$19,900.00	\$33,800.00	\$33,800.00	\$5,000.00	\$5,000.00
201-01	CLEARING AND GRUBBING	1	L.S.	\$10,500.00	\$10,500.00	\$3,000.00	\$3,000.00	\$27,565.00	\$27,565.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
202-12.60	REMOVAL & DISPOSAL OF TEMPORARY RUN-AROUND	1	L.S.	\$17,800.00	\$17,800.00	\$10,000.00	\$10,000.00	\$3,200.00	\$3,200.00	\$18,000.00	\$18,000.00	\$20,000.00	\$20,000.00
202-03.01	REMOVAL OF RIGID PAVEMENT, SIDEWALK, ETC.	950	S.Y.	\$5.50	\$5,225.00	\$13.50	\$12,825.00	\$9.35	\$7,932.50	\$17.00	\$16,150.00	\$4.50	\$4,275.00
202-03.01	REMOVAL OF ASPHALT PAVEMENT	900	S.Y.	\$5.50	\$4,950.00	\$6.00	\$5,400.00	\$6.00	\$5,400.00	\$19.00	\$17,100.00	\$4.50	\$4,050.00
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	680	C.Y.	\$10.50	\$7,140.00	\$12.00	\$8,160.00	\$17.75	\$12,075.00	\$12.00	\$8,160.00	\$10.00	\$6,800.00
203-03	BORROW EXCAVATION (UNCLASSIFIED)	123	C.Y.	\$15.00	\$1,845.00	\$10.50	\$1,291.50	\$24.40	\$3,001.20	\$16.00	\$1,968.00	\$12.00	\$1,476.00
203-06	WATER	71	M.G.	\$25.00	\$1,775.00	\$10.00	\$710.00	\$30.00	\$2,130.00	\$11.00	\$781.00	\$11.00	\$781.00
203-08	CHANNEL EXCAVATION (UNCLASSIFIED)	1,100	C.Y.	\$15.00	\$16,500.00	\$10.00	\$11,000.00	\$14.50	\$15,950.00	\$6.00	\$6,600.00	\$7.00	\$7,700.00
204-08.01	BACKFILL MATERIAL (FLOWABLE FILL)	10	C.Y.	\$165.00	\$1,650.00	\$100.00	\$1,000.00	\$255.00	\$2,550.00	\$275.00	\$2,750.00	\$175.00	\$1,750.00
209-05	SEDIMENT REMOVAL	42	C.Y.	\$10.00	\$420.00	\$9.50	\$399.00	\$12.31	\$517.02	\$5.00	\$210.00	\$10.25	\$430.50
209-08.02	TEMPORARY SILT FENCES (WITH BACKING)	1,608	L.F.	\$4.75	\$7,680.00	\$3.50	\$5,628.00	\$3.70	\$5,946.00	\$5.00	\$8,400.00	\$5.00	\$8,400.00
209-09.01	SANDBAGS	400	BAG	\$7.25	\$2,900.00	\$10.00	\$4,000.00	\$7.50	\$3,000.00	\$6.00	\$2,400.00	\$8.50	\$3,400.00
209-40.41	CATCH BASIN FILTER ASSEMBLY (TYPE 1)	3	EACH	\$500.00	\$1,500.00	\$400.00	\$1,200.00	\$775.00	\$2,325.00	\$550.00	\$1,650.00	\$470.00	\$1,410.00
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	950	TON	\$31.50	\$29,925.00	\$24.50	\$23,275.00	\$35.00	\$33,250.00	\$31.00	\$29,450.00	\$24.50	\$23,275.00
307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM)	320	TON	\$95.00	\$30,400.00	\$95.00	\$30,400.00	\$99.75	\$31,920.00	\$95.00	\$30,400.00	\$104.00	\$33,280.00
	GRADING A												
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM)	210	TON	\$102.50	\$21,525.00	\$102.50	\$21,525.00	\$107.65	\$22,608.50	\$102.50	\$21,525.00	\$103.25	\$21,682.50
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	7	TON	\$1,200.00	\$8,400.00	\$1,200.00	\$8,400.00	\$1,030.00	\$7,210.00	\$975.00	\$6,825.00	\$915.00	\$6,405.00
402-02	AGGREGATE FOR COVER MATERIAL (PC)	19	TON	\$100.00	\$1,900.00	\$60.00	\$1,140.00	\$52.00	\$988.00	\$35.00	\$665.00	\$31.50	\$598.50
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	3	TON	\$985.00	\$2,955.00	\$985.00	\$2,955.00	\$3,105.00	\$9,315.00	\$985.00	\$2,955.00	\$748.00	\$2,244.00
411-01.10	ACS MIX (PG64-22) (ACS) GRADING D	206	TON	\$110.00	\$22,660.00	\$110.00	\$22,660.00	\$115.50	\$23,793.00	\$110.00	\$22,660.00	\$119.50	\$24,617.00
607-03.02	18" CONCRETE PIPE CULVERT (CLASS III)	100	L.F.	\$62.50	\$6,250.00	\$27.00	\$2,700.00	\$37.80	\$3,780.00	\$36.00	\$3,600.00	\$40.00	\$4,000.00
607-37.02	CORRUGATED METAL PIPE CULVERT	47	L.F.	\$57.65	\$2,709.55	\$37.00	\$1,739.00	\$34.85	\$1,638.55	\$33.00	\$1,551.00	\$42.00	\$1,974.00
611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	2	C.Y.	\$1,200.00	\$2,400.00	\$250.00	\$500.00	\$785.00	\$1,570.00	\$750.00	\$1,500.00	\$595.00	\$1,190.00
611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	220	LB.	\$1.50	\$330.00	\$2.50	\$550.00	\$2.10	\$462.00	\$2.00	\$400.00	\$1.70	\$374.00
611-09.01	ADJUSTMENT OF EXISTING CATCH-BASIN	2	EACH	\$800.00	\$1,600.00	\$1,500.00	\$3,000.00	\$800.00	\$1,600.00	\$750.00	\$1,500.00	\$1,000.00	\$2,000.00
611-12.01	CATCH BASIN, TYPE 12, 0' - 4' DEPTH	1	EACH	\$2,580.00	\$2,580.00	\$2,500.00	\$2,500.00	\$3,675.00	\$3,675.00	\$3,500.00	\$3,500.00	\$2,675.00	\$2,675.00
611-12.03	CATCH BASIN, TYPE 12, 8' - 12' DEPTH	2	EACH	\$5,150.00	\$10,300.00	\$3,500.00	\$7,000.00	\$5,775.00	\$11,550.00	\$5,500.00	\$11,000.00	\$6,000.00	\$12,000.00
701-01.01	CONCRETE SIDEWALK (4')	2,785	S.F.	\$4.00	\$11,140.00	\$5.50	\$15,317.50	\$4.50	\$12,525.00	\$5.50	\$15,317.50	\$4.00	\$11,140.00
701-02	CONCRETE DRIVEWAY	3,266	S.F.	\$5.25	\$17,152.50	\$8.00	\$26,128.00	\$7.65	\$24,984.90	\$8.00	\$26,128.00	\$5.00	\$16,330.00
701-02.03	CONCRETE HANDICAP RAMP	250	S.F.	\$18.50	\$4,625.00	\$25.00	\$6,250.00	\$13.50	\$3,375.00	\$25.00	\$6,250.00	\$15.75	\$3,937.50
702-03	CONCRETE COMBINED CURB AND GUTTER	75	C.Y.	\$285.00	\$21,375.00	\$520.00	\$39,000.00	\$450.00	\$33,750.00	\$520.00	\$39,000.00	\$225.00	\$16,875.00
705-01.01	GUARDRAIL AT BRIDGE ENDS	108	L.F.	\$115.90	\$12,517.20	\$80.00	\$8,640.00	\$84.00	\$9,072.00	\$80.00	\$8,640.00	\$63.50	\$6,858.00
705-02.02	SINGLE GUARDRAIL (TYPE 2)	7	L.F.	\$42.65	\$298.55	\$50.00	\$350.00	\$52.50	\$367.50	\$50.00	\$350.00	\$16.00	\$112.00
705-04.04	GUARDRAIL TERMINAL (21)	1	EACH	\$3,285.00	\$3,285.00	\$2,075.00	\$2,075.00	\$735.00	\$735.00	\$2,075.00	\$2,075.00	\$2,500.00	\$2,500.00



ENGINEERS · ARCHITECTS · PLANNERS

May 8, 2014

Mr. Rick McClanahan, P.E.
 City Engineer
 City of Bartlett, TN
 6382 Stage Road
 Bartlett, TN 38134

Re: Contract Proposal for Construction Engineering and Inspection
 (CEI) Services for Bartlett Road Bridge & Approaches Over Harrington Creek
 State Project. No.: 79LPLM-F3-067;
 Federal Project. No. STP-M-9419(6);
 PIN No.: 112819.00
 Bartlett, TN

A2H #14258

Dear Mr. McClanahan:

Enclosed are two (2) original contracts for your review and signature. If you agree with the terms as outlined within the enclosed proposal, please acknowledge your acceptance by signing and dating the contract and initialing the Terms and Conditions in the spaces indicated and returning one executed contract to our office. Please retain a copy of the contract for your files.

If selected, please note that Bob Watson will serve as Project Manager for this project and will be your contact person in our office. If you have any questions or require additional information, please do not hesitate to contact either me or Bob at any time.

Thank you for giving us the opportunity to submit this proposal.

Sincerely,

A2H, INC.

Pat Harcourt, P.E.
 Partner - Senior Vice President

Bob Watson, P.E.
 Construction Administration - Associate

PH/ps

Attachment: A2H PROPOSAL FOR CEI (1332 : Bid for Bartlett Road Bridge)



ENGINEERS · ARCHITECTS · PLANNERS

May 8, 2014

Mr. Rick McClanahan, P.E.
 City Engineer
 City of Bartlett, TN
 6382 Stage Road
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Re: Contract Proposal for Construction Engineering and Inspection
 (CEI) Services for Bartlett Road Bridge & Approaches Over Harrington Creek
 State Project. No.: 79LPLM-F3-067;
 Federal Project. No. STP-M-9419(6);
 PIN No.: 112819.00
 Bartlett, TN

A2H #14258

Dear Mr. McClanahan:

We are pleased to submit a proposal for Professional Services for Construction Engineering and Inspection (CEI) for the above referenced project. As this is a locally managed project, our contract for these services will be with the City of Bartlett TN. By way of the letter/contract we are enclosing our proposal for Professional Engineering Services.

I. It is our understanding that the following general services will be provided:

Construction Engineering and Inspection (CEI):

Provide CEI administrative, field inspection and materials testing services to conform to Tennessee Department of Transportation (TDOT) Proposed Scope of Work for CEI. These services are to include:

- A. Project management and contract administration during the construction and closeout phases.
- B. Full-time field inspection throughout the construction phase.
- C. Materials testing during the construction phase.

Attachment: A2H PROPOSAL FOR CEI (1332 : Bid for Bartlett Road Bridge)

II. It is our understanding that the detailed scope of basic services includes:

- A. Project management and contract administration per TDOT Proposed Scope of CEI Services:
 - i. Schedule and conduct preconstruction conference, to be attended by the General Contractor, Subcontractors, representatives of TDOT Construction and Tests & Materials Offices, representatives of the City of Bartlett, representatives of all utilities affected by the construction, as well as A2H project personnel and our testing sub-consultant.
 - ii. Conduct periodic construction progress meetings as necessary.
 - iii. Perform project administration during construction and post-construction phases, to include:
 - a. Track installed quantities for monthly progress payments.
 - b. Prepare monthly engineer's estimates for progress payments based on quantities recorded in the field and materials that meet TDOT Materials & Tests Division requirements.
 - c. Check for compliance with TDOT/FHWA contract documentation requirements, materials & test reports and all certifications.
 - d. Provide material test reports for concrete, asphalt, soils and aggregates per requirements of TDOT SOP1-1.
 - e. Coordinate the administration and record keeping of the project during construction and close out phases.
 - f. Review Contractors' payrolls and conduct employee interviews to ensure compliance with applicable wage/classification rates.
 - g. Administer any required change orders.
 - h. Construction file set up and maintenance of original documents, test reports, certifications and tickets. Note: These records will be kept at A2H during the construction and closeout phases for State and Federal audits as well as tracking project quantities. A copy of all records will be made available for the City.
 - i. Provide and prepare for periodic or in-depth FHWA inspections and State and Federal audits that may be conducted of the project-related documents and records.
 - j. Submit periodic reports to TDOT oversight personnel assigned to the project.
 - k. Coordinate with State and FHWA governmental oversight personnel.
 - l. Ensuring contract compliance requirements such as DBE, Buy American, etc.
 - m. Assemble and organize final records for project closeout following protocol per TDOT. (Note: Original final project records will be turned over to the City at the completion of the project.)

- B. Full-time construction field inspection and materials testing per TDOT Specifications and TDOT Proposed Scope of CEI Services:
- i. Provide qualified, competent and experienced construction field inspection throughout the construction phase, as well as effective and qualified supervision of all inspection services provided. Field inspectors certified by TDOT.
 - ii. Maintain record of all pertinent construction activity and project information in a Daily Work Report. The reports shall record the following information:
 - a. Contractor/subcontractors at work on the project
 - b. Their personnel (number and classification)
 - c. Equipment (number, size, type)
 - d. Location and work performed by each contractor/subcontractor
 - e. Events of note on the project
 - f. Accidents
 - g. Days charged, with explanation if not charged
 - h. Equipment arriving or leaving the projects, idle equipment
 - i. Any details that may be important later in the project record
 - iii. Provide material testing for concrete, asphalt, soils and aggregates per requirements of TDOT SOP 1-1. (Field and plant testing will be performed by Geotechnology, Inc. under the supervision of A2H.)
 - iv. Coordinate with TDOT Materials & Test Division regarding materials certification, acceptance testing and independent assurance testing.
 - v. Review shop drawings and submittals.
 - vi. Check for conformance to plans and specifications for all roadway, structures, and special items that are being incorporated into the project.
 - vii. Observe, measure all quantities for payment.
 - viii. Record field measurements of pay quantities in project records for review by TDOT and FHWA and for monthly progress payments.
 - ix. Coordinate and maintain communication with design engineer throughout construction phase.
 - x. Traffic control inspection conducted and reported weekly.
 - xi. Conduct required inspections of erosion control items for conformance to plans/specifications and SWPPP as applicable.

III. Our proposed fee for the above listed scope of services:

Full Time CEI Field Inspection	\$83,500.00
Materials Testing	\$16,500.00
CEI Contract Administration and Supervisions	\$40,000.00
TOTAL FEE	\$140,000.00

ADDITIONAL SERVICES

Additional services shall consist of all services not included in the Basic Services as set forth above. No work will be performed beyond the services noted above without an express written agreement between A2H and City of Bartlett TN based on the rate schedule contained herein, or a negotiated fixed fee based on the scope of additional services requested. The A2H Hourly Rate Schedule is as follows:

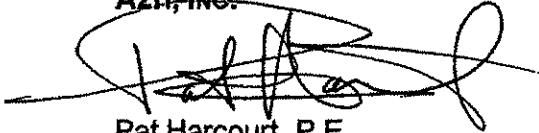
STAFF MEMBER	LEVEL I	LEVEL II	LEVEL III
Principal	\$ 175.00 / HR	\$ 200.00 / HR	\$ 225.00 / HR
Project Manager	\$ 120.00 / HR	\$ 135.00 / HR	\$ 145.00 / HR
Engineer	\$ 110.00 / HR	\$ 120.00 / HR	\$ 135.00 / HR
Architect	\$ 110.00 / HR	\$ 145.00 / HR	\$ 165.00 / HR
Landscape Architect	\$ 100.00 / HR	\$ 110.00 / HR	\$ 120.00 / HR
Planner	\$ 90.00 / HR	\$ 100.00 / HR	\$ 110.00 / HR
Interior Designer	\$ 80.00 / HR	\$ 90.00 / HR	\$ 110.00 / HR
Land Surveyor	\$ 80.00 / HR	\$ 90.00 / HR	\$ 120.00 / HR
Construction Administrative	\$ 75.00 / HR	\$ 85.00 / HR	\$ 95.00 / HR
Designer	\$ 75.00 / HR	\$ 85.00 / HR	\$ 95.00 / HR
BIM/CAD Technician	\$ 70.00 / HR	\$ 80.00 / HR	\$ 90.00 / HR
Survey Crew Member	\$ 55.00 / HR	\$ 65.00 / HR	\$ 75.00 / HR
Administrative	\$ 50.00 / HR	\$ 65.00 / HR	\$ 80.00 / HR
Information Technology	\$ 70.00 / HR	\$ 85.00 / HR	\$ 95.00 / HR

If this proposal and the Terms and Conditions attached hereto and incorporated herein satisfactorily set forth your understanding and the agreement between us, we would appreciate your signing the enclosed copy of this letter agreement in the space provided below and initialing the Terms and Conditions in the space provided and returning them to us.

This proposal will be open for acceptance until **August 6, 2014**. We certainly look forward to working with you on this project and thank you for giving us the opportunity to submit this proposal. If you have any questions, please give me a call at 901-372-0404.

Sincerely,

A2H, INC.



Pat Harcourt, P.E.
Partner – Senior Vice President

PH/ps

Attachment: Terms and Conditions

AGENT FOR: CITY OF BARTLETT TN

ACCEPTED BY: _____ **DATE:** _____

TITLE: _____

I:\2014\14258\0 Project Management\Contracts\Proposal RFP\CEI Proposal\14258 - Proposal for CEI Services 2014-05-08.docx

Attachment: A2H PROPOSAL FOR CEI (1332 : Bid for Bartlett Road Bridge)

TERMS AND CONDITIONS

1) The parties agree that **CITY OF BARTLETT TN** is solely responsible for payment in accordance with the following terms. **A2H, INC.** (hereinafter sometimes "the Consultant") shall submit monthly invoices for work in progress. Payment shall be due upon receipt. Invoices more than 30 days old will be subject to a finance charge of 1.5% per month. The Consultant shall have the right to cease work if payment is not received within 45 days of each invoice. In addition, **CITY OF BARTLETT TN** agrees to pay any and all legal expenses and other costs incurred in the collection of any overdue amount.

2) **CITY OF BARTLETT TN** shall reimburse the Consultant all expenses incurred for courier service, (e.g. Federal Express, United Parcel Service, etc.) mileage, long distance telephone calls, travel, printing and postage. Reimbursable expenses shall be broken out in detail on the invoice. A handling charge of 15% shall be added to all reimbursable expenses.

3) In the event of any litigation arising from or related to this agreement or the services provided under this Agreement, the "prevailing party" shall be entitled to recover from the "non-prevailing party" all reasonable legal expenses and attorney's fees incurred in such litigation. For the purposes of this provision, a party asserting a claim shall be considered the "prevailing party" only if it recovers 50% or more of the amount claimed. If it does not, the claimant shall be the "non-prevailing party."

4) **CITY OF BARTLETT TN** shall make no claim for professional negligence, either directly or by way of a cross complaint against the Consultant unless **CITY OF BARTLETT TN** has first provided the Consultant with a written certification executed by an independent Consultant currently practicing in the same discipline as the Consultant and licensed in the State of Tennessee. This certification shall: a) contain the name and license number of the certifier; b) specify the acts or omissions that the certifier contends are not in conformance with the standard of care for a consultant performing professional services under similar circumstances; and c) state in detail the basis for the certifier's opinion that such acts or omissions do not conform to the standard of care. This certification shall be provided to the Consultant not less than thirty (30) calendar days prior to the presentation of any claim or the institution of any arbitration or judicial proceeding. This Certificate of Merit clause takes precedence over any existing state law in force at the time of the claim or demand for arbitration."

5) The Consultant shall commence services within seven (7) days of receiving executed acceptance of this agreement from **CITY OF BARTLETT TN** along with all project information needed to commence services. The Consultant shall perform the work with due diligence commensurate with sound professional practice.

6) The Consultant shall be responsible for the design of the items listed in the scope of services only. Responsibility for any other site requirements, structures (dumpster pad and walls, transformer pads, etc.) or utilities not specifically mentioned in the scope of services or shown on the drawings produced by A2H, shall be borne by **CITY OF BARTLETT TN** or its consulting architect.

7) In preparation of Contract Documents, the Consultant is entitled to rely upon the accuracy and completeness of information (electronic or otherwise) furnished by **CITY OF BARTLETT TN**, or its independent architect or other consultants. Such information includes but is not limited to topographic and/or boundary surveys, grading and drainage plans, building information, geotechnical reports, dimensions of existing construction, property data, and zoning and land use information. The Consultant is not responsible for recommendations or criteria provided in the geotechnical report. Such recommendations include, but are not limited to, foundation design criteria, anticipated movement criteria, and proposed construction methods.

8) Notwithstanding any other provision of this agreement or the parties' contract, in providing services under this agreement, the Consultant shall endeavor to perform in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

9) Construction Documents are by necessity drawn to a small scale and in many cases schematic in nature. Construction Documents cannot be perfectly prepared. Drawings and specifications need continually to be interpreted and clarified, and sometimes must be corrected or updated. Accordingly, if **CITY OF BARTLETT TN** does not engage the Consultant for full customary Construction Administration of this Project, **CITY OF BARTLETT TN** agrees to indemnify, release and hold harmless the Consultant and its employees and consultants from and against any claims of liability arising from defects in the design and/or construction work.

10) In the event **CITY OF BARTLETT TN** should require Consultant to perform construction administration services, **CITY OF BARTLETT TN** acknowledges that the purpose of construction observation by the Consultant is to ascertain in general whether the work when complete will be in substantial compliance with the Contract Documents. In no event shall the Consultant perform exhaustive or continuous inspection. The Consultant is not responsible for, and shall not have control of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction work, nor will it be responsible for the contractor's failure to carry out the construction work in accordance with the Contract Documents. The Consultant shall not be responsible for, nor have control or charge over the acts or omissions of the Contractor, Subcontractor, nor any of their agents or employees, or any other person performing any of the construction work. The Consultant shall not have the authority nor the responsibility to supervise or direct the construction work.

Initials

Date

- 11) The Consultant's review of shop drawings is solely to determine whether the submittal generally conforms to the design concept expressed in the Contract Documents and is not to verify dimensions and quantities.
- 12) **CITY OF BARTLETT TN** acknowledges the reports, plans, specifications, field data and notes and all other documents prepared by the Consultant, including all documents on electronic media, are instruments of professional service that shall remain the property of the Consultant. **CITY OF BARTLETT TN** shall not reuse, make, or permit to be made, any modifications to the plans and specifications without the prior written authorization of the Consultant. **CITY OF BARTLETT TN** agrees to indemnify, release, and hold harmless the Consultant from any claims arising from any unauthorized reuse or modification of the plans and specifications.
- 13) The Consultant makes no warranties, either expressed or implied, of merchantability, fitness for use for any particular purpose, or of any other nature or type. In no event shall the Consultant be liable to **CITY OF BARTLETT TN** for any loss of profit, loss of use, or any other consequential damages.
- 14) If there are protracted delays for reasons beyond the control of the Consultant, the Consultant's compensation shall be equitably adjusted.
- 15) Neither party to this Agreement shall transfer, sublet or assign any rights under or interest in this Agreement (including but not limited to monies that may be due) without the prior written consent of the other party. The Consultant shall be permitted to subcontract portions of the professional services required under this agreement to properly qualified subconsultants.
- 16) This Agreement may be terminated by either party upon seven days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. In the event of termination, by either party, the Consultant shall be paid for all services rendered and all reimbursable expenses up to and through the date of termination.
- 17) The fees charged by the Consultant have been structured in part in reliance upon the agreement and covenant of the **CITY OF BARTLETT TN** that the liability of the Consultant for any defects in the services provided hereunder shall be limited to the total fee the Consultant charged for services rendered on the project.
- 18) In the event of defects in the services performed by the Consultant for which the Consultant is liable to **CITY OF BARTLETT TN**, the measure of damages may include the cost of remediation work, but shall not include the cost of work that adds value to the project for which **CITY OF BARTLETT TN** would have been obligated to pay if the services had not been defective.
- 19) Any and all suits for any breach of this agreement shall be instituted and maintained in any Court of competent jurisdiction in Shelby County, Tennessee and both parties expressly consent to the jurisdiction of such Court.
- 20) If any portion of this agreement shall in any way become violative or prohibited by or under applicable laws, that provision or part hereof shall be ineffective and void to the extent of such violation or prohibition without invalidating any of the remaining provisions of this agreement.
- 21) In the event **CITY OF BARTLETT TN** consents to, allows, authorizes or approves of changes to any plans, specifications or other construction documents, and these changes are not approved in writing by the Consultant, **CITY OF BARTLETT TN** acknowledges that such changes, and the results thereof, are not the responsibility of the Consultant. Therefore, **CITY OF BARTLETT TN** agrees to release the Consultant from any liability arising from such changes. In addition, **CITY OF BARTLETT TN** agrees, to the fullest extent permitted by law, to indemnify and hold the Consultant harmless from any damage, liability or cost, including reasonable attorneys' fees and costs of defense, arising from such changes.
- 22) Original signed, sealed reproducible documents are the actual Contract Documents and any electronic copies provided to the Client are the Client's convenience. In the event there is a discrepancy between the original signed, sealed documents and the electronic copy, the original signed, sealed reproducible documents shall take precedence.
- 23) The proposal represents the entire understanding between **CITY OF BARTLETT TN** and **A2H, INC.** in the respect to the project and may be modified only by a writing signed by both parties.
- 24) If in the event that an executed copy of this agreement is not returned to our office, but payment is received for services rendered during the course of the project, the parties agree that these terms and conditions shall be binding upon the parties.

Accepted by **CITY OF BARTLETT TN**:

Signature

Date

Attachment: A2H PROPOSAL FOR CEI (1332 : Bid for Bartlett Road Bridge)

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

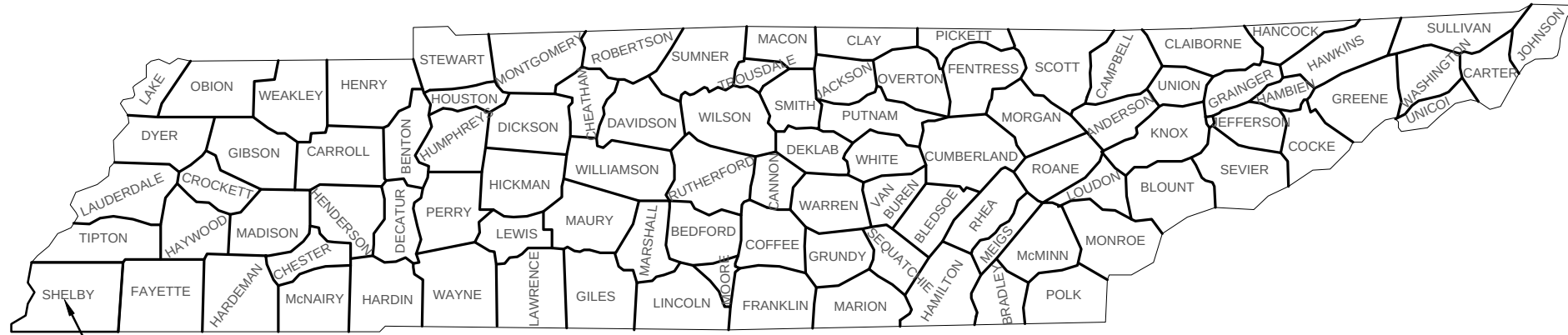
INDEX OF SHEETS
SEE SHEET NO. 1A FOR INDEX

CITY OF BARTLETT
SHELBY COUNTY
BARTLETT ROAD

BRIDGE & APPROACHES OVER HARRINGTON
CREEK @ L.M. 0.070
CONSTRUCTION PLAN

STATE HIGHWAY NO.: N/A F.A.H.S. NO. N/A

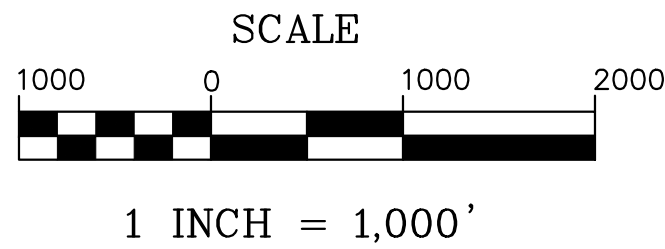
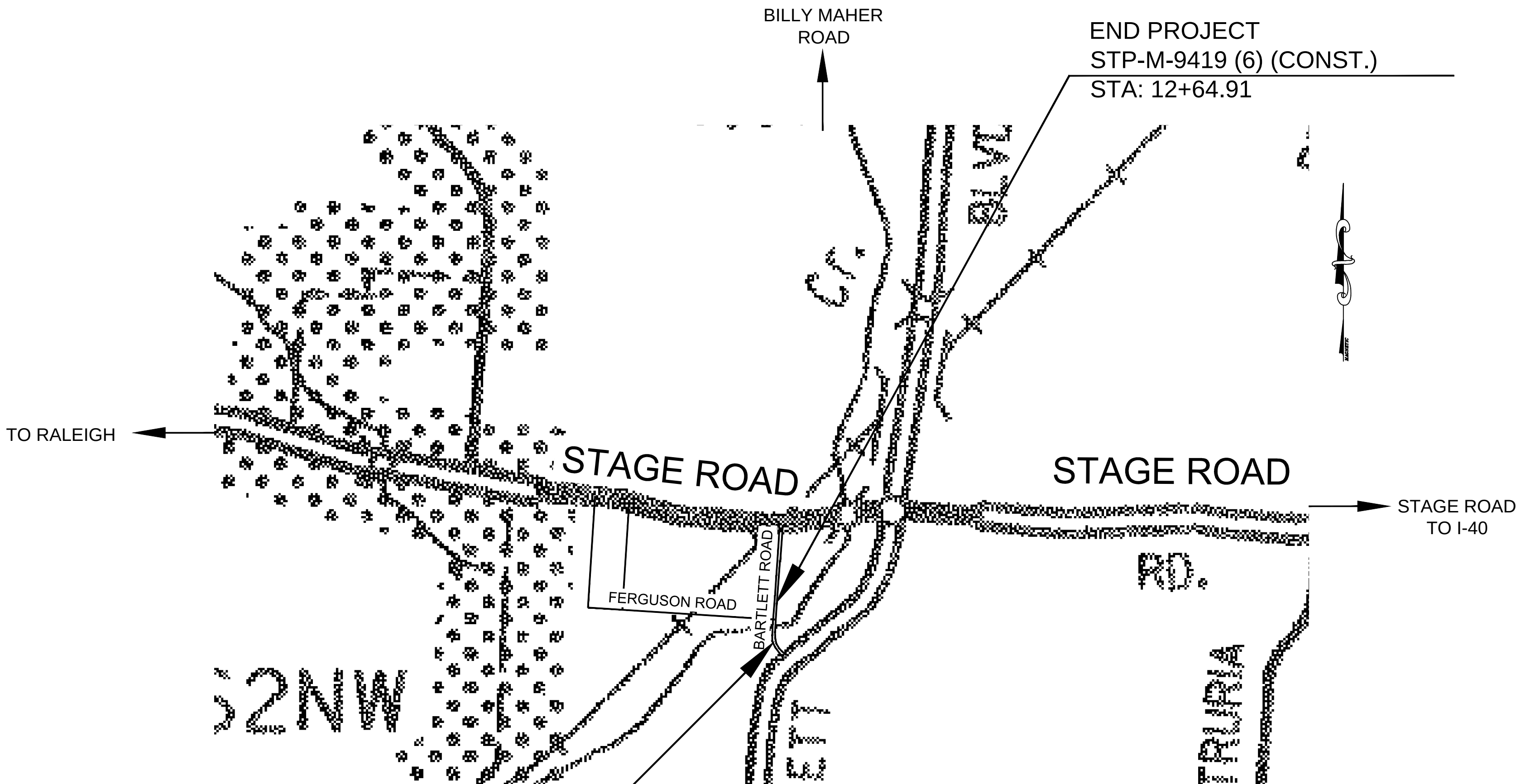
TENN.	YEAR	SHEET NO.
	2014	1
FED AID PROJ NO	STP-M-9419 (6)	
STATE PROJ NO	79LPLM-F3-067	



NO EQUATIONS
NO EXCLUSIONS

NOTE
BARTLETT ROAD IS TO BE CLOSED
DURING CONSTRUCTION

LOCALLY MANAGED PROJECT



SPECIAL NOTES

PROPOSAL MAY BE REJECTED BY THE CITY ENGINEER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

DESIGNED BY: _____ A2H INC.
DESIGNER: TET CHIOU, P.E. CHECKED BY: ED HARGRAVES, P.E.
P.E. NO.: _____ 79LPLM-F1-065
PIN: _____ 112819.00

ROADWAY LENGTH: 0.069 MI
BRIDGE LENGTH: 0.013 MI
** BOX BRIDGE LENGTH: 0.000 MI
PROJECT LENGTH: 0.082 MI
** NOT INCLUDED IN PROJECT LENGTH
(LENGTH MEASURED ALONG MAINLINE)

ORIGINAL SURVEY DATE: 05-19-2011

TRAFFIC DATA	
ADT (2011)	7,040
ADT (2031)	15,425
DHV	625
D	60 / 40
T	21 % (ADT)
T	16 % (DHV)
V	30 MPH

APPROVED:

CITY ENGINEER

DATE

Survey & Design Division

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

BARTLETT ROAD
OVER
HARRINGTON CREEK

STA. 10+00
LOG MILE 0.070

CONTINUOUS PRECAST
PRESTRESSED CONCRETE
BOX BEAM WITH
CONCRETE DECK SLAB

1 SPAN BRIDGE
TOTAL LENGTH = 70'-0"

40'-0" ROADWAY WIDTH
STD-11.1 BRIDGERAIL

90° 00'00" SKEW

LAYOUT DWG. NO 1 OF 10

CONST. NO. _____

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUT. NO. 1	ABUT. NO. 2
202-04.01	REMOVAL OF STRUCTURES (EXISTING BRIDGE, STA. 10+00)	L.S.	1			
202-04.02	REMOVAL OF STRUCTURES (EXISTING PEDESTRIAN METAL BRIDGE)	L.S.	1			
204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	252		142	110
303-01.02	GRANULAR BACKFILL (BRIDGES)	TONS	38		19	19
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	33,668	31,450	1,223	995
604-03.01	CLASS "A" CONCRETE (BRIDGES)	C.Y.	123		65	58
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	11,596		6,154	5,442
604-03.09	CLASS "D" CONCRETE (BRIDGE DECK)	C.Y.	138	138		
604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	231	161	36	34
606-09.01	TEST PILES (PRECAST CONCRETE), (SIZE 1)	L.F.	130		65	65
606-09.02	LOADING TEST (PRECAST CONCRETE), (SIZE 1)	EA.	1		1	
606-09.03	PRECAST CONCRETE PILES (SIZE 1)	L.F.	1,540		770	770
606-12.01	PILE ANCHORAGE SYSTEM (SEISMIC)	EA.	26		13	13
615-02.10	PRESTRESSED CONCRETE BOX BEAM (27"x48")	L.F.	536.00	536.00		
620-05	CONCRETE PARAPET W/ STRUCTURAL TUBING	L.F.	187.84	137.00	25.42	25.42
710-09.01	6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	82		41	41
710-09.02	6" PIPE UNDERDRAIN	L.F.	40		20	20

① EXCAVATIONS BASED ON FINAL PROFILE.

② NOTE: COST OF ELASTOMERIC PADS, RUBBER BONDING CEMENT, TO BE INCLUDED IN THE COST OF THE PRESTRESSED BEAM.

③ NOTE: COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE COST OF PERFORATED PIPE.

④ NOTE: GRANULAR BACKFILL SHALL BE CLASS "A" GRADING "D" MATERIAL. SEE STANDARD DRAWING STD-10-1.

⑤ NOTE: THE COST OF BITUMINOUS-FIBERBOARD AND ALL MISCELLANEOUS JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.

⑥ COST OF PREPARATION OF THE TOP OF PILE FOR SEISMIC REQUIREMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 606-12.01. SEE STANDARD DRAWING STD-6-1 FOR DETAILS. THE PILE AND TEST PILE LENGTHS SHOWN ON THE PLANS DO NOT INCLUDE THE 2 FEET REQUIRED FOR THE SEISMIC ATTACHMENT.

⑦ COST OF ALL MATERIALS AND LABOR NECESSARY FOR INSTALLING CONDUIT SUPPORTS AND U-BOLTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STEEL CONDUIT SUPPORTS. CONDUIT SUPPORTS SHALL BE GALVANIZED IN ACCORDANCE W/ ASTM A-123.

LIST OF DRAWINGS

TITLE	DRAWING NO.
LAYOUT OF BRIDGE	1 of 10
GENERAL NOTES & ESTIMATED QUANTITIES	2 of 10
FOUNDATION DATA	3 of 10
SUPERSTRUCTURE (SHEET 1 OF 2)	4 of 10
SUPERSTRUCTURE (SHEET 2 OF 2)	5 of 10
PRESTRESSED BOX BEAM DETAILS	6 of 10
ABUTMENTS NO. 1 & NO. 2 (SHEET 1 OF 2)	7 of 10
ABUTMENTS NO. 1 & NO. 2 (SHEET 2 OF 2)	8 of 10
BRIDGE PILE DATA SHEET	9 of 10
BILL OF STEEL	10 of 10

LIST OF STANDARD DRAWINGS

DRAWING NO.	REVISION DATE
BARRIER RAIL MOUNTING, POST BLOCKOUTS WITH VERTICAL ADJUSTMENT HOLES	S-GR-13 05-27-03
W-BEAM BARRIER FASTENING HARDWARE AND BRIDGE APPROACH DELINEATORS	S-GR-14 09-05-98
W-BEAM BARRIER TERMINAL ELEMENT DETAILS	S-GR-15 06-30-05
GUARDRAIL ANCHOR (TYPE IN-LINE) AND SHOULDER LINE DETAILS	S-GR-18 05-15-08
MEDIAN DIVIDER GUARDRAIL AND GUARDRAIL TERMINAL ANCHORS	S-GR-20 05-27-01
GUARDRAIL ATTACHMENT TO STRUCTURES AND PROTECTIVE GUARDRAIL AT BRIDGE ENDS DETAILS	S-GR-23 09-11-02
MINIMUM INSTALLATION LENGTH FOR PROTECTIVE GUARDRAIL AT BRIDGE ENDS	S-GR-24 05-15-08
GUARDRAIL TERMINAL ANCHOR (TYPE 21) POST LAYOUT AND ERECTION DETAILS	S-GR-26 03-15-08
GUARDRAIL TERMINAL ANCHOR (TYPE 21) ELEMENT ASSEMBLY DETAILS	S-GR-27 05-27-03
GUARDRAIL TERMINAL ANCHOR (TYPE 21) POST AND ASSEMBLY DETAILS	S-GR-28 06-30-05
DETAILS FOR CONSTRUCTION OF EARTH PAD FOR TYPE 21 GUARDRAIL END TERMINALS	S-GR-39 05-27-01
STD. PRECAST PRESTRESSED BRIDGE DECK PANELS GENERAL NOTES	STD-4-1 04-08-05
STD. PRECAST PRESTRESSED BRIDGE DECK PANELS DESIGN CRITERIA	STD-4-2 04-08-05
STD. PRECAST PRESTRESSED BRIDGE DECK PANELS GENERAL DETAILS	STD-4-3 03-02-02
STD. PRECAST PRESTRESSED BRIDGE DECK PANELS CONSTRUCTION DETAILS	STD-4-4 06-10-96
STD. PILE DETAILS	STD-5-1 10-25-93
STD. PILE DETAILS	STD-5-2 04-08-05
STANDARD SEISMIC DETAILS	STD-6-1 05-21-99
STANDARD SEISMIC DETAILS	STD-6-2 11-07-94
STD. REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS	STD-9-1 10-07-08
MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS	STD-10-1 04-08-05
BRIDGE RAILING W/ STRUCTURAL TUBING	STD-11-1 08-13-02
STD. DETAILS FOR PRESTRESSED BOX BEAMS	STD-14-3 10-15-08

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

ESTIMATED
BRIDGE
QUANTITIES
NOT TO SCALE

Surrey & Design
DIVISION

test
C:\Users\test\24242012\projectdata\local\temp\AcPublish_656\CONSTRUCTION.dwg
Mon, 07 Apr 2014 11:34am

Attachment: PIN 112819 BARTLETT ROAD BRIDGE (1332 : Bid for Bartlett Road Bridge)

Packet Pg. 42



Survey & Design
Division

FOOTNOTES

- 1 SEE SUB-SECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT
- 2 USE SANDBAGS OR OTHER BMP IN CREEK CHANNEL TO DIVERT WATER IN AREAS DURING CHANNEL EXCAVATION
- 3 INCLUDES 17.64 MG FOR DUST CONTROL
- 4 INCLUDE REMOVAL OF TEMPORARY COMMERCIAL ACCESS DRIVE AT STA: 8+29 TO STA: 8+59
- 5 PERMANENTLY STABILIZE AND USE AS DIRECTED BY THE ENGINEER.
- 6 FOR TEMPORARY RUN-AROUND.
- 7 INCLUDES ALL MATERIALS, LABOR, EQUIPMENT FOR COMPLETE INSTALLATION OF PIPE INCLUDING BUT NOT LIMITED TO TRAFFIC CONTROL, MATERIALS, EQUIPMENT, EXCAVATION IN BOTH UNCONSOLIDATED AND ROCK, REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL, ENVELOPE/BEDDING MATERIAL, BACKFILLING, FLOWABLE FILL, THRUST BLOCKING, CONCRETE DEADMAN, PIPE FUSION, TRACER WIRE, WARNING TAPE, APPURTENANCES, TEMPORARY/PERMANENT SHORING, MAINTAINING THE TRENCH, TESTING, FLUSHING, DISINFECTION, BACTERIOLOGICAL SAMPLING, TEMPORARY/PERMANENT SURFACE RESTORATION, AND ANY OTHER LABOR OR MATERIAL REQUIRED TO COMPLETE THE WORK AS SPECIFIED ON THE PLANS
- 8 INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR CONNECTING TO AN EXISTING WATER LINE INCLUDING TRAFFIC CONTROL.
- 9 INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO TAPPING SLEEVE, VALVE, VALVE BOX, BOX ADJUSTMENT, VALVE BOX COLLAR, VALVE MARKER, EXCAVATION, BEDDING, BACKFILL, BLOCKING AND RESTRAINT, TAP OF EXISTING LINE, AND TRAFFIC CONTROL.
- 10 INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO FITTINGS, VALVE, VALVE STEM EXTENSIONS, VALVE BOX AND COVER, BOX ADJUSTMENT, VALVE BOX COLLAR, VALVE MARKER, EXCAVATION, BEDDING, BACKFILL, BLOCKING, AND TRAFFIC CONTROL.
- 11 PRICE INCLUDES ALL FITTINGS, THRUST BLOCKS, AND PIPE HANGER WITH ROLLERS AND MISCELLANEOUS MATERIALS TO INSTALL WATER LINE IN PLACE AND ACROSS THE BRIDGE.
- 12 6" WET TAP AND VALVE BOX TO GRADE
- 13 8" WET TAP AND VALVE BOX TO GRADE
- 14 8"X8" TAPPING TEE AND VALVE BOX TO GRADE
- 15 8" DIP (MECHANICAL JOINT) WATER LINE
- 16 INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR AT&T FIBER OPTIC LINE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

ESTIMATED ROADWAY QUANTITIES				
FOOT- NOTES	ITEM NO.	DESCRIPTION (NON-PARTICIPATION ITEMS, AT&T)	UNITS	QUANTITY
16	793-14.09	BRIDGE CONDUIT HANDER SYSTEM	L.S.	1

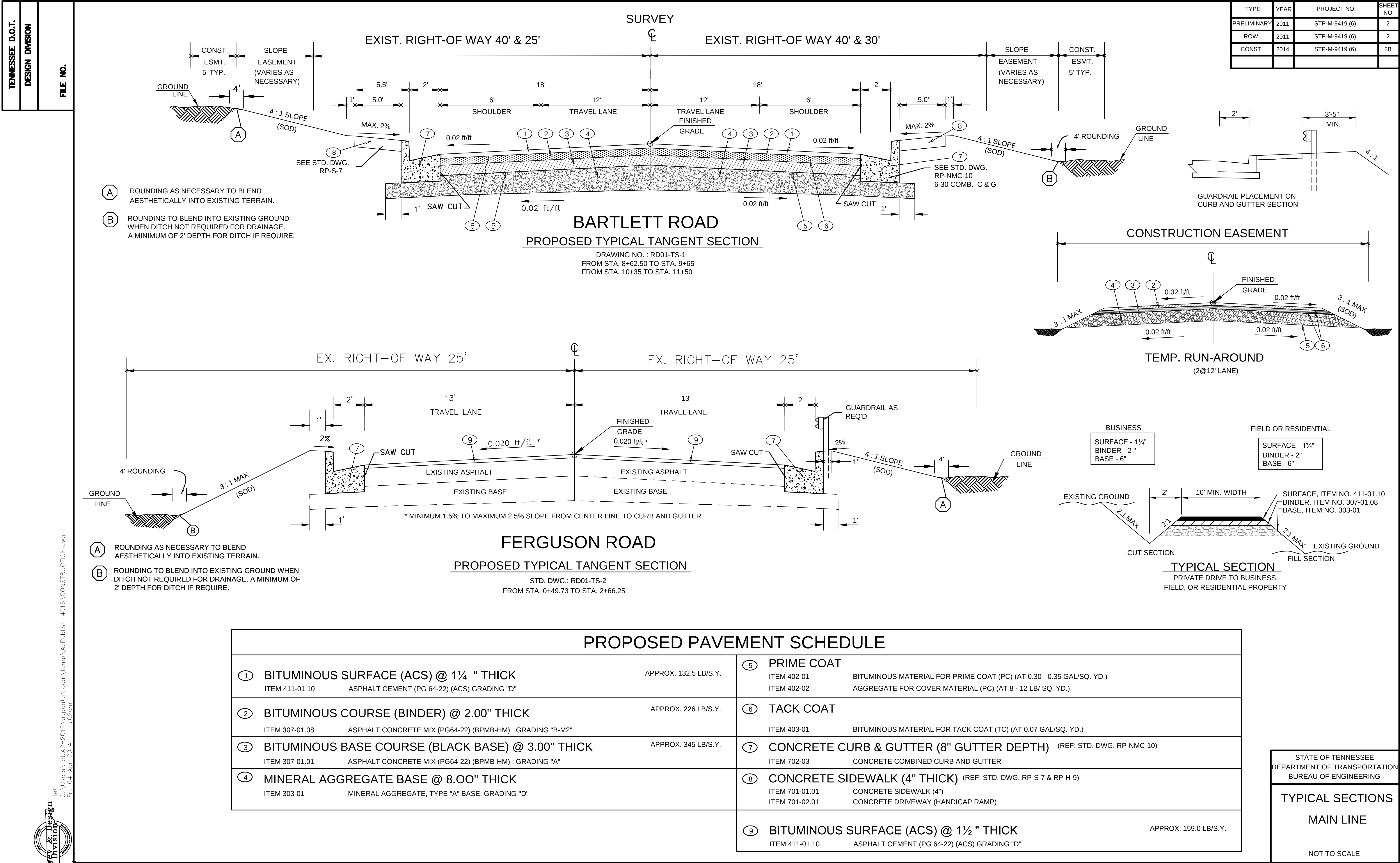
EROSION CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
209-05	SEDIMENT REMOVAL	42	C.Y.
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	1608	L.F.
209-40.41	CATCH BASIN FILTER ASSEMBLY (TYPE I)	3	EACH
709-05.05	MACHINED RIP-RAP (CLASS A-3)	150	TON
740-10.03	GEOTEXTILE (TYPE III) (EROSION CONTROL)	260	S.Y.
740-11.03	SEDIMENT TUBE (18")	100	L.F.
801-01.07	TEMPORARY SEEDING WITH MULCH)	20	UNIT
801-03	WATER (SEEDING & SODDING)	16	M.G.
803-01	SODDING (NEW SOD)	2346	S.Y.

ESTIMATED TRAFFIC CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
712-01	TRAFFIC CONTROL	L.S.	1
712-05.01	WARNING LIGHT (TYPE 'A')	EACH	6
712-06	SIGN (CONSTRUCTION)	S.F.	318
712-07.03	TEMP. BARRICADE (TYPE III)	L.F.	60

ITEM NO.	DESCRIPTION	UNITS	LOCATION				TOTAL ITEM QUANTITIES
			BARTLETT RD.	TEMP. RUN-AROUND	FERGUSON ROAD	TEMP. ACCESS DR.	
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	176	383	-	66	625
307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPM-B-HM) GRADING A	TON	49	185	-	-	234
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPM-B-HM) GRADING B-M2	TON	59	115	-	18	192
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	2.2	1.5	1.9	0.4	6
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	7.0	5.1	6.1	0.8	19
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1.2	0.8	0.5	0.5	3
411-01.10	ACS MIX (PG64-22), GRADING D	TON	70	52	75	9	206

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

**ESTIMATED ROADWAY
QUANTITIES
&
TABULATED
QUANTITIES**



TENNESSEE D.O.T.

DESIGN DIVISION

FILE NO.

GENERAL NOTES

GRADING

- (1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- (2) CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.06 OF THE STANDARD SPECIFICATIONS.
- (3) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY WITHOUT APPROVAL BY SAME. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

SEEDING AND SODDING

- (4) SOD SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS TO PREVENT DAMAGE TO ADJACENT FACILITIES AND PROPERTY DUE TO EROSION ON ALL NEWLY GRADED CUT AND FILL SLOPES AS WORK PROGRESSES.

GUARDRAIL

- (1) THE CONTRACTOR SHALL NOT REMOVE ANY SECTIONS OF EXISTING GUARDRAIL TO REWORK SHOULDERS OR FLATTEN SLOPES UNTIL THE ENGINEER CONCURS IN THE NECESSITY OF REMOVAL DUE TO CONSTRUCTION REQUIREMENTS AND THE APPROPRIATE WARNING DEVICES ARE INSTALLED. THE PROPOSED GUARDRAIL, INCLUDING ANY ANCHOR SYSTEM, SHALL BE INSTALLED QUICKLY TO MINIMIZE TRAFFIC EXPOSURE TO ANY HAZARD. NO PAYMENT WILL BE MADE FOR A SECTION OF PROPOSED GUARDRAIL, INCLUDING ANCHORS, UNTIL IT IS COMPLETE IN PLACE.
- (2) THE PROPOSED GUARDRAIL, INCLUDING ANY ANCHOR SYSTEM, SHALL BE INSTALLED QUICKLY TO MINIMIZE TRAFFIC EXPOSURE TO ANY HAZARD. NO PAYMENT WILL BE MADE FOR A SECTION OF PROPOSED GUARDRAIL, INCLUDING ANCHORS, UNTIL IT IS COMPLETE IN PLACE.
- (3) IF ANY APPROACH END OF A SECTION OF GUARDRAIL OR BRIDGE RAIL MUST TEMPORARILY BE LEFT INCOMPLETE AND EXPOSED TO TRAFFIC, THE CONTRACTOR SHALL USE TWO (2) TEMPORARY BARRICADES OR DRUMS WITH TYPE A LIGHTS AND ROUNDED END ELEMENTS AS MINIMUM MEASURES TO PROTECT TRAFFIC FROM THE HAZARD OF AN EXPOSED END. ALL COST OF FURNISHING AND INSTALLING A TEMPORARY ROUNDED END ELEMENT SHALL BE INCLUDED IN THE COST OF THE PROPOSED GUARDRAIL.
- (4) GUARDRAIL IS TO BE COMPLETE IN PLACE BEFORE THE MAINLINE ROADWAY IS OPENED TO TRAFFIC.

DRAINAGE

- (1) THE CONTRACTOR SHALL SHAPE DITCHES TO THE SPECIFIED DESIGN. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.
- (2) EXCAVATION FOR PIPE CULVERT WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT WILL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PIPE (PIPE CULVERTS, STORM SEWERS, CONDUITS, ALL OTHER CULVERTS AND MINOR STRUCTURES).
- (3) THE CUTTING OF INLET AND OUTLET DITCHES WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER WILL BE MEASURED AND PAID FOR AS ITEM NO. 203-01 ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED).
- (4) WHERE A CULVERT (PIPE, SLAB OR BOX) IS MOVED TO A NEW LOCATION OTHER THAN THAT SHOWN ON THE PLANS, INCREASING OR DECREASING THE AMOUNT OF CULVERT EXCAVATION, NO INCREASE OR DECREASE IN THE AMOUNT OF PAYMENT WILL BE MADE DUE TO SUCH CHANGE.
- (5) DURING CONSTRUCTION OF DRAINAGE STRUCTURES ALL COST ASSOCIATED WITH MAINTAINING THE FLOW OF WATER AND TRAFFIC, AT THESE STRUCTURES, DURING THE PHASED CONSTRUCTION OF THIS PROJECT ARE TO BE INCLUDED IN THE UNIT PRICE OF THE DRAINAGE STRUCTURES AND TRAFFIC CONTROL ITEMS.

UTILITIES

- (1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.
- (2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR IT'S REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.
- (3) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE

INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

- (4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.
- (5) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106.

FENCING

- (1) LOCATION OF THE FENCE SHALL BE ONE FOOT INSIDE THE RIGHT-OF-WAY EXCEPT WHERE SHOWN ON THE PLANS.
- (2) FENCES SHALL BE TURNED IN AT DRAINAGE STRUCTURES, STOCK PASSES AND BRIDGES WHERE DIRECTED BY THE ENGINEER SO AS TO ABUT WINGWALLS AND/OR ABUTMENTS.
- (3) THE CONTRACTOR SHALL GIVE THE AFFECTED PROPERTY OWNERS TWO WEEKS NOTICE PRIOR TO CUTTING FENCES.

MISCELLANEOUS

- (1) ALL DETOUR, ACCESS, SERVICE AND FRONTAGE ROADS SHALL BE CONSTRUCTED WITH A MINIMUM OF ONE (1) COURSE OF BASE MATERIAL BEFORE TRAFFIC IS INTERRUPTED ON EXISTING ROADS.
- (2) THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RESET MAILBOXES WHERE AND AS DIRECTED BY THE ENGINEER.
- (3) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA

ROAD CLOSURE

- (1) NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF THE ROAD, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION: THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO: (1) LOCAL LAW ENFORCEMENT OFFICE, (2) LOCAL FIRE DEPARTMENT, (3) AMBULANCE SERVICE, (4) LOCAL SCHOOL SUPERINTENDENT, (5) UNITED STATES POSTAL SERVICE, AND (6) LOCAL ROAD SUPERINTENDENT.

PAVEMENT MARKINGS

TEMPORARY PAVEMENT MARKING ON INTERMEDIATE LAYERS

- (1) TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAYS WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.01, PAINTED PAVEMENT MARKING (4" LINE), L.M.

FINAL PAVEMENT MARKING IF 4" SPRAY THERMOPLASTIC (40 MIL) IS USED

- (2) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4" SPRAY THERMOPLASTIC (40 MIL) INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-13.06, SPRAY THERMO PVMT MRKNG (40 MIL) (4IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

FINAL PAVEMENT MARKING IF REFLECTORIZED PAINT IS USED

- (3) PERMANENT PAVEMENT LINE MARKINGS SHALL BE REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.01 PAINTED PAVEMENT MARKING (4IN LINE), L.M.

DETOURS, LANE SHIFTS AND MEDIAN CROSS-OVERS

- (4) THE PAVEMENT MARKING ON THE TEMPORARY RUN-AROUND FOR BARTLETT ROAD BRIDGE REPLACEMENT WILL BE INSTALLED AND MAINTAINED TO THE SAME STANDARDS AS FOR PERMANENT MARKINGS ON THE MAIN ROADWAY. THESE MARKINGS SHALL BE IN PLACE PRIOR TO ALLOWING TRAFFIC ONTO THE PAVEMENT. THESE PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.01 LIN. MI.
- (5) BEFORE OPENING THE TEMPORARY RUN-AROUND TO TRAFFIC, THE TRANSITIONAL MARKINGS ON THE EXISTING ROADWAY MUST BE IN PLACE. ALL EXISTING MARKINGS IN THE AREA OF THESE TRANSITIONAL MARKINGS SHALL BE OBLITERATED AND ALL EXISTING RAISED PAVEMENT MARKERS SHALL BE REMOVED TO ELIMINATE CONFLICTING MARKINGS. REMOVAL OF THE EXISTING CONFLICTING MARKINGS AND RAISED PAVEMENT MARKERS WILL

NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN ITEM NO. 712-01 TRAFFIC CONTROL, LUMP SUM.

PAVEMENT

PAVING

- (1) THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE DIRECTION OF TRAFFIC.
- (2) THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.
- (3) THE CONTRACTOR SHALL ATTACH A DEVICE TO THE SCREED OF THE PAVER SUCH THAT MATERIAL IS CONFINED AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A CONSOLIDATED WEDGE-SHAPE PAVEMENT EDGE OF APPROXIMATELY 25 TO 30 DEGREES AS IT LEAVES THE PAVER (MEASURED FROM A LINE PARALLEL TO THE PAVEMENT SURFACE.) THE DEVICE SHALL MEET THE REQUIREMENTS THAT ARE CURRENTLY SET FORTH IN SPECIAL PROVISION 407SE.

RESURFACING

- (4) ALL PUBLIC SIDE ROADS SHALL BE PAVED ONE PAVER WIDTH THROUGH THE INTERSECTION AS A MINIMUM. A SATISFACTORY TRANSITION FROM THE NEW PAVEMENT TO THE EXISTING GRADE OF THE INTERSECTING PUBLIC ROAD OR BUSINESS ENTRANCE SHALL BE PROVIDED. SHOULD THE PAVEMENT OF THE INTERSECTING PUBLIC ROAD BE DISTRESSED, THE RESURFACING WIDTH MAY BE INCREASED TO THE NORMAL RIGHT OF WAY LINE.
- (5) PRIVATE DRIVEWAYS, FIELD ENTRANCES, AND BUSINESS ENTRANCES WILL BE RESURFACED A PAVER WIDTH (LANE WIDTH) AS A MINIMUM. A PAVEMENT TAPER TO TRANSITION THE NEW PAVEMENT SHALL BE REQUIRED, IT SHALL BE BASED ON AN ADDITIONAL ONE FOOT OF WIDTH PER ONE INCH DEPTH OF PAVEMENT. IF THE SHOULDER IS NARROW ENOUGH THAT THE SUM OF THE SHOULDER AND THE TRANSITION ARE LESS THAN A PAVER WIDTH, THE TRANSITION SHALL OCCUR WITHIN THE PAVER WIDTH. IF THE SUM OF THE SHOULDER AND THE TRANSITION IS GREATER THAN A PAVER WIDTH (LANE WIDTH), THE TRANSITION SHALL OCCUR OUTSIDE OF THE PAVER WIDTH.
- (6) ON CURB AND GUTTER SECTIONS, PUBLIC ROAD INTERSECTIONS SHALL BE RESURFACED TO THE END OF RADIUS. A SATISFACTORY TRANSITION FROM THE NEW PAVEMENT TO THE EXISTING GRADE OF THE INTERSECTING PUBLIC ROAD SHALL BE PROVIDED.
- (7) ON URBAN TYPICAL SECTIONS, (CURB AND GUTTER), RESIDENTIAL DRIVEWAYS AND BUSINESS ENTRANCES SHALL HAVE A MINIMUM WIDTH OF MATERIAL NOT LESS THAN ONE FOOT USED IN THE TRANSITION TO FEATHER THE PAVEMENT EDGE.

RIPRAP

- (1) MACHINED RIPRAP (CLASS A-3) SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE STANDARD SPECIFICATIONS EXCEPT AS MODIFIED BY THIS NOTE. MACHINED RIPRAP SHALL BE CLEAN SHOT ROCK CONTAINING NO SAND, DUST, OR ORGANIC MATERIALS AND SHALL VARY IN SIZE FROM .2 " TO .0 " .6 ". THE STONE SIZES SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE SIZE RANGE WITH NO MORE THAN 20% OF THE MATERIAL (BY WEIGHT) LESS THAN .4 ". THE THICKNESS OF THE STONE LAYER SHALL BE .1 ' .0 " AND THE SIZE GRADATION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT THE LAYER THICKNESS AND FROM TOP TO BOTTOM OF THE SLOPE.

UPON COMPLETION OF THE PROJECT, A VISUAL INSPECTION SHALL REVEAL THAT APPROXIMATELY 50% OF THE SURFACE AREA CONSISTS OF STONES .3 " OR LARGER. PAYMENT WILL BE MADE UNDER ITEM 709-05.05 MACHINED RIPRAP (CLASS A-3), C.Y., AND QUANTITIES WILL BE BASED ON THE AVERAGE THICKNESS OF .1 ' .0 ".
- (2) MACHINED RIPRAP (CLASS B) SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE STANDARD SPECIFICATIONS EXCEPT AS MODIFIED BY THIS NOTE. MACHINED RIPRAP SHALL BE CLEAN SHOT ROCK CONTAINING NO SAND, DUST, OR ORGANIC MATERIALS AND SHALL VARY IN SIZE FROM .3 " TO .2 ' .3 ". THE STONE SIZES SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE SIZE RANGE WITH NO MORE THAN 20% OF THE MATERIAL (BY WEIGHT) LESS THAN .6 ". THE THICKNESS OF THE STONE LAYER SHALL BE .2 ' .6 " (+/-3") AND THE SIZE GRADATION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT THE LAYER THICKNESS AND FROM TOP TO BOTTOM OF THE SLOPE.

UPON COMPLETION OF THE PROJECT, A VISUAL INSPECTION SHALL REVEAL THAT APPROXIMATELY 50% OF THE SURFACE AREA CONSISTS OF STONES 13.5 " OR LARGER. PAYMENT WILL BE MADE UNDER ITEM 709-05.08 MACHINED RIPRAP (CLASS B), C.Y., AND QUANTITIES WILL BE BASED ON THE AVERAGE THICKNESS OF .2 ' .6 ".
- (3) RIPRAP SHALL CONSIST OF FURNISHING AND PLACING EITHER RUBBLE STONES BY HAND OR MACHINED. RUBBLE STONE SHALL MEET THE REQUIREMENTS OF SECTION 709 OF THE STANDARD SPECIFICATIONS AND SHALL BE CLEAN (FREE FROM ORGANIC MATTER), DURABLE, ANGULAR WITH FRACTURED FACES, NEARLY RECTANGULAR IN SHAPE WITH A BREADTH OR THICKNESS AT LEAST ONE-THIRD ITS LENGTH.

IF THE CONTRACTOR ELECTS TO USE MACHINED RIPRAP (CLASS A-3), IT SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE STANDARD SPECIFICATIONS EXCEPT AS MODIFIED BY THIS NOTE. MACHINED RIPRAP SHALL BE CLEAN SHOT ROCK CONTAINING NO SAND, DUST, OR ORGANIC MATERIALS, AND SHALL VARY IN SIZE FROM .2 " TO .0 ' .6 ". THE STONE SIZES SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE SIZE RANGE WITH NO MORE THAN 20% OF THE MATERIAL (BY WEIGHT) LESS THAN .4 ". THE THICKNESS OF THE STONE LAYER SHALL BE .1 ' .0 " AND THE SIZE GRADATION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT THE LAYER THICKNESS AND FROM TOP TO BOTTOM OF THE SLOPE. UPON COMPLETION OF THE PROJECT, A VISUAL INSPECTION SHALL REVEAL THAT APPROXIMATELY 50% OF THE SURFACE AREA CONSISTS OF STONES .3 " OR LARGER. PAYMENT WILL BE MADE UNDER ITEM NO. 709-05.05 AND QUANTITIES WILL BE BASED ON A THICKNESS OF .1 ' .0 ".

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	STP-M-9419 (6)	2C

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

GENERAL NOTES,
SPECIAL NOTES &
SCOPE OF WORK



TENNESSEE D.O.T.

DESIGN DIVISION

FILE NO.

EROSION PREVENTION AND SEDIMENT CONTROL (CONTINUE)

SWPPP, PERMITS, PLANS, RECORDS

- (29) ALL WATER QUALITY AND STORM WATER PERMITS, INCLUDING A COPY OF THE NOC WITH NPDES PERMIT TRACKING NUMBER AND THE LOCATION OF THE SWPPP, SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BREIF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.
- (30) THE SWPPP SHALL BE UPDATED BY CONSTRUCTION WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL OFFICIALS DETERMINE EPSC MEASURES ARE PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES OR ARE OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY. THE ENVIRONMENTAL DIVISION SHALL BE CONTACTED WHEN MAJOR DESIGN REVISIONS ARE REQUESTED BY CONSTRUCTION. THE ENVIRONMENTAL DIVISION MAY BE CONTACTED FOR GUIDANCE ON SPECIFIC SWPPP NEEDS. A COPY OF ANY CORRESPONDENCE REGARDING THE EFFECTIVENESS OF THE SWPPP OR EPSC CONTROLS SHALL BE RETAINED IN THE SWPPP.
- (31) PROJECT INSPECTORS AND SUPERVISORS (INCLUDING TDOT STAFF, CONSULTANTS AND CONTRACTOR STAFF) RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF EPSC PLANS SHALL SUCCESSFULLY COMPLETE THE TDEC "LEVEL 1 - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION. A COPY OF CERTIFICATION RECORDS FOR THE COURSES SHALL BE KEPT ON SITE AND AVAILABLE UPON REQUEST.

LITTER, DEBRIS, WASTE, PETROLEUM

- (32) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS WILL BE PICKED UP AND REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS. AFTER USE, MATERIALS USED FOR EPSC WILL BE REMOVED FROM THE SITE.
- (33) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

SPECIAL NOTES

GRADING

- (1) THE GRADING TABULATIONS AND RESULTING EARTHWORK ASSOCIATED BID QUANTITIES WERE PREPARED UTILIZING AVAILABLE GEOTECHNICAL INFORMATION AND/OR REPORTS PREPARED FOR THIS PROJECT. THIS INFORMATION IS PROVIDED FOR GENERAL INFORMATION AND ESTIMATION GUIDANCE ONLY.
- (2) BORING DEPICTIONS SHOWN ON THE FOUNDATION DATA SHEETS, SOILS SHEETS, PLANS, AND CROSS-SECTIONS INDICATE SOIL AND ROCK CONDITIONS AT THE SPECIFIC BORING LOCATIONS. ANY SOIL PROFILE AND/OR ROCK LINE IS INTERPRETIVE BASED ON THE JUDGMENT OF THE GEOTECHNICAL ENGINEER/GEOLOGIST. THE TRANSITION BETWEEN BORINGS AND LAYERS MAY VARY SIGNIFICANTLY DEPENDING ON THE GEOLOGIC FORMATIONS ENCOUNTERED.
- (3) THE CONTRACTOR SHALL UTILIZE ALL INFORMATION PROVIDED IN THE PLANS, CROSS-SECTIONS AND CONTRACT DOCUMENTS INCLUDING ANY SPECIAL PROVISIONS AS WELL AS UTILIZING HIS PAST EXPERIENCE WITH PROJECTS OF SIMILAR NATURE, SCOPE AND LOCATION IN PREPARATION OF HIS BID FOR EARTHWORK ITEMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND PROVIDE EQUIPMENT AND MEANS NECESSARY TO CONDUCT THE EXCAVATION ACTIVITIES IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
- (4) EARTHWORK IS PAID FOR UNDER ITEM 203-01, ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED). NO ADDITIONAL PAYMENT WILL BE MADE FOR EARTHWORK QUANTITIES BASED SOLELY ON A CLAIM THAT THE QUANTITIES SHOWN IN THE GRADING TABULATION OR ELSEWHERE IN THE PLANS ARE INACCURATE WITH RESPECT TO THE TYPE OF MATERIALS ENCOUNTERED DURING CONSTRUCTION EXCEPT AS PROVIDED FOR BY SECTION 104.02 IN THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OR AS AMENDED IN SUPPLEMENTAL SPECIFICATIONS.
- (5) SCARIFY AND PERMANENTLY STABILIZE TEMPORARY RUN-AROUND AND COMMERCIAL DRIVES WITH SOD AFTER CONSTRUCTION IS COMPLETE.

INSPECTION, MAINTENANCE, REPAIR

- (6) EPSC INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

UTILITIES

- (7) CONTRACTOR SHOULD COORDINATE WITH FIBER OPTIC UTILITY OWNER (AT&T) FOR DEMOLITION OF PEDESTRIAN BRIDGE, FIBBER OPTIC RELOCATION AND CONSTRUCTION OF NEW BRIDGE.

SCOPE OF WORK

THE SCOPE OF WORK INCLUDES DEMOLITION OF EXISTING BRIDGE & PEDESTRIAN BRIDGE, THE CONSTRUCTION OF NEW BRIDGE AND FIBER OPTIC RELOCATION TO NEW BRIDGE. THE GRADING OF BARTLETT ROAD, THE CONSTRUCTION OF BASE AND PAVEMENT, TEMPORARY RUN-AROUND, RESURFACING ON FERGUSON ROAD, SIGNAGE AND PAVEMENT MARKING, THE CONSTRUCTION OF DRAINAGE STRUCTURES AND PIPES, INSTALLATION OF TEMPORARY EROSION AND SEDIMENT CONTROL STRUCTURE, EPSC INSPECTION, AND IMPLEMENTATION OF TEMPORARY TRAFFIC CONTROL.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	STP-M-9419 (6)	2E

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

GENERAL NOTES,
SPECIAL NOTES &
SCOPE OF WORK



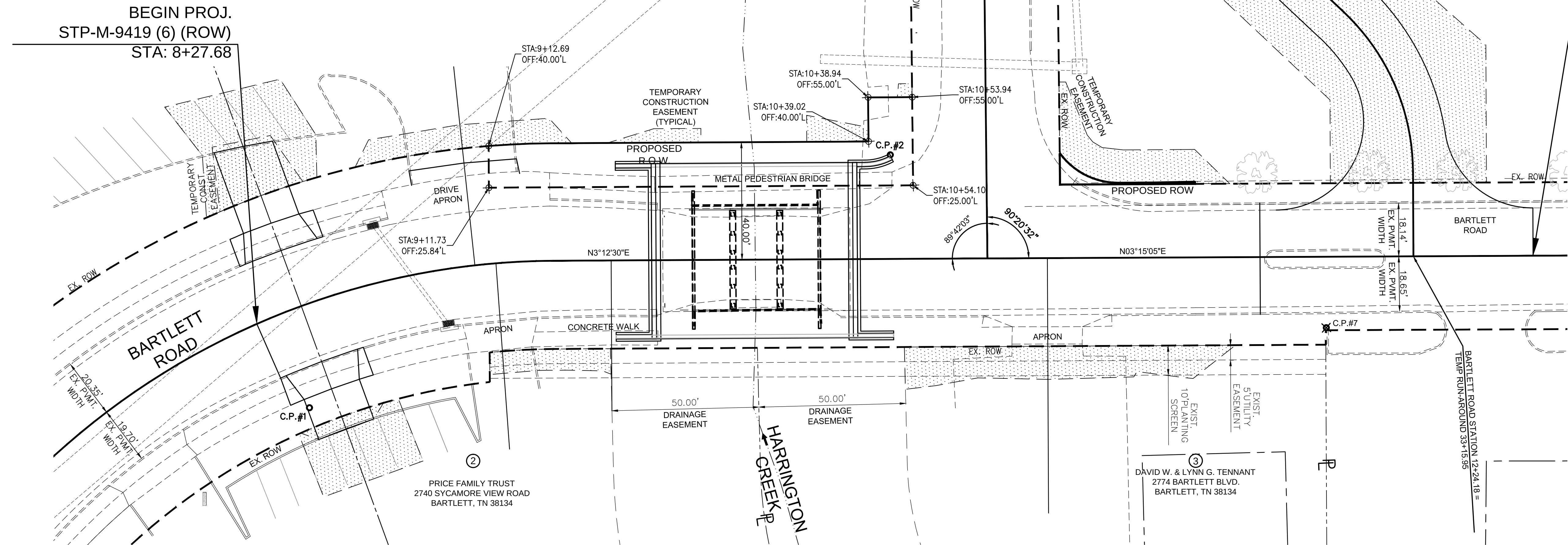
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	3
ROW	2011	STP-M-9419 (6)	3
CONST.	2014	STP-M-9419 (6)	3

R.O.W. ACQUISITION TABLE																
TRACT NO.	PROPERTY OWNER	COUNTY RECORDS				TOTAL AREA (ACRES)			AREA TO BE ACQUIRED (ACRES)			AREA REMAINING (ACRES)		EASEMENT (SQUARE FEET)		
		TAX MAP NO.	PARCEL NO.	BOOK NO.	PAGE	LEFT	RIGHT	TOTAL (AC.)	LEFT (AC.)	RIGHT	TOTAL	LEFT	RIGHT	PERM. DRAINAGE	SLOPE	CONST.
1	CITY OF BARTLETT	106G	421	87	27	22.51	0	22.51	0.05	0	0	22.46	0	0	0	1,316
2	PRICE FAMILY TRUST	106G	535	93	23	0	0.894	0.894	0	0	0	0	0.894	0	0	419
3	DAVID W. & LYNN G. TENNANT	106G	539	87	27	0	0.739	0.739	0	0	0		0.739			1,180
4	FERGUSON STREET PARTNERS LLC	106G	302	87	27	7.875	0	7.875	0.0020	0	0	7.873				10,434

NOTE: AREA SHOWN IN ACRES AND NOTED AS SUCH WHEN GREATER THAN 0.1 ACRES, AREA ACQUIRED AND REMAINING SHOULD BE SHOWN IN SQUARE FEET AND NOTED AS SUCH WHEN LESS THAN 0.1 ACRES. IN URBAN PROJECTS THE PREDOMINANT UNITS FOR AREA ACQUIRED AND REMAINING SHOULD BE SHOWN IN SQUARE FEET.

- ① FOR GENERAL CONSTRUCTION
② FOR CONSTRUCTION OF BRIDGE

UTILITY TABLE			
UTILITY	OWNER	ADDRESS	PHONE NUMBER
ELECTRICITY	MEMPHIS LIGHT GAS & WATER	BUILDER SERVICES P.O. BOX 430	(901) 729-8630
GAS	MEMPHIS LIGHT GAS & WATER	MEMPHIS, TN 38101	
SEWER	CITY OF BARTLETT	CITY OF BARTLETT 6382 STAGE ROAD BARTLETT, TN 38134	(901) 385-6499
WATER	CITY OF BARTLETT	CITY OF BARTLETT 3585 ALTRURIA ROAD BARTLETT, TN 38134	(901) 385-6499
CABLE	AT&T	AT&T 5985 STAGE ROAD, SUITE 31 BARTLETT, TN 38134	1-800-288-2020



R.O.W. NOTES

- | | | |
|---|---|--|
| <p>33. IT IS INTENDED THAT ALL BUILDINGS AND/OR PORTIONS OF BUILDINGS THAT ARE WITHIN THE PROPOSED RIGHT-OF-WAY AND/OR EASEMENT LINES FOR THE PROJECT BE REMOVED THEREFROM IN THE PROCESS OF RIGHT-OF-WAY ACQUISITION. IF ANY SUCH BUILDINGS OR IMPROVEMENTS ARE NOT REMOVED IN THE COURSE OF RIGHT-OF-WAY ACQUISITION, THE CIVIL ENGINEERING MANAGER 2, DESIGN DIVISION IS TO BE NOTIFIED IN SUFFICIENT TIME TO PERMIT HAVING SUCH REMOVALS DESIGNATED AS A PART OF THE CONSTRUCTION CONTRACT.</p> | <p>35. EXISTING PAVED DRIVEWAY PER TRACT REMAINDER WILL BE REPLACED IN KIND TO A TOUCHDOWN POINT.</p> <p>36. WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY EXCEEDS 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED TO A TOUCHDOWN POINT OR UNTIL GRADE IS LESS THAN 7 PERCENT.</p> <p>37. WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY IS LESS THAN 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED A SHOULDER WIDTH FROM THE EDGE OF PAVEMENT AND THE REMAINDER OF THAT DRIVEWAY REPLACED IN KIND TO A TOUCHDOWN POINT.</p> <p>38. ANY NECESSARY PAVING OF DRIVEWAYS WILL BE DONE DURING PAVING OPERATIONS ON THE MAIN ROADWAY.</p> | <p>40. NEW DRIVEWAYS PROVIDED IN THE PLANS WILL BE PAVED BASED ON THE 7 PER CENT CRITERIA. THOSE 7 PER CENT OR STEEPER IN GRADE WILL BE PAVED AND THOSE FLATTER THAN 7 PER CENT WILL BE COVERED WITH BASE STONE.</p> <p>43. ON NON-STATE ROUTE ADDITIONAL DRIVEWAYS AND FIELD ENTRANCES OTHER THAN THOSE PROVIDED IN THE PLANS SHALL REQUIRE A PERMIT ONLY IF THE LOCAL AGENCY SPECIFIES THE NEED FOR THAT PERMIT.</p> |
| <p>34. ALL RAMPS MUST CONFORM TO THE DEPARTMENT'S "POLICY ON FINANCING CONSTRUCTION ON PUBLIC ROAD INTERSECTIONS AND DRIVEWAYS ON HIGHWAY RESURFACING, RECONSTRUCTION AND CONSTRUCTION PROJECTS ON NEW LOCATION", THE MANUAL ON RULES AND REGULATIONS FOR CONSTRUCTING DRIVEWAYS ON STATE HIGHWAY RIGHT-OF-WAY, STANDARD DRAWING RP-R-1, AND OTHER ACCEPTED DESIGN AND SAFETY STANDARDS.</p> | | |

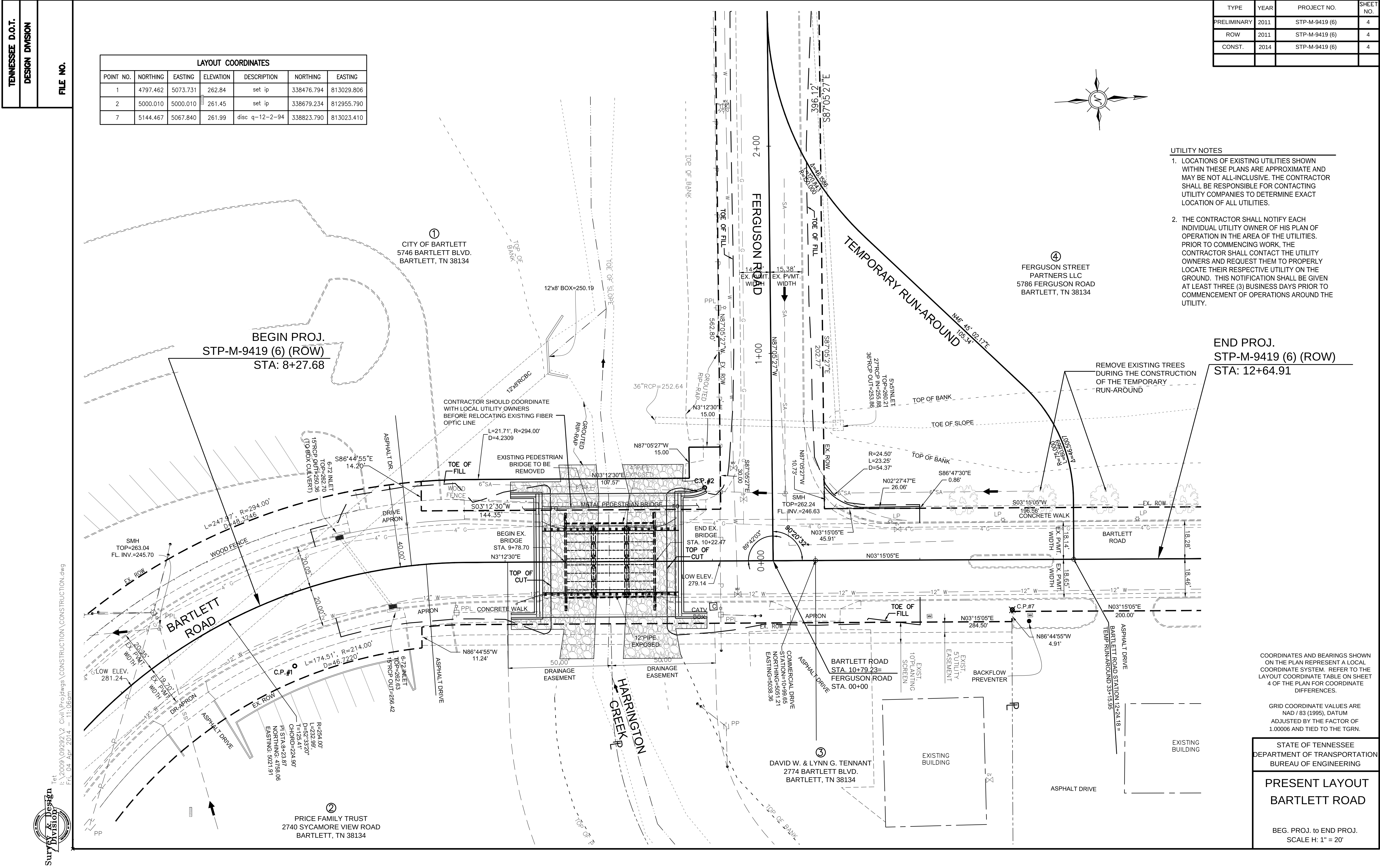
COORDINATES AND BEARINGS SHOWN
ON THE PLAN REPRESENT A LOCAL
COORDINATE SYSTEM. REFER TO THE
LAYOUT COORDINATE TABLE ON SHEET
4 OF THE PLAN FOR COORDINATE
DIFFERENCES.

GRID COORDINATE VALUES ARE
NAD / 83 (1995), DATUM
ADJUSTED BY THE FACTOR OF
1.00006 AND TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

PROPERTY MAP & R.O.W. ACQUISITION TABLE

BEG. PROJ. to END PROJ.
SCALE H: 1" = 20'

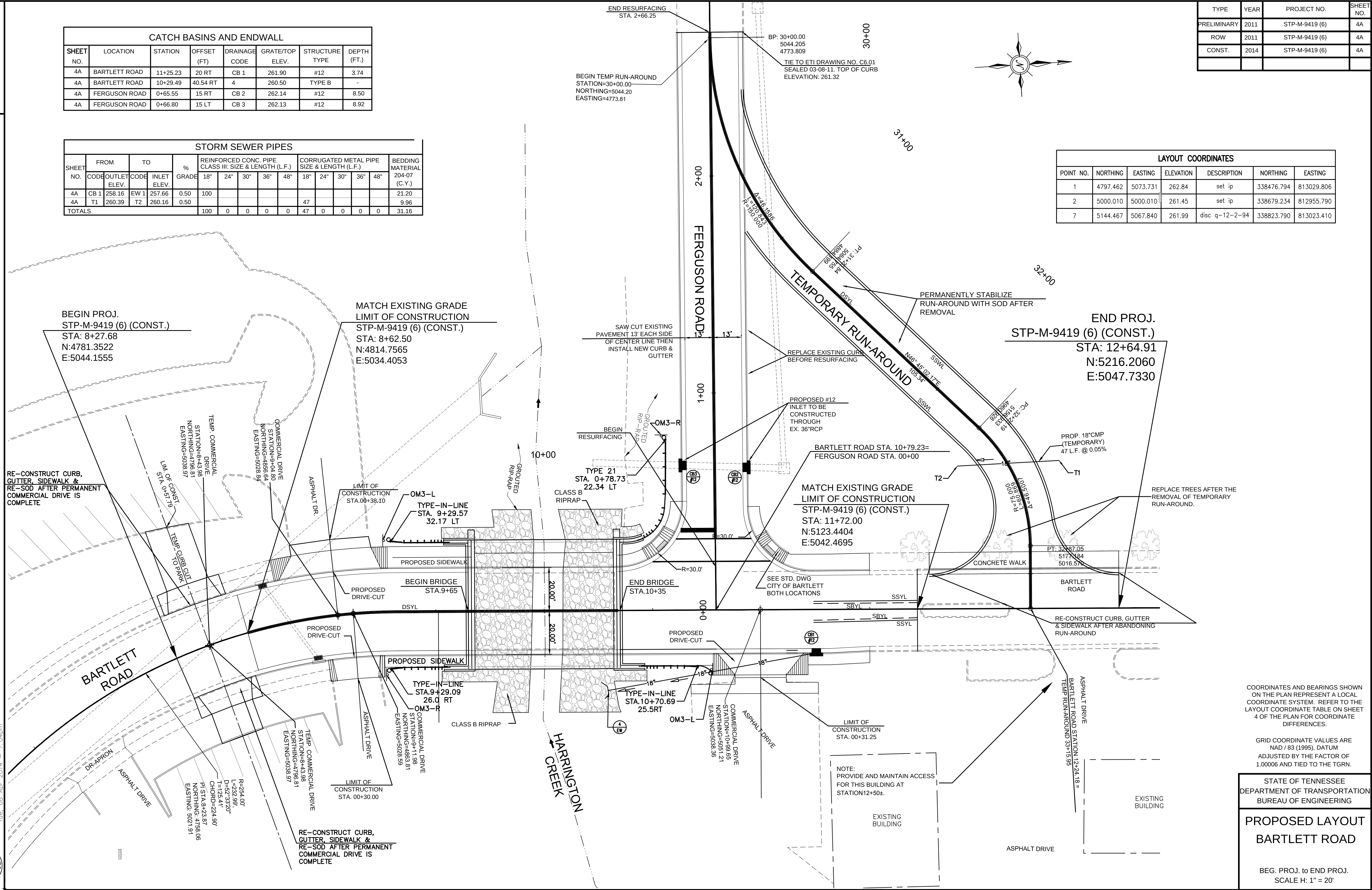
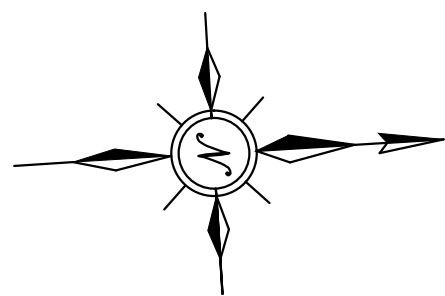


TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	4A
ROW	2011	STP-M-9419 (6)	4A
CONST.	2014	STP-M-9419 (6)	4A

CATCH BASINS AND ENDWALL							
SHEET NO.	LOCATION	STATION	OFFSET (FT)	DRAINAGE CODE	GRATE/TOP ELEV.	STRUCTURE TYPE	DEPTH (FT.)
4A	BARTLETT ROAD	11+25.23	20 RT	CB 1	261.90	#12	3.74
4A	BARTLETT ROAD	10+29.49	40.54 RT	4	260.50	TYPE B	-
4A	FERGUSON ROAD	0+65.55	15 LT	CB 2	262.14	#12	8.50
4A	FERGUSON ROAD	0+66.80	15 LT	CB 3	262.13	#12	8.92

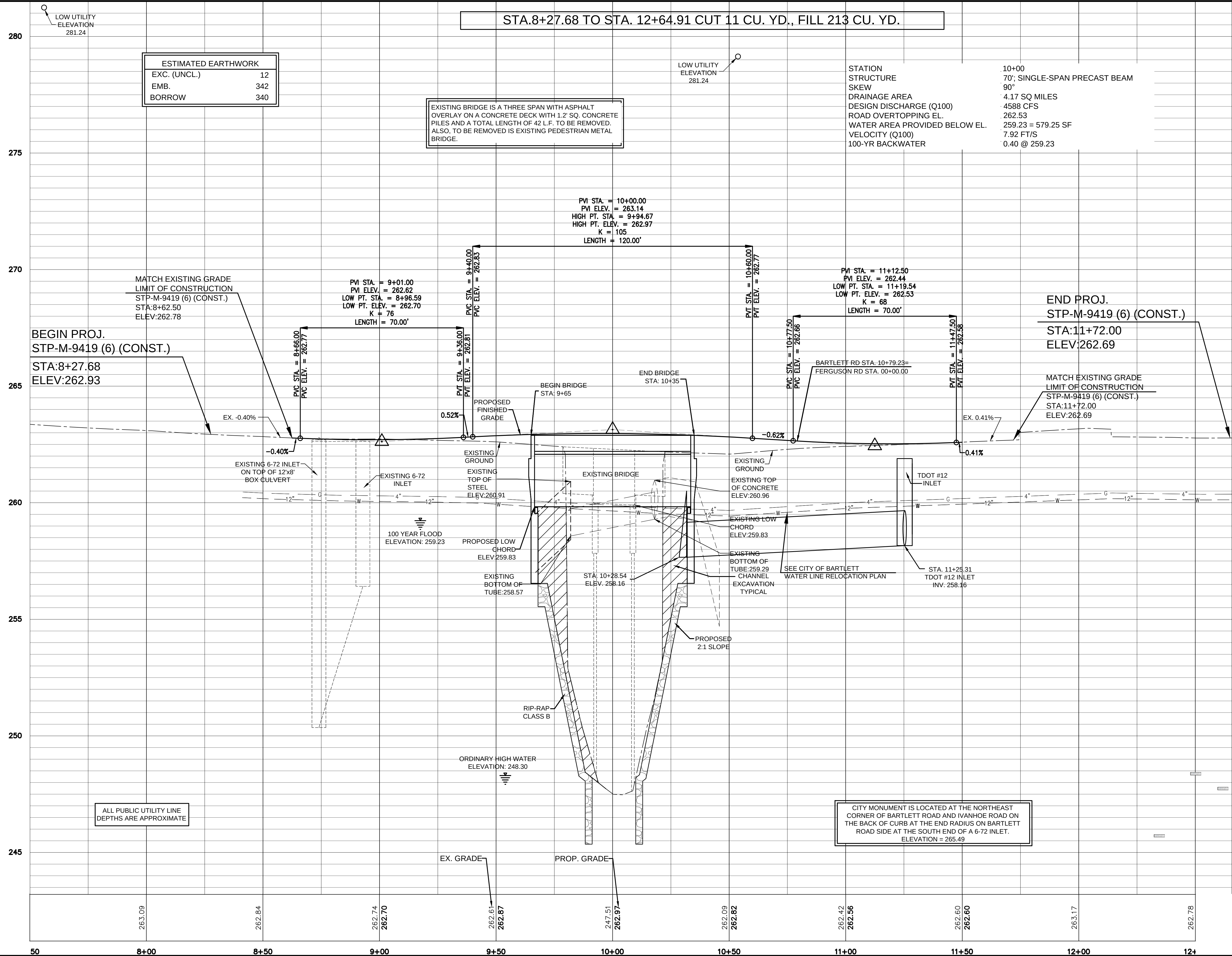
STORM SEWER PIPES																	
SHEET NO.	FROM	TO		% GRADE	REINFORCED CONC. PIPE CLASS III- SIZE & LENGTH (L.F.)					CORRUGATED METAL PIPE SIZE & LENGTH (L.F.)					BEDDING MATERIAL 204 (C.Y.)		
		OUTLET ELEV.	CODE		INLET ELEV.	18"	24"	30"	36"	48"	18"	24"	30"	36"		48"	
4A	CB 1	258.16	EW 1	257.66	0.50	100											21.20
4A	T1	260.39	T2	260.16	0.50						47						9.96
TOTALS						100	0	0	0	0	47	0	0	0	0	0	31.16

LAYOUT COORDINATES						
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION	NORTHING	EASTING
1	4797.462	5073.731	262.84	set ip	338476.794	813029.806
2	5000.010	5000.010	261.45	set ip	338679.234	812955.790
7	5144.467	5067.840	261.99	disc q-12-2-94	338823.790	813023.410



TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	4B
ROW	2011	STP-M-9419 (6)	4B
CONST.	2014	STP-M-9419 (6)	4B



COORDINATES AND BEARINGS SHOWN ON THE PLAN REPRESENT A LOCAL COORDINATE SYSTEM. REFER TO THE LAYOUT COORDINATE TABLE ON SHEET 4 OF THE PLAN FOR COORDINATE DIFFERENCES.

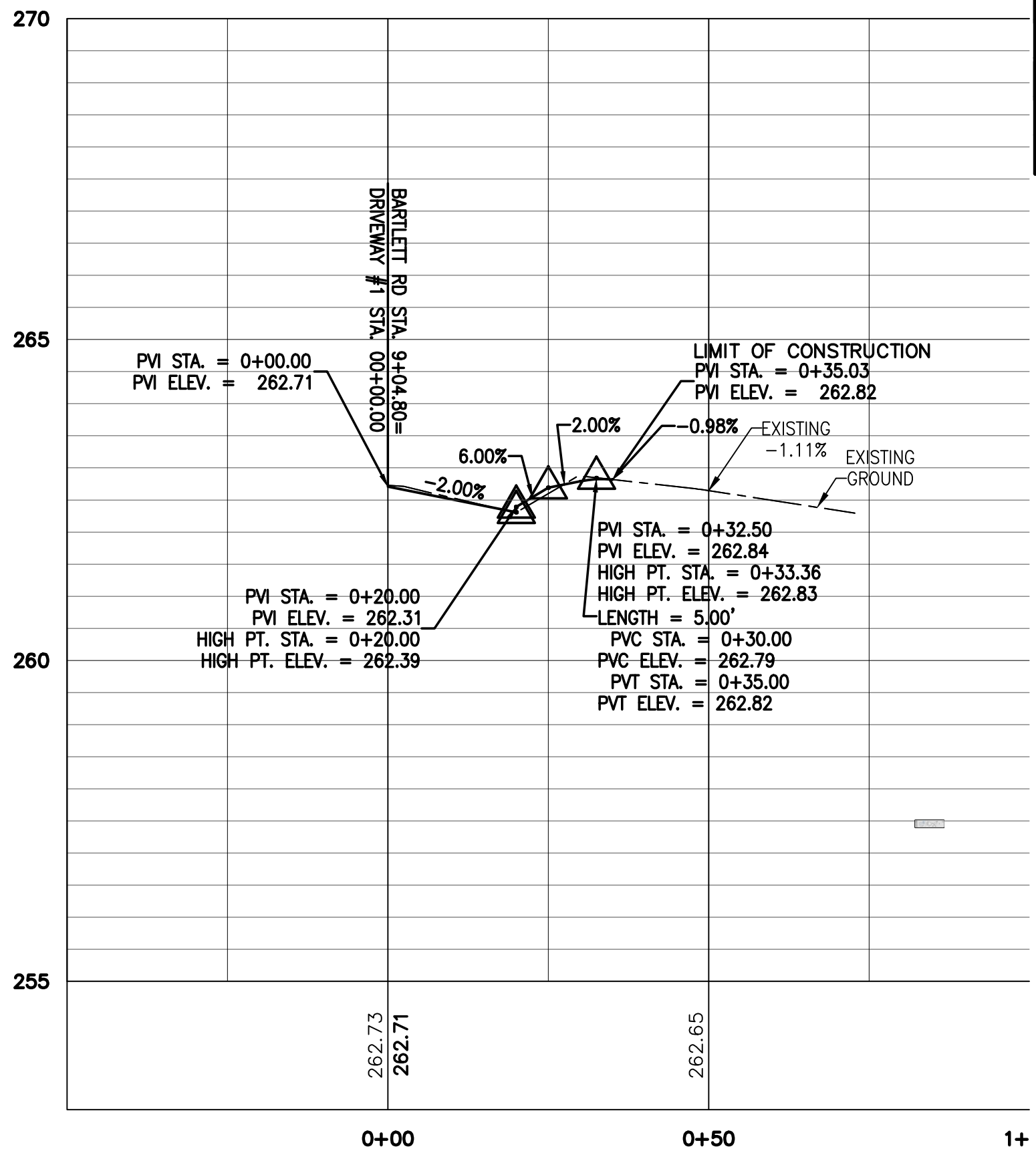
GRID COORDINATE VALUES ARE
NAD / 83 (1995), DATUM
ADJUSTED BY THE FACTOR OF
1.00006 AND TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

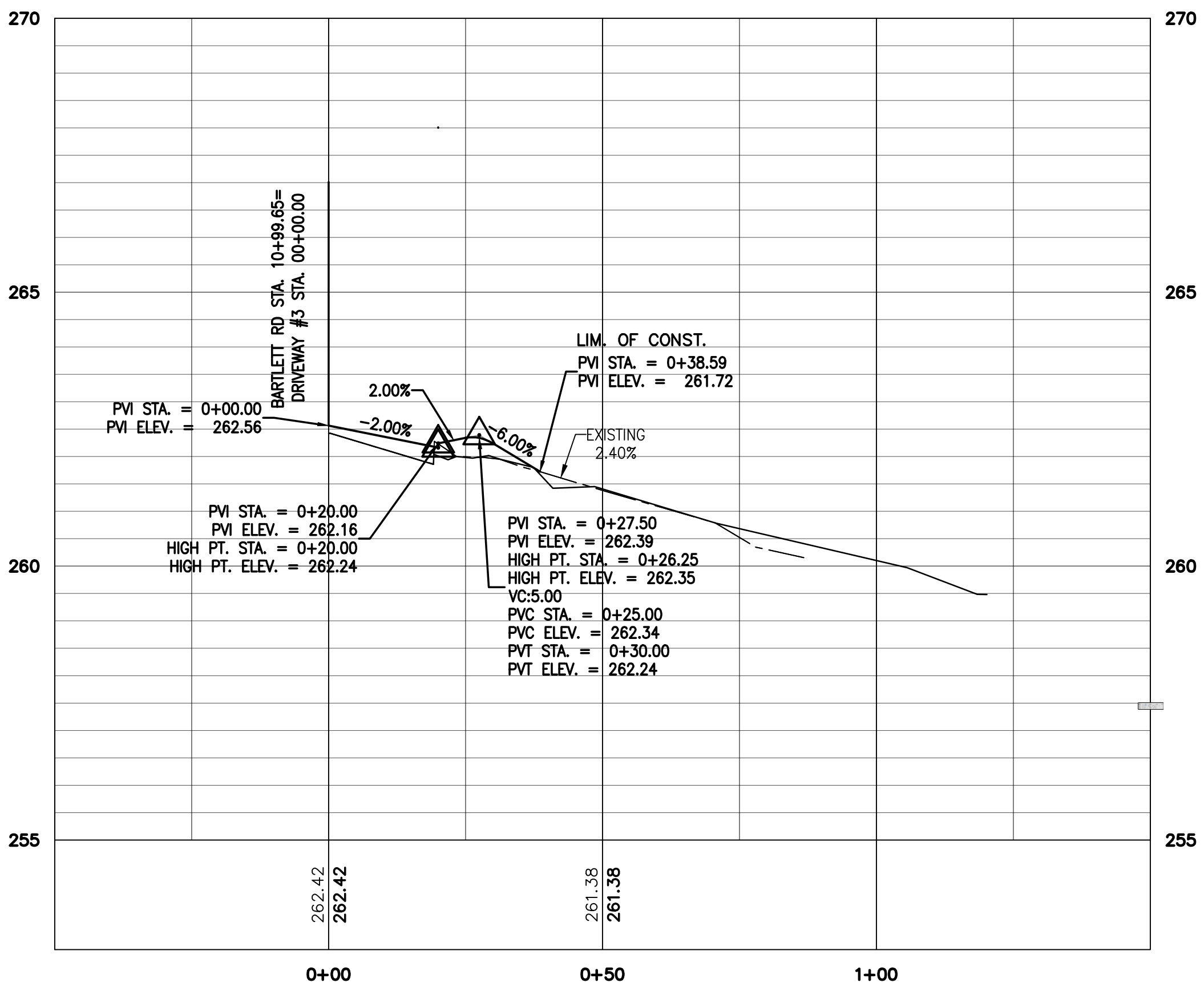
PROPOSED PROFILE BARTLETT ROAD

BEG. PROJ. to END PROJ.
SCALE H: 1" = 20'

FILE NO.



DRIVEWAY #1
STA. 9+04.80 (LT)

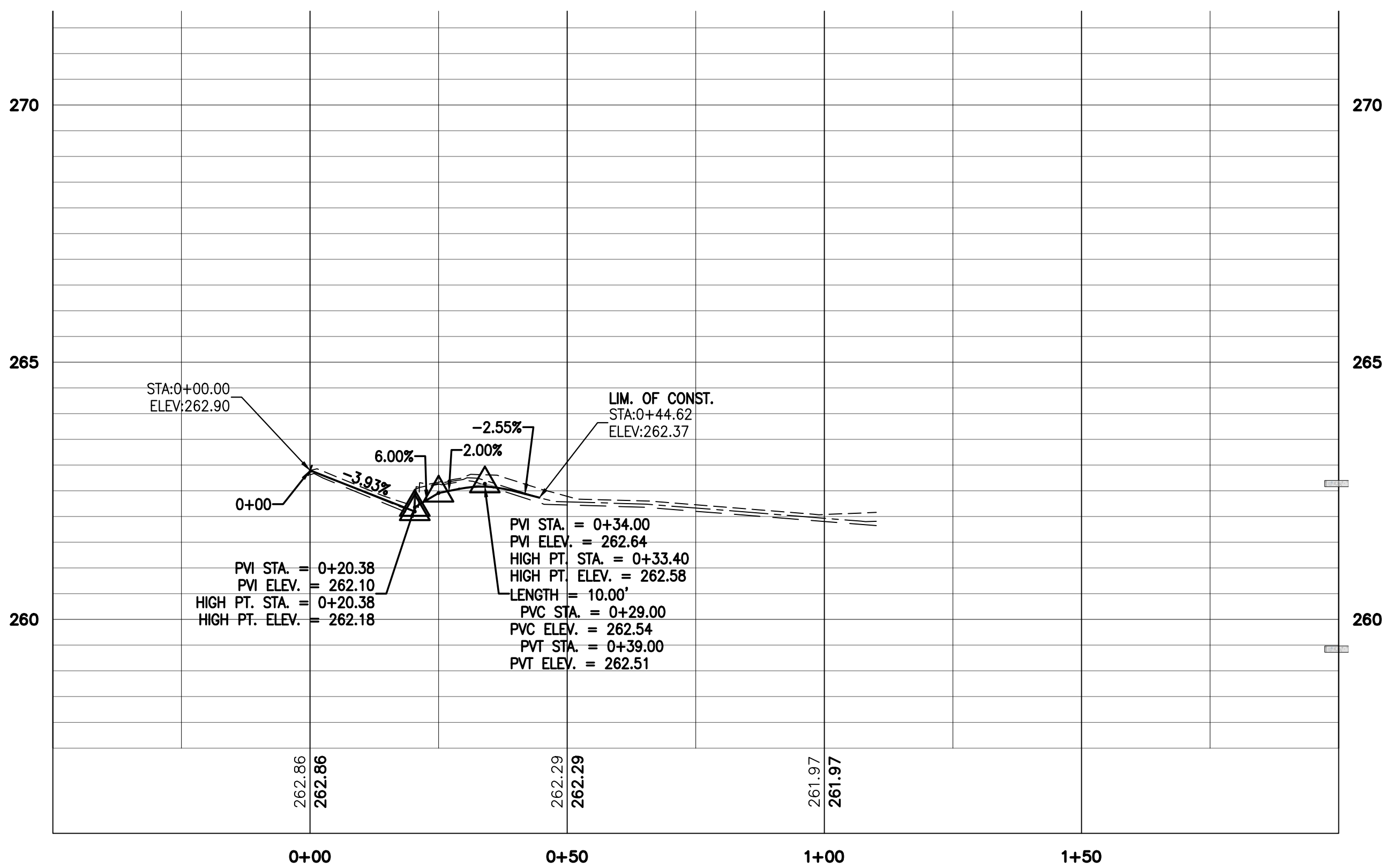
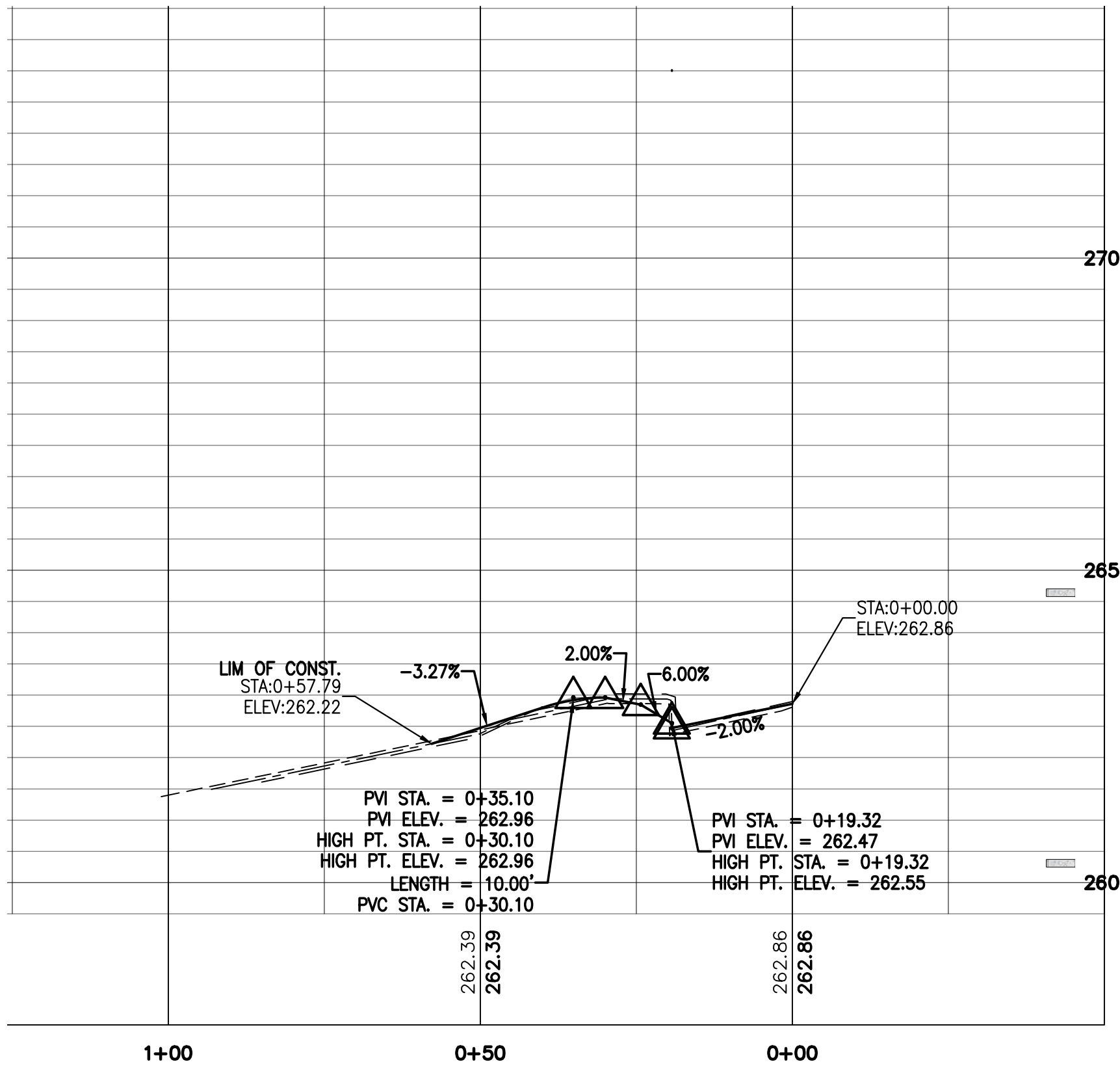
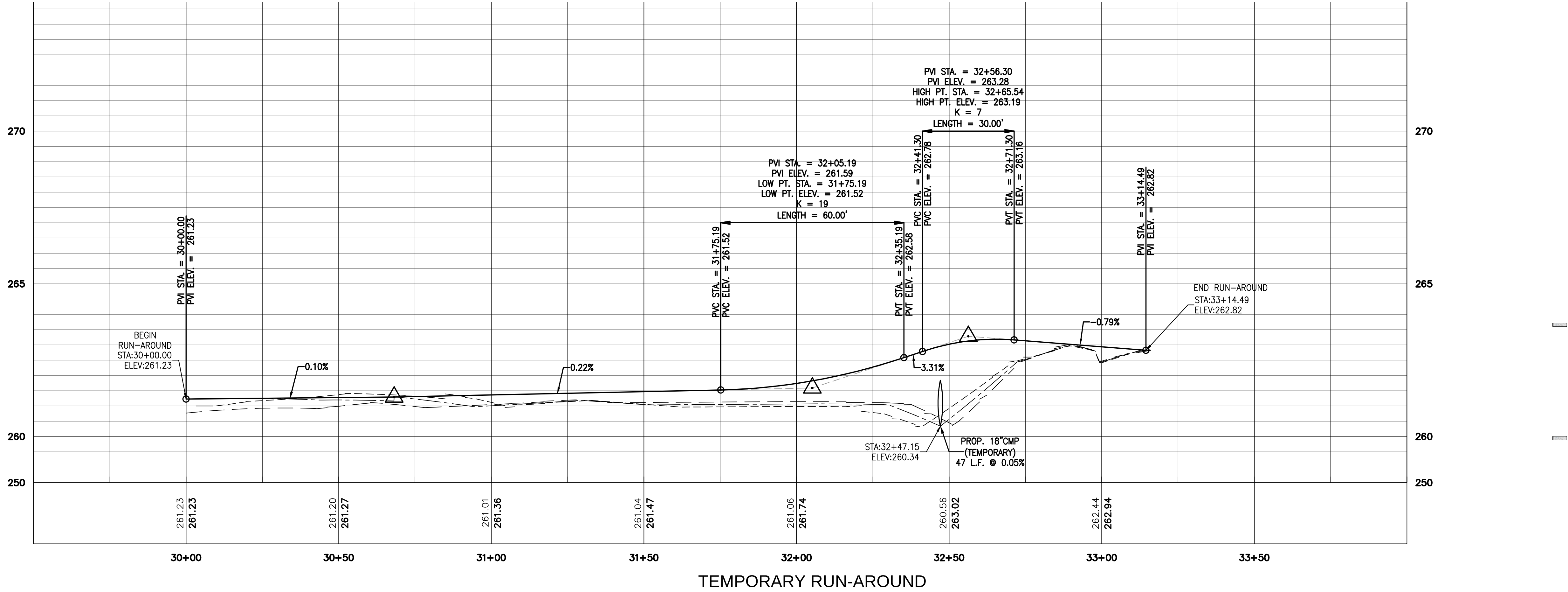


DRIVEWAY #3
STA. 10+99.65 (RT)

BEG. PROJ. to END PROJ.
SCALE H: 1" = 20'

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	5A
ROW	2011	STP-M-9419 (6)	5A
CONST.	2014	STP-M-9419 (6)	5A



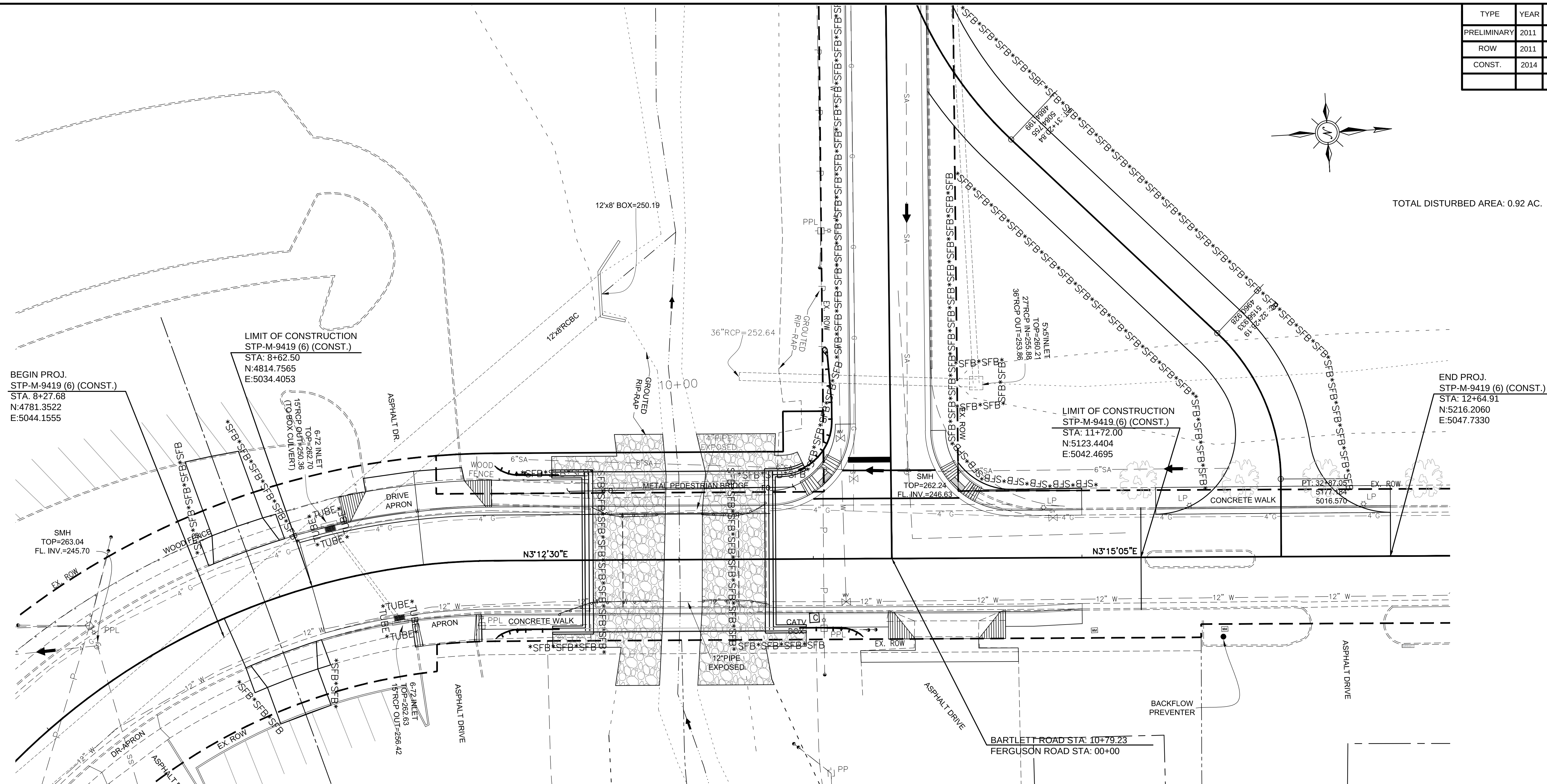
COORDINATES AND BEARINGS SHOWN ON THE PLAN REPRESENT A LOCAL COORDINATE SYSTEM. REFER TO THE LAYOUT COORDINATE TABLE ON SHEET 4 OF THE PLAN FOR COORDINATE DIFFERENCES.

GRID COORDINATE VALUES ARE NAD / 83 (1995), DATUM ADJUSTED BY THE FACTOR OF 1.00006 AND TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

TEMPORARY
RUN-AROUND &
DRIVEWAY

BEG. PROJ. to END PROJ.
SCALE H: 1" = 20'



TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	6
ROW	2011	STP-M-9419 (6)	6
CONST.	2014	STP-M-9419 (6)	6

TOTAL DISTURBED AREA: 0.92 AC.

BEGIN PROJ.
STP-M-9419 (6) (CONST.)
STA. 8+27.68
N:4781.3522
E:5044.1555

LIMIT OF CONSTRUCTION
 STP-M-9419 (6) (CONST.)
 STA: 8+62.50
 N: 4814.7565
 E: 5034.4053

LIMIT OF CONSTRUCTION
STP-M-9419 (6) (CONST.)
STA: 11+72.00
N:5123.4404
E:5042.4695

END PROJ.
STP-M-9419 (6) (CONST.)
STA: 12+64.91
N:5216.2060
E:5047.7330

TOP=263.04
FL. INV.=245.70

FL. INV.=246.63

_____ 6" SA _____

EX. RW
LP

BARTLETT ROAD STA: 10+79.23
FERGUSON ROAD STA: 00+00

NPDES NOTES:

- (1) NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF THEIR OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT STABILIZATION MEASURES, HAS BEEN ACCEPTED BY THE ENGINEER. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE BASIC EPSC DEVICES ON THE EPSC PLAN CONTAINED IN THE APPROVED SWPPP.
- (2) THE EPSC MEASURES AND/OR PLAN SHALL BE MODIFIED AS NECESSARY SO THAT THEY ARE EFFECTIVE AT ALL TIMES THROUGHOUT THE COURSE OF THE PROJECT.
- (3) THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES, INCLUDING WITHOUT LIMITATION AS FOLLOWS:
 - A. INITIAL CLEARING AND GRUBBING SHALL BE LIMITED TO THAT NECESSARY FOR THE INSTALLATION OF APPLICABLE EPSC MEASURES IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
 - B. NO OTHER CLEARING AND GRUBBING OPERATIONS SHALL BE STARTED BEFORE APPLICABLE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
 - C. NO CULVERT OR BRIDGE CONSTRUCTION SHALL BE STARTED BEFORE APPLICABLE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
 - D. NO GRADING, EXCAVATION, CUTTING, FILLING, OR OTHER EARTHWORK SHALL BE STARTED BEFORE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
- (4) PERMANENT EPSC MEASURES SHALL BE INITIATED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OF ANY SEQUENCE OR PHASE. TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OR WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 15 CALENDAR DAYS. PERMANENT STABILIZATION WITH PERENNIAL VEGETATION OR OTHER PERMANENTLY STABLE NON-ERODING SURFACE SHALL REPLACE ANY TEMPORARY MEASURES AS SOON AS PRACTICABLE. UNPACKED GRAVEL CONTAINING FINES (SILT AND CLAY SIZED PARTICLES) OR CRUSHER RUNS WILL NOT BE CONSIDERED A NON-ERODIBLE SURFACE.

LEGEND/SYMBOL

SFB * SFB * TEMPORARY SILT FENCE WITH BACKING

EROSION & SEDIMENT CONTROL DEVICES			
LEGEND/SYMBOL	ITEM NO.		TOTAL
NONE	209-05	SEDIMENT REMOVAL	42 C.Y.
SFB * SFB * SFB * SFB *	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	1608 L.F.
	209-40.41	CATCH BASIN FILTER ASSEMBLY (TYPE 1)	3 EACH
NONE	709-05.05	MACHINED RIP-RAP (CLASS A-3)	150 TON
NONE	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	260 S.Y.
TUBE**TUBE**TUBE**TUBE**	740-11.03	SEDIMENT TUBE (18")	100 L.F.
NONE	801-01.07	TEMPORARY SEEDING (WITH MULCH)	20 UNIT
NONE	801-03	WATER (SEEDING & SODDING)	16 M.G.
NONE	803-01	SODDING (NEW SOD)	2346 S.Y.

SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT

COORDINATES AND BEARINGS SHOWN ON THE PLAN REPRESENT A LOCAL COORDINATE SYSTEM. REFER TO THE LAYOUT COORDINATE TABLE ON SHEET 4 OF THE PLAN FOR COORDINATE DIFFERENCES.

GRID COORDINATE VALUES ARE
NAD / 83 (1995), DATUM
ADJUSTED BY THE FACTOR OF
1.00006 AND TIED TO THE TGRN.

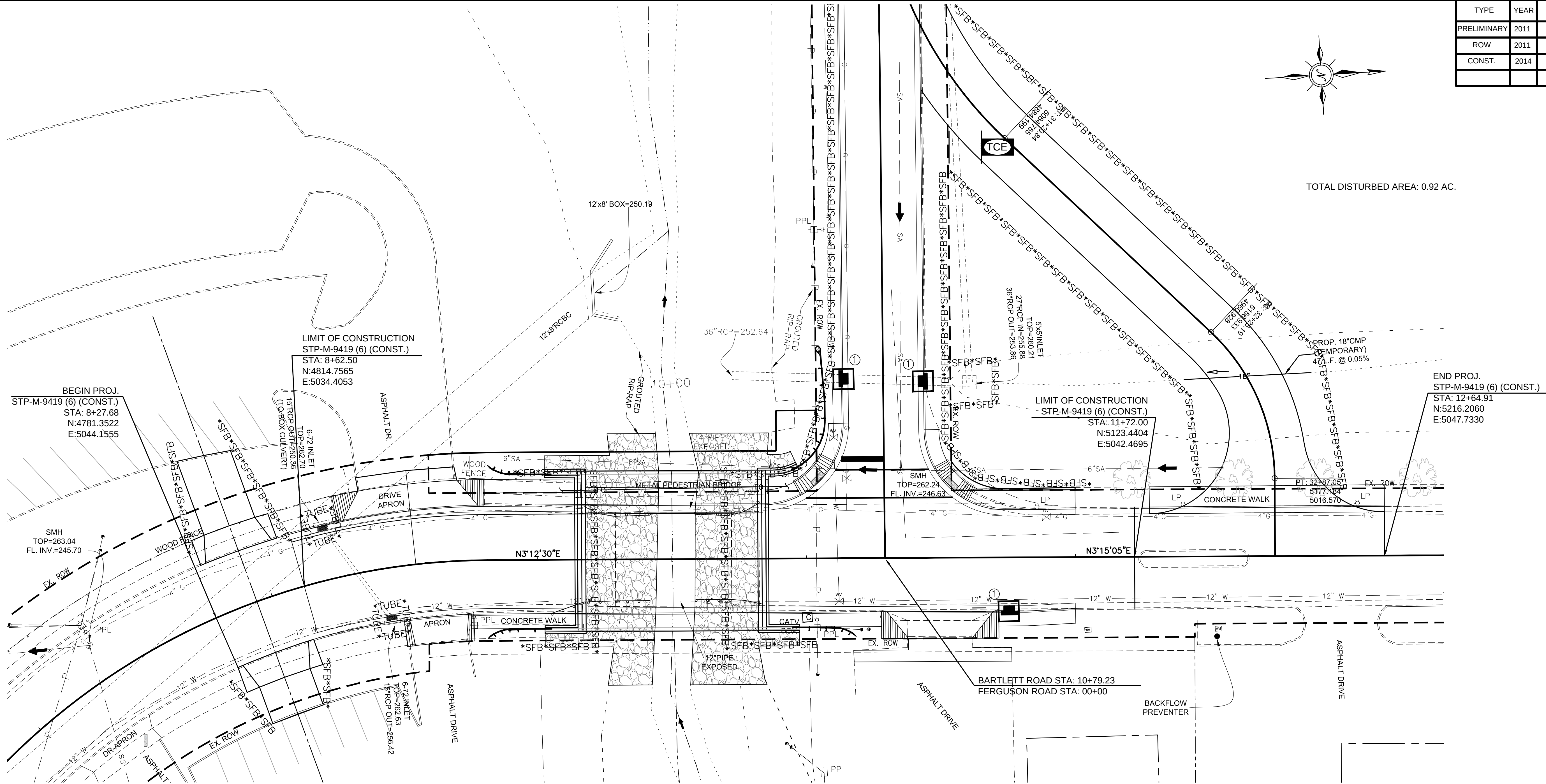
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

EPSC PLAN
BARTLETT ROAD

PHASE I
BEG. PROJ. to END PROJ.
SCALE H: 1" = 20'

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	6A
ROW	2011	STP-M-9419 (6)	6A
CONST.	2014	STP-M-9419 (6)	6A



EROSION PREVENTION AND SEDIMENT CONTROL NOTES FOR UTILITY RELOCATION:

- (10) RAIN WATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A TEMPORARY DEWATERING STRUCTURE OR SEDIMENT FILTER BAG AND MAINTAINED.

(11) SILT FENCE SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF STOCKPILED SOIL. TRENCHING ACROSS WET WEATHER CONVEYANCES SHALL BE DONE DURING NO FLOW CONDITIONS AND STABILIZED BY THE END OF THE WORK DAY.

(12) UTILITY CROSSINGS FOR PERENNIAL STREAMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TDOT STANDARDS, AND NO WORK SHALL BE CONDUCTED IN FLOWING WATERS. TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO UTILITIES IN THIS PROJECT IN REGARD TO EROSION PREVENTION AND SEDIMENT CONTROL (EPSC). THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLANS (SWPPP).

(13) IT IS THE RESPONSIBILITY OF THE STATE UTILITY CONTRACTOR INSTALLER TO PROTECT FROM EROSION EXPOSED EARTH RESULTING FROM THEIR OPERATIONS, AND TO PROVIDE FOR CONTAINMENT OF SEDIMENT THAT MAY RESULT FROM THEIR WORK. PRIOR TO BEGINNING WORK, ADEQUATE MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL OFF-SITE IN THE EVENT OF RAIN. DURING THE PROGRESSION OF THEIR WORK, EXPOSED EARTH AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE TO PREVENT EROSION. AT NO TIME SHALL EXPOSED EARTH RESULTING FROM THEIR OPERATIONS HAVE UNPROTECTED ACCESS TO FLOWING OFF-SITE AND ENTERING WATERS OF THE STATE/U.S.
- (14) FOR THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SODDED DAILY IF POSSIBLE, BUT NO LATER THAN SEVEN DAYS AFTER BEING BACKFILLED. ANY TEMPORARY SPOIL OF EXCAVATED EARTH SHALL BE LOCATED WITHIN TDOT EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES OR RECEIVE SEPARATE EPSC MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EPSC MEASURES WILL BE INSTALLED BY THE STATE UTILITY CONTRACTOR UNTIL SUCH TIME AS THE TRENCH IS BACKFILLED.

(15) IN REGARD TO EROSION PREVENTION AND SEDIMENT CONTROL (EPSC), TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO THE STATE UTILITY CONTRACTORS IN THIS PROJECT; THEREFORE, THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE STATE CONTRACTOR IS RESPONSIBLE FOR EPSC MEASURES RELATED TO UTILITY CONSTRUCTION INCLUDED IN THE STATE CONTRACT WORK.

(16) TRENCHES FORMED FOR THE INSTALLATION OF BURIED UTILITIES MAY CAUSE STORM WATER RUNOFF TO CONCENTRATE AT THE TRENCH LINE. ADDITIONAL EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES MAY BE REQUIRED TO BE INSTALLED AS APPROVED BY THE TDOT PROJECT ENGINEER.

(17) FOR THE INSTALLATION OF UNDERGROUND UTILITIES OUTSIDE OF THE TDOT ROW, TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) SHALL BE INSTALLED PRIOR TO CLEARING (TRENCHING AND ASSOCIATED BLASTING) IN THOSE AREAS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION AREA. THESE EPSC MEASURES SHALL REMAIN UNTIL THE BACKFILLED TRENCH IS STABILIZED WITH FINAL VEGETATIVE COVER.
- (18) THE UTILITY CONTRACTOR SHALL RESTORE ALL AFFECTED WET WEATHER CONVEYANCES TO THE EXISTING TOPOGRAPHIC CONDITIONS (AS APPROVED BY THE TDOT PROJECT ENGINEER).

(19) THE UTILITY CONTRACTOR WILL PROVIDE APPROPRIATE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES TO REPLACE IN-PLACE EPSC MEASURES REMOVED TO FACILITATE THE INSTALLATION OF UTILITIES. REPLACEMENT OF EPSC MEASURES WILL BE COORDINATED WITH THE TDOT PROJECT ENGINEER BEFORE COMMENCING WORK.

LEGEND/SYMBOL

- SFB * SFB * TEMPORARY SILT FENCE WITH BACKING
- CATCH BASIN FILTER ASSEMBLY (TYPE 1)
- TEMPORARY CONSTRUCTION EXIT

COORDINATES AND BEARINGS SHOWN ON THE PLAN REPRESENT A LOCAL COORDINATE SYSTEM. REFER TO THE LAYOUT COORDINATE TABLE ON SHEET 4 OF THE PLAN FOR COORDINATE DIFFERENCES.

GRID COORDINATE VALUES ARE NAD / 83 (1995), DATUM ADJUSTED BY THE FACTOR OF 1.00006 AND TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

EPSC PLAN
BARTLETT ROAD

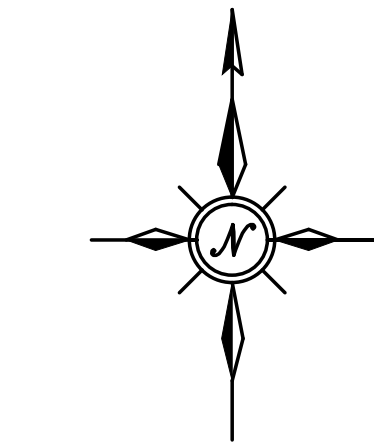
PHASE II
BEG. PROJ. to END PROJ.
SCALE H: 1" = 20'

TENNESSEE D.O.T.

DESIGN DIVISION

FILE NO.

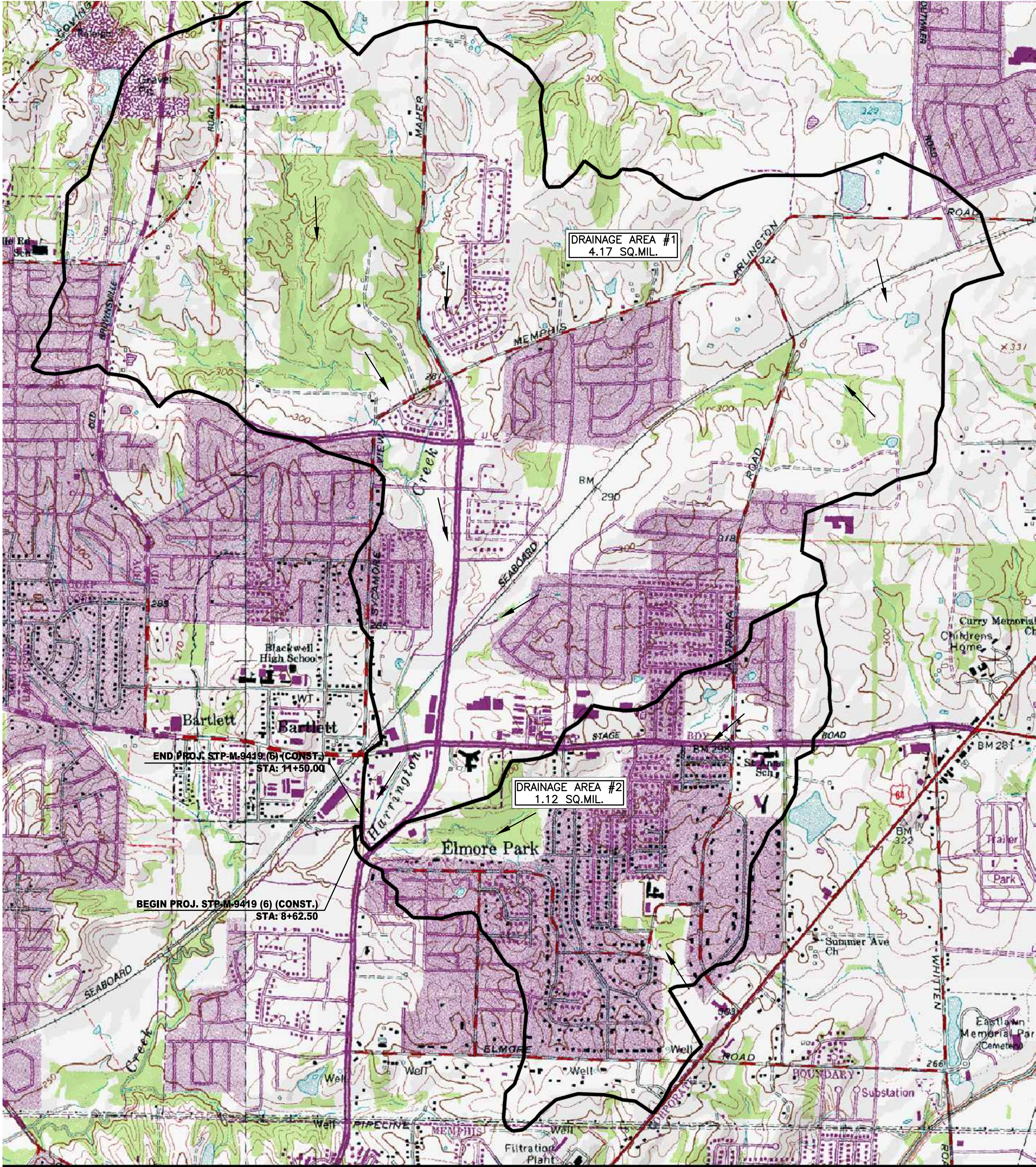
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	7
ROW	2011	STP-M-9419 (6)	7
CONST.	2014	BRZE-2700 (37)	7



DRAINAGE / HYDRAULIC DATA FOR BRIDGE
STATION 10+00.00 STREAM NAME; HARRINGTON CREEK

STREAM BED LINING: RIPRAP
DIRECTION OF FLOW: WEST
DRAINAGE AREA: 4.17 SQ. MI.
PRESENT STRUCTURE: SPAN 44' HEIGHT 14.6' STRUCTURE 3-SPAN ON CONCRETE BENTS SUPERSTRUCTURE PRECAST CONCRETE SLAB
BEGIN STATION: 9+78.70 END STATION: 10+22.47
LOW BEAM ELEV. 259.83 LOCATION STATION 10+22.47
INLET INVERT ELEV.: N/A OUTLET INVERT ELEV. N/A
NORMAL WATER ELEV. 248.30 EXTREME HIGH WATER ELEV. N/A DATE. N/A
HOW OBTAINED;

BACKWATER FORM WHAT STREAM; N/A
EXISTING STRUCTURE CONDITION: POOR
SEE STREAM CROSS-SECTIONS FOR VEGETATION COVER, SEE PRESENT LAYOUT FOR STREAM ALIGNMENT AND CROSS SECTION LOCATIONS.
SEE CENTERLINE PROFILE OR FIELD BOOK FOR EXISTING BRIDGE OPENING SKETCHES.
REMARKS:



COORDINATES AND BEARINGS SHOWN ON THE PLAN REPRESENT A LOCAL COORDINATE SYSTEM. REFER TO THE LAYOUT COORDINATE TABLE ON SHEET 4 OF THE PLAN FOR COORDINATE DIFFERENCES.

GRID COORDINATE VALUES ARE NAD / 83 (1995), DATUM ADJUSTED BY THE FACTOR OF 1.00006 AND TIED TO THE TGRN.

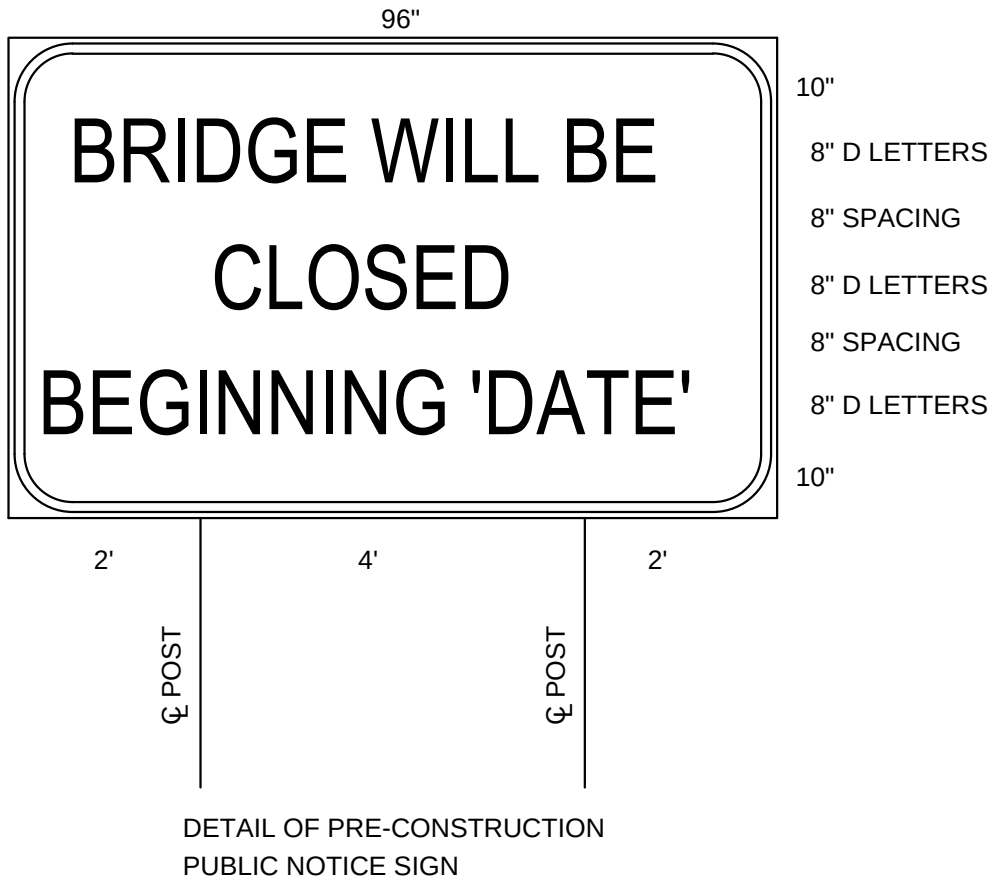
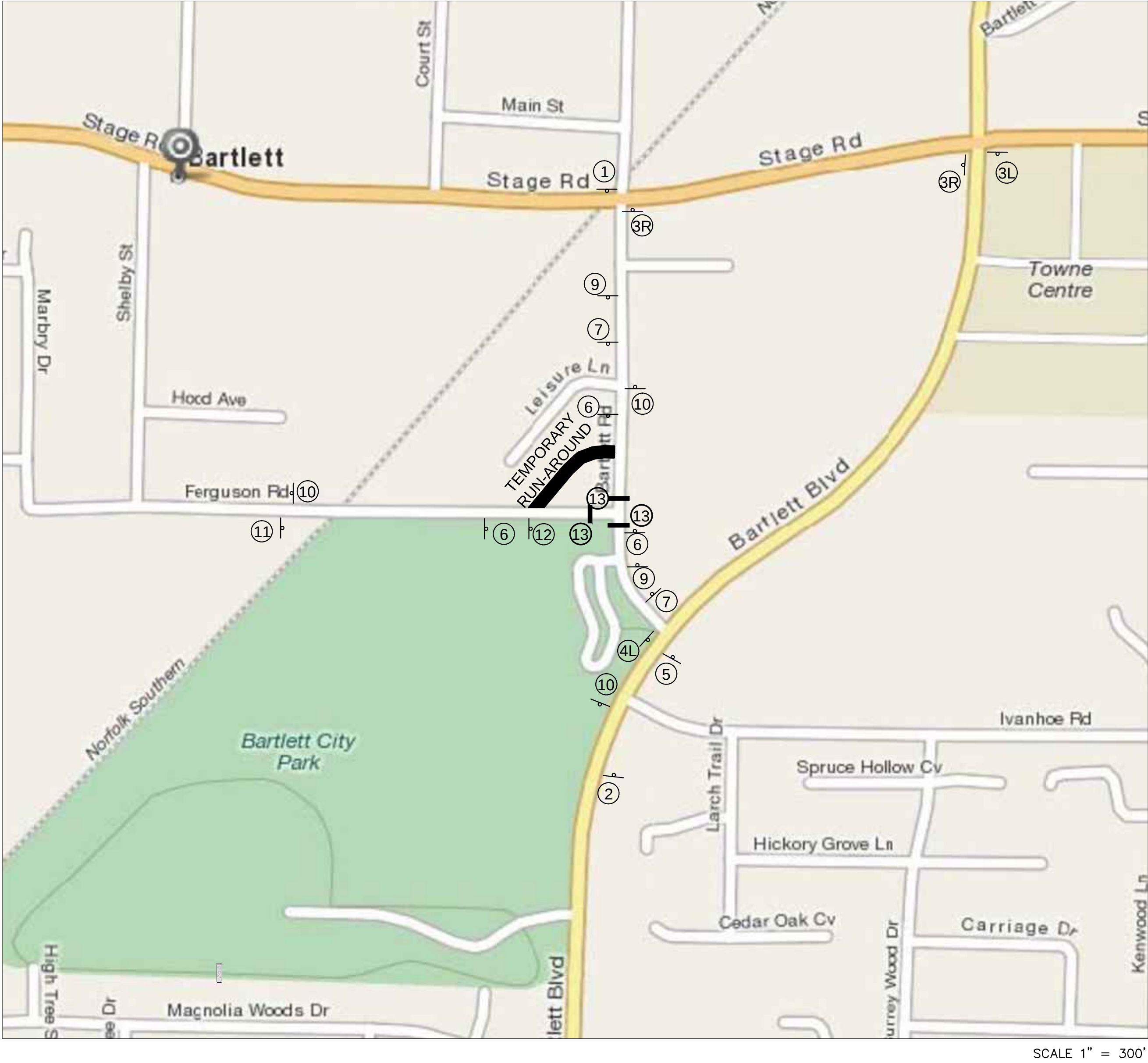
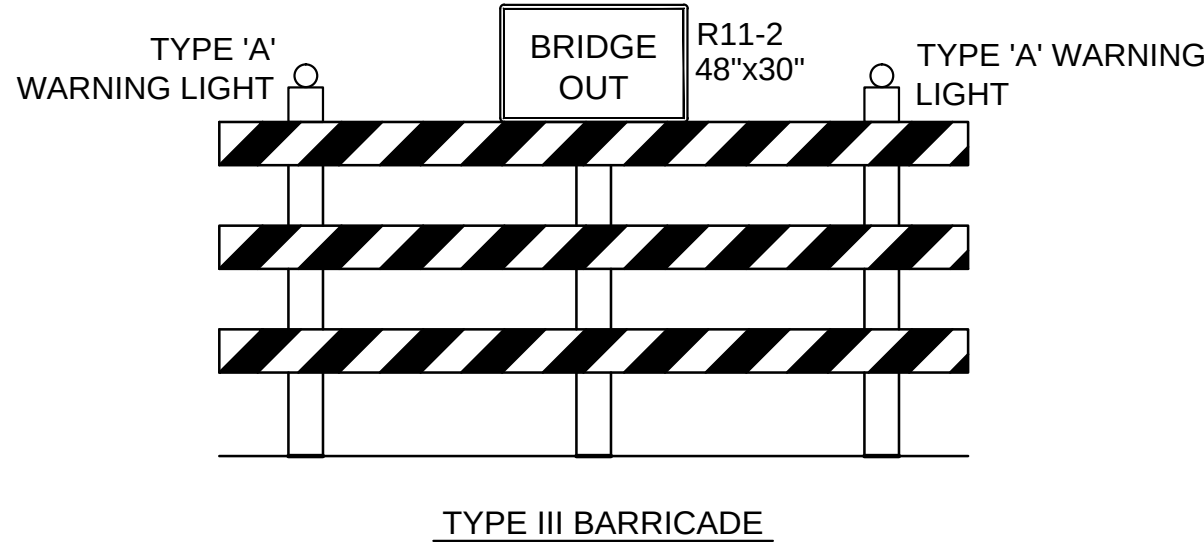
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

DRAINAGE MAP
BARTLETT ROAD

BEG. PROJ. to END PROJ.
SCALE H: 1" = 20'

TABULATION OF ESTIMATED CONSTRUCTION SIGNS						
①		R11 - 4 (MODIFIED)	60" X 30"	1	12.5	
②		W20 - 2	48" X 48"	1	16	
③L OR ③R OR ④L OR ④R		D - 3	56" X 12"	3	14	
		M4 - 8	24" X 12"	3	6	
		M5 - 1	21" X 15"	3	6.6	
		D - 3	56" X 12"	1	4.7	
④L OR ④R		M4 - 8	24" X 12"	1	2	
		M6 - 1	21" X 15"	1	2.2	
⑤		D - 3	56" X 12"	1	4.7	
		M4 - 8	24" X 12"	1	2	
⑥		G20 -1 (MODIFIED)	96" X 60" SEE DETAIL AT RIGHT	3	120	
⑦		W20 - 3	48" X 48"	1	16	
⑧		R11 - 2	48" X 30"	3	30	
⑨		R11 - 4	60" X 30"	2	25	
⑩		G20 - 2	60" X 24"	2	20	
⑪		W20 - 1	48" X 48"	1	16	
⑫		R11-2	48" X 30"	2	20	
⑬	TYPE III BARRICADE					
TOTAL					317.7 S.F.	

♣ UNLESS STATED OTHERWISE IN REMARKS COLUMN, THE SIGN(S) IS DEPICTED IN MAP ON THIS SHEET.



NOTES

- 2 POSTS (4LBS./FT., APPROX. 14' LONG) FOR TEMPORARY SIGN.
- BLACK LEGEND ON YELLOW REFLECTORIZED BACKGROUND 0.10" THK. SHEET ALUMINUM.
- THE DATE SHOWN ABOVE ON THIS SIGN IS AN EXAMPLE ONLY.
- THIS SIGN (SYMBOL 8) SHALL BE ERECTED NO LESS THAN TWO WEEKS PRECEDING THE CONTRACTOR'S CLOSURE OF BARTLETT ROAD.

NOTES

THIS CONSTRUCTION SIGNING IS TO SERVE AS A GUIDE ONLY. OTHER SIGNS MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.

THIS SET OF PLANS IS NOT INTENDED TO SUPERSEDE OF RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF THE ROAD, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION: THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO, (1) LOCAL LAW ENFORCEMENT OFFICE, (2) LOCAL FIRE DEPARTMENT, (3) AMBULANCE SERVICE, (4) LOCAL SCHOOL SUPERINTENDENT, (5) UNITED STATES POSTAL SERVICE, (6) CITY ENGINEER AND (7) MEMPHIS TRANSIT AUTHORITY.

THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE SIGNS ON THE DETOUR ROUTE AND COVERING ANY CONFLICTING SIGNS EXISTING ON THAT ROUTE.

THE CONTRACTOR WILL BE REQUIRED TO PLACE CERTAIN "PRE-CONSTRUCTION PUBLIC NOTICE" SIGNS ON BARTLETT BOULEVARD NO LESS THAN TWO WEEKS PRIOR TO CLOSURE OF THAT ROAD.

REGARDING THE "PRE-CONSTRUCTION PUBLIC NOTICE" SIGNS, THE CONTRACTOR WILL BE REQUIRED TO NOTIFY (VERBALLY AND IN WRITING) THE CITY ENGINEER OF THE DATE OF UPCOMING ROAD CLOSURE AND THE ANTICIPATED DURATION OF THAT CLOSURE. THIS NOTIFICATION SHOULD OCCUR NO LESS THAN FOUR WEEKS PRECEDING THE CLOSURE. THIS NOTIFICATION IS FOR THE PURPOSE OF ALLOWING CITY AGENCIES THE OPPORTUNITY TO PUBLICIZE THE UPCOMING CLOSURE USING MEDIUMS OF THEIR CHOICE.

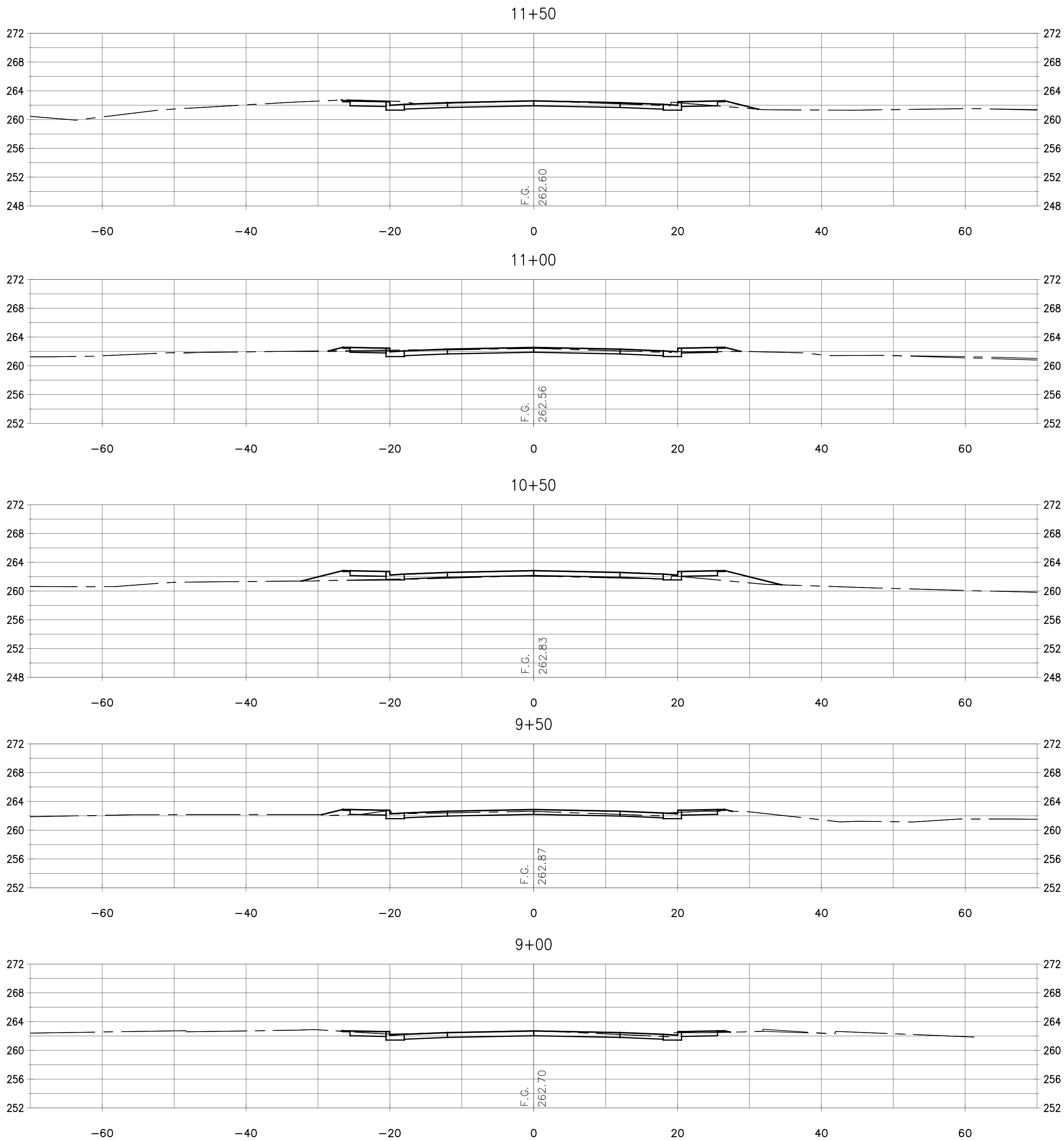
TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2011	STP-M-9419 (6)	8
CONST.	2014	STP-M-9419 (6)	8

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

TRAFFIC CONTROL
PLAN
BARTLETT ROAD
BEG. PROJ. to END PROJ.
NOT TO SCALE

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	9
ROW	2011	STP-M-9419 (6)	9
CONST.	2014	STP-M-9419 (6)	9



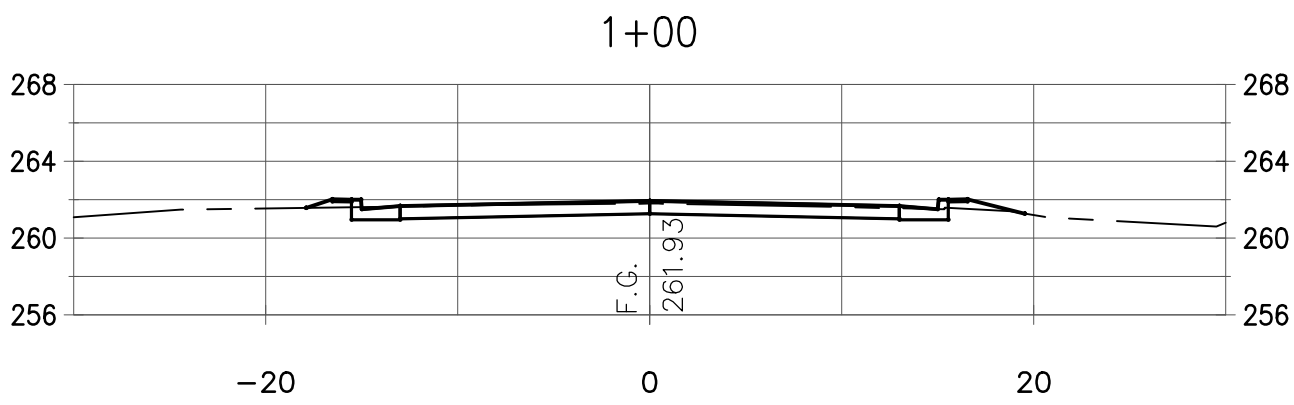
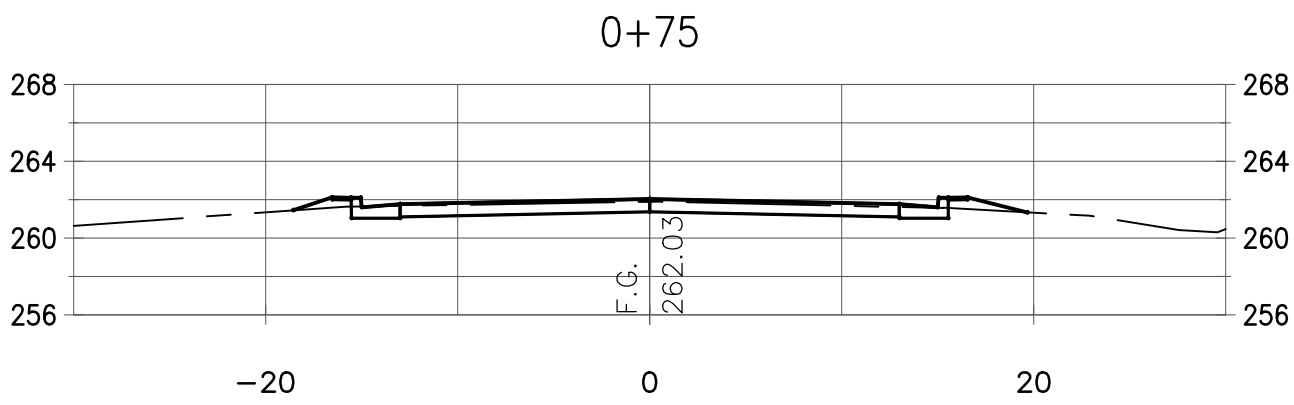
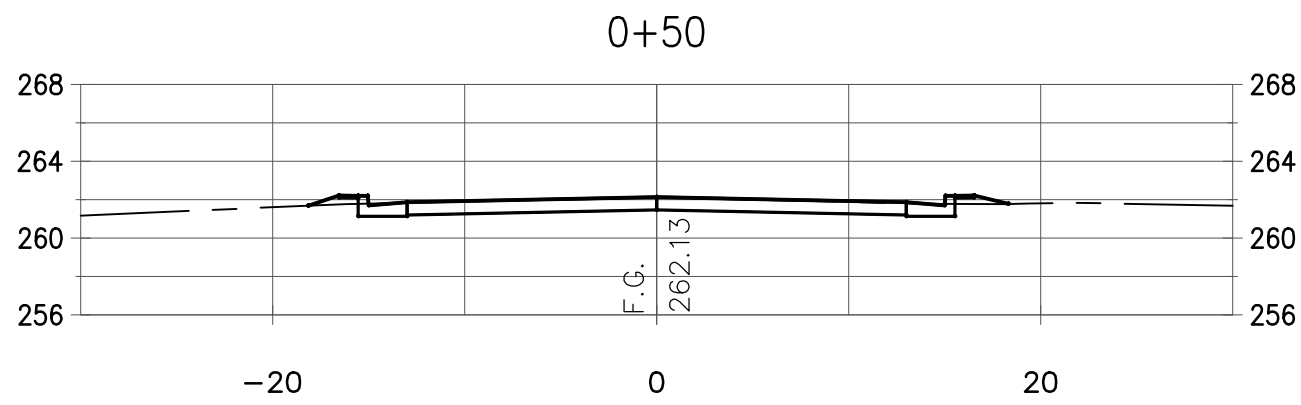
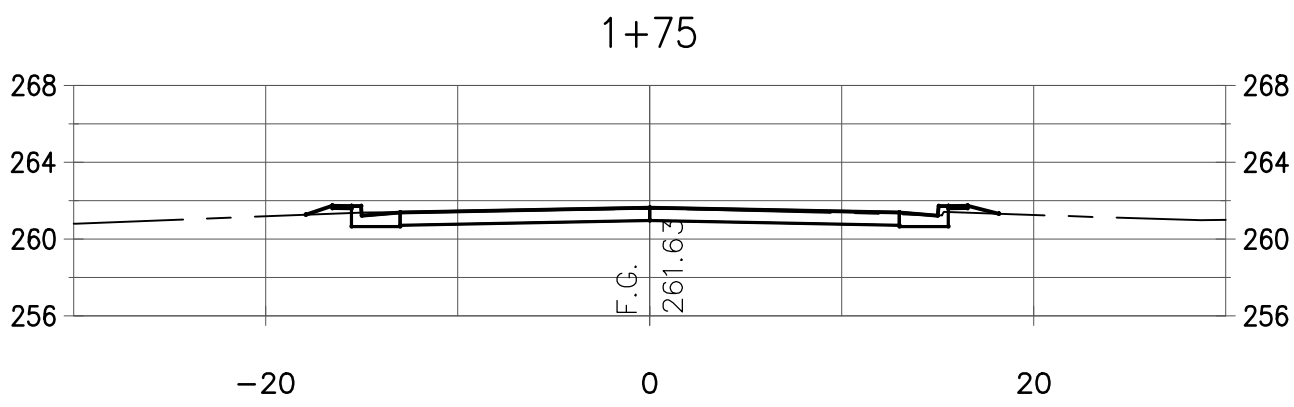
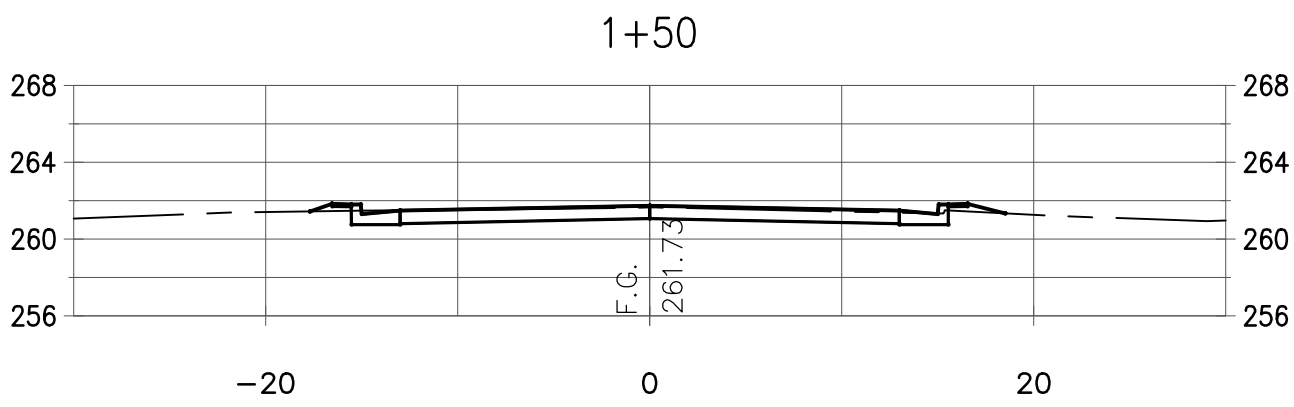
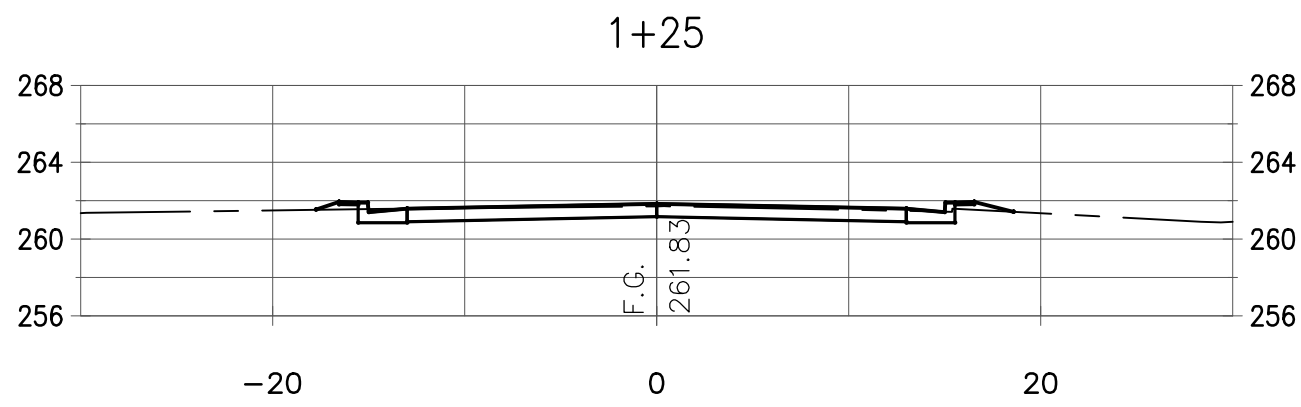
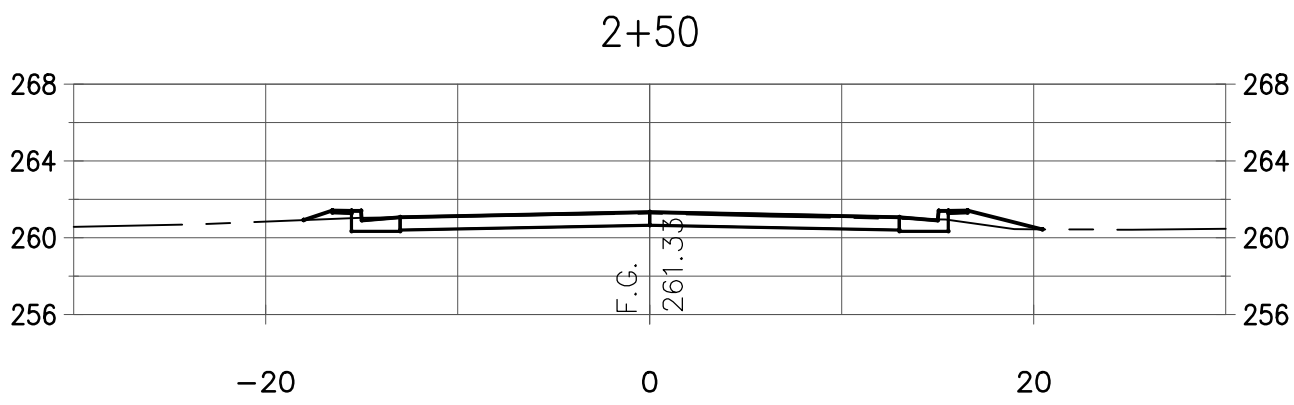
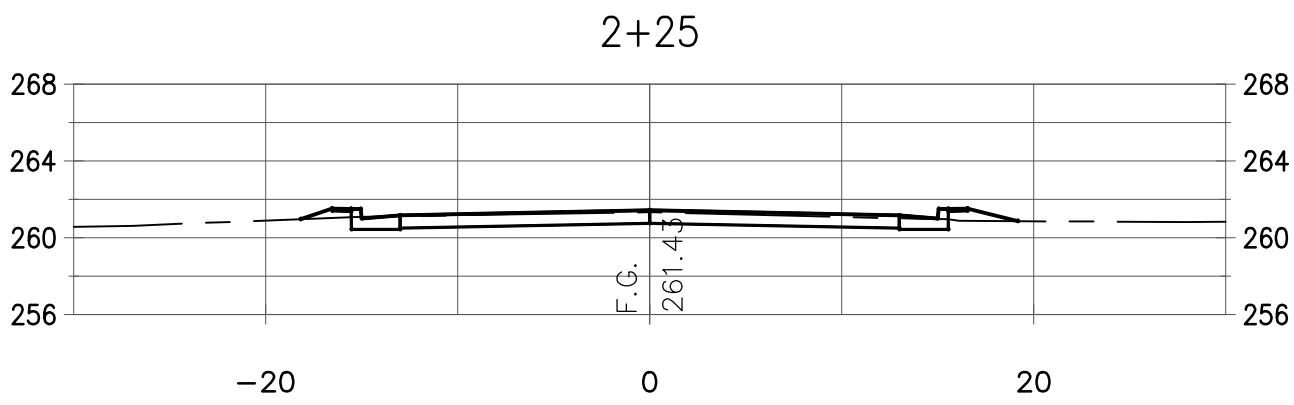
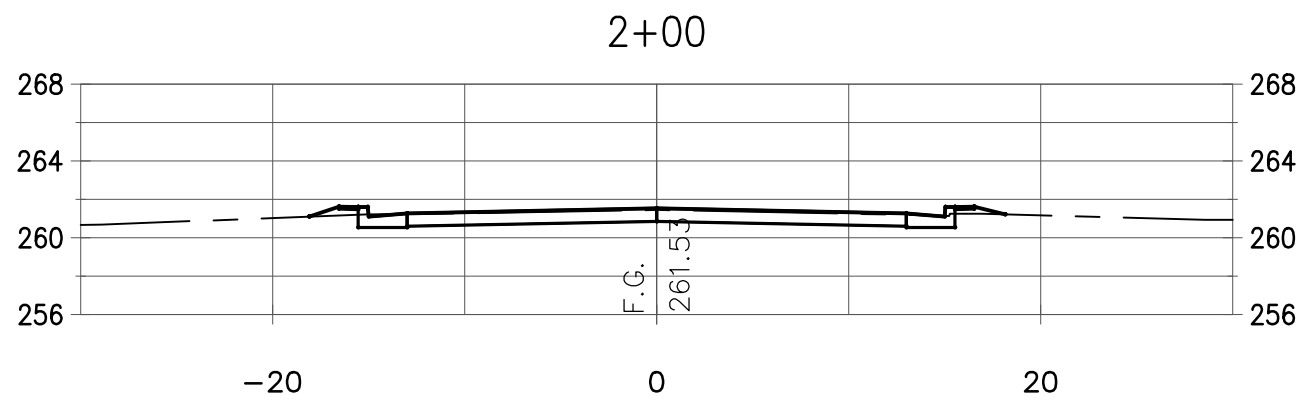
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

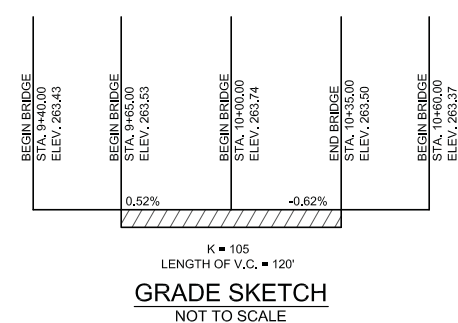
MAIN LINE
CROSS SECTIONS

BEG. PROJ. to END PROJ.
SCALE H: 1" = 20'

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2011	STP-M-9419 (6)	9A
CONST.	2014	STP-M-9419 (6)	9A



[illegible]

NOTE:
100 YR. CONTRACTION SCOUR = 0.00' (@ ELEV. 247.47)

ELEVATION OF PROPOSED BRIDGE

SCALE: 1"=10'

PROPOSED SPAN BRIDGE

DRAINAGE AREA:	4.17 SQ. MILES
DESIGN DISCHARGE (Q50):	4,588 CFS
WATER AREA PROVIDED BELOW EL. 259.23:	579,256 FT ²
VELOCITY (Q100):	7.92 FPS
100-YR BRIDGE BACKWATER:	0.40 FT
ROADWAY OVERTOPPING ELEVATION:	263.33

TITLE

LAYOUT OF BRIDGE	1 of 10
GENERAL NOTES & ESTIMATED QUANTITIES	2 of 10
FOUNDATION DATA	3 of 10
SUPERSTRUCTURE (SHEET 1 OF 2)	4 of 10
SUPERSTRUCTURE (SHEET 2 OF 2)	5 of 10
PRESTRESSED BOX BEAM DETAILS	6 of 10
ABUTMENTS NO. 1 & NO. 2 (SHEET 1 OF 2)	7 of 10
ABUTMENTS NO. 1 & NO. 2 (SHEET 2 OF 2)	8 of 10
BRIDGE PILE DATA SHEET	9 of 10
BILL OF STEEL	10 of 10

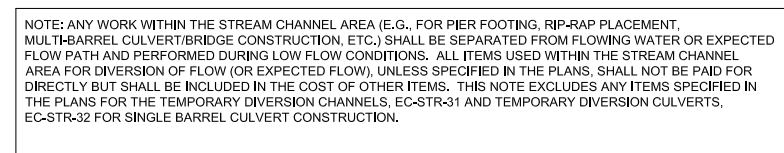
LIST OF DRAWINGS

DRAWING NO.

LIST OF STANDARD DRAWINGS

W-BEAM GUARDRAIL	S-GR31-1	07-11-13
GUARDRAIL CONNECTION TO BRIDGE ENDS OR BARRIER WALL	S-GR31-1	07-11-13
TYPE 21 GUARDRAIL TERMINAL	S-GRT-3	07-11-13
TYPE 21 GUARDRAIL TERMINAL (DETAILS)	S-GRT-3D	07-11-13
EARTH PAD FOR TYPE 21 TERMINAL	S-GRT-3P	07-11-13
GUARDRAIL ANCHOR FOR TYPE 21, 13, AND IN-LINE TERMINALS	S-GRT-3P	07-11-13
STD. PRECAST PRESTRESSED BRIDGE DECK PANELS		
GENERAL NOTES	STD-4-1	04-08-05
STD. PRECAST PRESTRESSED BRIDGE DECK PANELS		
DESIGN CRITERIA	STD-4-2	04-08-05
STD. PRECAST PRESTRESSED BRIDGE DECK PANELS		
GENERAL DETAILS	STD-4-3	03-02-02
STD. PRECAST PRESTRESSED BRIDGE DECK PANELS		
CONSTRUCTION DETAILS	STD-4-4	06-10-96
STD. PILE DETAILS	STD-5-1	10-25-93
STD. PILE DETAILS	STD-5-2	04-08-05
STANDARD SEISMIC DETAILS	STD-6-1	11-01-10
STANDARD SEISMIC DETAILS	STD-6-2	11-07-94
REINFORCING BAR SUPPORT DETAILS		
FOR CONCRETE SLABS	STD-9-1	10-07-08
MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS	STD-10-1	04-08-05
BRIDGE RAILING W/ STRUCTURAL TUBING	STD-11-1	08-13-02
STD. DETAILS FOR PRESTRESSED BOX BEAMS	STD-14-3	10-15-08

DRAWING NO. REVISION DATE



PLAN OF PROPOSED IMPROVEMENTS

SCALE: 1"=10'

DESIGNED BY	<u>T.L.K.</u>	DATE	<u>4/2014</u>
DRAWN BY	<u>T.L.K.</u>	DATE	<u>4/2014</u>
SUPERVISED BY	<u>R.D.M.</u>	DATE	<u>4/2014</u>
CHECKED BY	<u>R.D.M.</u>	DATE	<u>4/2014</u>

2031 ADT = 15,245
40'-0" ROADWAY WIDTH
W/ STD. 11-1 RAIL
DESIGN SPEED = 30 MPH

LAYOUT OF BRIDGE
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014

1 of 10

M-348-3

8.3.6

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
- 2007 EDITION WITH 2008 INTERIM REVISIONS
(SEISMIC PERFORMANCE CATEGORY D WITH ACCELERATION COEFFICIENT 0.35)

CONSTRUCTION SPECIFICATIONS: TENNESSEE STANDARD SPECIFICATIONS
FOR ROAD AND BRIDGE CONSTRUCTION - 2008

LIVE LOADING: HL-93.

CONCRETE: CLASS "A" (CAST IN PLACE), $f_c = 3000$ PSI,
CLASS "D" (CAST IN PLACE), $f_c = 4000$ PSI,
PRECAST, $f_c = 8000$ PSI.

CLASS "D" CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH
SECTION 604 OF THE TDOT STANDARD SPECIFICATIONS.

BRIDGE DECK SURFACE FINISH: TO BE IN ACCORDANCE WITH
NOTE A, IN ARTICLE 604.22 OF THE TDOT STANDARD SPECIFICATIONS.

BRIDGE DECK FORMS: BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL
BE CONSTRUCTED USING EITHER REMOVABLE FORMS OR PERMANENT
FORMS. PERMANENT FORMS MAY BE EITHER REMAIN-IN-PLACE STEEL OR
PRECAST, PRESTRESSED CONCRETE PANELS. IN EITHER CASE, FORMS
SHALL BE ATTACHED BY MEANS OTHER THAN STEPLING TO SUPPORT
MEMBERS. THE CONTRACTOR SHALL TAKE STEPS TO ASSURE THE
STABILITY OF THE TEMPORARY BRIDGE GIRDERS AGAINST TWISTING OR OVERTURNING
DURING SLAB POURING OPERATIONS. TEMPORARY ERECTION DIAPHRAGMS
MUST BE USED AT THE ENDS OF PRECAST CONCRETE GIRDERS WHERE
END DIAPHRAGMS ARE TO BE POURED CONCURRENTLY WITH THE DECK
AND SHALL BE PROVIDED ELSEWHERE IN ACCORDANCE WITH TDOT SPECIFICATIONS
TO PREVENT GIRDER ROTATION. SEE STANDARD DRAWINGS STD-4-1 THRU STD-
STD-14-3, AND ARTICLE 604.05 OF THE TDOT STANDARD SPECIFICATIONS.

REINFORCING STEEL: TO BE ASTM A615 GRADE 60, SEE SECTION 604 AND 907
OF THE TDOT STANDARD SPECIFICATIONS (EPOXY COAT ALL SLAB STEEL).

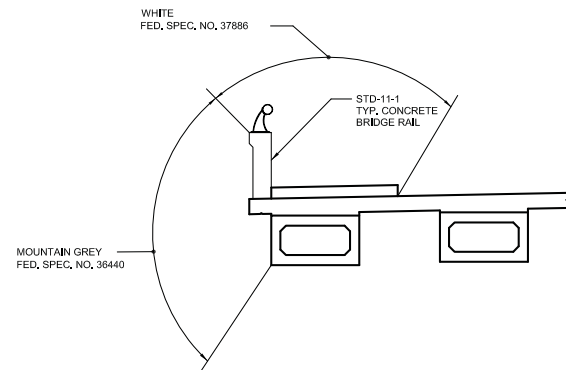
9. **FRICION PILES:** TO BE SIZE 1 (14"x14"). AFTER EXCAVATION TO THE PROPOSED FOOTING ELEVATIONS, A TEST PILE SHALL BE DRIVEN AT EACH SUBSTRUCTURE AT THE LOCATION DESIGNATED ON DRAWING NUMBER 9 of 10. A LOAD TEST WILL THEN BE APPLIED TO THE TEST PILE ON ABUT. NO. 1, FROM THE RESULTS OF THE LOAD TEST, THE ENGINEER WILL DETERMINE APPROXIMATE PILE TIP ELEVATIONS AND THE MINIMUM REQUIRED MINIMUM BEARING FOR THE PRODUCTION PILES UP TO A MAXIMUM OF 150 TONS BASED ON THE DRIVING EQUIPMENT. THE CONTRACTOR SHALL DRIVE PRODUCTION PILES TO THE LENGTH ORDERED BY THE ENGINEER UNLESS EXCESSIVELY HARD DRIVING IS ENCOUNTERED WHICH MIGHT DAMAGE THE PILE. THE PILE LOAD TEST SHALL BE CONDUCTED IN ACCORDANCE WITH THE TDOT SPECIFICATIONS. THE PILE LOAD TEST APPARATUS FOR APPLYING LOADS AND MEASURING MOVEMENT SHALL MEET THE REQUIREMENTS OF ASTM D 1143. STANDARD METHOD OF TESTING PILES UNDER STATIC AXIAL COMPRESSION OR WHEN INSUFFICIENT CLEARANCE IS AVAILABLE WITH AN EXCAVATION, THE CLEARANCE REQUIREMENTS IN ARTICLE 4.1.1 MAY BE REDUCED, BUT ONLY WITH PRIOR APPROVAL OF THE ENGINEER. FOR PILE DESIGN LOADS AND CUT-OFF ELEVATIONS, SEE TABLE ON THIS SHEET.
10. **BRIDGE RAIL SYSTEM:** INSTALL CONCRETE PARAPET W/ STRUCTURAL TUBING ACCORDING TO TDOT STANDARD DRAWING STD-11-1.
11. **RIP-RAP:** MACHINED RIP-RAP SHALL BE CLASS B IN ACCORDANCE WITH SECTION 709 OF THE STANDARD SPECIFICATIONS AND SHALL BE PAID FOR UNDER ITEM 709-05.06. SEE CIVIL SHEETS FOR RIP-RAP QUANTITIES.
12. **FINISHING CONCRETE SURFACES:** CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604-01 OF THE TDOT STANDARD SPECIFICATION. CLASS I FINISH FOLLOWED BY APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM 604-04.01.

13. UTILITIES: IT IS INTENDED THAT THE COST OF MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF UTILITIES SHALL BE BORNE BY OTHERS AND SHALL NOT BE PAID FOR AS A PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHERS IN THE INSTALLATION OF UTILITIES WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR AS A RESULT.
14. NON-PAY ITEMS: ONLY ITEMS SHOWN ON THE SCHEDULE AS PAY ITEMS WILL BE PAID FOR. COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND INCIDENTALS FOR THE ENTIRE CONTRACT SHALL BE INCLUDED IN THE PRICE BID FOR PAY ITEMS.
15. SUPERSTRUCTURE TO CONSIST OF A SINGLE SPAN BRIDGE WITH EIGHT PRESTRESSED BOX BEAMS (B4-27x48) WITH COMPOSITE DECK.
16. EXISTING BRIDGE AND APPROACHES TO BE REMOVED TO NATURAL GROUND BETWEEN STATIONS 9+65 AND 10+35.
17. SEE STRUCTURES MEMORANDUMS #27 AND FOUNDATION REPORT FOR PILE PLACEMENT
18. END OF BRIDGE DRAINS ARE NOT REQ'D.
19. CLOSE ROAD DURING CONSTRUCTION.
20. COORDINATE WITH AT&T FOR WORK AROUND FIBER OPTIC CONDUIT. CONDUIT SHALL NOT BE DAMAGED DURING CONSTRUCTION. ANY DAMAGE WILL BE REPAIRED AT NO COST TO THE OWNER.

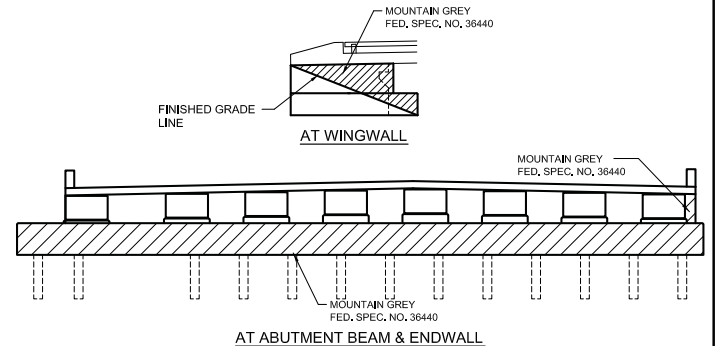
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ESTIMATED QUANTITIES - BRIDGE						
ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUT. NO. 1	ABUT. NO. 2
202-04,01	REMOVAL OF STRUCTURE (EX. BR, NO. 57-A310-2.19. STA. 10+00)	LS	1			
202-04,02	REMOVAL OF STRUCTURE (EXISTING PEDESTRIAN METAL BRIDGE)	LS	1			
204-02,01	DRY EXCAVATION (BRIDGES)	C.Y.	252		142	110
303-01,02	GRANULAR BACKFILL (BRIDGES)	TONS	38		19	19
604-02,03	EPOXY COATED REINFORCING STEEL	LB.	33,668	31,450	1,223	995
604-03,01	CLASS "A" CONCRETE (BRIDGES)	C.Y.	123		65	58
604-03,02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	11,596		6,154	5,442
604-03,09	CLASS "D" CONCRETE (BRIDGE DECK)	C.Y.	138	138		
604-04,01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	231	161	36	34
606-09,01	TEST PILES (PRECAST CONCRETE), (SIZE 1)	L.F.	130		65	65
606-09,02	LOADING TEST (PRECAST CONCRETE), (SIZE 1)	EA.	1		1	
606-09,03	PRECAST CONCRETE PILES (SIZE 1)	L.F.	1,540		770	770
606-12,01	PILE ANCHORAGE SYSTEM (SEISMIC)	EA.	26		13	13
615-02,10	PRESTRESSED CONCRETE BOX BEAM (27"x48")	L.F.	536.00	536.00		
620-05	CONCRETE PARAPET W/ STRUCTURAL TUBING	L.F.	187.84	137.00	25.42	25.42
710-09,01	6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	82		41	41
710-09,02	6" PIPE UNDERDRAIN	L.F.	40		20	20
793-14,09	BRIDGE CONDUIT HANGER SYSTEM	EA.	1	1		

PIECE	NO. REQ'D	LENGTH
L3x2x1/4	26	2'-0"
L2x2x1/4	15	5'-4"
L2x2x1/4	8	3'-5"
PL1/2x3	78	0'-3"
3/4"Ø STUD	78	0'-3"
3/4"Ø BOLT	46	-
SMALL U-BOLT	60	-
LARGE U-BOLT	8	-



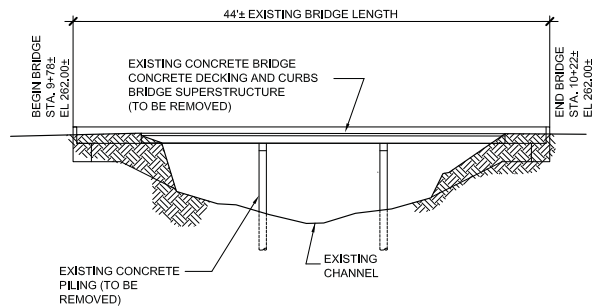
APPLIED TEXTURE FINISH TABLE	
WHITE FED. SPEC. NO. 37886	108 SQ. YDS.
GREY FED. SPEC. NO. 36440	123 SQ. YDS.



- ① EXCAVATIONS BASED ON FINAL PROFILE.
- ② NOTE: COST OF ELASTOMERIC PADS, RUBBER BONDING CEMENT, TO BE INCLUDED IN THE COST OF THE PRESTRESSED BEAM.
- ③ NOTE: COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE COST OF PERFORATED PIPE.
- ④ NOTE: GRANULAR BACKFILL SHALL BE CLASS "A" GRADING "D" MATERIAL, SEE STANDARD DRAWING STD-10-1.
- ⑤ NOTE: THE COST OF BITUMINOUS FIBERBOARD AND ALL MISCELLANEOUS JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.

- 6 COST OF PREPARATION OF THE TOP OF PILE FOR SEISMIC REQUIREMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 806-1201. SEE STANDARD DRAWING STD-6-1 FOR DETAILS. THE PILE AND TEST PILE LENGTHS SHOWN ON THE PLANS DO NOT INCLUDE THE 2 FEET REQUIRED FOR THE SEISMIC ATTACHMENT.
- 7 COST OF ALL MATERIALS AND LABOR NECESSARY FOR INSTALLING CONDUIT HANGER SYSTEMS AND U-BOLTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STEEL CONDUIT HANGERS INCLUDING ANY TEMPORARY SUPPORTS NEEDED. SUPPORTS SHALL BE STAINLESS STEEL IN ACCORDANCE WITH ASTM A-167. QUANTITIES FOR CONDUIT HANGER SYSTEM PROVIDED ON THIS PAGE,

PILE DATA TABLE				
LOCATION	DESIGN LOAD (TONS)	P.C.O. ELEVATION	ESTIMATED PILE LENGTH (FT.)	TEST PILE LENGTH (FT.)
ABUT. NO. 1	100	256.96	55	65
ABUT. NO. 2	100	256.94	55	65

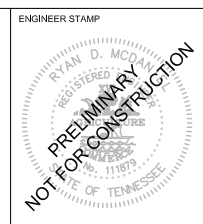


(APPROXIMATE BRIDGE WIDTH = 35'-0")



2031 ADT = 15,245
40'-0" ROADWAY WIDTH
W/ STD. 11-1 RAIL
DESIGN SPEED = 30 MPH

GENERAL NOTES &
ESTIMATED QUANTITIES
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014

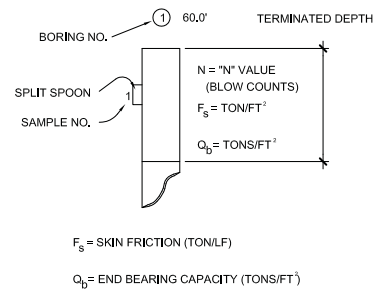


DESIGNED BY T.L.K. DATE 4/2014
 DRAWN BY T.L.K. DATE 4/2014
 SUPERVISED BY R.D.M. DATE 4/2014
 CHECKED BY R.D.M. DATE 4/2014

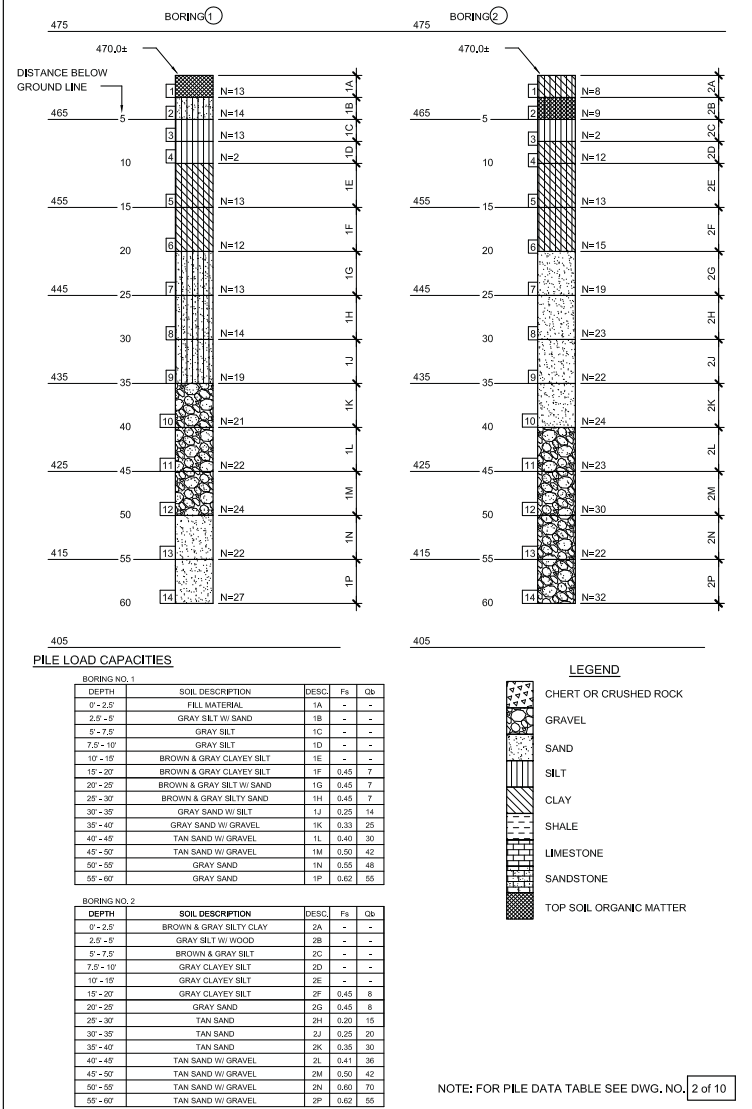
2 of 10

M-348-3 00

8-3-E

[illegible]

ELEVATION OF PROPOSED BRIDGE
SCALE: 1"=10'



2031 ADT = 15,245
40'-0" ROADWAY WIDTH
W/ STD. 11-1 RAIL
DESIGN SPEED = 30 MPH

FOUNDATION DATA
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014

3 of 10
M-348-3

3

Attachment: 09292 Structural Set (1332 : Bid for Bartlett Road Bridge)

ESTIMATED QUANTITIES		
CLASS "D" CONCRETE (BRIDGE DECK) C.Y.	STEEL BAR REINFORCEMENT LBS.	EPOXY COATED STEEL REINF. LBS.
138	0	31,450

- ① NO PORTION OF THE PARAPET SHALL BE POURED UNTIL THE ENTIRE DECK SLAB IS IN PLACE.
- ② DEAD LOAD CORRECTION CURVE: THIS CURVE IS FOR DEAD LOAD SLAB AND ALL DEAD LOADS THAT ARE APPLIED AFTER SLAB IS IN PLACE. IF PRESTRESSED DECK PANELS ARE USED AND THE BEAMS ARE PROFILED AFTER PANELS ARE IN PLACE REDUCE THE DEAD LOAD CORRECTION VALUES SHOWN BY 25%.
- ③ WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. THE PARAPET SHALL NOT BE POURED UNTIL THE SLAB IS POURED AND CURED. ALSO SEE DRAWING STD. 9-1.
- ④ THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SUPPORTING THE BEAMS TO PREVENT DAMAGE DUE TO TWISTING OR OVERTURNING DURING ALL PHASES OF CONSTRUCTION.
- ⑤ FOR POURING SEQUENCE AND CONSTRUCTION DETAILS, SEE STRUCTURES MEMORANDUM NO. 050.



DESIGNED BY	T.L.K.	DATE	4/2014
DRAWN BY	T.L.K.	DATE	4/2014
SUPERVISED BY	R.D.M.	DATE	4/2014
CHECKED BY	R.D.M.	DATE	4/2014



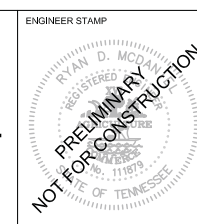
A2H

**ASKEW HARGRAVES HARCOURT
& ASSOCIATES, INC.**

MEMPHIS, TN HERNANDO, MS.

901.372.0404 662.298.2188

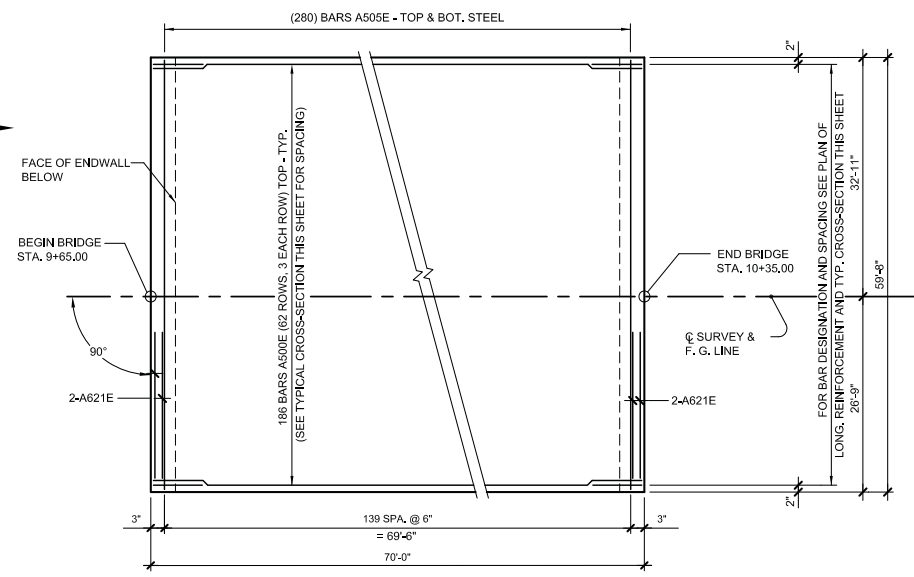
www.a2h.com



SUPERSTRUCTURE
(SHEET 1 OF 2)
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014

NOTES

- 1 NO PORTION OF THE PARAPET SHALL BE POURED UNTIL THE ENTIRE DECK SLAB IS IN PLACE.
- 2 DEAD LOAD CORRECTION CURVE: THIS CURVE IS FOR DEAD LOAD SLAB AND ALL DEAD LOADS THAT ARE APPLIED AFTER SLAB IS IN PLACE. IF PRESTRESSED DECK PANELS ARE USED AND THE BEAMS ARE PROFILED AFTER PANELS ARE IN PLACE REDUCE THE DEAD LOAD CORRECTION VALUES SHOWN BY 25%.
- 3 WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. THE PARAPET SHALL NOT BE POURED UNTIL THE SLAB IS POURED AND CURED. ALSO SEE DRAWING STD. 9-1.
- 4 THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SUPPORTING THE BEAMS TO PREVENT DAMAGE DUE TO TWISTING OR OVERTURNING DURING ALL PHASES OF CONSTRUCTION.
- 5 FOR POURING SEQUENCE AND CONSTRUCTION DETAILS, SEE STRUCTURES MEMORANDUM NO. 050.



SLAB PLAN - MAIN REINFORCEMENT



SUPERSTRUCTURE
(SHEET 2 OF 2)
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014

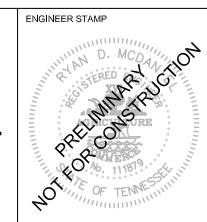
DESIGNED BY	<u>T.L.K.</u>	DATE	<u>4/2014</u>
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SUPERVISED BY	<u>R.D.M.</u>	DATE	<u>4/2014</u>
CHECKED BY	<u>R.D.M.</u>	DATE	<u>4/2014</u>

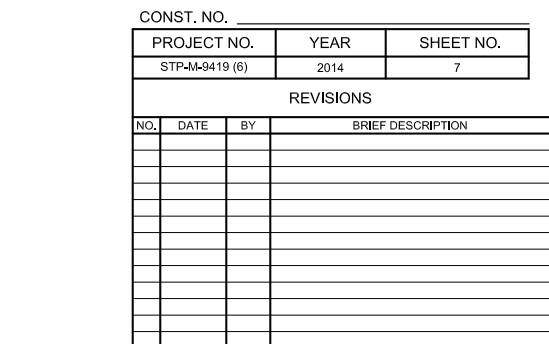
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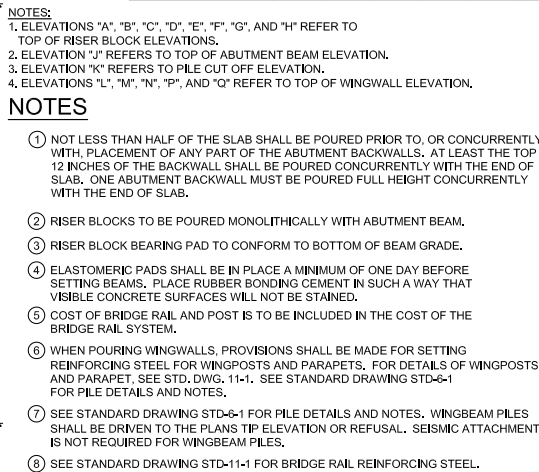


ESTIMATED QUANTITIES			
ITEM	CLASS 'A' CONCRETE (C.Y.)	REINFORCING STEEL (LBS.)	EPOXY COATED REINF. STEEL (LBS.)
ABUTMENT No. 1	65	6,154	1,223
ABUTMENT No. 2	58	5,442	995

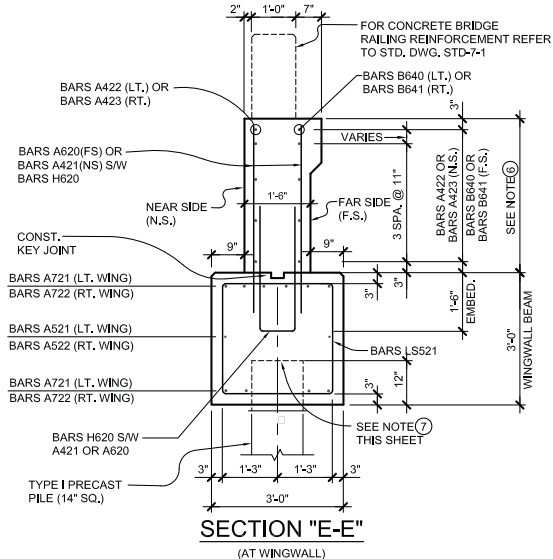
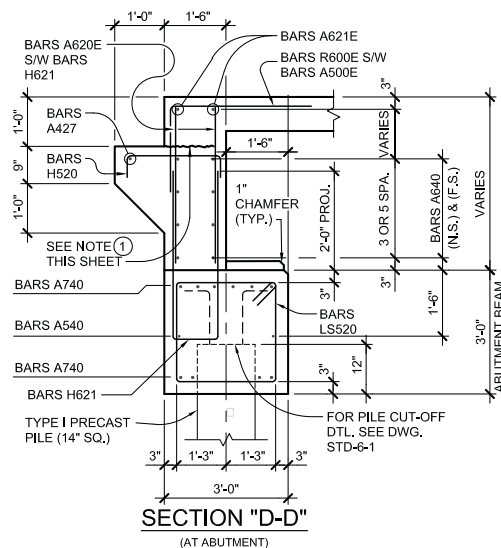
ITEM \ ELEV.	A	B	C	D	E	F	G	H
ABUTMENT No. 1	259.79	259.99	260.14	260.30	260.40	260.25	260.09	259.94
ABUTMENT No. 2	259.76	259.96	260.11	260.27	260.37	260.22	260.06	259.91

TABLE OF ELEVATIONS (CONT'D.)								
ITEM	ELEV.	J	K	L	M	N	P	Q
ABUTMENT No. 1	257.02	255.02	262.86	262.80	263.53	262.99	262.92	
ABUTMENT No. 2	258.40	256.40	262.83	262.76	263.50	262.96	262.88	

(SHOWN AT ABUTMENT No. 2, OPPOSITE HAND AT ABUTMENT No. 1)



(SHOWN AT ABUTMENT No. 2, OPPOSITE HAND AT ABUTMENT No. 1)



DESIGNED BY	<u>T.L.K.</u>	DATE	<u>4/2014</u>
DRAWN BY	<u>T.L.K.</u>	DATE	<u>4/2014</u>
SUPERVISED BY	<u>R.D.M.</u>	DATE	<u>4/2014</u>
CHECKED BY	<u>R.D.M.</u>	DATE	<u>4/2014</u>

The seal of Shelby County, Tennessee, is a circular emblem. It features a central shield with a black and white striped pattern. Above the shield, the word "SHELBY" is written in a semi-circle, and below it, the word "COUNTY" is written in a semi-circle. A banner across the middle of the seal contains the word "TENNESSEE".

2031 ADT = 15,245
40'-0" ROADWAY WIDTH
W/ STD. 11-1 RAIL
DESIGN SPEED = 30 MPH

ABUTMENTS NO. 1 & NO. 2
(SHEET 1 OF 2)
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014

A2H

**ASKEW HARGRAVES HARCOURT
& ASSOCIATES, INC.**

MEMPHIS, TN
901.372.0404

HERNANDO, MS.
662.296.2168

www.a2h.com

ENGINEER STAMP

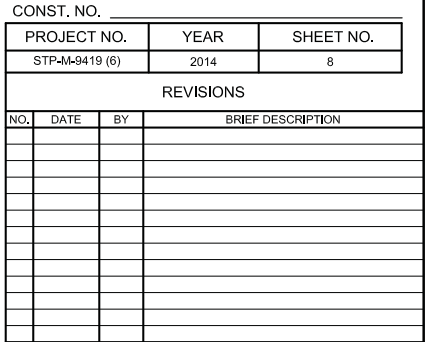


RYAN D. MCDANIEL
REGISTERED PROFESSIONAL ENGINEER
STATE OF TENNESSEE
No. 111879
PRELIMINARY
NOT FOR CONSTRUCTION

7 of 10

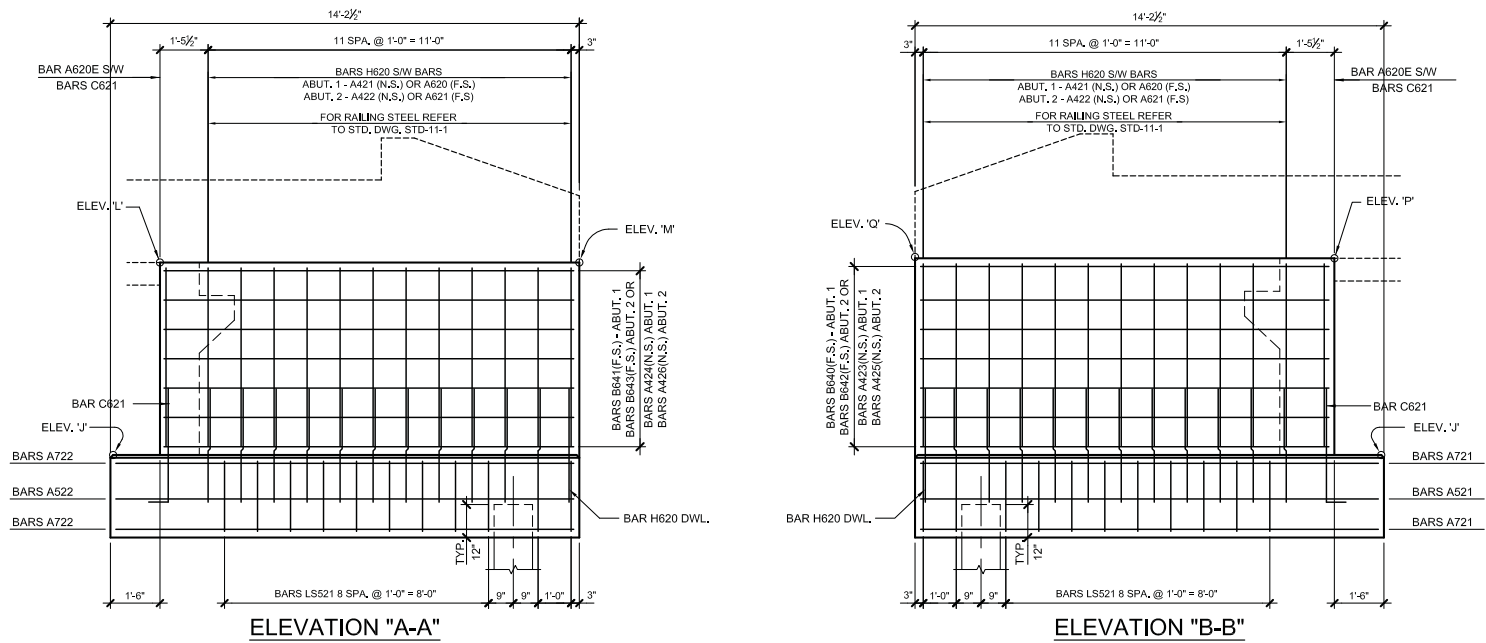
M-348-3

8.3.6



LEGEND:

(TP)	DENOTES TEST PILE LOCATION
(LT)	DENOTES LOAD TEST PILE LOCATION (ABUT. No. 1 ONLY)
(N.S.)	DENOTES NEAR SIDE
(F.S.)	DENOTES FAR SIDE
(LT.)	DENOTES LEFT
(RT.)	DENOTES RIGHT



DESIGNED BY T.L.K. DATE 4/2014
 DRAWN BY T.L.K. DATE 4/2014
 SUPERVISED BY R.D.M. DATE 4/2014
 CHECKED BY R.D.M. DATE 4/2014

A2H

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www.a2h.com

2031 ADT = 15,245
40'-0" ROADWAY WIDTH
W/ STD. 11-1 RAIL
DESIGN SPEED = 30 MPH

ABUTMENTS NO. 1 & NO. 2
(SHEET 2 OF 2)
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014

[illegible]

BAR SIZE	D (IN.)	135° HOOK	
		HOOK A OR C	H APPROX.
#3	1D	41"	3"
#4	2	4D"	3"
#5	2D	5D"	3D"
#6	4D	8"	4D"
#7	5I	9"	5I"
#8	6	10D"	6"

**135° SEISMIC STIRRUP/TIE
HOOK DIMENSIONS
(ALL GRADES)**



10 of 10
M-348-3

PROPOSAL CONTRACT

FOR THE CONSTRUCTION OF

Contract No. _____

PIN: 112819.00

County: Shelby

Federal Project No.: STP-M-9419(6)

State Project No.: 79LPLM-F3-067

Local Agency Reference No.:

Description Of Project: Bartlett Road, Bridge and Approaches over Harrington Creek at L.M. 0.070

Project Length: 0.082 miles

Completion Time: On or Before 270 Calendar Days After Notice to Proceed

By: _____

City, _____

St.: _____

Surety: _____

PROJECT BID BOOK
DOCUMENTS & SPECIFICATIONS
DATED: June 26, 2014

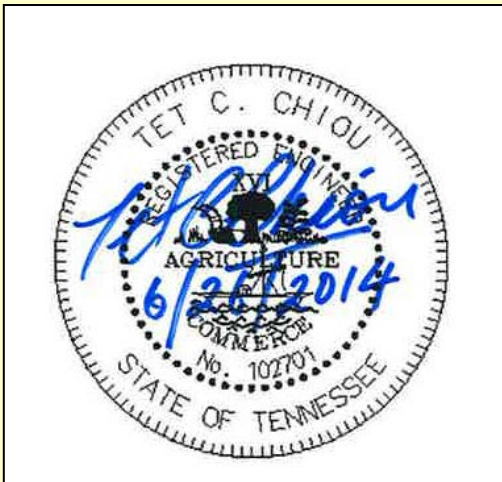
BARTLETT ROAD BRIDGE OVER HARRINGTON CREEK AT L.M. 0.070

OWNER

**City of Bartlett
Engineering Department
6382 Stage Road
Bartlett, TN 38134**

ENGINEER

**A2H Inc.
3009 Davies Plantation Road
Lakeland, TN 38002**



Contractor

Telephone Number

Authorized Representative

Date

BID DATE: July 31, 2014

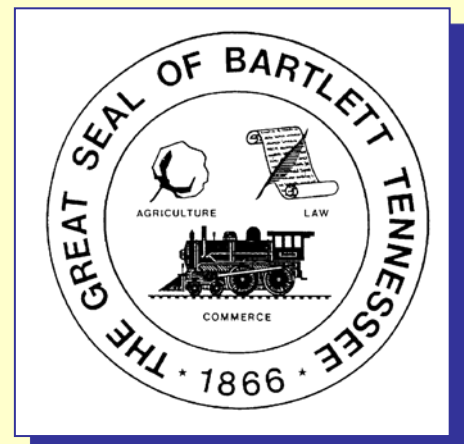


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Supplemental Specifications to The Standard Specifications	<u>Revision Date</u>
Supplemental Specification to Section 100.....	12/09/13
Supplemental Specification to Section 200.....	08/06/12
Supplemental Specification to Section 300.....	12/09/13
Supplemental Specification to Section 400.....	12/09/13
Supplemental Specification to Section 500.....	12/13/10
Supplemental Specification to Section 600.....	04/07/14
Supplemental Specification to Section 700.....	06/12/13
Supplemental Specification to Section 800.....	05/05/10
Supplemental Specification to Section 900.....	06/12/13
 <i>The above Supplemental Specifications, revised as noted, are incorporated by reference for bidding purposes and will be printed with the Contract after awards. These Supplemental Specifications may be obtained from the Department at Suite 700, James K. Polk Bldg., Nashville, Tennessee or viewed on the Department's website at http://www.tdot.state.tn.us/construction.</i>	
Special Provisions.....Special Provision Number, Regarding:	<u>Date</u>
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Buy America Requirements – 106A	06/20/11
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FEDERAL REGULATIONS 49CFR

Section 18.26 – Non Federal Audits

Section 18.36 – Procurement

Section 18.42 – Retention and Access Requirements for Records

Acknowledgement of Davis-Bacon Act Requirements (4 Sheets)11/19/10

City of Bartlett Standard – SP999

ATTENTION

It shall be the bidders' responsibility to confirm that the Contract Proposal contains all the documents indicated on the Table of Contents.

Should any omissions occur, the appropriate documents may be obtained from the Construction Division upon request.

CITY OF BARTLETT
INSTRUCTIONS TO BIDDERS
BIDS TO BE RECEIVED

6/26/2014

Sealed bids for the construction of the following projects will be received by the **CITY of BARTLETT, 6400 STAGE ROAD, BARTLETT, TN 38134** until 2:00 **PM 7/31/2014** and opened publicly at 6400 STAGE ROAD, BARTLETT, TN 38134, 2:00 **PM 7/31/2014**. The reading of the bids will begin at **2:00 PM**.

The proposed construction shall be performed in accordance with the most current version of the Standard Specifications for Road and Bridge Construction of the Tennessee Department of Transportation , and the Standard Roadway and Structures Drawings of the Tennessee Department of Transportation which are incorporated herein by reference and made a part hereof. In addition, only the Special Provisions contained within the applicable Contract Proposal will be considered binding. Any reference to any Special Provision not contained within the applicable Contract Proposal shall be disregarded. All questions related to the Contract Proposal, Plans, Specifications or Special Provisions shall be directed to the **CITY OF BARTLETT – CITY ENGINEER – W.R. McCLANAHAN (901-385-6499)**. Information received from other offices of the **CITY** strictly advisory.

IMPORTANT NOTICE TO BIDDERS:

Prospective bidders should read the following instructions carefully before submitting their bids. Special attention is called to the regulations of the **CITY** that total bids, rather than unit prices, will be read. Proposals shall be rejected as being irregular if they fail to contain a unit price for each item listed. Extensions of the various items must be sub-totaled, carried forward, and shown as a grand total following the last proposal item. All entries must be in ink.

After a bidder has deposited a proposal with the **CITY**, he can withdraw it only on written request in accordance with Subsection 102.07 of the Tennessee Department of Transportation Standard Specifications.

Totals read at the opening of the bids are not guaranteed to be correct and no final award of the contract will be made until bids and extensions have been checked and re-checked.

On all projects which are financed in whole or in part by funds received through Federal agencies and/or the Tennessee Department of Transportation, the awarding of contracts by the **CITY** will be subject to approval by the Tennessee Department of Transportation. The **CITY** reserves the right to reject any bid proposal which is not acceptable to the parties as listed, although such bid proposal would otherwise qualify as the lowest and best bid under the Tennessee Department of Transportation Standard Specifications.

The **CITY** reserves the right to reject any or all Proposals, to waive technicalities or to advertise for new Proposals, if in the judgment of the awarding authority, the best interest of the **CITY** will be promoted thereby.

The **CITY** reserves the right to cancel the award of any Contract, at any time prior to execution of said Contract by all parties without any liability against the **CITY**.

The awarding of the contract or rejection of all proposals will be made within 30 days after the formal opening of the proposals. Upon award, a detailed letter of instructions will be forwarded along with appropriate documents to the low bidder.

The **CITY** hereby notifies all bidders, that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the basis of age, race, color, religion, national origin, sex or disability in consideration for an award.

The **CITY** is an equal opportunity affirmative action employer, drug-free, with policies of nondiscrimination on the basis of race, sex, religion, color, national or ethnic origin, age, disability, or military service.

PREQUALIFICATION OF BIDDERS:

Each prospective bidder and subcontractor will be required to file a document entitled "Prequalification Questionnaire." The foregoing shall be filed on a form provided by the Tennessee Department of Transportation. The form must be filled out completely, and the truth and accuracy of the information provided must be certified by a sworn affidavit signed by an officer, partner, owner or other authorized representative of the applicant who has authority to sign contracts or other legal documents on behalf of the applicant. A prospective bidder must be prequalified by and in good standing with the Tennessee Department of Transportation prior to the issuance of a proposal form. A prospective subcontractor must be prequalified by and in good standing with the Tennessee Department of Transportation prior to being approved as a subcontractor. Each prospective bidder or subcontractor shall notify the Tennessee Department of Transportation if there is any subsequent change in the name, organization or contact information provided.

Prospective bidders' "Prequalification Questionnaire" shall be filed with the Tennessee Department of Transportation at least fourteen (14) days prior to the date of opening bids on any letting in which the applicant intends to submit a bid to the **CITY**, or at least fourteen (14) days prior to the date on which the applicant requests approval as a subcontractor under a contract awarded by the **CITY**. Bidders intending to submit proposals consistently shall complete and submit the prequalification application annually; however, this document may be changed during such period upon submission of additional favorable reports or upon receipt by the Tennessee Department of Transportation of substantiated evidence of unsatisfactory performance. The Tennessee Department of Transportation reserves the right to request additional information and documentation to clarify and/or verify any information submitted in an applicant's prequalification application.

**The prequalification form can be found at the web address
<http://www.tdot.state.tn.us/construction>**

A proposal to be used for non-bidding purposes may be issued to any interested party regardless of prequalification.

PROPOSAL BOND

Each proposal must be accompanied by a bidder's bond, or Cashier's Check, or Certified Check made payable to the **CITY** in an amount equaling not less than five percent (5%) of the amount bid. In the case of optional items in the proposals, the amount of the bidder's bond or check must be in an amount equaling not less than five percent (5%) of the total amount of the bid based on the high option.

If the bidder's bond is offered as guaranty, the bond must be on the form furnished by the **CITY** and made by a surety company, qualified and authorized to transact business in the State of Tennessee and must be acceptable to the **CITY**.

If a check is offered as guaranty, the check of the successful bidder will be cashable at the discretion of the **CITY**, pending the satisfactory execution and acceptance of the contract and the contract bond.

ISSUANCE OF BIDDING DOCUMENTS

This **CITY** and the Tennessee Department of Transportation are on a cash basis for sales of Plans, Proposal Contracts, Standard Specifications, Standard Drawings, Standard Drawing Books and Tabulations of Bids. Requests for documents must be accompanied by cash, check, money order, or they may be mailed to the buyer C.O.D.

A charge of **\$125.00** plus **[0%]** sales tax, for in-state delivery, will be made for each Proposal Contract. This charge is applicable regardless of whether the Proposal is to be used for bidding or non-bidding purposes. Proposals will be obtainable until the time set for opening bids. The charge for Plans and/or Cross-sections will be as specified in the Notice to Contractors and this charge will be applicable before the letting and for three months after the letting. Plans ordered after the three month period will be furnished at **\$20.00** per sheet. Individual Plan sheets and individual Standard Drawings will be furnished at **\$20.00** per sheet. Tabulations of bids will be furnished at **\$10.00** per sheet. Tennessee Department of Transportation Standard Drawing Books will be furnished by the Tennessee Department of Transportation at **\$100.00** per book plus **9.25%** sales tax, for in-state delivery. Tennessee Department of Transportation Standard Specifications for Road and Bridge Construction, dated March 1, 2006, will be furnished by the Tennessee Department of Transportation at **\$12.00** per book plus **9.25%** sales tax, for in-state delivery. There will be a minimum charge of \$2.00 on any purchase. All documents will be furnished without refund and transmitted at your risk.

When two or more contractors wish to bid together in a joint venture, each contractor will be required to make a written request for such a proposal to the **CITY**. This request shall be signed by an authorized signatory of each firm.

Requests for joint venture proposals may be made in person or by telephone. However, the proposal for said joint venture will not be issued until the request in writing, as set forth above, is received by the **CITY**.

REJECTION OF PROPOSALS

Proposals will be rejected as irregular if prior to the formal opening of the Proposal all of the following documents have not been signed: (1) the bidder shall sign by written signature the Proposal form, (2) the bidder shall sign by written signature the Proposal Certification form, (3) the bidder shall sign by written signature the Proposal Bond form or the Proposal Guarantee, whichever is applicable, (4) the Agent or Attorney-in-Fact representing a Surety Company shall sign by written signature the Proposal Bond, if applicable. In addition, Proposals will be rejected if any of the above signatures are a reproduced copy, such as, but not limited to a photostatic copy or a facsimile transmission. An original, dated and valid Power of Attorney for the Attorney-in-Fact must accompany the Proposal and the Contract. The accompanying Power of Attorney must be dated, and the date must be the exact same date as the date on the Proposal Bond. The Proposal and the Proposal Bond, including the attached Power of Attorney, shall be valid and binding for 60 days subsequent to the date of opening bids.

Proposals shall be completed on the forms as issued. Please review a part of Subsection 102.02 of the Tennessee Department of Transportation Standard Specifications stating: "All of the documents that are bound therein are part of the Proposal and shall not be detached." Proposals shall not be taken apart. Proposals taken apart may be subject to rejection. Also, please review a part of Subsection 102.09 of the Tennessee Department of Transportation Standard Specifications stating: "Proposals will be rejected as being irregular if they are not prepared on the prescribed forms; if they show any omissions, alterations of form, additions, or conditions not called for, unauthorized alternate bids, or irregularities of any kind; or if they fail to contain a unit price for each item listed." Proposals shall be completed on the forms as issued. Photostatic or facsimile copies of Proposal sheets may not be attached to the Proposal. Proposals containing forms not issued by the **CITY** may be subject to rejection.

ADDENDA

Addenda to the Proposal will be acknowledged by all bidders. Failure to acknowledge receipt of Addendum Letters is grounds for rejection.

RETAINAGE

Effective for all contracts, the **CITY** will not hold retainage. In addition, the Contractor will not be able to hold retainage from the subcontractor.

SUBCONTRACTS

Your special attention is called to Section 105 - Control of Work, and Section 108 - Prosecution and Progress of the Tennessee Department of Transportation Standard Specifications, concerning duties of the contractor and subletting of contracts.

CHANGED CONDITIONS

Your special attention is called to Section 104.02 of the Tennessee Department of Transportation Standard Specifications, concerning changed conditions on this contract.

CITY OF BARTLETT – CITY ENGINEER

The following information applies to Federal-Aid construction projects:

NOTICE TO ALL BIDDERS

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

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(Rev. 05-05-10)

(Rev. 11-01-10)

(Rev. 12-13-10)

(Rev. 10-31-11)

(Rev. 06-25-12)

(Rev. 08-06-12)

(Rev. 10-19-12)

(Rev. 06-12-13)

(Rev. 09-03-13)

(Rev. 12-09-13)

March 1, 2006

Supplemental Specifications - Section 100**of the****Standard Specifications for Road and Bridge Construction****March 1, 2006****Subsection 101.13**, Second paragraph, first sentence, **Delete** “Revisions and Additions.”**Subsection 101**, **Add** the following definition

“Amendment. A revision to the electronic bid file which may include adjusting a quantity, adding, deleting, or revising a pay item(s).

Subsection 101.47, Second sentence, **Replace** “Revisions and Additions” with “**Supplemental Specifications**”**Subsection 101.57**, **Delete** the entire paragraph and replace with the following

“A company authorized to guarantee a bidder’s proposal and a contractor’s performance and payment obligations under a contract and which is authorized to do business in the State of Tennessee.”

Subsection 102.01, **Replace the entire subsection with the following:**

102.01-Prequalification Questionnaire and Competency of Bidders. Each prospective bidder and subcontractor will be required to file a document entitled “Prequalification Questionnaire.” The foregoing shall be filed on a form provided by the Department. The form must be filled out completely, and the truth and accuracy of the information provided must be certified by a sworn affidavit signed by an officer, partner, owner or other authorized representative of the applicant who has authority to sign contracts or other legal documents on behalf of the applicant. A prospective bidder must be prequalified by and in good standing with the Department prior to the issuance of a proposal form; however this standing does not prohibit any person from requesting or obtaining a void proposal form for any purpose other than submitting a proposal to the Department. A prospective subcontractor must be prequalified by and in good standing with the Department prior to being approved as a subcontractor. Each prospective bidder or

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subcontractor shall notify the Department if there is any subsequent change in the name, organization or contact information provided.

Prospective bidders' "Prequalification Questionnaire" shall be filed with the Department at least fourteen (14) days prior to the date of opening bids on any letting in which the applicant intends to submit a bid to the Department, or at least fourteen (14) days prior to the date on which the applicant requests approval as a subcontractor under a contract awarded by the Department. Bidders intending to submit proposals consistently shall complete and submit the prequalification application annually; however, this document may be changed during such period upon submission of additional favorable reports or upon receipt by the Department of substantiated evidence of unsatisfactory performance. The Department reserves the right to request additional information and documentation to clarify and/or verify any information submitted in an applicant's prequalification application.

Prospective subcontractors will be required to pre-qualify prior to approval of the subcontracts by the Department and must also submit a prequalification application annually.

The Department reserves the right to refuse to issue a proposal form when a bidder is in default or delinquent for any of the following reasons:

- a) When a "Prequalification Questionnaire" has not been filed with and examined by the Department or when the bidder, in the opinion of the Commissioner, is not qualified.
- b) Default of existing contract (s).
- c) When a bidder has an existing incomplete contract (s) with the Department which is behind schedule to the extent that it may hinder or prevent prompt completion of any additional contract (s).
- d) When a bidder has been suspended, debarred, or otherwise excluded under the Department's rules governing contractor debarment and suspension, Chapter 1680-5-1, or under applicable Federal rules governing the suspension and debarment of contractors.

Subsection 102.02 Contents of Proposal Forms, Revise entire subsection to the following:

102.02-Contents of Proposal Forms. Upon request, the Department will furnish the Bidder an electronic proposal form which will contain an "Instructions to Bidders" form, Supplemental Specifications, Special Provisions, and proposal guaranty form. The proposal form will state the location and description of the contemplated construction. The proposal form will state the time in which the Work must be completed, the amount of the Proposal Guaranty, and the date, time and place for the opening of Proposals. The Plans and Specifications are as much a part of the Proposal form as if they were bound therein. All of the documents that are bound therein are part of the Proposal.

The prospective bidder will be required to pay the Department the sum stated in the Instructions to Bidders for each electronic proposal form. Plans will be available for the sum stated in the notice to Contractors.

Subsection 102.03 Interpretation of Quantities in Bid Schedule, Revise entire subsection to the following:

102.03-Interpretation of Quantities in Bid Schedule. The quantities appearing on the electronic bidding file are approximate only and are prepared for the comparison of bids and award of Contract. The Department does not guarantee or assume any responsibility that quantities indicated on the Plans or given in the electronic bidding file will hold in the

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construction of the project and the Contractor shall not plead deception or misunderstanding because of variation from these quantities or of variation from the location, character or any other conditions pertaining thereto. Payment to the Contractor will be made only for the actual quantities of work performed and accepted, and materials furnished in accordance with the Contract. The schedule of quantities of work to be done and materials to be furnished may be increased, decreased, or omitted as hereinafter provided under **Subsection 104.02**.

Subsection 102.05 Preparations of Proposals, Revise entire subsection to the following:

102.05-Preparation of Proposals. A document entitled "Instructions to Bidders" is bound into the electronic proposal form. The proposal form shall be electronically signed in exact accordance with these instructions using the electronic bidding file furnished by the Department. The proposal guaranty form shall be handled similarly. The completed electronic bidding file, inclusive of the proposal form as described in **Subsection 102.02** and the bid prices described below, shall then be submitted to the Department in exact accordance with the applicable part of these instructions.

The electronic bidding file contains the contract bid items and associated estimated quantities. The following stipulations shall apply to electronic bidding:

- (a) It is the bidder's responsibility to compare the bid quantities indicated on the plans to those contained on the electronic bidding file to ensure they are the same. Any discrepancies are to be called to the Department's attention immediately.
- (b) Any revisions to the Contract Proposal regarding bid items or quantities will be accompanied by an amendment to the electronic bidding file with the revision date indicated. The amended electronic bidding file is to be utilized in the formulation of the bid.

Some proposals may contain numerous alternates. The Contractor will be required to bid on only 1 alternate for each construction item unless otherwise specified. The proper procedure for entering alternate bids is to enter prices for the intended alternate item(s) of construction and leave the undesired alternate item(s) of construction blank. The electronic bidding program allows only for 1 alternate to be bid. If prices are entered for more than 1 alternate, the electronic bidding program will not tabulate the total. Instructions for electronic bidding are available from the Headquarters Construction office and the method of entering alternates is explained therein.

The electronic bidding program will perform all extensions of the estimated quantities and unit or lump sum prices, calculate the total bid and allow the printing of a complete set of bid item sheets with appropriate subtotals and grand total bid price.

Subsection 102.06 Delivery of Proposals, Revise entire subsection to the following:

102.06-Delivery of Proposals. Each Proposal must be submitted via the Internet using the electronic bidding program.

No proposal will be considered or accepted which has not been received by the Department previous to the hour of the date and at the place set forth for the opening thereof in the Advertisement or Instruction to Bidders.

Subsection 102.07 Withdrawal of Proposal, Revise entire subsection to the following:

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102.07-Withdrawal of Proposal. Any Bidder may withdraw his Proposal through the electronic bidding program prior to the hour of bid opening as indicated in the Advertisement for Bids and in the Instruction to Bidders

Subsection 102.08 Public Opening of Proposals, Revise entire subsection to the following:

102.08-Public Opening of Proposals. Proposals will be opened and either read publicly or bid totals will be furnished and posted on the date, time, and place indicated in the Advertisement for Bids and Instruction to Bidders. Bidders, authorized Agents, and interested parties are invited to be present.

Subsection 102.09 Rejection of Proposals, Revise entire subsection to the following:

102.09-Rejection of Proposals. Proposals will not be rejected if they condition their consideration upon the elimination of other proposals submitted by the same bidder, provided that any selection of awards will be made by the Department. A Bidder may tie the acceptance or rejection of 2 or more of his proposals on the condition that either all of his proposals are accepted or that they are all rejected, in which case his bids must be the lowest responsible bid on each project before they will be considered.

Proposals may be rejected by the Commissioner if any of the unit prices contained therein are obviously unbalanced, either excessive or below the reasonable cost analysis value.

Proposals will be rejected as being irregular if they are not prepared on the prescribed forms; if they show any omissions, alterations of form, additions, or conditions not called for, unauthorized alternate bids, or irregularities of any kind; or if they fail to contain a unit price for each item listed. In the case of authorized alternate items, a unit price on only 1 of the alternates will be required, unless otherwise specified in the Contract.

Proposals will be rejected as irregular if they are not electronically signed by an authorized representative of the bidder. The electronic signature on the electronic bidding file serves as signatures for the Proposal form, Proposal Certification form and the Proposal Bond form, if applicable. If the bidder elects to submit the Proposal Guarantee, the Proposal Guarantee Form must be signed by written signature and in the possession of the Department prior to the formal opening of the Proposal. The Agent or Attorney-in-Fact representing a Surety Company shall electronically sign the electronic Proposal Bond, if applicable. An original, dated and valid Power of Attorney for the Attorney-in-Fact must accompany the Proposal and the Contract. The accompanying Power of Attorney must be dated, and the date must be the exact same date as the date on the Proposal Guaranty Bond. The Proposal and the Proposal Guarantee Bond, including the attached Power of Attorney shall be valid and binding for 60 days subsequent to the date of opening bids. As an alternative, Surety Companies may submit an original, unnumbered Power of Attorney suitable for photocopying to the Department. Surety Companies choosing this alternative will be required to furnish the Department with a letter on the company letterhead and signed by an officer of the company authorized to appoint Attorneys-in-fact. A draft copy of this letter is available from the Department upon request.

Proposals will be rejected as irregular when submitted by a Bidder who has not qualified as required by the Commissioner under the authority given him by Tennessee Code Annotated.

All prime Contractors, except mowing and litter removal Contractors, must be licensed with the Tennessee Department of Commerce and Insurance (TDCI), Board for Licensing Contractors (BLC). The Contractor must be licensed in the general classification (e.g. Heavy Construction (HC), Highway, Railroad, Airport Construction (HRA), Specialty (S), Municipal and Utility

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Construction (MU), or Electrical Contracting (CE)) for the type of work in the project which they will perform. A Proposal submitted by a Bidder will be considered for Award for twenty-one (21) days after the Proposals are opened. If the Bidder does not have a license with the TDCI, on or before twenty-one (21) days after Proposals are opened, the Bidder will be considered non-responsive and their Proposal will be rejected as irregular. The next lowest responsible Bidder would then be considered for Award. If the next lowest responsible Bidder does not have a license on or before the twenty-one (21) days after the Proposals are opened, they also would be considered non-responsive, and the subsequent Bidder will then be considered.

Bidders that are domestic or foreign Corporations, Limited Liability Companies, Limited Partnerships, or Limited Liability Partnerships, must be in good standing with the Secretary of State (i.e. have a valid Certificate of Existence/Authorization). If a Bidder is not in good standing with the Secretary of State (i.e. have a valid Certificate of Existence/Authorization) on or before twenty-one (21) days after Proposals are opened then the Bidder will be considered non-responsive and their Proposal will be rejected.

Reasonable grounds for believing that any Bidder is interested in more than 1 Proposal on the same project or that there has been collusion among the Bidders will cause a rejection of all Proposals in which the Bidders involved are interested.

A Proposal will be rejected, at the discretion of the Commissioner, if a Bidder or any member of the firm, partnership, or corporation represented in his Proposal is related either by blood or marriage within the fourth degree, computing by the civil law, to any member of the Department, or if any member of the Department will have any financial interest in the Contract.

The right is reserved to reject a Proposal from a Bidder who has not paid or satisfactorily settled all legal debts due on former contracts in force at the time of the letting.

All Proposals will be rejected that do not contain the Proposal Guaranty of the character and amount indicated in the proposal form.

The apparent low bidder on each project is required to complete and submit the TDOT form "Certification Regarding Subcontractor Bid Quotes" (Bidders List) electronically. The apparent low bidder shall submit this form before the close of business (4:30 PM, Central Time) five (5) calendar days after the date on which bids are required to be submitted. Emergency contracts will not require a bidders list. Failure to complete and submit this form within the time period may result in the rejection of the bid.

Until the execution and approval of the Contract by the Department, the right is reserved to reject any and all Proposals and to waive technical errors.

Subsection 103.01 Consideration of Proposals, Revise entire subsection to the following:

103.01-Consideration of Proposals. The Internet bid shall be recognized as the only official bid.

After the Proposals are opened and read, they will be compared based on the summation of the products of the unit bid prices and the approximate quantities. The results of such comparisons will be made available to the public.

The right is reserved to reject any or all Proposals, to waive technicalities or to advertise for new Proposals, if in the judgment of the awarding authority, the best interest of the Department will be promoted thereby.

Subsection 103.04, Award of Contract, add the following as the second paragraph:

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TDOT will only award a contract to a contractor that is licensed with the State of Tennessee, except if the contract is for mowing or mowing and litter removal, Contractors for mowing or mowing and litter removal type contracts must be registered with the Secretary of State, if applicable, before a project will be awarded.

Section 104-SCOPE OF WORK, Add the following to the Table of Contents **“104.02-Alterations in Plans or in Character of Construction.”**

Subsection 104.02, Significant Changes in the Character of Work, (4), Revise subsection to the following:

4. An adjustment of the contract terms in accordance with number 2 above will be made only if the Engineer orders, in writing, an alteration in the work or in the quantities that significantly change the character of work. The term “significant change” shall be construed to apply only to the following circumstances:
 - (a) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction or
 - (b) When a major item of work is increased or decreased by more than 25 percent of the original contract quantity (adjustments shall apply only to that portion in excess of 125 percent of original contract quantity, or in case of a decrease, to the actual quantity performed).

The above provides for adjustments resulting from formal change orders by the Engineer, in writing. Either party may initiate an adjustment and both must be in agreement before the work is performed.

Subsection 104.03 Remove and replace entire subsection to the following:

104.03-Extra Work. When unforeseen work results for any reason and is not handled as prescribed elsewhere herein, the Engineer and the Contractor will attempt to agree on equitable prices. When such prices are agreed upon, a Change Order will be executed, and a Construction Change will be issued by the Engineer. When equitable prices are not agreed upon mutually, the Engineer may issue a written order that the Extra Work be completed on a force account basis and paid for as provided in **Subsection 109.04**.

When the Change Order process is initiated, the Contractor shall be required to submit to the Project Supervisor detailed breakdowns for Materials, Labor, Equipment, Profit and Overhead. Profit and Overhead shall not exceed 15% of the subtotal of Materials, Labor and Equipment. When the Change Order is initiated for subcontractor items, the Prime Contractor’s administrative cost shall not exceed 5% of the subcontractor’s total (materials, labor, equipment, profit & overhead).

The requirement for detailed cost breakdowns may be waived when a Bid Item History exists for the proposed item(s), and the contractor’s requested price is within 10% of the Regional, 3 year historic cost for that item. In any case, the Department reserves the right to request detailed information from the Contractor for any Change Order request.

Subsection 104.04 Maintenance of Traffic, Delete “with 30,000 or greater Average Daily Traffic or any interstate routes,” from the third paragraph. **Change** “three (3)” to “seven (7)” in the third paragraph. **Delete** “(these restrictions apply to state routes with 30,000 or greater Average Daily Traffic or any interstate route):” from the fifth paragraph. **Add** “without the

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written consent of the Engineer.” to the end of the fifth paragraph. **Delete** “In addition, any state routes less than 30,000 ADT shall have no lane closures, or any lane restrictions of any type will be allowed on Good Friday, Labor Day, Memorial Day, July 4th, and the working day immediately preceding and including the holidays of Thanksgiving, and Christmas Day without the written consent of the Engineer.” from the sixth paragraph.

Subsection 104.06 First sentence, **Replace** the word “sectiot”, **should read** “section”

Subsection 104.11. **Revise** entire subsection to the following:

104.11-Final Cleanup. Before final acceptance of the Work, the entire rights-of-way, all material pits, all waste areas, all areas and access roads used by the Contractor, all streams in or over which he has worked, and all ground occupied by the Contractor, in connection with the Work, shall be cleaned of all forms, falsework, temporary structures, temporary erosion control measures, excess materials, equipment, rubbish, and waste, and all parts of the work shall be left in a neat and presentable condition. The entire right-of-way, all material pits, all waste areas, all areas and access roads used by the Contractor shall be final stabilized per the TN NPDES Construction General Permit criteria or per the agreed upon Reclamation Plan. Final cleanup shall include the mowing of the rights-of-way as required. If the project was graded under a previous Contract, final cleanup will be performed within the construction limits of work being performed and other areas disturbed or otherwise requiring cleanup due to the Contractor's operations. No rubbish, waste or debris shall be deposited on or in sight of the rights-of-way. All damage to private and public property shall be replaced, repaired, or settled for.

Subsection 104.12 Add the following to Section 104 of the Standard Specifications.

104.12- Value Engineering Change Proposal (VECP). The Contractor may request a modification to the plans, the specifications or other contract requirements based on a Value Engineering Change Proposal (VECP) submitted to the Department specifying a cost reduction change. This will not apply to a proposal unless it is identified as a VECP at the time of its submittal.

Value Engineering Change Proposals (VECP) are those which would require a change in the contract and would result in an immediate net savings to the Department without impairing essential functions and characteristics of the project, including but not limited to the service life, reliability, economy of operation, maintenance and safety features. VECP's that propose a total savings of less than \$25,000 (twenty-five thousand dollars) will normally not be considered unless there are other non-monetary savings to be realized.

The Contractor may submit for review a “VECP Concept” provided that it contains enough information to clearly define the work involved and the benefits to be realized. The “VECP Concept” shall state all applicable design criteria that will be used in the VECP design. Written notification by the Department that the review has been completed and that the “VECP Concept” appears to be favorable merely indicates that the engineering and plan development may continue for submittal of the VECP proposal and is not authorization for any construction work to begin. Should the final design not reflect the expected benefits, the Department may reject the “VECP Concept” and the VECP without recourse by the Contractor.

The following information, as a minimum, shall be submitted with each proposal to the Engineer, allowing adequate time for Department analysis and processing without interference with project schedules:

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- (a) A description of the difference between the existing contract requirements and the proposed change, and the comparative advantages and disadvantages of each.
- (b) An itemized list of the contract changes required if the VECP is accepted, and any recommendation as to how to make each such change.
- (c) A separate detailed cost estimate for (1) the affected portions of the existing contract requirements and (2) the VECP.
- (d) A prediction of any effects the proposed change will have on other Department costs, such as costs of maintenance and operation.
- (e) A statement of the time by which a supplemental agreement must be issued in order to obtain the proposed cost reduction for the project, noting any effect on the contract completion time or delivery schedule.
- (f) The date(s) of any known previous or concurrent submissions of the same proposal and any previous actions by the Department.
- (g) The contract items of work affected by the proposed change, including any quantity changes.

Proposed construction changes in pavement design, right of way, relocation of bridges, etc. or changes in the environmental impact statement will not normally be considered as an acceptable VECP. The Department may determine at any point during the evaluation process that the VECP is not cost effective and summarily reject the VECP.

While a VECP is being considered by the Department, the contractor shall continue to perform the work in accordance with the requirements of the contract. The Department has no obligation but to review the VECP and shall not be liable for failure to accept or act upon any VECP or for any delays to the work due to the submitted proposal. The Department shall be the sole judge of the acceptance or rejection of a VECP, either wholly or in part. If an agreement has not been reached by the date that the contractor's VECP specifies that a decision should be made, or such other date as the contractor may have specified in writing, the VECP shall be deemed rejected.

The Contractor shall have no claim against the Department for additional costs or delays resulting from the rejection of a VECP, including but not limited to, "VECP Concept" acceptance, engineering and development costs, loss of anticipated profits, and increased material or labor costs.

The Department will not accept a VECP that is similar to a change in the plans or specifications under consideration by the Department for the project at the time the proposal is submitted; nor will the Department accept a proposal based upon, or similar to, standard specifications, general use special provisions or standard drawings adopted by the Department after the advertisement for the contract. The Department reserves the right to make such changes without compensation to the Contractor under the provisions of Subsections 104.02 and 104.03 of the standard specifications.

The Department will determine the estimated net savings from the adoption of all or any part of the VECP. In determining the estimated net savings, the Department may disregard the contract bid prices if, in the judgment of the Department, such prices do not represent a fair measure of the value of the work to be performed or to be deleted.

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In the event the Department accepts the VECP the contractor thereby grants to the Department all rights to adoption of the proposal for general use on other contracts without obligation or compensation of any kind.

Acceptance of a VECP will be by supplemental agreement incorporating the changes necessary to permit the VECP, or any part of it, to be put into effect. The supplemental agreement shall also set forth the estimated net savings to the Department and further provide that the contractor be paid 50 percent of the actual net savings.

The cost to the contractor to develop and implement the VECP and any design (including redesign by a Tennessee licensed engineer, preparation of new reproducible plans, etc. and any other information requested by the Department to facilitate its review) shall be incidental to the contractor and shall in no way affect the VECP payment herein before specified. The cost to the Department to review the VECP shall be incidental to the Department and shall not affect the VECP payment.

The actual net savings will be determined when the work in the VECP and Supplemental Agreement is completed. If upon completion of the work proposed in the VECP it is determined that the supplemental agreement did not adequately address a change in quantities for other pay items that were either increased or decreased substantially as a result of the change proposal, those additional costs or savings shall be included in the actual net savings determination. A single payment will be made to the contractor representing fifty percent (50%) of the actual net savings once all items are considered.

If the completed VECP results in an increase in cost such that there is no net savings, those costs above the original contract costs as proposed in the VECP and supplemental agreement will be reimbursed at a rate of fifty percent (50%).

The preparation of the VECP, its acceptance and performance of the work shall not extend the contract completion time unless the supplemental agreement provides an extension.

Subsection 105.02 Add the following as the first paragraph:

All contractors and subcontractors directly engaged in the erection or removal of falsework, temporary structures, structural steel, precast prestressed or mild steel reinforced concrete bridge beams or girders over active highway traffic lanes, on any route, railroad or any stream deemed navigable to commercial or pleasure water craft, shall be required to submit an erection plan prepared and stamped by a Tennessee registered engineer. Falsework (steel stay-in-place forms, overhang jacks, etc.) for bridge deck construction shall be installed in accordance with the manufacturer's recommendation and will not require a submittal. See also Subsection 602.41, 602.42, and 604.06.

Subsection 105.06, Revise the entire subsection to the following:

105.06-Planning of the Operations-Preconstruction Conference. After execution of the Contract by both parties thereto and prior to beginning work, the Contractor shall furnish the Engineer a complete and practicable plan of operations which shall provide for orderly and continuous performance of the Work. The plan of operations shall be in such form and in such detail as to show properly the sequence of operations, the location of operations and the period of time required for completion of the portion of the Work under each item or group of like items in the schedule. The plan of operations shall show the controlling item of work during each phase and a revised schedule shall be submitted when changed conditions warrant. An anticipated

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schedule may be submitted by the Contractor that will show the anticipated monthly progress for the duration of the Contract. If the Contractor does not submit an anticipated schedule, then a straight-line curve will be used to determine progress. The plan of operation shall indicate the manpower and equipment to be available to handle the several phases of the Work. If the Contractor so elects, the Work may be scheduled by the Critical Path Method (CPM); and if called for in the Proposal, utilization of the Critical Path Method (CPM) shall be mandatory. When required, the CPM should be updated at least every 30 days as directed by the Engineer.

Subsequent to submission of the plan of operation, the Contractor shall attend a preconstruction conference called by the Engineer. He shall have available at such meeting all data necessary to substantiate his plan of operation and the scheduling thereof.

In addition to this basic plan of operations, the Contractor shall keep the Engineer notified of his planned or contemplated operation details sufficiently in advance of starting each phase so that inspection may be arranged by the Engineer. Such notice shall include the nature and location of the work planned or contemplated, the date and time of starting, and any hours outside of the conventional working day and working week during which the prosecution of such work is contemplated. The performance of any work without such notice to the Engineer and in the absence of inspection or the written waiver thereof, in itself, shall constitute sufficient grounds for rejection of such portion of the work.

Subsection 105.09 Construction Stakes, Revise the 12th paragraph to the following:

All staking shall be performed by qualified engineering or surveying personnel who are trained, experienced and skilled in construction layout and staking of the type required under the contract and who are acceptable to the Engineer. The personnel shall perform this staking under the direct supervision of a Tennessee licensed Professional Engineer or a Tennessee Registered Land Surveyor experienced in the direction of such work and acceptable to the Engineer.

Subsection 105.10. Revise entire Subsection to the following:

105.10-Authority and Duties of Inspectors. Inspectors employed by or contracted with the Department will be authorized to inspect all work done and all materials furnished. Such inspection may extend to any part or to all of the Work and to the preparation, fabrication, or manufacture of materials to be used including offsite waste and/or borrow areas. The Inspectors will have the authority to reject defective material and to suspend any construction that is being improperly done, subject to final decision by the Engineer. Inspectors will not be authorized to revoke, alter, enlarge, or relax the provisions of the Specifications, nor will they be authorized to approve or accept any portion of the completed project, or to issue instructions contrary to the Plans and Specifications. At the request of the Contractor, instructions from an Inspector may be had in writing on important items.

Subsection 105.11. Revise entire subsection to the following:

105.11-Inspection of Work. All materials and each part or detail of the Work shall be subject to inspection by the Engineer, or his representative including waste and /or borrow areas. He shall be given free access to all parts of the Work at all times and shall be furnished all information, facilities, and assistance by the Contractor as may be required to make complete and detailed inspection. Any work done or materials used without supervision or inspection by an authorized

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Department representative may be ordered removed and replaced at the Contractor's expense unless the Department representative failed to inspect after having been given reasonable notice in writing that such portion of the Work was to be performed.

At any time before acceptance of the Work, the Contractor shall remove or uncover such portion thereof as may be directed. If examination discloses that the Work is acceptable under the terms of the Contract, the Contractor shall return it to the original condition, and the cost of exposing the Work for examination and of returning it to the original condition shall be paid for as Extra Work. If the Work exposed and examined does not prove acceptable, the cost of uncovering, or removing, or replacing all of the material involved, in full accordance with the Specifications and Plans, and of restoring the Work, shall all be at the expense of the Contractor. When any unit of government or political subdivision or any railroad corporation is to pay a portion of the cost of the Work covered by the Contract, its respective representatives shall have the right to inspect the Work. Such inspection shall in no sense make any unit of government or political subdivision or any railroad corporation a party to the Contract, and shall in no way interfere with the rights of either party hereunder.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this Subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and to deduct the costs from any monies due the Contractor. In the event that monies due or to become due the Contractor are not sufficient to defray the costs of such repairs or replacements, then the Department will hold the Contractor's Surety liable for the costs incurred. Any Construction performed by the Department under these provisions will not waive any provisions of the Contract nor relieve the Contractor in any way the responsibility for the construction performed by him.

Subsection 105.13. Revise entire Subsection to the following:

105.13-Completion of Specific Sections of a Project. The Department may accept a section or sections of a project before the entire project is completed. Such section(s) shall be of reasonable length, as determined by the Engineer, and shall be completed in full accordance with the Plans, Specifications and all other applicable provisions of the Contract. When such section(s) is fully completed, the Engineer, after final inspection, will accept the section(s) and the Contractor will be relieved of any further work in connection therewith or any cost of maintenance thereof.

The Department may require a specific section or sections of a project to be completed prior to the completion of the entire project. Such section(s) shall be completed in full accordance with the Plans, Specifications and all other applicable provisions of the Contract. All provisions of the above paragraph regarding final inspection, acceptance, further work and maintenance shall apply.

After any offsite waste and/or borrow area (s) are no longer needed, the contractor shall ensure that the disturbed area is stabilized per the TN NPDES Construction General Permit criteria or per the agreed upon Reclamation Plan. After the area has reached final stabilization, the contractor shall request a meeting with the Engineer to perform a final inspection. Once the area is deemed acceptable, the contractor is responsible for terminating any Contractor obtained permits.

The acceptance of a section or sections of a project shall in no way void or alter any of the terms of the Contract.

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Subsection 105.15. Revise entire Subsection to the following:

105.15-Acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer will make an inspection. If all construction provided for and contemplated by the Contract is found to be completed to his satisfaction, then that inspection shall constitute the final inspection and the Engineer will make the final acceptance and notify the Contractor in writing of his acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same, and the Contractor shall immediately comply with and execute such instructions. Upon correction of the Work, another inspection will be made which shall constitute the final inspection, provided the Work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

If exclusive offsite waste and/or borrow area(s) were used as part of the project, the Contractor must provide the Engineer proof of permit termination for all waste and/or borrow area(s) before the Engineer can start the process for final acceptance of the project. If the Contractor wishes to continue use of the waste and/or borrow area(s), the contractor shall provide the Engineer with a letter indicating the intended use and updated documentation.

Subsection 105.18 Method of Measurement, Remove and Replace Payment Schedule Table with the following:

PAYMENT SCHEDULE

Estimate Number or Percent of Total Contract Amount of Previous Estimate	Total Percent of Construction Stakes, Lines, and Grades Lump Sum Bid Item
Estimate # 1	20%
Estimate # 2	40%
10%	50%
20%	60%
40%	70%
60%	80%
80%	100%

Subsection 106.04, Fourth paragraph, **Insert** the word “notarized” in the first sentence, as follows

“A notarized Certificate of Compliance...”

Section 107-Legal Relations And Responsibility, Left out “**107.02-Load Restrictions on Projects Under Construction.**”

Subsection 107.02 Load Restrictions, **Revise** entire Subsection to the following:

107.02-Load Restrictions.

- (a). Delivery of Materials. The gross weight of trucks delivering material to construction projects shall be governed by State Law as set forth in Tennessee Code and Federal Law. All delivery trucks shall conspicuously display the tare weight, the allowable gross weight for State Highways, and the allowable gross weight for the Interstate System on the side of each truck. The Bridge Formula shall be used to determine allowable Interstate System gross weights as defined in the Federal Highways Administration's publication, *Bridge Formula Weights*.

The operation of equipment of such weight, or so loaded, as to cause damage to structures, the roadway, or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor shall be responsible for all damages done by equipment used in construction of the project.

In such cases where it is necessary to haul material over a structure, other than structures with posted load limitations, the Contractor shall be required to limit the gross loads to the weights listed below. The loads posted for structures with weight limitations shall not be exceeded unless adequate shoring is provided and written permission is granted by the Department's Division of Structures.

Maximum axle load	32,000 lbs.
.....	(14,515 kg.)
Maximum load per axle on tandem axles	24,000 lbs
.....	(10,886 kg.)
Maximum total load.....	90,000 lbs.
.....	(40,824 kg.)

The contractor will be further required to place approved temporary guides on the bridge floor, as directed by the Engineer, in order to position the wheel loads as nearly as possible directly over the bridge girders. He shall keep the bridge floor clean so as to reduce impact forces. The maximum speed permitted will be 15 miles(25 kilometers) per hour.

Upon completion of hauling over the bridge, the Contractor will be required to clean the bridge floor, curbs and rail in a manner acceptable to the Engineer.

- (b). Construction Loads. Construction loads include all material, component, equipment, and personnel loads applied to the structure other than those which are a consequence of permanent elements of the structure in their final state of construction. All construction loads not essential to the active construction work shall be prohibited from placement on the structure. Construction loads on bridges applied anytime subsequent to the placement of girders shall not exceed 50 pounds per square foot based on a uniform distribution of load. Loads characterized as non-uniform in nature shall be reconciled either by analysis equating load to an effective uniform load or employment of timbers or other means approved by Engineer to distribute construction loads. Length of load distribution may be taken as the bridge beam spacing (or slab span between walls for concrete culverts) occurring at the location of load application. The Contractor will be responsible for submitting to the Engineer all analysis and supplementary support details required to

effect proper construction load distribution. Contractor is advised that if concrete is mounded ahead of the screed machine during placement of the deck, that any portion extending above the screed elevation is considered a construction load in applying the provisions of this section. Construction loads shall be placed as optimally as reasonable to minimize loads on the structure. When the area occupied by construction loads in any structure span exceeds 25% of the area of that span the Contractor shall be required to submit a diagram detailing the location, character, sequence and weight of all construction loads applied to the structure to TDOT Division of Structures for approval. This submittal shall be executed a minimum of 30 days in advance of the planned operation. These provisions supplement those of Subsection 604.28.

Subsection 107.06 Federal Aid Provisions (b). Revise Subsection b to the following:

All waste and borrow areas outside the project right-of-way must be in compliance with Section 106 of the National Historic Preservation Act. The Contractor must furnish the TDOT Engineer and the Environmental Division with an Archaeological Clearance certified by the State Historic Preservation Office on all non-commercial material sources requiring excavation and/or fill.

Regardless of prior certification, if prehistoric remains or human burial sites are encountered at any time during construction, such operations shall be suspended and the Engineer and the State Historic Preservation Office shall be notified immediately.

All waste and borrow areas from outside the project right-of-way must comply with Section 7 of the Endangered Species Act. The contractor must furnish the TDOT Engineer and the Environmental Division with Threatened and Endangered Species Clearance from the Tennessee Wildlife Resource Agency and the U.S. Fish and Wildlife Service on all waste and borrow sites located outside project right-of-way.

The Archaeological Clearance certification, and the Threatened and Endangered Species Clearance from the Tennessee Wildlife Resource Agency and the U.S. Fish and Wildlife Service, must be furnished to the TDOT Engineer and the Environmental Division Permits Section, 30 days prior to work being started on all waste/borrow sites outside of the project right-of-way.

107.14-Legal Responsibilities of the Contractor. Revise entire subsection to the following:

107.14-Legal Responsibilities of the Contractor. In addition to the specific legal responsibilities set forth in **Subsections 107.01** through **107.12**, the Contractor is charged with other broad legal responsibilities under these Specifications. These responsibilities include but are not limited to various areas as follows:

- (a) To perform the Work in accordance with all of the terms of the Contract (**Subsection 104.01**), including Construction Changes (**Subsection 104.02**), the supply and use of materials of the required quality (**Subsection 106.01**), the maintenance, during construction and until final acceptance, of all completed portions of the Work (**Subsection 104.06**), and the final cleanup (**Subsection 104.11**).
- (b) To maintain traffic (**Subsection 104.04**), including the use of all proper and necessary protective devices and procedures (**Subsection 104.05**).

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- (c) To conduct all operations so as to protect the members of the general public, residents near the project, workmen engaged in or on the Work, and representatives of the State, the Federal Government and railroads, while they are engaged in duties connected with the Work. All workers within the right-of-way shall wear head protection meeting the current requirements of the American National Standards Institute (ANSI). Also, all workers within the right-of-way shall wear high-visibility safety apparel. High-visibility apparel shall be considered personal protective clothing that meets performance Class 2 or Class 3 of the ANSI/ISEA 107-2004 publication. Class 3 apparel shall be required for night work.

This responsibility also extends to the protection of public and private property under all circumstances.

- (d) To hold harmless and defend against all claims of whatsoever nature arising out of the Work, the State, any political subdivision thereof, and all employees of the State, the Federal Government, and any railroad involved. This responsibility generally extends to innocent third parties.
- (e) To pay just claims for materials, supplies, equipment, tools, labor, and all other items, against him or any Subcontractor, in connection with the Work.

It is the intent of these Specifications that the Contractor shall familiarize himself fully with these responsibilities and with the many others which are clearly inferred from the Contract but are not enumerated here; and that he makes certain that all things required to be performed are performed in such manner as to fulfill the responsibilities involved and that all appropriate and required precautions be taken at all times.

Subsection 107.20 No Waiver of Legal Rights, Delete and replace with the following:

107.20-No Waiver of Legal Rights. The Department shall not be precluded or estopped by any measurement, estimate, or certificate made either before or after the completion of the Work or by final acceptance of the Work according to **Subsection 105.15** from showing the true amount and character of the Work performed and materials furnished by the Contractor, nor from showing that any such measurement, estimate, or certificate is untrue or is incorrectly made, nor from showing that the Work or materials do not in fact conform to the Contract. The Department shall not be precluded or estopped, notwithstanding any such measurement, estimate, certificate and payment, or acceptance in accordance therewith, from recovering from the Contractor or his Sureties, or both, such overpayment or damages as it may sustain or damages due to the Contractor's failure to comply with the terms of the Contract. The Department shall retain and apply monies owed to the Contractor under any Department Contract, or claim and recover by process of law such sums, in order to correct any error or make good any defects in the Work or materials.

Neither the acceptance by the Department, or any representative of the Department, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the Department, shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to damages. A waiver by the Department of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.

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Subsection 107.23 Certified Payrolls, Revise entire Subsection to the following:

107.23 Certified Payrolls. As specified by Department procedures for the Contractor and subcontractor workforce, submit certified payrolls to the Engineer each week in which any work is performed. Once construction begins, if in any week the Contractor or subcontractor does not perform work, submit the following statement to the Engineer: “No work performed by (Contractor name) for the week ending _____.”

Subsection 108.06- Determination of Time for Completion, Replace entire subsection with the following:

108.06-Determination of Time for Completion. The Contractor shall complete the Work in full accordance with **Subsections 104.01** and **105.03** within the number of working days or calendar days or by the completion date stipulated in the Proposal. If a number of working days govern in connection with a specific Contract, the Engineer will apprise the Contractor, monthly, of the number of accumulated working days charged against him. Protest by the Contractor, in such connection, shall be filed within five working days of receipt of the information. The Engineer will review such protest and the supporting information and will render decision either affirming or correcting the accumulated number of working days previously reported.

When the contract time is on a calendar day basis, it shall consist of the number of calendar days stated in the Contract counting from the effective date of the Engineer's order to commence work, including all Sundays, holidays and non-work days. All calendar days elapsing between the effective dates of any orders of the Engineer to suspend work and to resume work for suspensions not the fault of the Contractor shall be excluded.

When the Contract completion date is a fixed calendar date, all work on the project shall be completed on or before that date.

If satisfactory fulfillment of the Contract requires performance of work in greater quantities than those set forth in the proposal, the contract time allowed for performance may be proportionally increased for major items only, as defined in section 101.64, if the Engineer determines that the increase in quantities for the major items has affected the completion of the project. If the contract requires a mandatory Critical Path Method (CPM), or contains an incentive clause, or a bonus clause for early completion, the Engineer shall not proportionately increase the working time. The Engineer will determine if the added work or increased quantities impact the submitted critical path workflow and will adjust the working time accordingly, but the incentive clause date or the bonus clause date will not be adjusted unless otherwise allowed in the Contract.

If the Contractor finds it impossible for reasons beyond his control to complete the Work within the contract time as specified or as extended in accordance with the provisions of this Subsection, he may, at any time prior to the expiration of the contract time specified or as extended, make a written request to the Engineer for an extension of time setting forth therein the reasons which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the Work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion by a properly executed Supplemental Agreement in such amount as the conditions justify. The extended time for completion shall then be in full force and effect the same as though it were the original time for completion except

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incentive clause date or the bonus clause date will not be adjusted unless otherwise allowed in the Contract.

Final acceptance will be made by the Engineer as prescribed in Subsection 105.15 and in accordance with the following:

State Funded Projects:

Upon presumptive completion of the project and due notice from the Contractor, the Engineer will make an inspection. If all items of work are completed to his satisfaction, the Engineer will accept the project and stop time charges as of the date of the inspection. However, if the inspection reveals that some items of work remain to be completed, the Engineer will direct the Contractor to complete these items and continue charging time until all work has been satisfactorily completed, regardless of the number of inspections required prior to project acceptance.

Federal-Aid Projects:

The procedure for Federal-aid projects will be the same as noted above for wholly State funded projects except that time charges will be suspended during the time interval between presumptive acceptance by the Engineer and the date of inspection by the Federal Highway Administration (FHWA). Should the FHWA Engineer find any work unsatisfactory, time charges will be resumed the day after the inspection during which such determination is made until correction of such work.

In the event further inspections by FHWA are required, the procedure described herein will be repeated until final acceptance of the project.

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Subsection 108.07-Failure to Complete Work on Time, Remove entire subsection and **replaced** with the following:

108.07-Failure to Complete the Work on Time. For each calendar day over and above the stipulated completion date on which any portion of the Work remains incomplete, a sum of money shall be deducted from monies due the Contractor, not as a penalty but as liquidated damages. The amounts to be deducted shall be as set forth below.

<u>Original Contract Amount</u>		<u>Daily Charge</u>
\$0	- \$500,000	\$250.00
>500,000	- 1,000,000	\$420.00
>1,000,000	- 2,000,000	\$740.00
>2,000,000	- 10,000,000	\$1,000.00
>10,000,000	- 20,000,000	\$1,600.00
>20,000,000		\$1,800.00

Permitting the Contractor to continue and finish the Work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Department of any of its rights under the Contract.

Subsection 108.08(a) Default, Replace the first sentence with the following:

The Department reserves the right to terminate, by a written Contract Termination Notice, any Contract, of which these Specifications are a part, if the Contractor:

Subsection 108.08(b) Without Fault, Replace the first sentence to the following:

The Department may, by a written Contract Termination Notice, with the approval of the Federal Highway Administration where applicable, terminate any Contract or a portion thereof after determining that for reasons beyond the control of the Contractor, the work contracted for cannot be completed. Such reasons for termination may include, but need not necessarily be limited to one of the following:

Subsection 108.08(c) New, Insert (c) Convenience with the following paragraphs.

(c) Convenience

The Department may, by a written Contract Termination Notice, with the approval of the Federal Highway Administration where applicable, terminate any contract, or any portion thereof for the Department's convenience, when the Engineer determines that, a termination is in the best interest of the Department.

A termination of the contract for convenience may be directed at any time after the Department has made a determination to award a contract. Such reasons for termination may include, but are not limited to:

1. Insufficient funds by the Department due to extenuating circumstances;
2. Orders from duly constituted authorities relating to energy conservation;
3. Restraining orders or injunctions obtained by third party citizen action resulting from federal or state environmental protection laws or where acts or omissions or persons or agencies whether or not the Contractor primarily caused the issuance of such order or injunction;
4. Occurrence of an environmental situation of a significant nature that would require extensive and time-consuming delays in the work for the purposes of identification, evaluation, and possibly mitigation;
5. Occurrence of a previously undiscovered error in the bid documents;
6. Any other circumstances determined by the Department to be in the best interest of the Department and/or public.

In addition to the general reservation of the right to terminate for convenience under this section, the bidding documents may provide for a termination of the contract for convenience under this section upon the occurrence or non-occurrence of a specified event after bid opening.

Under any of the above circumstances for termination, the Engineer will deliver to the Contractor and the Surety a written Contract Termination Notice for reasons that will be set forth therein. The Notice shall specify the extent to which performance of work is terminated under the Contract and the effective date of termination. Unless otherwise directed by the Engineer, upon receipt of a Contract Termination Notice, the Contractor, or his Surety, shall immediately:

1. Stop work as directed in the Notice.
2. Place no further orders or subcontracts for materials, services or facilities except as approved by the Engineer to complete work not terminated.
3. Terminate all orders and subcontracts for the terminated work.
4. Deliver to the Engineer completed or partially completed plans, drawings, information and other property required to be furnished under the contract.
5. Take any action that the Engineer directs to protect and preserve contract-related property that is in the possession of the contractor in which the Department has or may acquire an interest.
6. Provide all other information included in this section and/or as requested by the Engineer.
7. Complete all work not terminated.

If the Contract or any portion thereof is terminated before completion of all items of work in the contract; payment will be made for the actual number of units of items of work completed at the contract unit prices and as mutually agreed for items or work partially completed. No claim for loss of overhead or anticipated profits, including anticipated earnings on usage of owned equipment, and impact, delay, or other direct or indirect costs resulting from this termination, will be compensated as part of any settlement. Items that are eliminated in their entirety by the termination, will be paid according to **subsection 109.05**.

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Completed or partially completed work will be paid for at the contract unit prices of the actual number of units or items of contract work completed prior to the effective date of the termination, or on a force account basis, as determined by the Engineer.

Reimbursement for organization of the Work (when not otherwise included in the contract) and moving equipment to and from the job will be considered where the volume of work completed is too small to compensate the Contractor for these expenses under the contract unit prices, the intent being that an equitable settlement will be made with the Contractor. The Department may consider reimbursing the Contractor for actual work done and actual costs incurred by the Contractor before notification. It may include only such cost items as mobilization, subcontractor costs not otherwise paid for, actual idle equipment costs only for any time the work is stopped in advance of the termination date, and guaranteed payments for private land usage as part of the original contract (when not otherwise included in the contract). Any claim request for additional costs, not covered in this section or elsewhere in the contract, shall be submitted within 60 calendar days of the effective termination date.

Acceptable materials, obtained by the Contractor for the Work, that have been inspected, tested, and accepted by the Engineer, and that are not incorporated in the Work, may, at the option of the Engineer, be purchased from the Contractor. The Contractor shall submit the proof of actual cost, as shown by receipted bills and actual cost records. The Engineer, as shown by actual cost records, may designate all actual costs for delivery at such points of delivery to be added to this cost. If the Engineer and the Contractor do not agree to purchase such materials, the Department may reimburse the Contractor for any reasonable restocking fees and handling costs incurred by the Contractor in returning said materials to the vendor. In the event that only portions of the contract work are eliminated, the Department may stop delivery and payment for materials made unnecessary.

Termination of a Contract or a portion thereof shall not relieve the Contractor of his responsibilities for the completed Work, nor shall it relieve his Surety of its obligation for and concerning any just claims arising out of the Work performed.

Subsection 109.02 Add the following to the end of Subsection 109.02:

The prime contractor must pay each subcontractor for work performed under its subcontract no later than 30 days from the date the prime contractor receives payment for the work from the Department. The prime contractor must pay each material supplier for materials supplied to the project no later than 30 days from the date the prime contractor receives payment for the material from the Department. In addition, all subcontractors, at all tiers, must make payment no later than 30 days to each subcontractor and material supplier for work and/or material provided for the project once they receive payment from the prime contractor or subcontractor. The prime contractor shall provide monthly payment certification to the Department entitled "Prompt Payment Certification Form". An officer of the prime contractor shall sign the "Prompt Payment Certification Form". The Department will withhold estimate payments if information is not submitted. The Department will withhold estimate payments for subcontracted items if subcontractors, at any tier, or materials suppliers are not paid. Also, all required certifications must be in the field office and accepted before such work is deemed satisfactorily completed. Any delay or postponement of payment from the above referenced time frame will result in accrual of interest as provided under TCA, Section 12-4-707(b).

The prime contractor, or subcontractors, at any tier, shall not withhold any retainage from progress payments made to their subcontractors.

The contractor shall also document on the “Prompt Payment Certification Form” the actual amount paid to any certified Disadvantaged Business Enterprise (DBE) or certified Small Business Enterprise (SBE) during the estimate period certification is being made.

Subsection 109.04-Methods of Payment for Extra Work, (a) Labor, Add “for profit and overhead” to the end of the second sentence.

Subsection 109.04-Methods of Payment for Extra Work, (c) Materials, Add “for profit and overhead” to the end of the sentence.

Subsection 109.04-Methods of Payment for Extra Work, (d) Equipment, Revise to the following:

(d) Equipment

Equipment used for Force Account work shall be of the size, type and number necessary to perform the required work in an economic and expeditious manner.

The Contractor shall submit for approval a list of all contractor owned equipment or equipment rented from another contractor (i.e. an entity not in the commercial rental business), including the manufacturer, make, model, year of manufacture, type of fuel, and other necessary information to determine proper hourly payment rate. The hourly rate shall not exceed the Monthly rate less the regional adjustment and age adjustment, as published in "*The Rental Rate Blue Book for Construction Equipment*" published by Equipment Watch, Prism Business Media, divided by 176. The contractor shall also submit for approval the hourly operating cost for all equipment. The hourly operating cost shall include all costs and labor for routine maintenance and servicing, including but not limited to fuel, lubrication, filters, blades, belts, pumps, lines, hoses, teeth, tires, tracks, etc.. The hourly operating costs shall not exceed the rates published in "*The Rental Rate Blue Book for Construction Equipment*". The rental rates will be paid for the actual time that the equipment is in operation. The weekly, daily or hourly premium equipment rates shown in the Blue Book shall not be used.

Contractor owned equipment or equipment rented from another contractor that has been approved for force account work that remains idle or on standby will be paid at a rate of 50% of the hourly rate calculated above. Idle equipment shall not be paid for more than 8 hours in a day or 40 hours in a week or on days of inclement weather when no other work is taking place. Equipment that is inoperable will not be paid idle time. The Department will determine if it will be more cost effective to pay idle time on approved equipment or for multiple mobilizations.

For equipment being used to complete force account work for part of the day and idle for a part of a day, the total hours that can be charged will be 8 hours, unless the equipment is in operation for more than 8 hours. Idle time will not be paid for any equipment which operates more than 8 hours in a day

Equipment that is rented or leased from a commercial rental company will be paid for at actual invoice price, provided the prices are fair and reasonable but not to exceed the monthly rate published in "*The Rental Rate Blue Book for Construction Equipment*". The Department will pay a mark up of 15% for all rented/leased equipment for profit and overhead. The contractor shall also submit for approval the hourly operating cost for all rented/leased equipment if the rent/lease agreement does

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not include these expenses. The mark up will not apply to hourly operating costs. Rented or leased equipment will not be subject to payment for idle time. The Department will determine if it will be more cost effective to leave the equipment on site idle paying invoice price or pay for multiple mobilizations.

Subsection 109.04-Methods of Payment for Extra Work, (e) Transporting Equipment, Revise to the following:

(e) Transporting Equipment

When it is necessary to bring approved equipment to the project site, the contractor will be reimbursed for these costs and the costs to return it to its original location. The cost to return shall not be more than the cost to deliver. If a piece of equipment is delivered to the project site and used for other contract pay items then return costs will not be reimbursed.

If the equipment is transported by the contractor, then payment will be by hourly rate as calculated in 109.04 (d) for other equipment. If the equipment is transported by common carrier, then payment will be the actual invoiced amount with no markup.

Subsection 109.04-Methods of Payment for Extra Work, (f) Subcontracting and Professional Services, Revise to the following:

(f) Subcontracting and Professional Services.

The contractor will be paid an administrative fee of 5% for all approved force account work completed by subcontractors and for approved special services associated with the force account work. Invoices shall be submitted for all subcontracted and professional services rendered.

Subsection 109.04-Methods of Payment for Extra Work, (g) Miscellaneous, Revise to the following:

(g) Miscellaneous.

No additional allowance will be made for general superintendence (Superintendent), time keepers, the use of small tools, or other costs for which no special allowance is herein provided.

Subsection 109.04-Methods of Payment for Extra Work, (h) Compensation, Revise to the following:

(h) Compensation.

The Contractor's representative and the Engineer shall compare records of the cost of work done as ordered on a force account basis at the end of each day's work.

Subsection 109.04-Methods of Payment for Extra Work, (I) Statements, Revise to the following:

(i) Statements.

No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with duplicate certified itemized statements of the cost of such force account work detailed as follows:

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1. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman.
2. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
3. Quantities of materials, prices, and extensions.
4. Transportation of materials.
5. Cost of property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions and social security tax.

Statements shall be accompanied and supported by receipted invoices for all materials used, including transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from his stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Subsection 109.06, Remove and Replace the entire subsection with the following:

When requested in writing by the Contractor and approved by the Engineer, partial payment of non-perishable materials that will be permanently incorporated into the project may be made. These materials must be stockpiled in an approved manner on or near the project site or in special cases at an off-site location because of fabrication. These off-site locations should be limited to special cases where the material cannot be readily stockpiled at the project site such as steel structure components, prefabricated bridge components, etc. Material stored at an off-site location shall be clearly marked with the project information. A map noting the location shall be provided to the Project Supervisor. The material stockpiled on the project site shall be stored in an approved manner so that the quality of the material is not compromised. No payment will be made prior to inspection and documentation by a TDOT representative. Material, whether stored on-site or off-site, shall be readily identifiable in order to reference the quantity and assigned project.

Materials that may be included in partial payments: aggregates (stored on project, not at quarry), reinforcing steel, bridge piling, structural steel (fabricated units or steel delivered to fabricator if designated for particular project), precast concrete structures, traffic signal equipment, electrical equipment, fencing materials, sign materials, guardrail, and others as approved by the Project Supervisor.

Materials that may not be included in partial payments: Living or perishable plant materials, seed, fuel, used materials, form lumber, falsework, temporary erosion items, and other temporary items that will not become part of the completed work.

The payment for stockpile materials is initiated by the Contractor with a request to the Project Supervisor. The request shall be made in writing and shall contain the following information:

1. Request for stockpile payment that includes the following information:
 - a. Contract and Project Numbers
 - b. Item Number and Description as stated in the Contract Proposal

- c. Quantity and Unit of measure
 - d. Conversion factor, if applicable
- 2. Written statement of assurance that material will be used on the specific project
- 3. Written consent of Prime Contractor's surety
- 4. Copy of certified paid invoice (in order to certify, a representative of the supplier must mark the invoice as paid in full, sign and date)
- 5. If the certified paid invoice is unavailable, a stockpile payment may be conditionally approved with receipt of the Surety's consent and a copy of the unpaid invoice. However, the contractor must submit the certified paid invoice within 30 days following the date of the progress payment for which the stockpiled material was paid. If the certified paid invoice is not submitted, the stockpile payment will be deducted from the following progress payment. In addition, any further requests for stockpile payment of that item must be accompanied by a certified paid invoice, or stockpile payment will not be paid.
- 6. Material certifications/Test reports for the material.

Partial payment will only be considered for an invoice or accumulation of invoices totaling \$5,000.00 for each eligible pay item. Individual invoices shall not total less than \$2,500.00. Invoices may include tax and freight. Partial payment shall not exceed 100% of the invoice amount or 75% of the contract unit price, whichever is less.

Stockpile payments shall not exceed the contract amount, unless the contract amount is increased by an approved change order. Payments will not be made for items that will be incorporated permanently into the project within 30 days from request of stockpile payment.

The Contractor shall assume full responsibility for the stockpiled materials from the elements and against loss or damage by any cause. In the event any of these stockpiled materials become lost, stolen, impaired or damaged after partial payment has been made, the monetary value of the lost, stolen, impaired or damaged material as may have been paid for in a current estimate will be deducted from the next estimate, and no further payment will be made until such material has been satisfactorily replaced in accordance with specification requirements.

The department will not withhold retainage from the Contractor. No monthly estimate or partial payment will be made when the total value of the work done since the last previous monthly estimate amounts to less than \$1000.00.

After the first partial payment, the Department reserves the right to withhold any subsequent partial payments until it has been completely satisfied by the Contractor that his labor, material, and equipment costs and any claims for other reasons are paid on a current basis. Should any defective construction or material be discovered, or should a reasonable doubt arise as to the satisfactory quality of any part of the construction completed prior to final acceptance and payment, there will be deducted from the first estimate rendered after the discovery of such defective or questioned construction, and if necessary, from subsequent estimates, an amount sufficient to insure the replacement of such work by the Contractor or by others as may prove necessary.

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Subsection 109.08 New, insert the following:

109.08-Payment of Costs Owed to the Department.

The Contractor, without prejudice to the terms of the Department Contract, shall be liable to the Department for any or all of the following: fraud or such gross mistakes as may amount to fraud, the Department's rights under any warranty or guarantee, or any latent defects in the work.

The Department reserves the right to set off against any amount otherwise due the Contractor or his Sureties, or both, under this Contract or under any other contract or arrangement, including payment obligations under **Section 109.04** of these Specifications, that the Contractor or his Sureties, or both, has with the Department, the following:

1. any costs that the Department has incurred due to noncompliance with this contract by the Contractor or his Sureties, or both, and
2. any other amounts that are due and payable from the Contractor or his Sureties, or both, to the Department

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Rev. 10-20-07
 Rev. 03-23-09
 Rev. 05-5-2010
 Rev. 08-06-2012

March 1, 2006

Supplemental Specifications - Section 200**of the****Standard Specifications for Road and Bridge Construction****Subsection 201.03-Clearing and Grubbing.** Replace the entire subsection with the following:

201.03-Clearing and Grubbing. The Engineer or Contractor when required will establish rights-of-way lines and construction lines, and the Engineer will designate all trees, shrubs, plants, and other objects to remain. The rights-of-way necessary for construction, as directed by the Engineer, shall be cleared of all dead trees, stumps, brush, projecting roots, hedge, weeds, pole stubs, logs, and other objectionable material. All trees, stumps, roots, pole stubs, brush, hedge, and other protruding obstructions within the area bounded by lines 5 ft. (1.5 m) outside the construction lines shall be completely grubbed except sound undisturbed stumps and roots which will be a minimum of 5 ft. (1.5 m) below subgrade or slope of embankment may be allowed to remain in place provided undercutting or other corrective measures, or topsoil stripping is not stipulated in the Plans or directed by the Engineer and providing stumps do not extend more than 6 in. (15 cm) above the ground surface. This work shall be done in advance of excavation and embankment operations.

Before construction activities begin, two types of areas must be marked within the project site. First, the limits of disturbance (clearing limits) must be clearly marked using staking or another acceptable visible marking method. Second, any environmentally sensitive areas such as streams, wetlands, buffers and ARAP boundaries that are included in the project boundaries must be marked with highly visible markers. Highly visible markers must be readily visible to project personnel including equipment operators.

Clearing and grubbing operations shall be avoided in areas designated to remain undisturbed as specified in the project's Stormwater Pollution Prevention Plan and any other applicable environmental permits. For clearing and grubbing activities associated with borrow pits or waste areas furnished by the Contractor, the borrow pits or waste areas must be approved in advance by the Project Supervisor, the Environmental Coordinator, and the Environmental Division and operated and maintained in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

When embankments are to be constructed in swampy areas, and undercutting or other corrective measures are not stipulated in the Plans or directed by the Engineer for these areas, undisturbed trees and stumps may be cut off at not more than 6 in. (15 cm) above the ground surface or low water level and the stump and root mass remain in place, if approved by the Engineer.

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

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Unless marked for removal by the Engineer, living trees more than 5 ft. (1.5 m) outside the construction lines of the road are to be undisturbed, and are to be protected by the Contractor during construction of the project. Cut or scarred surfaces of trees or shrubs shall be treated with a paint prepared especially for tree surgery.

Clearing of hedge, weeds, pole stubs, logs, and other objectionable material inside the rights-of-way but outside the construction lines shall be completed to the ground surface.

Low hanging branches and unsound or unsightly branches on trees or shrubs designated to remain shall be removed as directed. Branches of trees extending over the roadbed shall be trimmed to give a clear height of 20 ft. (6 m) above the roadbed surface. All trimming shall be done by skilled workmen and in accordance with good tree surgery practices.

Trees more than 5 ft. (1.5 m) outside the construction lines and marked for removal by the Engineer shall be cut off within 6 in. (15 cm) of the ground surface. All stumps more than 5 ft. (1.5 m) outside the construction lines shall be trimmed to within 6 in. (15 cm) of the ground surface.

Wood debris that is chipped on site shall be properly disposed of so that does not become part of embankment. Within the areas where embankments are to be constructed, all depressions resulting from grubbing operations shall be backfilled with suitable excavation material and compacted in accordance with the provisions of Section 205 to natural ground elevation before embankment construction is started.

Depressions in excavation areas which are below finished subgrade elevation resulting from grubbing operations shall be backfilled with suitable material and compacted to finished subgrade in accordance with the provisions of Section 205 during the excavation operations.

Backfilling shall be completed a satisfactory distance ahead of embankment construction operations.

All slopes of cuts, embankments, ditches, channels, waterways and all structures both old and new, shall be cleared of all brush, hedges, weeds, heavy vegetation, and other objectionable material; and shall be maintained in a neat and satisfactory condition until the project is accepted.

Areas approved as borrow pits by the Engineer shall be cleared and grubbed of all trees, stumps, brush and heavy vegetation. Areas designated for obtaining construction material other than borrow material shall be cleared and grubbed of trees, stumps, brush and vegetation, and in addition shall be stripped of overburden laying above the material to be obtained. This work shall be completed well in advance of the removal of borrow or construction materials. Any offsite borrow areas must also be in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual

Areas within the limits of all drainage structures shall be cleared of all objectionable material to within 3 in. (75 mm) of the ground surface. Such areas shall extend the full length of the structures, as measured along the center-line of the highway, and to the rights-of-way lines along lines parallel to the centerline of the inlet and outlet channel or drainage of the structure. These areas shall also include the entire area of all easements obtained for drainage purposes.

Subsection 201.04- Disposal of Debris. Replace second paragraph with the following:

When permitted by the Engineer, perishable materials and debris may be removed from the rights-of-way and disposed of at locations off the project, outside the limits of view from the project during all seasons as long as the work is in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual. The cost involved shall be

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included in the bid cost for the project. In addition the material shall be disposed of in accordance with all applicable laws and ordinances regarding solid wastes as per Tennessee Department of Environment and Conservation requirements.

Subsection 201.05-Method of Measurement. Add the following to the end of the first paragraph.

“When the bid schedule contains an item for Clearing and Grubbing on a lump sum basis, no measurement of area will be made.”

Subsection 201.06-Basis of Payments. Revise entire subsection to the following:

“Payment for Clearing and Grubbing shall be made at the contract unit price per lump sum and shall be full compensation for completing the Clearing and Grubbing as outlined on the Plans and in these Specifications.”

Payment for Clearing and Grubbing (Borrow Pits) at the contract unit price per acre (hectare) shall be full compensation for completing the Clearing and Grubbing of Department furnished borrow pits as outlined in the Plans and in these Specifications. These borrow areas will be furnished in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

Subsection 202.03-General. Replace the last sentence of the first paragraph with the following:

Material disposed of on private property shall be disposed of in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

Subsection 202.04- Removal of Bridges, Culverts, and Other Drainage Structures. Replace the entire subsection with the following:

202.04-Removal of Bridges, Culverts, and Other Drainage Structures. Bridges, culverts and other drainage structures in use by traffic shall not be removed until satisfactory arrangements have been made to accommodate traffic. All bridge, culvert and drainage structure removal from streams must comply with any terms and conditions specified in applicable environmental permits, including the TN Construction General Permit. The Contractor will use highly visible markers to clearly mark permit boundaries and disturbed area limits.

Unless otherwise specified or directed, such portions of the substructures of bridges located in a stream shall be removed to 1 ft. (30 cm) below the adjacent ground level or natural stream bottom or the lowest scour elevation shown on the contract plans if shown to uncover the existing portion of the substructure. An exception to the above rule may occur if such portions of the substructure of a bridge are located in a stream or wetland, and then it shall be subject to the requirements set out in the permit form of the applicable State and Federal agencies approving the location and plans and authorizing the construction of the bridge. Where such portions of existing structures lie wholly or in part within the limits for a new structure, they shall be removed as necessary to accommodate the construction of the proposed structure.

Steel bridges, precast or precast prestressed bridges and wood bridges designated to become the property of the Department shall be carefully dismantled without unnecessary damage. All such material shall be stored as specified in **Subsection 202.03.**

The removal of bridge decks shall be governed by the following:

1. Where bridge decks are to be wholly removed, but the girders are to remain in service;
 - A. If the contractor elects to employ concrete saws to aid in the removal of the concrete deck, sawing transverse, the depth of the cut may not exceed the following :
 - Decks supported by steel beams or girders, 3-in. (75mm.)
 - Decks supported by prestressed concrete beams, 3-in. (75mm.)
 - Decks of cast-in-place hollow box or t-beam bridges, 1-in. (25mm.)
 - B. The remainder of the slab depth under the cuts must be completed using pneumatically or electrically operated chipping hammers, not exceeding 60 lbs. (27.2 kgs.) in weight.
 - C. Longitudinal saw cuts may be full depth, but no closer than –
 - Decks supported by steel beams or girders, within 1-in. (25 mm) of the widest top flanges.
 - Decks supported by prestressed beams, within 1 in. (25 mm) of the top flange.
 - Decks of hollow boxes or t-beam bridges, within 1-in. (25 mm) of the web, unless otherwise noted on the contract plans.
2. Where only the slab overhangs are to be removed, and if the contractor elects to employ concrete saws to aid in the removal of overhangs, only the top 1-in. (25 mm) of the slab may be saw cut. Pneumatically or electrically operated chipping hammers, not exceeding 60 lbs. (27.2 kgs.) in weight may be used to remove the remainder of the concrete. Care shall be taken not to damage transverse slab reinforcing bars.
3. Where bridge decks are to be removed as part of complete bridge demolition and the contractor elects to employ concrete saws in the removal of the deck, the depth of the cuts may not exceed the following:
 - A. Decks supported by steel beams or girders, the plans depth of slab minus 1-in. (25 mm).
 - B. Decks of hollow box or t-beam bridges; if not otherwise shown on the contract plans, the contractor shall submit a plan to the engineer for approval.

The use of hoe rams, pneumatic shears, pavement breakers, or other heavy equipment to remove slabs, where girders or adjacent slab portions are to remain, is strictly prohibited.

Blasting or other operations necessary for the removal of an existing structure or obstruction, which may damage new construction, shall be completed prior to placing the new work, or adequate precautions shall be taken to prevent such damage.

Subsection 203.01 Description. Add the following as the last paragraph to this Subsection:

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The Contractor must address both natural and created steep slope areas as required in the TN Construction General Permit. Steep slope requirements for erosion prevention and sediment controls and stabilization shall be in accordance with the TN Construction General Permit and any other applicable environmental permits.

Subsection 203.02-Classification. Replace the entire subsection with the following:

(a) Road and Drainage Excavation (Unclassified).

All excavation performed under this Section, including portland cement concrete located above subgrade elevation, other than Borrow Excavation, Channel Excavation, and Undercutting, will be considered unclassified excavation regardless of the nature of the material excavated.

(b) Borrow Excavation.

Borrow Excavation shall consist of material required for the construction of embankments or other portions of the work and shall be obtained from approved sources outside the right-of way limits in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual, unless otherwise designated in the Plans. However, any material, other than Borrow Excavation (Unclassified), as may be found in the excavation that meets the specifications of the designated borrow material may be used in the project in accordance with the conditions prescribed in **Subsection 104.10**. However, if the flattening of certain cut slopes on projects graded under previous contracts is desirable and approved in writing by the Engineer, the Contractor will be permitted to use this material for borrow provided the material is satisfactory and in accordance with plans approved by the Engineer, and provided he complies with the requirements of **Subsection 203.04** regarding borrow areas. Borrow material shall not be obtained from wetland areas, unless otherwise noted on the Plans and approved by applicable environmental permits

Borrow shall be classified as Borrow Excavation (Solid Rock), Borrow Excavation (Graded Solid Rock), Borrow Excavation (Unclassified), or Borrow Excavation (Select Material). Borrow Excavation (Solid Rock) shall consist of the removal and satisfactory placement of non-degradable rock which cannot be economically excavated by the proper use of a power shovel or without the use of explosives. Borrow Excavation (Unclassified) shall consist of the removal and satisfactory placement of all approved material encompassed under the classification of Borrow Excavation (Solid Rock) and all other approved material.

Borrow Excavation (Graded Solid Rock) shall consist of the removal and satisfactory placement of sound, non-degradable rock with a maximum size of 3 ft. (1 m). At least 50 percent of the rock shall be uniformly distributed between 1 ft. (30 cm) and 3 ft. (1 m) in diameter and no greater than 10 percent shall be less than 2 in. (50 mm) in diameter. The material shall be roughly equi-dimensional in shape. Thin, slabby material will not be accepted. The Contractor shall be required to process the material with an acceptable mechanical screening process that produces the required gradation. When the material is subjected to five alternations of the sodium sulfate soundness test (AASHTO T 104), the weighted percentage of loss shall be not more than 12. The material shall be approved by the Engineer before use.

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Borrow Material other than solid rock shall be AASHTO M 145, classification A-6 or better if reasonably available. If classification A-6 is not reasonably available, the borrow shall be no worse than the predominant soil type in the roadway excavation based on AASHTO classification.

Borrow Excavation (Select Material) for special construction purposes shall meet the requirements set forth in the Contract.

Material obtained from an approved borrow source off the right-of-way as provided in this Subsection shall not be utilized to produce processed aggregate as described in Section 903. In no case shall material excavated from an offsite borrow source be utilized in base or other paving courses above the elevation of the subgrade.

Unless otherwise designated in the Contract, the Contractor shall make his own arrangements for obtaining borrow material in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

(c) Channel Excavation (Unclassified).

This item shall consist of the removal and satisfactory disposal of all material, regardless of its nature and the manner in which it may be removed, that is excavated for channel changes in widening, deepening, and straightening existing channels or constructing new ones, which have a width at the bottom of more than 14 ft. (4 m) as indicated on the Plans. All other similar excavation with a bottom width 14 ft. (4 m) or less, as shown on the Plans, shall be paid for as Road and Drainage Excavation (Unclassified).). Any channel excavation that includes an existing stream or a proposed stream relocation must be constructed as specified in the applicable environmental permits.

(d) Undercutting.

This item shall consist of removing and disposing of unsatisfactory materials below grade in cut sections, from areas upon which embankments are to be placed, and may also include material excavated below the Foundation elevation for pipe, box culverts and box bridges as described in **Subsection 204.12**. Undercutting does not include the stripping, stockpiling and placing of topsoil, described in **Subsection 203.06**, nor does it include step-benching in the preparation of embankment areas on hillsides. Disposal of undercutting material off rights-of-way shall be conducted in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

Subsection 203.04 General. Replace the entire subsection with the following:

203.04-General. Prior to beginning excavation, grading, and embankment operations in any area, all necessary Clearing and Grubbing, Removal of Structures and Obstructions and placement of Erosion Control Devices in that area shall have been performed in accordance with **Section 201, Section 202** and **Section 209**, respectively, of these Specifications.

Excavation materials shall be removed in such a manner that the slopes may be neatly trimmed to the lines given. The Engineer may change the slopes shown on the original cross sections, depress raised medians or islands, raise depressed medians or islands or daylight cuts to increase or decrease the quantity of Road and Drainage Excavation (Unclassified) provided the material can be excavated without blasting and these changes are set in the slope stakes prior to commencement of excavation of the affected slopes, medians or islands. Any additional material

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thus obtained shall be paid for at the contract unit price bid for Road and Drainage Excavation (Unclassified).

Excavation required to correct slides, regardless of its location relative to the theoretical slope line, or excavation required to prevent potential slides including blasting, and the dressing, reshaping or flattening of the affected slopes as directed by the Engineer, shall be paid for under the Item for Road and Drainage Excavation (Additional Material) in accordance with **Subsection 203.10**. If it becomes necessary to flatten a slope to correct a slide or prevent a potential slide after the cut has been started but not completed, payment under Road and Drainage Excavation (Additional Material) will be limited to material removed between the original staked slope line and the newly established slope line above the elevation to which the cut has been made. All other material will be paid for at the contract unit price of Road and Drainage Excavation (Unclassified). Seeding, sod and other incidental items required to repair the slide area will be paid for at the contract unit price bid for the respective items.

If more material is required to complete the embankments after all cuts have been brought to grade and all Road and Drainage Excavation (Unclassified) has been removed from within the balance, additional materials shall be obtained from within the rights-of-way by flattening, widening or daylighting cut slopes, and by depressing raised medians or islands at locations designated and as directed by the Engineer provided:

- (a) The cost of this material is more economical than borrow excavation.
- (b) The material is available within the adjusted balance where the shortage exists or the material may be hauled outside the limits of adjusted balance if the cost of the material is more economical than borrow when the additional cost of overhaul is considered.
- (c) The material can be excavated without blasting.
- (d) There is a minimum of 20 ft. (6 m) between the top of the existing slope and the top of the new slope and minimum of 5 ft. (1.5 m) between the top of the new slope and Rights-of-Way Line or Control Access fence. The 20 ft. (6 m) minimum will not apply when the existing slope is 4:1 or flatter or to overlapping or near overlapping slopes in medians or between parallel roads or ramps. The 20 ft. (6 m) minimum may be reduced at the written request of the Contractor.

This additional material is to be paid for under the item for Road and Drainage Excavation (Additional Material) in accordance with **Subsection 203.10**.

When additional material is paid for under the item for Road and Drainage Excavation (Additional Material) and additional clearing and grubbing is required, the additional clearing and grubbing will be measured and paid for by the acre (hectare), provided the item for Adjusted Clearing and Grubbing is in the Contract, or as negotiated. No additional payment will be made for extra handling of stockpiled topsoil made necessary by the use of the item for Road and Drainage Excavation (Additional Material).

The roadbed through rock cuts shall be constructed to the grading line shown on the Plans, with an allowable working tolerance of plus 1 to minus 3 in. (plus 25 to minus 75 mm). The portions of the roadway that are less than 3 in. (75 mm) below grade shall be brought to grade with spalls or other suitable granular material that is available from the excavation within the

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balance. If such excavation is not available, the Engineer may direct the Contractor to use approved base material for capping. Payment for furnishing and placing said base material will be made at the contract unit price bid per ton (metric ton) for the applicable Item in **Subsection 303.14**. When base material is not a bid item in the Contract, the material shall be furnished under the provisions of **Subsection 104.03**. If the roadbed is excavated in excess of 3 in. (75 mm) below the grading line shown on the Plans, the Contractor will be required to furnish and place at his own expense sufficient amounts of spalls or base material to bring the roadbed to a line 3 in. (75 mm) below the grading line.

Where sodding is indicated on the Plans to be placed on rock cuts, the rock shall be removed to 1 ft. (30 cm) below the grading line and backfilled to grade with earthen material prior to placing the sod. Measurement and payment of this work will be made under Items for Roadway and Drainage Excavation (Unclassified) and Sodding (New Sod).

All suitable materials removed from the excavation areas shall be used in the construction of embankments, intersecting road approaches, and in such other places as directed. Embankment construction shall be performed in accordance with the provisions of **Section 205** of these Specifications.

When boulder formations occur, the roadbed in the excavation area shall be scarified and all boulders removed to a depth of 12 in. (30 cm) below grade. The cavities thus formed shall be backfilled with suitable material and compacted.

All rock cuts shall be presplit at the outside limits of the cut areas. Presplitting shall consist of forming a plane of split rock prior to any primary blasting. The plane shall be formed for the entire depth of the cut or to a predetermined bench level. Presplitting shall be accomplished by drilling holes of appropriate size to the desired depth along the outside limits of the cut area, loading such holes with appropriate charges of explosives, stemming with minus 3/8 in. (9.5 mm) clean stone chips to the collar of the holes and detonating simultaneously. The initial horizontal spacing of holes and vertical spacing of charges and blasting cord for simultaneous detonation shall be as recommended by a reliable powder company. Adjustments of horizontal hole spacing and vertical spacing of charges shall be made as necessary to obtain a relatively smooth shear plane. Sand, gravel, clay, or dirt will not be permitted for stemming. In drilling holes for presplitting, the drills shall be plumbed for vertical slopes or set on the required slope when other than vertical slopes are specified, and all holes shall be drilled in the same plane. Presplitting will not be required on slopes flatter than 1 to 1. After presplitting is done, the drilling of primary blast holes shall be kept at least 3 ft. (1 m) or more from the presplit face. Presplitting of rock cuts under bridge sites shall be in accordance with the provisions of this Subsection and hole spacing shall be as specified under **Subsection 204.08**. Blasting records shall be made available on request by the Engineer. Blasting shall not be permitted within 300 ft. (100 m) of any Structure or concrete until at least 72 hours have elapsed after placement of the concrete. The Contractor will be responsible and replace and/or repair any and all damages at no expense to the Department.

All loose rock on cut slopes shall be removed immediately. Excavation material shall not be wasted, deposited or disposed of outside the construction lines unless directed by the Engineer. All excavation material wasted, deposited or disposed of outside the construction lines must be in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual. Obliteration of old roadways shall include all grading operations necessary to incorporate the old roadway into the new roadway and surroundings in order to provide a pleasing appearance from the new roadway.

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Removal of concrete pavement, base, parking strip, sidewalk, curb and gutter, etc. will be paid for under the classifications as prescribed in **Subsections 202.06 and 203.02(a)**. Roadway obliteration will be paid for as Road and Drainage Excavation (Unclassified).

When the Contractor's excavating operations encounter remains of prehistoric people's dwelling sites or artifacts of historical or archaeological significance, the operations shall be temporarily discontinued. The Engineer will contact archaeological authorities to determine the disposition thereof.

The Engineer shall designate as unsuitable those soils that cannot be properly compacted in embankments. All unsuitable soil shall be disposed of as directed at no additional cost.

When the location of unstable soil is shown on the Plans, its removal and replacement shall be as shown.

The Contractor shall notify the Engineer sufficiently in advance of opening any borrow area so that, after stripping, cross section elevations and measurements of the ground surface may be taken, and so that the borrow material can be tested before being used. The borrow area shall be approved in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual. At least 14 days' time shall be allowed for testing borrow materials or other material from roadside pits that is proposed for construction purposes.

Unless otherwise permitted, borrow material shall not be placed until after the roadway excavation has been placed in the embankments. If the Contractor places more borrow than is required and thereby causes a waste of excavation, the amount of such waste will be deducted from the borrow volume as measured in the borrow area. The Contractor shall not excavate beyond the dimensions and elevations established.

When the Contractor elects to remove highway fencing to obtain borrow materials, the fencing shall be replaced with new fence at the Contractor's expense. The Contractor shall be responsible for the confinement of livestock when a portion of the fence is removed.

Borrow pits shall be approved in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual and excavated in such a manner that they will be self-draining where possible and practicable, and shall be of a shape that can be easily cross sectioned.

When the Contractor's excavation operations are completed the area shall have a neat appearance. All borrow areas, except those portions which are under water in the case of pits which are not self-draining, shall be covered with topsoil and stabilized in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

Furnishing and placing of topsoil and seeding (with mulch) shall be performed in accordance with the provisions of **Subsection 203.06** and **Section 801**, respectively.

Furnishing and placing topsoil and stabilization of borrow areas, as specified above, shall be included in the bid cost for the project as specified in the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

The Contractor's attention is called to **Sections 53-801 through 53-809** of the **Tennessee Code, Annotated**, the provisions of which apply to borrow pits 1 acre (4047 m²) or more in size that are not self-draining. Full information regarding the requirements to be complied with and the necessary permits which the property owner must secure for the construction of a pond, lake, borrow pits, etc., one acre or larger which is not constructed to drain, will be supplied upon application to the Tennessee Department of Environment and Conservation.

All existing roads within the right-of-way and not in the graded area that are to be abandoned shall be scarified, obliterated, top-soiled, and seeded. Scarifying and oblitterating the pavement

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will not be measured and paid for directly, but the cost will be included in the cost of other items. Topsoil will be measured and paid as outlined in **Section 203.09** and **203.10**. Seeding, in accordance with **Section 801** of these Specifications, will be measured and paid for under the item for Seeding.

When additional material is paid for under the item for Road and Drainage Excavation(Additional Material) and additional clearing and grubbing is required, the additional clearing and grubbing will be measured and paid for by the acre (hectare), provided the item for Adjusted Clearing and Grubbing is in the Contract, or as negotiated. No additional payment will be made for extra handling of stockpiled topsoil made necessary by the use of the item for Road and Drainage Excavation (Additional Material).

Subsection 203.05-Undercutting. Add the following as the last sentence of the first paragraph:

If undercutting material is to be disposed of off rights-of-way, disposal shall be conducted in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual, and the site to be used for disposal must be approved in advance by the Project Supervisor, Environmental Coordinator, and the Environmental Division.

Subsection 203.06-Stripping, Stockpiling and Placing Topsoil. Revise the first paragraph to the following:

203.06-Stripping, Stockpiling and Placing Topsoil. The Engineer will designate areas between slope stake points in both cut and fill from which the existing topsoil shall be stripped and stockpiled. The quantity of topsoil to be stripped shall be sufficient to provide, over all areas to be seeded, a depth of 2 to 3 in. (50 to 75 mm) of the material. If the quantity of topsoil available in such areas is insufficient, the Contractor shall make up the deficiency with topsoil from an approved borrow area in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual. The quantity of topsoil from such a source shall be measured by cross sectioning the area before and after removal.

Subsection 203.07-Disposal of Excess or Unsuitable Material. Revise the entire subsection to the following:

203.07-Disposal of Excess or Unsuitable Material. Excess excavation material shall be used to raise, widen or flatten the slopes of embankments; to fade embankments into cuts; or be placed in such other locations and for such purposes as the Engineer may direct.

Specific instructions will be given by the Engineer regarding the disposal of surplus material. Excess or unsuitable material placed within the rights-of-way limits shall be placed and compacted in accordance with **Subsection 205.04**. Foundation preparation for and drainage through these waste areas shall be equivalent to that provided for the adjacent roadway embankment.

If no suitable place can be found to dispose of excess or unsuitable material within the limits of the rights-of-way, the Engineer may direct the Contractor to provide a suitable site off the rights-of-way at no additional cost in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

Furnishing and placing topsoil and seeding waste areas inside the Rights-of-Way shall be measured and paid for at the contract unit prices bid for the respective items. Furnishing and

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placing topsoil and seeding on waste areas outside the Rights-of-Way in accordance with the above provisions will not be paid for directly, and the costs thereof shall be included in the unit price bid for other items of construction.

When waste material is placed off the rights-of-way which, in the judgment of the Engineer, are so removed from the rights-of-way as to not constitute a potential threat to the stability of the project, the contractor should follow the requirements outlined in the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual to ensure the waste area is properly designed, regulated, and implemented.

Subsection 203.09-Method of Measurement. **Delete** the next to the last paragraph which begins with, "Overhaul of Road and Drainage Excavation".

Subsection 203.10-Basis of Payment. **Delete** the last paragraph.

Subsection 204.02-Classification (g) Bedding Material for Support for Pipe Culverts. **Add** the following sentence to (g):

"Payment for Type "A" or Type "B" backfill including bedding material will be included in the unit price of the pipe unless otherwise specified in the plans."

Subsection 204.06 **Add** the following before section (a)

"The contractor shall submit for approval a proposed mix design in accordance with **Subsection 604.03.**"

Subsection 204.06 (a), second paragraph, **Delete** the first sentence and replace with the following:

"The above Specification Limits may be adjusted by the Engineer to obtain the consistency required for satisfactory flow."

Subsection 204.08-Excavation (a) and (c). **Replace** Subsection (a) and (c) with the following:

(a) Bridges, Box Culverts and Other Major Structures.

Before excavation is started the Engineer or Contractor when required, will set stakes locating and outlining the structure and cross section for excavation computations. The Contractor will also use highly visible markers to mark disturbed area and undisturbed area limits. Highly visible markers must be readily visible to project personnel including equipment operators. No excavation shall be started prior to that time.

All structure excavation shall be cut to the lines and elevations indicated on the Plans, or as directed by the Engineer. Working variations outside the neat lines will be permitted; however, only that excavation outlined under **Subsection 204.12** will be measured for payment.

No excavated materials shall be deposited or disposed of outside the construction lines unless directed and approved by the Engineer in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

When solid rock is encountered in roadway cut sections and channel sections under bridges, presplitting operations shall be performed in accordance with the provisions of **Subsection 203.04**. Hole spacing along bridge abutment sites shall not exceed 12 in. (30 cm). Where overshooting of rock, beyond the cut sections shown on the bridge plans

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cause modification of bridge abutments or span lengths, such modifications shall be made at the contractor's expense.

Inclined surfaces of rock used as foundation shall be excavated either level or in steps. When necessary, as determined by the Engineer, to obtain good bond, the surface of rock foundation shall be roughened, or suitable anchors installed. Over-excavations that require re-design, or increased bridge length and/or quantities, or supplemental retaining walls or other earth retaining structures shall be paid at the expense of the Contractor.

Existing concrete foundations, boulders, or ledge streaks of rock projecting into the bottom of the excavation shall be removed to a depth of 6 in. (15 cm) below foundation elevation, and the space backfilled with approved material and thoroughly compacted.

Excavation below bridge foundation elevations as given shall be done only upon direction of the Engineer. All materials moved without such authority shall be replaced by the Contractor without compensation by constructing a sub-footing of the same materials as the footing of the structure unit and 6 in. (15 cm) wider on every side.

(c) Utilization of Excavated Materials.

All suitable excavated material shall be utilized as backfill or embankment. Excess or unsuitable material shall be disposed of in such a manner as not to obstruct the stream or otherwise impair the efficiency or appearance of the structure. No excavated material shall be deposited at any time in such a manner as to endanger a partly finished structure.

The Contractor shall handle and deposit excavated materials in such a manner as to furnish proper protection to materials which will be incorporated in the structure.

In streams, the disposal of material will be subject to the laws of the U.S. Government and requirements set out in the TN Construction General Permit and any other applicable environmental permits.

Subsection 204.09-Protection of Excavation. Replace the entire subsection with the following:

204.09-Protection of Excavation. The Contractor will be held responsible for protecting his excavation and shall take every precaution to maintain the excavation intact.

Cofferdams or cribs, used in the preparation and protection of the foundation, in general, shall be carried well below the bottom of the footings, shall be substantially braced in all directions; and shall be of such construction as will permit them to be pumped and maintained free of water until the construction therein has been completed. All dewatering of work areas of must comply with the requirements of the TN Construction General Permit and shall not cause a water quality violation. Unless otherwise specifically indicated on the Plans, the interior dimensions of the cofferdam will be such as to give sufficient clearance to provide for the construction and inspection of forms; and to provide for the handling and pumping of leakage outside of the footing area. Cofferdams or cribs which tilt or move out of position during the process of sinking shall be righted or enlarged in order to provide the necessary clearance.

Cofferdams or cribs shall be so constructed as to protect the foundation and the construction therein against damage from a rise in the stream.

Timber, or bracing of a cofferdam or crib may extend into or through the substructure only with the written permission of the Engineer, obtained before the construction of the cofferdam or

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crib has been started. In addition, the cofferdams for structure widening shall not be braced off of the existing structure.

The Contractor shall submit drawings, prepared by and stamped by a Professional Engineer licensed in Tennessee, showing details of his proposed cofferdam, or crib construction to the Engineer, prior to starting any work. The type and clearance of cofferdams, or cribs, insofar as they affect the finished structure or part thereof, will be subject to the approval of the Engineer but the design and successful construction shall be the responsibility of the Contractor. Work in a stream shall not begin until applicable permits from state and federal agencies have been obtained. Cofferd dam construction shall be in accordance with the requirements of the permit(s).

Cofferdams or cribs, with all falsework, sheeting, bracing, etc. shall be removed by the Contractor after the completion of the sub-structure therein, unless otherwise directed. The removal shall be affected in such a manner as not to disturb nor mar the completed work.

If the foundation excavation has become disturbed or distorted, it shall be cleaned out and restored to satisfactory condition at the Contractor's expense.

Subsection 204.10-Foundation Preparation. Replace the entire subsection with the following:

204.10-Foundation Preparation.

(a) Bridges, Box Culverts, and Other Major Structures.

The preparation of foundations for bridges, box culverts and other major structures, in addition to the stipulations set out in **Subsections 204.08** and **204.09**, shall be in accordance with the following:

When the foundation has been completed to foundation elevation as given, the Engineer shall be notified and the construction therein withheld pending his inspection and approval of the foundation.

When directed by the Engineer, unless piles are indicated, the Contractor shall test each foundation in the presence of the Engineer, by sinking not less than 3 holes, or more than 6 holes to a depth of between 6 and 10 ft. (1.8 and 3 m) in order to verify the apparent conditions of the foundations.

Should these test holes disclose unsatisfactory foundation conditions, the excavation shall be carried lower, as directed by the Engineer, and new tests made, until a satisfactory foundation is secured. The costs incurred in sinking test holes will not be paid for directly but shall be included in the price bid for other items of construction unless specified otherwise on the Contract drawings.

When rock is encountered in the excavation for the foundation, it shall be cleared off and the Engineer notified. Test holes shall then be drilled in the rock as shown on the Plans or directed by the Engineer to determine the lines of demarcation, the classification and the stability of the rock. The excavation shall then be continued to the elevation designated by the Engineer and test holes, if required by the Engineer, shall again be drilled and excavation continued until a foundation approved by the Engineer is secured.

Rock used as foundation shall be stripped and cleaned of all overlying materials. All loose, disintegrated, or light slabby portions of the rock shall be removed.

In rock foundations, when the rock is shattered below the foundation elevation, the shattered material shall be removed and the space so created rebuilt with the same type of

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construction as the proposed overlying construction. The additional quantities thus made necessary shall not be included in the pay quantities for this item.

When the Plans indicate that piles shall be driven, or if after the foundation excavation has been completed it becomes necessary to reinforce the foundation by driving piles therein, any bulge of the foundation material, caused by the driving of the piles, shall be removed at the Contractor's expense, to the elevation indicated or directed and the foundation trued to an even surface over its entire area.

Unsatisfactory material in the foundation shall be removed and replaced with satisfactory material designated by the Engineer. This material shall be placed in layers not exceeding 6 in. (15 cm) in loose depth and compacted to 100 % of maximum density up to the foundation elevation.

Any pumping that may be permitted from the interior of any foundation enclosure shall be done in such a manner as to preclude the possibility of any portion of concrete material being carried away. Any pumping required during the placing of concrete, or for a period of at least 24 hours thereafter, shall be done from a suitable sump located outside the concrete forms. All dewatering of work areas must comply with the requirements of the TN Construction General Permit and shall not cause a water quality violation.

When conditions are encountered which render it impracticable to dewater the foundation before placing the footing, the Engineer may permit the construction of a concrete foundation seal of such dimensions as he may consider necessary and of such thickness as to resist any possible uplift. Before pouring the seal, the foundation shall be cleaned of all objectionable material by the use of sand pumps, spud bars or other means which will accomplish the purpose satisfactorily. The seals shall then be constructed in accordance with the provisions of **Subsection 604.19**. Pumping to dewater a sealed cofferdam shall not commence until the seal has set sufficiently to withstand the hydrostatic pressure. The foundation shall then be dewatered and the seal thoroughly cleaned of all laitance and generally prepared for further construction.

Measurement and payment for concrete foundation seal will be as provided for under **Subsections 604.31** and **604.32** except as provided for in 204.13.

(b) Pipe Culverts.

Bedding for pipe culverts shall conform to the requirements given below for Class A, B, or C bedding, whichever is shown on the Plans or in the special provisions. If the class of bedding is not shown, Class C bedding shall be placed.

Class A bedding for pipe culverts shall consist of a continuous concrete cradle constructed in conformity with the details shown on the Plans and the applicable requirements of **Section 604** (Concrete Structures).

Class B bedding shall be constructed by bedding the culvert pipe in a trench cut in natural ground or compacted embankment to a depth as shown on the Plans. The pipe shall be bedded on a 6 in. (15 cm) thickness of Class B Material and sufficient additional Class B material accurately shaped by a template to fit the lower part of the pipe exterior for at least 10% of its overall height. Class B material shall then be rammed and tamped in layers not over 6 in. (15 cm) in loose thickness around the pipe to a minimum depth of that shown on the Plans. The remaining depth of trench shall then be backfilled and compacted as outlined in **Subsection 204.11(b)**. When bell and spigot pipe is to be placed, recesses shall be dug in the bedding material of sufficient width and depth to

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accommodate the bell without its resting on the bottom of the recess. The width of the recess shall not exceed the width of the bell by more than 2 in. (50 mm).

When plastic pipe is to be placed, the bedding and backfill shall be granular compactable Type "A" or Type "B" Aggregate, Grading D or E material meeting the requirements of **Subsection 903.05**. Open graded aggregates will not be allowed. A minimum of 6 inches of bedding compacted to a minimum 90% Standard Proctor Density shall be provided prior to placement of the pipe unless otherwise specified.

Class C bedding shall be constructed by bedding the culvert pipe in a shallow trench cut in natural ground or compacted embankment to a depth of not less than 10% of the outside vertical pipe diameter, and shall be shaped to fit the lower pipe exterior for the specified embedment. When bell and spigot pipe is to be placed, recesses shall be dug in the earth foundation of sufficient width and depth to accommodate the bell without its resting on the bottom of the recess. The width of the recess shall not exceed the width of the bell by more than 2 in. (50 mm).

When flowable fill is required by the plans, class B bedding shall be constructed by bedding the culvert pipe in a trench cut in natural ground or compacted embankment to a depth as shown on the Plans. The pipe shall be bedded on a 6 in.(15 cm) thickness of Class B Material and sufficient additional Class B material accurately shaped by a template to fit the lower part of the pipe exterior for at least 10 % of its overall height.

Flowable fill shall then be placed around the pipe as specified in **Subsection 204.11(c)**.

Subsection 204.11 Backfilling, (b) Pipe culverts. Add The following as the third paragraph:

"When plastic pipe is to be placed, structural backfill must be worked into the haunch area and compacted by hand after placement of the pipe. Special compaction means may be necessary in the haunch area. Structural backfill may then be placed in layers not to exceed an 6 inch loose lift thickness and brought up evenly and simultaneously on both sides of the pipe to an elevation not less than one foot above the pipe. A minimum compaction level of 90% Standard Proctor Density per *AASHTO T99* shall be achieved by the use of a vibratory plate. Hydrohammer type compactors shall not be used over the pipe. All compaction equipment used shall be approved by the Engineer."

204.12-Method of Measurement. Add the following as the last paragraph:

"Payment for Type "A" or Type "B" backfill including bedding material will be included in the unit price of the pipe."

204.13-Basis of Payment, (h) Concrete for Class A Bedding. Remove paragraph and **replace** with the following:

"Payment for Type "A" bedding material will be included in the unit price of the pipe unless otherwise provided in the plans. If specified by the plans, concrete for Class A Bedding will be paid for at the contract unit price per cubic yard (m3) for Bedding Material (Pipe) Class A, complete in place."

204.13-Basis of Payment, (i) Material for Class B Bedding. Remove paragraph and **replace** with the following:

"Payment for Type "B" bedding material will be included in the unit price of the pipe unless otherwise provided in the plans." If specified by the plans, material for Class B Bedding will be

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paid for at the contract unit price per cubic yard (cubic meter) for Bedding Material (Pipe) Class B, complete in place.

204.13-Basis of Payment, (l) Backfill Material (Flowable Fill). **Add** the following as the last paragraph:

“Payment for “Flowable Fill” as backfill material for pipe shall be included in the unit price of the pipe unless otherwise provided in the plans.”

Subsection 205.01 Description. Revise the entire subsection to the following:

205.01-Description. This work shall consist of constructing roadway embankments, including preparation of the area upon which they are to be placed; the construction of dikes within or outside the rights-of-way; the placing and compacting of approved material within roadway areas where unsuitable material has been removed; and the placing and compacting of embankment material in holes, pits, and other depressions within the roadway area all in accordance with these Specifications and in reasonably close conformity with the lines, grades, and typical cross sections shown on the Plans or established by the Engineer. Only approved materials shall be used in the construction of embankments and backfills. These materials shall consist of Road and Drainage Excavation, Channel Excavation, and Borrow Excavation material described in **Section 203**, or excess material as described in **Section 204**.

The Contractor must identify both natural and created steep slope areas as defined in the TN Construction General Permit. These slopes must be marked in the SWPPP. Maintenance and stabilization of steep slopes must comply with the TN Construction General Permit and any other applicable environmental permits.

Subsection 205.04 Insert the following, between the fifth and sixth paragraph:

“Where the contract includes the placement of base stone or other components of a pavement structure upon the subgrade, the top 6 in. (150 mm) in both cut and fill sections shall be compacted to a density equal to 100 percent of the maximum density in accordance with the provisions of **Subsection 207.04**.”

Subsectin 206.03-Method and Scope of Work. Revise the entire subsection to the following:

206.03-Method and Scope of Work. Final Dressing shall be performed by hand work and machines to produce a uniform satisfactory finish to all parts of the roadway and other components of the project. The roadbed, shoulders, ditches and slopes shall be shaped within reasonably close conformity to the specified lines, grades and cross sections. Spoil banks, borrow areas, waste areas, etc. shall be dressed in a satisfactory manner in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual. Rock cuts shall be scaled of all loose fragments and left in a neat, safe and workmanlike condition.

The entire rights-of-way shall be cleaned of all weeds, briars and brushes unless otherwise specified on the Plans. All structures, both old and new, shall be cleared and cleaned of all brush, drifts, heavy vegetation, sediment, rubbish, obstructions and other objectionable material. Final dressing shall be performed prior to sodding and seeding operations when these construction items are included in the Contract.

Tracked machines used in the dressing of slopes shall be run up and down slopes as opposed to longitudinally.

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Section 209, Revise Section title to the following:

**SECTION 209-PROJECT EROSION PEVENTION
AND SEDIMENT CONTROL**

Subsection 209.01, Revise entire Subsection to the following:

209.01-Description. This work shall consist of temporary and permanent best management practices to prevent erosion and control sediment through the use of structural and non-structural controls.

Erosion prevention and sediment control (EPSC) measures shall be implemented during all phases of construction, including all approved waste and borrow areas. EPSC measures shown on the Stormwater Pollution Prevention Plan (SWPPP) must be in place before any soil disturbing activities begin.

The Contractor must identify both natural and created steep slope areas as defined in the TN Construction General Permit. These slopes must be marked in the SWPPP. Management and stabilization of steep slopes must comply with the TN Construction General Permit and any other applicable environmental permits.

In addition to installing the EPSC measures included in the SWPPP, the Contractor is responsible for compliance with all other provisions of the SWPPP. Additional EPSC measures beyond those shown in the SWPPP may be required to maintain compliance with permits

Subsection 209.02, Revise Subsection to the following:

209.02-Classification. Structural and Non-Structural best management practices will be classified in accordance with manual for Management of Storm Water Discharges Associated with Construction Activities. Best management practices are structural and non-structural controls required for the project and shall be implemented in accordance with the TN Construction General Permit, Manual for Management of Storm Water Discharges Associated with Construction Activities, the project Stormwater Pollution Prevention Plan, and Roadway Standard Drawings, whichever is more restrictive.

Subsection 209.04, Revise entire Subsection to the following:

209.04-Project Review. Prior to the preconstruction conference the Contractor shall meet with the Engineer to discuss potential problems with erosion prevention and sediment control due to construction activities and actions to be taken to prevent such problems. Should the Contractor's operations and construction staging differ significantly from the SWPPP prepared for the project, the Contractor shall prepare a comprehensive SWPPP in accordance with **Subsection 209.05** below that does not conflict with the requirements of the TN Construction General Permit, the conditions of any ARAP for the project, or other environmental permits. The SWPPP shall be continuously implemented to effectively control erosion and protect streams, wetlands, and adjoining properties during the term of the contract.

If it is determined that a waste or borrow area is needed, the Contractor shall prepare a waste and borrow plan in accordance with the Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects Manual.

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Subsection 209.05, Revise entire Subsection to the following:

209.05-Preconstruction Conferences. Each project will have a preconstruction conference. In addition to the preconstruction conference, for sites that have environmental permits, an environmental preconstruction conference will be held. These conferences can be held jointly or separately, as determined by the Project Supervisor.

At the preconstruction conference the Contractor shall submit for acceptance his plan for the staging of his operations. If the staging plan requires additional erosion prevention and sediment control measures or causes the existing SWPPP for the project to be modified, the Contractor shall submit these modifications to the project Supervisor and discuss the modifications during the preconstruction conference. The staging plan must address: (1) All areas within the rights-of-way as are applicable for clearing and grubbing, grading, bridges and other structures at water courses, paving and incidental construction (2) Areas outside the rights-of-way that will be disturbed by the construction such as waste and borrow areas (which must have an approved waste and borrow plan and be properly permitted), haul roads, utilities, and staging areas, and utility work in general. The Contractor's modified SWPPP shall incorporate and supplement, as applicable, the basic control devices shown in the plans to provide acceptable temporary and permanent erosion prevention and sediment controls during all stages of construction as well as to comply with all applicable environmental permit conditions. The Contractor's modified SWPPP shall include controls for managing and stabilizing natural and created steep slope areas as defined in the TN Construction General Permit. No work shall be started until the erosion prevention and sediment control plan, including the staging of temporary and permanent erosion control measures, has been accepted by the Engineer. Rejection of all or part of the plan shall not constitute a basis for an extension of contract time.

The Project Supervisor and Contractor will discuss how utilities are to be managed on the project, specifically if the utilities are within the Construction contract or are separate from the Construction contract. The Prime Contractor will coordinate a start date for utilities with the Project Supervisor if utility work will begin before the project start date. Unless approved in advance by the Project Supervisor, utilities that are within the Construction contract cannot begin construction on the project until the Project Supervisor has approved the work.

The erosion prevention and sediment control plan shall be updated as work progresses to show changes due to revisions in work schedules or sequence of construction, or when directed by the Engineer. Additional measures shall be installed in the field as needed to manage erosion and sediment and to prevent pollutants from discharging into waters of the state or off the project.

An environmental preconstruction conference will also be held prior to beginning construction on sites that have environmental permits. The environmental preconstruction conference will include a review of the project's environmental permits and any additional environmental commitments required for the project. This meeting will discuss the required marking of clearing limits and the marking of sensitive environmental areas per any applicable environmental permits. The Contractor will discuss potential problems with implementing the requirements of any environmental permits due to construction activities. The Contractor shall also discuss actions to be taken to prevent conflicts between environmental permits and construction activities.

Subsection 209.06, Revise entire Subsection to the following:

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209.06-Construction Requirements. Disturbed area limits and environmental boundaries shall be marked in the field prior to construction in each section or portion of the project. Prior to or simultaneously with the clearing and grubbing operations, the Contractor shall install erosion prevention and sediment control devices in accordance with the approved SWPPP. Such work may involve the construction of temporary berms, dams, silt fences, sediment basins, lined channels, permanent cut-off ditches, slope drains or other control devices as necessary to prevent and control erosion. Water from cofferdams or other dewatering activities is not to be pumped directly into streams, but is to be pumped into sediment basins, traps, or filter bags or otherwise adequately treated prior to discharging. No grading shall be performed until the erosion prevention and sediment control devices are in place to the satisfaction of the Engineer. Areas to be graded may be cleared and grubbed prior to beginning grading operations in accordance with the TN Construction General Permit, provided adequate controls are in place. Stockpiled topsoil or fill material is to be protected so the sediment runoff will not contaminate surrounding areas or enter nearby streams. In order to reduce sediment in runoff, erosion prevention and sediment control structures shall be installed promptly during all construction phases and maintained until the areas they are serving have been permanently stabilized.

The Contractor must identify both natural and created steep slope areas as defined in the TN Construction General Permit. These slopes must be marked in the SWPPP. Management and stabilization of steep slopes must comply with the TN Construction General Permit and any other applicable environmental permits.

The Contractor's operations shall be staged so that graded or otherwise disturbed erodible surfaces are protected as the work progresses. Once the Contractor begins grading for a roadway cut or embankment, he shall maintain a continuous, viable operation to complete the cut or embankment to subgrade elevation, unless otherwise approved in writing by the Engineer. Exposed erodible cut or embankment slopes shall be final dressed, topsoiled and protected with permanent seeding, sodding, matting or other acceptable erosion prevention and sediment control measures in vertical increments not exceeding 25 ft. (7.5 m) as the work progresses; and no portion of these slopes shall remain unprotected longer than allowed by the TN Construction General Permit unless the Engineer determines that weather conditions or other special circumstances preclude current placement of permanent control measures. Temporary erosion control measures shall be implemented as directed by the Engineer.

Seeding, sodding, matting or other acceptable erosion prevention and sediment control operations shall be initiated within 48 hours after any one of the following conditions occurs:

1. Each 25 ft. (7.5 m) vertical increment is graded or
2. Upon suspension or completion of grading operations in a specific area.

The above requirements for progressive erosion prevention and sediment control, as well as additional requirements, also apply to graded areas off the rights-of-way such as waste areas, borrow areas and haul roads. A borrow and waste site plan must be developed for any waste or borrow area selected according to Statewide Storm Water Management Plan – Procedures for Providing Offsite Waste and Borrow on TDOT Construction Projects.

The Contractor shall incorporate all permanent erosion prevention and sediment control practices into the project at the earliest practicable time and in accordance with the TN Construction General Permit requirements. Temporary erosion prevention and sediment control features shall be used to control erosive conditions that warrant protection prior to installation of

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permanent control features or that are needed to temporarily control erosion that develops during construction but which is not associated with permanent control features on the project. Temporary stabilization of disturbed areas shall be in accordance with the requirements of the TN Construction General Permit.

Where construction activities cross or border areas of depression (i.e. Sinkholes without openings or open throats), erosion prevention and sediment control measures shall be installed and maintained as shown in the plans and as required by the TN Construction General Permit and any other applicable environmental permits.. When construction activities encounter an open throated sinkhole (Class V Injection Well), the Engineer shall be notified immediately and applicable measures as described in the approved SWPPP shall be employed. The measures mentioned above shall encircle the sinkhole opening so as not to allow any silt or other potential pollutants to enter the opening.

In the event of conflict between these requirements and TN Construction General Permit, rules or regulations of other Federal or State or local agencies, the more restrictive laws, rules or regulations shall apply.

Subsection 209.07-Construction of Structures. Revise entire subsection to the following:

209.07-Construction of Structures Structural controls include, but are not limited to, bonded fiber matrix, riprap, inlet protection, check dams, silt fence, and sediment basins. Structural measures shall be installed and maintained in accordance with the Manual for Management of Storm Water Discharges Associated with Construction Activities, TN Construction General Permit, and the Roadway Standard Drawings.

Erosion prevention and sediment control measures shall be installed as indicated on the Roadway Standard Drawings, except as follows:

(a) Sediment Filter Bags.

The sediment bags may be utilized either on slope drains, pipe culverts, box bridges, or for pumping sediment from sediment traps and sediment basins. This activity shall be performed as shown on plans or as directed by the Engineer. The material shall be a non-woven geotextile fabric bag resistant to rot, mildew, puncture and tearing, with a minimum seam breaking strength of 200 lbs (90 kgs) the seams shall demonstrate less elongation and Deformation of the geotextile fabric. The Division of Materials and Test will certify the fabric for the Temporary Sediment Filter Bags and place them on the Department's Qualified Products List. Temporary Sediment Filter Bags shall meet the following specifications.

GEOTEXTILE FABRIC SPECIFICATIONS

Properties		Test Method
Weight	10.0 oz/yd	ASTM D 3776
Tensile Strength	250 lbs.	ASTM D 4632
Tensile Elongation at Break	50%	ASTM D 4632
Puncture Strength	115 lbs.	ASTM D 4833
Trapezoidal Tear	100 lbs.	ASTM D 4533
Mullen Burst	350 lbs.	ASTM D 3786

Water, Flow Rate	80 gpm/ft.2	ASTM D 4491
Permittivity	1.2 sec.-1	ASTM D 4491
UV Resistance	70% str. Ret.	ASTM D 4355

Standard Bag Minimum Dimensions

15 x 10 ft. and 15 x 15 ft.

Maximum Flow Rate

15 x 10 ft. up to 1,500 gpm

15 x 15 ft. up to 2,000 gpm

A manufacturer's label designating the maximum allowable flow rate of the bag in gallons per minute shall be permanently attached to each bag. The flow into the filter bag shall not exceed the designated flow rate. Care shall be taken to correctly connect the filter bag to the pump hose, as recommended by the manufacturer. Upon project completion, the sediment filter bag shall be completely removed and the disturbed areas at the dewatering structure location shall be permanently stabilized. The bag and sediment contained in the bag shall be disposed as directed by the Engineer.

(b) Sandbag Berms and Temporary Plugs.

Sandbag berms and temporary plugs may be used for velocity control, runoff management, sediment control and separating streamflow from work areas. These sandbag measures should not be used for filtration. Sandbag berms and temporary plugs should not be used in high concentrated flow areas where the sand bags may be displaced by flow. Sandbags should not be used in areas where equipment and/or traffic may damage the bags. The ends of sandbags must be tightly abutted and overlapped to direct flow away from bag joints.

Sandbags for the sandbag berms and channel plugs shall be made of durable, weather resistant geotextile fabric. Use of burlap is not acceptable for sandbags used in sandbag berms and temporary plugs. The bag fabric pores must be tight enough to retain the bag filler material. Typical bags measure approximately 24 inches x 12 inches x 6 inches. The sandbag fill material shall be a clean non-cohesive sand material.

Where sandbags are used to construct sandbag berms or temporary plugs across a ditch or channel, the sandbags should be installed along a level contour. The sandbags at the ends of the measure should be turned upstream.

Sandbag berms may be installed in both unpaved and paved ditches and channels. The sandbag berm must be wider than the high water mark of the ditch or channel to prevent undercutting. The center of the sandbag berm must be lower than either of the edges. For multiple sandbag berms installed in ditches, the maximum spacing between the berms should be such that the toe of the upstream sandbag berm at the same elevation as the top of the downstream sandbag berm.

Sandbag temporary plugs are constructed to separate stream flow from work areas, especially for projects requiring temporary diversions. Sandbag temporary plugs shall be constructed as required for the temporary diversion. The temporary plugs should be constructed as appropriate to be free of leaks between the bags.

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Sandbags shall be removed and replaced if bags become torn or damaged to prevent the bag filler material from becoming a stormwater pollutant. Remove any sediment accumulations at sandbags when the sediment accumulation has reached half the original height of the sandbags. Where the ends of sandbag structures are breached, place new bags in the breach and extend the ends of the berm to a higher elevation. If needed, repair the bank damage. Where sandbags are undermined, do not repair the sandbags in place as additional undermining may occur. Move the sandbags downstream of the damaged location.

Upon project completion, all sandbags shall be removed and any disturbed areas underlying the sandbags shall be permanently stabilized with measures such as permanent seed and mulch.

(c) Flocculants .

This work shall consist of furnishing and applying flocculant materials for controlling erosion on disturbed areas and for use with sediment control devices for the purpose of reducing turbidity from stormwater runoff. Flocculant materials shall be manufactured and applied in strict accordance with the Specifications herein.

Equipment

All equipment necessary for the satisfactory performance of this work shall be on the project and approved, before work will be permitted to begin.

If using a liquid application system, it may be necessary to pump a surfactant through the delivery system prior to liquid flocculant injection and afterwards in order to prevent clogging of pipes and valves.

After application of flocculant materials, all equipment used for application shall be cleaned per the flocculant manufacturer's recommendations in order to prevent the formation of dried residues that may impede future equipment performance.

Applications of dry flocculant materials shall be performed with a hand-held fertilizer spreader or a tractor-mounted spreader. If approved by the flocculant manufacturer, the mixing of certain dry flocculants with dry silica sand will aid in the spreading of flocculant material.

Limitations

Cationic PAM blends will not be approved for use and shall not be applied in any circumstance due to aquatic toxicity.

Flocculants shall never be applied directly to streams, wetlands, or other natural water resources. Flocculants shall never be applied directly to sediment ponds. Flocculants applied to any area of the construction site, including slopes, shall be applied in such a manner so that all flocculant-applied runoff flows into a sediment trap, sediment pond, or series of multiple sediment-control BMPs prior to discharge from the site. Flocculants shall not be applied to slopes that produce runoff directly into a stream, wetland, or other natural water resource. Flocculants for both erosion and sediment control shall always be used in conjunction with approved stormwater BMPs, as given in the TDOT Standard Drawings.

Dry flocculant applications must be applied in dry weather conditions with light winds. Anionic PAM shall not be applied during rainfall or onto saturated soils.

All flocculant applications shall be applied at least 60 feet from any stream, wetland, or other natural water resource located on or adjacent to the construction site.

Emulsion forms of coagulant/flocculants should never be applied directly to stormwater runoff or to streams, wetlands, or other water resources due to surfactant toxicity. Emulsions may only be used in the preparation of liquid flocculants specifically used for erosion control applications, i.e., soil binders and tackifiers.

Preparation of Treatment Areas

Prior to use of flocculants, site-specific soil samples must be obtained and tested to identify the optimum flocculant blends to use for effectiveness. The Contractor shall provide site specific soils from given construction site to select an appropriate and effective flocculant blend for dry, liquid, emulsion, and brick/log flocculant materials. Soil samples must be obtained from each soil horizon to be accessed during excavation.

Application Requirements

Flocculants shall be used in conjunction with other BMPs (with the bulk of structural sediment-control BMPs, including sediment ponds, positioned down slope of the flocculant-application areas) to increase flocculant performance. Stormwater runoff from flocculant-treated soils shall be directed to pass through a series of sediment control BMPs prior to discharge to surface waters, with flow passing through, at least, a minimum of 3 enhanced rock check dams and a silt trap. It is preferable that runoff from flocculant-treated areas be directed into a sediment pond.

Flocculant materials shall be stored in covered areas. Many flocculants demonstrate a decrease in effectiveness after exposure to sunlight and air. Anionic PAM loses its effectiveness within three months after exposure to sunlight and air. Anionic PAM as well as certain other flocculant materials, when combined with water, become very slippery and can produce a safety hazard. Care must be taken to prevent spills of flocculants, in liquid, emulsion, or powder form, onto paved surfaces.

Application of flocculants will be most effective when applied as follows:

- a) During rough grading operations;
- b) On stockpiles and borrow areas;
- c) Temporary haul roads before placement of crushed rock surface;
- d) Compacted soil road base;
- e) After final grading and before paving and/or final seeding;
- f) Along the interior surface area of ditches;

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- g) Sites where work has been temporarily suspended (e.g., winter shutdown), and
- h) Areas that will be mulched.

Flocculants should not be applied over surfaces of pure sand or gravel with no fines and should not be applied over snow cover. The use of a visible tracer or colorant to visibly track flocculant application is recommended.

Liquid applications of flocculants will require the use of source water for mixing with a low turbidity (20 NTUs or less).

For turbidity reduction within sediment ponds, apply flocculants to conveyance ditches above the pond that discharge into the pond. Flocculants shall not be applied directly to pooled water within sediment ponds.

For **dewatering** and suspended solids removal of turbid pooled water within pipe tranches, silt traps, or other areas, flocculants may be introduced, in either liquid or solid forms, into the turbid water during pumping/evacuation of the pooled water. The pumping will provide turbulence for optimum mixing, with the discharge either pumped through a filter bag or jute-lined treatment ditch prior to ultimate discharge. Application rates as given in this specification for turbidity reduction for anionic PAM (and as given by the manufacturers' requirements for other types of flocculants) shall be strictly followed during dewatering.

Application requirements for the two main classifications of flocculants are as given below:

I. Anionic Polyacrylamide

Prior to use of any flocculant, the flocculant manufacturer's written application, storage, and mixing requirements and specifications shall be supplied to both TDOT and the Contractor. Anionic PAM shall be stored, handled, mixed and applied in strict accordance with the flocculant manufacturer recommendations and in strict compliance with OSHA Material Safety Data Sheet requirements, complying with all applicable federal, state, and local regulations. Proper personal protective equipment shall be used when handling the flocculant per industry, manufacturer, state, and federal regulations.

SPECIAL CARE SHALL BE GIVEN TO THE APPLICATION RATES FOR ANIONIC PAM SPECIFIED HEREIN TO ENSURE THAT THE MAXIMUM APPLICATION RATES ARE NEVER EXCEEDED. ADDING ADDITIONAL PAM BEYOND THE RATES SPECIFIED WILL NOT IMPROVE THE EFFECTIVENESS OF PAM BUT COULD PRESENT TOXICITY ISSUES TO RECEIVING STREAMS DOWN GRADIENT OF THE PAM APPLICATION ZONE.

For erosion control applications on sloped areas:

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- a) With hydroseeding applications, anionic PAM should be added as the last component to the hydroseeding mixture. When mixing, the Contractor shall never add water to anionic PAM. The Contractor shall add PAM at a slow rate to water. Mixing of anionic PAM for hydroseeding shall include agitation of the PAM/water mixture. The application method chosen must ensure uniform flocculant coverage to the target area.
- b) The Contractor shall never use anionic PAM as the sole erosion control method for slopes; slope applications of PAM shall be accompanied with mulching.
- c) For PAM tackifiers, dry PAM shall be dissolved with a known quantity of clean water in a container for several hours (preferably overnight.) PAM is to be applied at a rate in the range of 0.5 lb to 1.0 lb (maximum) per 1,000 gallons of water per acre application area via a hydro- mulch machine.
- d) For soil binder applications, the Contractor shall dissolve pre-measured dry PAM with a known quantity of clean water in a container for several hours (preferably overnight.) PAM is to be applied at a rate range between 2/3 lb to 1 lb (maximum) PAM per 1000 gallons water per acre of bare soil.
- e) Emulsion batches shall be mixed per the recommendations of the flocculant manufacturer to determine the proper product type and application rate to meet site-specific requirements. The chosen application method must ensure uniform coverage of the target application area.
- f) When using an emulsion form of anionic PAM to slopes, apply no greater than 1.5 gallons emulsion per acre per event. Solution mixtures shall be 1.5 gallons (maximum) anionic PAM emulsion per 3000 gallons of water. Note: Water volumes that are less than 3000 gallons of water shall not be used due to increased viscosity issues.
- g) The Contractor shall spray the anionic PAM/water mixture uniformly across the dry soil slope until completely wetted.
- h) For dry anionic PAM applications for erosion control, anionic PAM shall be applied as a powder at the following rates:
 - For slopes less than 25% - Apply at 10 lbs per acre (maximum)
 - For slopes greater than or equal to 25% - Apply at 20 lbs per acre (maximum)
- i) Liquid anionic PAM for erosion control shall be reapplied on actively worked areas after a 48-hour period.
- j) Liquid anionic PAM shall not be applied to the same slope area more than once in a 48-hour period and no more than 7 times in a 30-day period.

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- k) For inactive slope areas where anionic PAM has been applied, a reapplication shall be required once every two months.
- l) **Note: Anionic PAM applications (dry or liquid) shall not exceed 200 lbs/acre per year.**

For turbidity reduction within ditches:

- a) It is highly recommended that flocculant application be applied as erosion control in the watershed above the treatment ditches in conjunction with the application of flocculants within treatment ditches for turbidity control.
- b) The surface area of stormwater ditches, as well as the surface area of ditch check dams, shall be lined with jute mesh.
- c) Dry powder anionic PAM shall be applied over the jute mesh at a rate of 0.25 lb to 0.5 lb per 1000 square feet of ditch surface area.
- d) Dry powder anionic PAM shall be re-applied to jute mesh in ditches every 3 to 5 storm events. **Dry anionic PAM application shall not exceed 4.6 lbs/1000 square feet per year.**
- e) Anionic PAM bricks/logs shall be of appropriate size, shape, and number to deliver the appropriate dosage to the water within the conveyance. The flocculant manufacturer shall be consulted to provide brick/log dissolution rates and dosages.
- f) Anionic PAM bricks/logs shall be located in a shaded, preferably moist, installation zone during application.
- g) Anionic PAM bricks/logs shall be placed near the main flow area of the ditch, and they shall be placed at an appropriate distance above sediment ponds or traps to maximize mixing and flocculation. The manufacturer shall be consulted to provide guidance for flocculant mixing time required and block/log spacing configurations.
- h) The Contractor shall install one anionic PAM brick/log for every 65 to 70 gpm of flow to be treated, unless otherwise specified by the flocculant manufacturer.
- i) Unless otherwise specified by the flocculant manufacturer, anionic PAM bricks/logs are estimated to treat, on average, 475,000 to 550,000 total gallons of flow volume.

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- j) Stakes, mesh bags, cages, and other mechanisms to anchor bricks/logs in place shall be carefully installed to provide stability during flows and to maximize exposure of the brick/log surface area to flows.
- k) Anionic PAM bricks/logs shall be replaced at least every 3 - 4 months or earlier if bricks/logs have excessive sediment/debris deposition on the outer brick/log surface area or excessive degradation of brick/log mass.

II. Miscellaneous Coagulant/Flocculant Materials

Miscellaneous flocculant materials shall include all other flocculants that are not polyacrylamide blends and that have been pre-approved for use on TDOT projects through the TDOT Materials and Testing Division. Submittals of required information as given in the **Materials** and **Classifications** sections of this specification shall be strictly followed.

Prior to use of any flocculant, the manufacturer's written application, storage, and mixing requirements and specifications shall be supplied to both TDOT and the Contractor. Flocculants shall be stored, handled, mixed and applied in strict accordance with the flocculant manufacturer recommendations and in strict compliance with OSHA Material Safety Data Sheet requirements, complying with all applicable federal, state, and local regulations. Proper personal protective equipment shall be used when handling the flocculant per industry, manufacturer, state, and federal regulations.

Special care shall be given to the application rates for flocculants specified by the manufacturer to ensure that the maximum application rates are never exceeded.

For erosion and sediment control applications for sloped areas and ditches:

- a) The Contractor shall strictly follow the manufacturer's requirements for application mixtures and rates.
- b) With hydroseeding applications, flocculants shall be mixed in strict accordance with manufacturers written recommendations, as provided to TDOT and the Contractor.
- c) Flocculants shall not be used as the sole erosion control method for slopes; slope applications of flocculants shall be accompanied with mulching. Flocculant use for turbidity reduction in ditches shall be used in conjunction with other structural sediment-control BMPs.
- d) Re-application frequency and rates shall strictly follow manufacturer's written recommendations, as provided to TDOT and the Contractor.
- e) Storage of flocculants shall follow manufacturers written requirements, as provided to TDOT and the Contractor.

Documentation and Maintenance

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Flocculants will enhance the deposition of soil solids in downstream ditches, pipes, and ponds. These hydraulic structures shall be inspected regularly with solids routinely removed from these structures to ensure optimization of performance.

The Contractor shall provide suitable means for storing and protecting flocculants against moisture and sunlight.

TDOT field personnel shall maintain records of all flocculant applications including the following information:

- a) Date, time, and specific location of application;
- b) Rates of application;
- c) Method of application;
- d) Weather conditions, and
- e) Type of flocculant applied including manufacturer name and product name.

Final Cleanup

The Contractor shall clean liquid or dry flocculant spills per the manufacturer's requirements. Flocculant mixing and application equipment shall be rinsed thoroughly with water to prevent the formation of residues. Unused flocculant mixtures should be minimized. Rinse residues can be applied to exposed slopes for erosion control. The Contractor shall dispose of excess flocculant material in compliance with federal, state, and local environmental regulations. Excess material shall not be disposed within stormwater conveyances, sewers, or streams.

The Contractor shall install and maintain all temporary erosion prevention and sediment control features and pollution prevention measures until no longer needed or permanent control measures are installed. Any materials removed shall become the property of the Contractor. In order to insure erosion prevention and sediment control structures work properly, it is imperative the sediment be removed and structural components of the measures maintained; therefore, inspection and maintenance of structures is to be performed on a regular basis. During sediment removal, the Contractor shall take care to insure that structural components of erosion prevention and sediment control structures are not damaged and thus made ineffective. If damage does occur, the Contractor shall repair the structures at his own expense. Upon complete removal of sediment traps, special ditches, etc., the area where they were constructed is to be topsoiled, seeded and mulched or otherwise stabilized.

In the event that temporary erosion prevention and sediment control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of work as scheduled, and are ordered by the Engineer, such work shall be performed by the Contractor at his own expense. (See special provisions 107FP if applicable)

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Where temporary erosion prevention and sediment control or pollution prevention work is acceptably performed and failure of all or any part of the system occurs but is not attributed to the Contractor's negligence, carelessness, or failure to install permanent controls and falls within the specifications for a work item that has a contract price, the units of work will be paid for at the proper contract prices except as noted below. Should the temporary erosion prevention and sediment control or pollution prevention work not be comparable to the project work under the applicable contract items, the Contractor shall be ordered to perform the work on a force account basis, or by agreed unit prices in compliance with **Subsection 109.04**.

Except as noted below, payment also may be made for replacement of temporary erosion prevention and sediment control and pollution prevention devices installed according to the plans or as approved by the Engineer provided such devices are no longer effective because of deterioration or functional incapacity, except that no payment shall be made for replacement of erosion prevention and sediment control or pollution prevention devices ineffective due to improper installation, lack of reasonable maintenance or because of failure of the Contractor to pursue timely installation of permanent control devices in accordance with the Plans and Specifications or as directed by the Engineer.

Unless provided for on the plans, no direct payment will be made for temporary and permanent erosion prevention and sediment control or pollution prevention measures in disturbed areas outside the rights-of-way such as borrow areas, waste areas and haul roads unless the borrow areas or waste areas are provided for by the Department, and except for permanent Seeding (with Mulch) on borrow areas and waste areas within the limitations prescribed in **Subsection 203.04** and **Subsection 203.07**, respectively. Where the plans show separate quantities for erosion prevention and sediment control or pollution prevention items to be used outside the rights-of-way in connection with waste areas, borrow areas or other project related construction, payment will be made for these items used and accepted to the extent of these separately listed plans quantities; but the cost of any overruns in these items, or the cost of any additional items required for erosion prevention and sediment control or pollution prevention off the rights-of-way, shall be borne by the Contractor unless prior approval in writing is received from the Engineer.

In case of failure of the Contractor to control project related erosion or the discharge of pollutants, either on or off the rights-of-way, the Engineer may withhold payment of future progress estimates until the Contractor has satisfactorily performed the necessary corrective measures. If deemed necessary, the Engineer may employ outside assistance or use his own forces to provide the needed protective measures, with all incurred direct costs plus project engineering costs being charged to the Contractor by appropriate deductions from the Contractor's monthly progress estimate.

Subsection 209.08-Revise entire subsection to the following:

209.08-Method of Measurement. Erosion prevention and sediment control devices shall be measured in accordance with the appropriate Standard Drawing or as noted below.

Temporary seeding and mulching operations will be measured in accordance with the appropriate provisions of **Subsection 801.09**.

Seeding (without Mulch) and Crown vetch mixture (without Mulch) shall be measured per unit.

The accepted quantities of Road and Drainage Excavation will be measured in C.Y. (m³).

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Sediment removal and disposal for maintaining erosion prevention and sediment control measures will be measured by the cubic yard (cubic meter).

For catch basin filter assemblies, structure maintenance including cleaning to prevent clogging is included in the price bid for the structure. Sediment removal and disposal for maintaining these assemblies is not to be measured and paid directly.

Sand bags will be measured by the square foot area of berm face.

Flocculants used for turbidity reduction will be measured and paid for by the actual weight in pounds of flocculant materials applied or, for brick or log forms of flocculant material, the brick/logs will be measured by the unit, per each. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to apply the flocculant materials. Flocculants used as either a soil binder or tackifier for erosion control applications shall be measured by the acre.

Subsection 209-09. Revise entire subsection to the following:

209.09-Basis of Payment. All Non-Structural Best Management Practices shall be included in the bid cost of the project.

Items used to install erosion prevention and sediment control devices include basis of payment information along with measurement information on the standard drawings. The standard drawing item numbers and measurement units shall be used for measurement and payment unless otherwise specified. All measures shall be constructed and accepted according to the applicable Standard Drawings and specifications prior to measurement and payment.

Additional information regarding basis of payment for erosion prevention and sediment control measures and components is listed below.

Unless otherwise stated on the corresponding Standard Drawings, payment for erosion prevention and sediment control measures shall include all materials and labor necessary for the measure's construction, maintenance and removal.

For catch basin filter assemblies, structure maintenance including cleaning to prevent clogging is included in the price bid for the structure. Sediment removal and disposal for maintaining these assemblies is not to be measured and paid directly.

Seeding (with Mulch), Seeding (without Mulch), Temporary Seeding (with Mulch) Crown vetch mixture (without Mulch) and Mulch items will be paid for in accordance with the appropriate provisions of **Subsection 801.10**.

The accepted quantities of Road and Drainage Excavation will be paid for at the contract unit price per C.Y. (m³).

Sediment removal and disposal for maintaining erosion prevention and sediment control measures will be paid for at the unit price per C. Y. (m³).

For catch basin filter assemblies, structure maintenance including cleaning to prevent clogging is included in the price bid for the structure. Sediment removal and disposal for maintaining these assemblies is not to be measured and paid directly.

Rock used for inlet and outlet control on erosion prevention and sediment control measures will be paid for at the contract unit price per ton (tonne).

Pipe used in the construction of erosion prevention and sediment control measures will be paid for in accordance with the appropriate provisions of **Subsection 607.13**.

Concrete used in the construction of spillways or other structures pertaining to sediment structures will be paid for in accordance with the appropriate provisions of **Section 703**.

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Water used in preparation of the seed bed and for maintenance will be paid for at the contract unit price per M.G. (1,000 gal.) (m³) of water.

Sand bags will be counted per bag and will be paid for at the contract unit price per bag.

For flocculants, the accepted quantities, determined as provided above, will be paid for at the contract unit prices, which payment shall be full compensation for all equipment, materials, labor, and incidentals necessary to complete the work.

The Sediment Filter Bags will be paid for at the contract price bid per each for the size bag used which includes installation and/or replacement along with all materials, equipment, tools, labor, and incidentals to complete the work. Payment for removal and disposal of material from bag shall be made by the C.Y. (m³) at contract price for sediment removal.

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(Rev. 06-01-06)
 (Rev. 02-01-07)
 (Rev. 12-30-08)
 (Rev. 01-05-10)
 (Rev. 12-09-13)

March 1, 2006

Supplemental Specifications - Section 300**of the****Standard Specifications for Road and Bridge Construction****March 1, 2006**

Subsection 303.08 (c) Second paragraph after (c), first sentence **Add** the word “exceeds” between the words “course” and “6 in. (150 mm)”

Subsection 303.13; Delete the second and third paragraphs and replace with the following:

The weight of total moisture, as determined by dry weights, of the base material at the time of weighing in excess of 3 percentage points of optimum moisture content, will be deducted. When mixing is performed in a stationary plant, no direct payment for water will be made. When road mixing is performed, water added to the material during mixing at the direction of the Engineer will be made for payment.

SECTION 304-SOIL-CEMENT BASE Insert the following in the Table of Contents section of 304

“304.11-Thickness and Surface Tolerances.”

Subsection 304.04 Last paragraph, add the word “be” in this section of the paragraph

“the entire section shall be reconstructed...”

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Subsection 307.03b Composition of Mixtures, Revise entire subsection b to the following:

- (b) Recycled Asphalt Pavement and Recycled Asphalt Shingles.

Recycled Asphalt Pavement (RAP)

The Contractor may utilize asphaltic concrete removed from a Department project or other State Highway Agency project by an approved method and stored in a TDOT approved stockpile. RAP combined with the appropriate aggregate, asphalt cement, and anti-strip additive when required shall produce a mixture that will otherwise meet all the requirements of Subsection 903.06 and the requirements herein Section 307. RAP shall be allowed in each mix listed in the following table:

Mix Type	%RAP (Non-processed)	Maximum %RAP (Processed)	Maximum % RAP Processed and Fractionated	Maximum Particle size
307ACRL	0	00	-	-
307AS	0	00	-	-
307A	15	20	35	1 ½ in. (38 mm)
307B	15	30	35	1 ½ in. (38 mm)
307BM	15	30	35	¾ in. (19 mm)
307BM2	15	30	35	¾ in. (19 mm)
307C	15	30	35	3/8 in. (9.5 mm)
307CW	15	30	35	½ in. (13 mm)
307CS	0	15	25	5/16 in. (8 mm)

RAP that has been crushed and screened or otherwise sized such that the maximum recycled material particle size is less than that listed in the table above prior to entering the dryer drum, shall qualify as “Processed”. “Non processed” **RAP** shall be similar material that has not been crushed and screened or otherwise sized previous to its use. When RAP is processed over more than one screen, producing sources of various maximum particle size (i.e. – ¾” to ½”, ½” to #4, etc.), it will be referred to as “fractionated”, and larger percentages will be allowed as noted above. These increased percentages will only be allowed provided the individual fractions are introduced into the plant as separate material sources for increased control.

All mixes shall contain at least 65% virgin asphalt.

The Contractor shall obtain a representative sample from the recycled material stockpile and establish a gradation and asphalt cement content as required. The Contractor shall determine the gradation and asphalt content of the recycled material at the beginning of a project and every 2,000 tons(2,000 metric tons) thereafter. The stockpile asphalt cement content for all recycled material shall not vary by more than 0.8%. The stockpile gradation tolerance for all recycled material on each sieve is listed below.

3/8 in. (9.50 mm) sieve and larger ± 10%
No. 4(4.75 mm) sieve..... ± 8%

No. 8(2.36 mm) sieve.....	± 6%
No. 30(600 µm) sieve	± 5%
No. 200(75 µm) sieve	± 4%

The mixture will be accepted for aggregate gradation and asphalt content based on extractions

A special design with asphalt content in the range of 5 to 7% shall be required where 307 C Mix is used as a surface on the shoulder.

The Contractor shall be responsible for his own sampling and testing of the planings as well as new materials for bid purposes, and for the submission of the job mix formula in accordance with Subsection 407.03. All additives shall be submitted to the Engineer for approval at the same time other materials are submitted for design verification.

If the Department has performed tests on the pavement to be cold planed, the results of all tests will be available at the Materials and Tests Division in Nashville, Tennessee during normal working hours. This information is advisory only and shall not be construed as necessarily complete nor accurate.

Where it is necessary to obtain a sample of the existing pavement for mix design, the Contractor shall mill the existing pavement to the full depth shown on the plans for pavement removal for a length of approximately 300 ft. (100 m) in an area approved by the Engineer. The removed pavement shall be replaced as specified on the plans or directed by the Engineer.

After mixing, the moisture content of the total mix shall be no more than 0.1% as determined by oven drying, and the provisions for lowering the temperature because of boiling or foaming shall not apply.

Recycled Asphalt Shingles (RAS)

Recycled Asphalt Shingles (RAS) may be included to a maximum of 5 percent of the total weight of mixture. The percentage of RAS used will be considered part of the maximum allowable RAP percentage. The ratio of added new asphalt binder to total asphalt binder shall be 65% or greater for all 307 mixes. Either the mix producer or the RAS supplier shall obtain a representative sample from the recycled material stockpile and establish a gradation and asphalt cement content as required. Shingle asphalt binder content shall be determined by AASHTO T-164 Method A, with a minimum sample size of 500 grams. The Contractor shall determine the gradation and asphalt content of the recycled material at the beginning of a project and every 2,000 tons (2,000 metric tons) of recycled material used thereafter. The stockpile asphalt cement content for all recycled material shall not vary by more than 0.8%. All RAS material shall be processed to a minimum 100 percent passing the 3/8 inch (9.5-mm) sieve and a minimum 90 percent passing the #4 (4.75-mm) sieve.

To conduct the gradation testing, a 500-700 gram sample of processed shingle material is air dried and dry sieved over the 3/8" and #4 sieves and weighed. For Mix Design purposes, the

following aggregate gradation may be used as a standard gradation in lieu of determining the shingle gradation by AASHTO T30.

Sieve Size	% Passing
3/8 inch (9.5 mm)	100
#4 (4.75 mm)	97
#8 (2.36 mm)	95
#16 (1.16 mm)	80
#30 (0.60 mm)	60
#50 (0.30 mm)	50
#100 (0.150 mm)	40
#200 (0.075 mm)	30

An aggregate bulk specific gravity (G_{sb}) of 2.650 may be used in lieu of determining the shingle aggregate G_{sb} (AASHTO T84). In addition, the effective binder available for mixing with additional aggregates shall be considered as 75 % of the total binder content as determined by AASHTO T-164 described above and shall be the value listed as the RAS binder content on the Job Mix Formula.

Scrap asphalt shingle shall not contain extraneous waste materials. Extraneous materials including, but not limited to, asbestos, metals, glass, rubber, nails, soil, brick, tars, paper, wood, and plastics shall not exceed 0.5 percent by weight as determined on material retained on the 4.75-mm (No. 4) sieve. To conduct deleterious material testing, a representative 500-700 gram sample of processed shingle material shall be sieved on the #4 sieve and any extraneous waste material retained on the #4 sieve is picked and weighed. The percent extraneous is based on the total sample weight.

RAS shall contain less than the maximum percentage of asbestos fibers based on testing procedures established by TDOT, state or federal environmental regulatory agencies. A minimum of one (1) sample of processed asphalt roofing material for every five hundred (500) tons of material processed shall be analyzed for the presence of asbestos containing material.

Before a Job Mix Formula for a particular design is approved, the following shall be submitted, along with materials and paperwork required by TDOT Specification 407.03:

- Certification by the processor of the shingle scrap describing the shingle scrap content and source.
- A 1000g sample of the processed RAS material for inspection (new designs only)

RAS shall be stockpiled separate from other salvage material. Blending of RAS material in a stockpile with other salvage material is prohibited. Blending of Manufacture Waste Scrap Shingles (MWSS) and TOSS shall not be allowed. In addition, blending of a virgin sand material with the processed shingles, to minimize agglomeration of the shingle material, shall not be allowed.

All RAS supplied to a TDOT project must come from a certified shingle processor/supplier approved by TDOT Headquarters Materials and Tests.

(c) Anti-Strip Additive - Asphaltic concrete mixtures (Grading A, AS, ACRL, B, BM, BM2, C, CS and CW) shall be checked for stripping by the following methods:

1. The Ten Minute Boil test for dosage rate and the Root-Tunnecliff procedure (ASTM D 4867) for moisture susceptibility.
2. For mixtures not requiring design - the Ten Minute Boil test for dosage rate and moisture susceptibility.

* Root-Tunnecliff procedure (ASTM D 4867) shall not be used with the following mixtures: Grading A, AS, ACRL and B

If moisture susceptibility is indicated, then an approved anti-strip agent shall be mixed with the asphalt cement at the dosage recommended by the respective test and as specified in **Subsection 918.09(B)**.

Subsection 307.08 Method of Measurement, Revise entire subsection to the following:

307.08-Method of Measurement. Aggregate and Asphalt Cement for Bituminous Plant Mix Base (Hot Mix) will be measured by the ton (metric ton) in accordance with the provisions of **Subsection 407.19**. Materials for prime or tack coat, if specified, will be measured as prescribed in **Section 402** or **403**, respectively.

If recycled mix is permitted, the completed mix, including new mineral aggregate, planings, asphalt cement and additive, shall be measured by the ton (metric ton) in accordance with **Section 109**. For bidding purposes, the asphalt cement content of the specified mixes shall be used in the chart below:

Mix Type	Asphalt Content
307 A	4.0%
307 B	4.3%
307 BM	5.0%
307 BM2	5.0%
307 C	5.0%
307 CW	6.0%
307 CS	6.5%

In the event that the Engineer sets an asphalt content other than that stated above, a price adjustment will be made based on the asphalt content set by the Engineer and the Monthly Bituminous Index for the specific grade asphalt on the mix design. The price adjustment will be calculated according to the following formula:

$$PA = [MBI \times (DA-BA) \times T] / 100$$

Where:

PA = Price Adjustment

MBI = Monthly Bituminous Index

DA = Percent asphalt set on the mix design

BA = Percent asphalt specified above to be used for bidding

T = Total tons(metric tons) asphalt mix for price adjustment

The liquid anti-strip additive will be measured by the gallon(liter) and paid as outlined in **Subsection 307.09**. Hydrated Lime will be measured by the ton (metric ton) and paid as outlined in **Subsection 307.09**.

No direct payment will be made for polymer or latex additives and cost thereof shall be included in the price bid for the modified asphalt cement or modified mixture.

Subsection 309.13; Delete the second and third paragraphs and replace with the following:

The weight of total moisture, as determined by dry weights, of the base material at the time of weighing in excess of 3 percentage points of optimum moisture content, will be deducted. When mixing is performed in a stationary plant, no direct payment for water will be made. When road mixing is performed, water added to the material during mixing at the direction of the Engineer will be made for payment.

Subsection 312.08 Last sentence, Add the word “exceed”

“1 layer shall not exceed 8 in. (200 mm).”

Subsection 313.02-Materials, Add the following to the end of this section

Liquid Membrane – Forming Compounds

913.05

Subsection 313.05; section (a) 1. Add to the end of the paragraph

As an alternative to the steel wheel roller, the cement treated permeable base may be placed with a high-density screed with dual tamping bars.

Subsection 313.05; section (a) 2. Revise the first paragraph to read as follows

Curing; Immediately after spreading and compacting, the cement treated permeable base shall be cured by covering the entire surface and exposed edges with transparent or white polyethylene sheeting in accordance with **Subsection 501.18**, or a white pigmented wax base curing compound meeting the requirements of AASHTO M148. The polyethylene sheeting shall have a thickness of at least 4 mils (100 μm) and shall be held in place for a minimum of 7 days by a method approved by the Engineer. The surface of the cement treated permeable base shall be thoroughly wetted prior to placing the sheeting. The wax based curing compound shall be placed at a rate of 0.04 to 0.05 gallons per square yard (0.18 to 0.23 liter per square meter).

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S T A T EO FT E N N E S S E E

March 1, 2006

(Rev. 02-09-09)
 (Rev. 08-10-09)
 (Rev. 01-05-10)
 (Rev. 05-09-2011)
 (Rev. 10-31-2011)
 (Rev. 02-13-2012)
 (Rev. 01-07-2013)
 (Rev. 06-12-2013)
 (Rev. 12-09-2013)

Supplemental Specifications - Section 400of theStandard Specifications for Road and Bridge ConstructionMarch 1, 2006**Subsection 403.02.** Revise entire Subsection to the following:

403.02-Bituminous Materials. Bituminous materials shall conform to the requirements of the following Subsections of these Specifications:

<u>Materials</u>	<u>Subsection</u>
Emulsified Asphalt, SS-1, SS-1h, CSS-1, CSS-1h, TST-1P, CQS 1h, CQS-1hp, TTT-1, TT1-2	904.03
Asphalt Cement, PG 64-22	904.01
Chemical Additive	918.09(B)

The ranges of application temperatures in degrees F(C) shall be as follows:

SS-1, SS-1h, CSS-1, TST-1P, CQS-1h,
 and CSS-1h, 60-140° F (15-60° C)
 PG 64-22, 70-22, 76-22, or 82-22 with Chemical
 Additive 375-400° F (190-205° C)
 TTT-1, 160-180°F (70-80°C)
 TTT-2, 120-160°F (50-70°C)
 CQS-1hp, 60-140°F (15-60°C)

Dilution of emulsified asphalt used as tack will not be allowed. The emulsion shall be applied as delivered from the terminal.

Subsection 403.05. Revise entire Subsection to the following:

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403.05-Application of Bituminous Material. Immediately after cleaning the surface, emulsified asphalt shall be applied with the pressure distributor at a rate directed by the Engineer, between 0.05 gal/yd² (0.23 L/m²) and 0.10 gal/yd² (0.46 L/m²) of applied emulsion. If the bituminous material is to be placed upon a milled surface, the rate of application shall be determined by the Engineer between 0.08 gal/yd² (0.36 L/m²) and 0.12 gal/yd² (0.54 L/m²) of applied emulsion.

The surfaces of trees and structures adjacent to the area being treated shall be protected in such a manner as to prevent their being splattered or marred.

The tacked surface shall be allowed to dry until it is in a proper condition to receive the next course. Tack coat shall be applied only so far in advance of the paving operations as is necessary to obtain this proper condition of tackiness. The Contractor shall protect the tack coat from damage until the next course is placed.

Proper application of tack coat shall be achieved through the use of equipment and methods demonstrated on a tack coat test strip. This test strip shall be demonstrated at the same time an initial roller pattern and density test strip is set up for the first layer of asphalt mixture. This test strip application rate shall be between 0.05 and 0.10 gallons of applied emulsion per square yard. If the bituminous material is placed upon a milled surface, the test strip rate of application of tack material shall be between 0.08 and 0.15 gallons of applied emulsion per square yard. In all cases the application will result in a minimum double overlap of the actual track spray as it lands on the surface. The adjustment of the spray-bar and the nozzles may be necessary to achieve this minimum double overlap. Under no circumstances will corn-rows or any other pattern which would result in less than double overlap coverage of the tack coat be acceptable for the tack application. The goal is a very thin but uniform coating of asphalt left on the surface when the emulsion has broken.

Once the test strip has been demonstrated and approved by the Engineer, then this same procedure and application rates shall be applicable for the entire project or until another design is proposed and accepted.

When bituminous material for fog sealing of shoulders is included in the contract it shall be accomplished with emulsified asphalt meeting the requirements of Subsection 403.02. The application rate of diluted emulsified asphalt shall be 0.10-0.15 gal./s.y.(0.45-0.68 liter/m²) based on a dilution rate of 1 part emulsified asphalt to 1 part water. This application may require 2 equal increments if run-off occurs.

Subsection 403.06. Revise entire Subsection to the following:

403.06-Method of Measurement. Bituminous Material for Tack Coat and Fog Sealing will be measured by the ton(metric ton), as delivered from the terminal, in accordance with the provisions of **Section 109**, Measurement and Payment. Water used for dilution of Asphalt Emulsions will not be measured for payment.

Subsection 403.07. Revise entire Subsection to the following:

403.07-Basis of Payment. The accepted quantities of Tack Coat will be paid for at the contract unit price per ton (metric ton) for Asphalt Emulsion or Asphalt Cement complete in place. The accepted quantities of Fog Seal will be paid for at the contract unit price per ton (metric ton) for Asphalt Emulsion complete in place.

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The work required for preparing the designated surface as provided for under **Subsection 403.04** will be measured and paid for in accordance with the provisions of the applicable Section or Subsection under which the work is performed.

Subsection 407.02 Materials, Add the following at the end of this subsection:

When warm mix asphalt additive is used as described in subsection **918.09(B)**, it shall be added by approved blending equipment at the contractor's mixing plant, or it shall be pre-mixed and delivered with the asphalt cement.

Subsection 407.03 (C) Replace the first paragraph with the following:

At least 14 working days prior to the scheduled start of production of any asphaltic paving mixture, the Contractor shall submit in electronic form (e-mail or on a floppy disk) a proposed Job Mix Formula and Laboratory Design, where applicable, prepared in accordance with the Marshall Method of Mix Design (AASHTO R-12), as modified by TDOT, or by Gyratory Compaction (AASHTO T 312, Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by means of the Superpave Gyratory Compactor). Regardless of which method is used, trial blends with at least 4 different asphalt contents (at least 2 above the optimum and 2 below the optimum) shall be made. When the gyratory method of compaction is utilized, the specimens shall be compacted to 65 gyrations with the optimum asphalt content and mixture volumetrics determined at that compaction level. If the specification requirements are not met, it will be necessary to make adjustments to the aggregate types and proportions. In addition the Contractor shall submit an asphalt barge certification with temperature-viscosity curve for each mixture to the Engineer for approval. A sample of each material to be used in the mix shall be delivered to the location designated by the Engineer.

Subsection 407.03 (D) 2 (c) Quality Control System: 8 d Insert as the second sentence

"The Contractor, at his risk, may continue to produce and place mixture after the first 500 tons without the test results complete, however all mixture subject to price adjustment or removal at the discretion of the Engineer if the test results do not comply with the specifications."

Subsection 407.03 (D), first paragraph, fourth sentence: Remove "on a random basis".

Subsection 407.03 (D) 2 (c) Quality control System, 6, last sentence: Remove "on a random basis".

Subsection 407.03 (D), Table 407-01, Replace "Required" with "Recommended" in the table heading.

Subsection 407.04a Bituminous Mixing Plant, Add the following to subsection "a" as the 12th bullet:

12. Warm Mix Asphalt process equipment.

Modifications may be made to plants to reduce production and placement temperatures in accordance with subsection 407.21. Plant modifications for warm mix

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asphalt production temperatures shall be pre-approved by the department, and shall not detriment the plant's ability to maintain temperature control or mixture proportions.

Modifications made to the plant to reduce mixing temperatures must meet the requirements listed for warm mix asphalt additives in the department's QPL.

Subsection 407.06-Bituminous Pavers: replace second sentence with:

“All paver extensions shall be full assembly extensions, including activated and heated screeds, auger extensions, auger guards, and throw-back blades to place mix beneath the auger gearbox.”

Subsection 407.09 Replace subsection in its entirety with the following:

407.09 Weather Limitations. Bituminous plant mix may be placed on properly constructed and accepted sub-grade or previously applied layers provided the following conditions are met:

1. The sub-grade and the surface upon which the bituminous plant mix is placed shall be free of excessive moisture.
2. The bituminous plant mix shall be placed in accordance with the temperature limitations of the following table and only when weather conditions otherwise permit the pavement to be properly placed, compacted and finished.

TEMPERATURE LIMITATIONS

Compacted Thickness	Minimum Air or Surface Temperature	
	Unmodified mixes (PG 64, 67)	Modified mixes (PG 70, 76, 82)
1.5 in. (40 mm) or less	45° F (7° C)	55° F (13° C)
> 1.5 in. (40 mm) to < 3.0 in. (75 mm)	40° F (5° C)	50° F (10° C)
≥ 3.0 in. (75mm)	35° F (2° C)	45° F (7° C)

3. No bituminous plant mix, with a compacted thickness of 1.5 in. (40 mm) or less, shall be placed between November 30 and April 1; and further, no bituminous plant mix, with a compacted thickness greater than 1.5 in. (40 mm), shall be placed between December 15 and March 16.
4. The contractor may request for approval a variance from the above required temperature and seasonal limitations to pave at lower temperatures when there is a benefit to the public. The request shall be in writing, be submitted at least one week prior to the anticipated need, and must include a “Paving and Compaction Plan for Cold Weather” in accordance with the TDOT Procedure. The plan shall identify what practices and precautions the contractor intends to utilize to assure the mixture is placed and compacted to meet the specifications. The plan shall include compaction cooling curves estimating

the time available for compaction, the intended production, haul, and compaction rates with paver and roller speeds estimated. Practices that should be considered include the addition of rollers, reduced production and paving rates, insulated truck beds, and heating the existing surface.

If the Contractor cannot obtain the specified densities, then all paving operations shall cease and a new plan shall be developed. All mixture failing to meet specifications will be subject to price adjustments or removal and replacement at the Contractors expense.

Subsection 407.11 Preparation of Bituminous Material, Replace entire subsection with the following:

407.11-Preparation of Bituminous Material.

- A. **Hot Mix Asphalt (HMA).** The bituminous materials for hot mixes shall be heated to the required mixing temperature in accordance with the following **Table B**:

Table B		
PG Binder Grade	Minimum Temp.	Maximum Temp.
PG 64-22, PG 67-22	270° F(132° C)	310° F(154° C)
PG 70-22	290° F(143° C)	330° F(166° C)
PG 76-22	290° F(143° C)	330° F(166° C)
PG82-22	290° F(143° C)	330° F(166° C)

The temperature for Grading AS and Grading ACRL mixtures shall be between 225 and 275° F(110 and 135° C), except when modified binders are used, and then the temperatures shall be between 275 and 330°F (135 and 166°C). Aggregate should be coated and no visible drain down should occur in storage silos or hauling equipment.”

- B. **Warm Mix Asphalt (WMA).** The produced mixture may be subjected to reduced production and placement temperatures by means of either the addition of a chemical warm mix additive in accordance with subsection **918.09(B)** or by use of plant modifications in accordance with subsection **407.04(a)**.

When either WMA technology is utilized, the maximum mixing temperature for any grade of asphalt cement shall be no more than 300°F (135°C). At the beginning of a day's production, the producer may produce up to five truckloads at temperatures in accordance with Table B in order to pre-heat placement equipment (pavers, transfer devices) prior to producing WMA. The laboratory mixing and compaction temperatures shall be stated on the job mix formula during the mix design approval process. A tolerance of ±5.0°F (2.8°C) for each temperature will be allowed.

During test strip construction, the plant-produced WMA must exhibit the ability to meet test requirements for tensile strength ratio (TSR), conditioned tensile strength, Marshall Stability and flow, and boil test listed for HMA in specifications **307, 407, and 411**.

Subsection 407.15 **Revise** the entire subsection to the following:

407.15-Compaction. After the bituminous mixture has been spread, struck off, and surface irregularities adjusted, it shall be thoroughly compacted. The method employed must be

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approved by the Engineer and be capable of compacting the mixture to the specified density while it is in a workable condition. When no density requirements are specified, a system of compaction for roadway pavements shall be employed which has previously produced required bituminous pavement densities. A control strip and random density samples may be employed to aid the Engineer in evaluating the system.

In general, compaction shall be accomplished by the use of a combination of the equipment designated in **Subsection 407.07**. The following are minimum roller requirements; however, the number of rollers shall be increased if the required results are not being obtained.

Except as noted below, each paving train shall consist of a minimum of 3 rollers as specified in **Section 407.07**. The intermediate roller in each train shall be a pneumatic type. If the surface course contains a latex or polymer additive, a steel wheel type roller for intermediate rolling may be used instead of a pneumatic type provided the surface course meets density requirements.

A minimum of 2 rollers will be required when placing 307 CS mix. Breakdown rolling shall be performed, as soon as possible and while the mixture is sufficiently hot, by a pneumatic tire roller having a minimum contact pressure of 85 psi (585 kPa). A combination roller may not be substituted for a pneumatic roller when placing CS mix. The paver speed shall be regulated so rollers can maintain proper compaction of the mixture as determined by the Engineer.

The minimum number of rollers listed above may, with the approval of the Engineer, be reduced to 1 roller of either the steel-wheel or vibratory type on the following types of construction; (a) On shoulder construction, (b) On incidental construction such as bridge approaches, driveways, etc., and (c) on projects containing less than 10,000 s.y. (9,000 m²) of bituminous pavement.

Unless otherwise directed, rolling shall begin at the low side and proceed longitudinally parallel to the road centerline. When paving in echelon or abutting a previously placed lane, the longitudinal joint shall be rolled first, followed by the regular rolling procedure. When paving in echelon, rollers shall not compact within 6 in. (150 mm) of an edge where an adjacent lane is to be placed. Rollers shall move in a slow uniform speed with the drive wheels nearer the paver and shall be kept as nearly as possible in continuous operation. Rolling shall continue until all roller marks are eliminated. Rollers shall not park on the bituminous pavement.

To prevent adhesion of the mixture to the rollers, the wheels shall be kept properly moistened with water or water mixed with very small quantities of detergent or other approved material. An excess of liquid shall not be used.

Rollers shall not be refueled on the bituminous pavements.

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Density Requirements.**ADT 1,000 or less**

MIX TYPE	% OF MAXIMUM THEORETICAL DENSITY (AVERAGE)	NO SINGLE TESTS LESS THAN, %
A	90	87
B, BM & BM2	90	87
C & CW	90	87
D	90	87
E	90	87

ADT 1,000 to 3,000

A	91	89
B, BM & BM2	91	89
C & CW	91	89
D	91	89
E	91	89

ADT 3,000 or greater

A	92	90
B, BM & BM2	92	90
C & CW	92	90
D	92	90
E	92	90

Any ADT

Shoulder Mix (B, BM, BM2, D or E)	88	85
A S and A-CRL	None*	None
CS	None*	None

* Density requirements shall be waived on Bituminous Plant Mix Base Grading ACRL, Grading AS and Bituminous Plant Mix Leveling Course, Grading CS; however, a system of compaction for roadway pavements shall be employed which has been approved by the Engineer. When placing Bituminous Plant Mix Base Grading ACRL and Grading AS, the intermediate roller (pneumatic tire) specified previously may be replaced by a steel wheel type if irreparable damage to the pavement is occurring.

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 D7227.

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Any base or surface course that tests below the minimum density shall be corrected until the density of the area is equal to or above minimum before it can be used to determine the average density of the lot. No successive layer, where applicable, shall be placed until the area has been corrected. When it is necessary to determine the classification of open graded or dense graded mixes and to measure segregation, ASSHTO T-269 or ASTM D-3203 shall be used.

For density testing purposes, the pavement shall be divided into lots of 10,000 s.y.(9,000 m²), except for 307 Gradings A, B and BM which shall be divided into lots of approximately 5,000 s.y.(4,500 m²). Five density tests shall be performed in each lot and the average results compared with the requirements listed above. At the beginning of the project or at any time it is deemed advisable, smaller lots may be considered in order to evaluate compaction methods or for other reasons which are approved and/or directed by the Engineer.

Acceptance test must be selected randomly and be representative of the lot or subplot. Additional compaction after the acceptance test is acceptable but the original test result must be used to determine lot density. TDOT may take information only samples to spot check compaction. These tests shall not be used as acceptance test.

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.

Test Strips shall be required for all A, B, BM, C, CW, D, E and F mixes to establish rolling patterns, to calibrate nuclear gauges, to verify that the base course or surface course meets the density requirements of the specifications, and for mix design/ production verification as required.

Construction of the test strip shall be as follows:

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.
5. a change in paving or compaction equipment occurs

With the approval of the Engineer, the Contractor may be permitted to construct additional test strips.

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

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area of at least 400 s.y. (350 m²) and shall be of the depth specified for the pavement course concerned.

Compaction of the test strip shall commence immediately after placement of the bituminous mixture and be continuous and uniform over the entire test strip.

The compaction of the test strip shall be continued until no appreciable increase in density (1 lb/c.f. (15 kgs/m³)) as measured with the nuclear gauge can be obtained by additional roller coverage. The roller coverage necessary to obtain this maximum density shall be used as the rolling pattern for the remainder of the project. Cores shall be taken by the Contractor on the test strip at 10 randomly selected locations. Cores shall not be taken within 2 feet of the longitudinal edges for calibration. These cores shall be given to the State for use in calibrating the nuclear gauge and to verify that the average density of the test strip meets the density requirements of the specifications. All densities will be reported using the corrected nuclear gauge readings. Correction factors shall be specific to the nuclear gauges utilized during test strip construction. In the event that a different nuclear gauge needs to be utilized for acceptance, new cores will need to be cut from the ongoing pavement construction to calibrate the new gauge.

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.

Subsection 407.16 – Joints, Replace the entire subsection with the following:

407.16-Joints. Placing of the bituminous paving shall be as continuous as possible. Rollers shall not pass over the unprotected end of a freshly laid mixture unless authorized by the Engineer. Transverse joints shall be formed by cutting back on the previous run to expose the full depth of the course. A brush coat of bituminous material shall be used on contact surfaces of longitudinal and transverse joints just before additional mixture is placed against the previously rolled material.

Subsection 407.20 B 1, Remove and replace the Quantity/Sublot Table with the following:

<u>Quantity</u>	<u>Number of Sublots</u>
3001-4500 tons	4 tests
2001- 3000 tons	3 tests
501-2000 tons	2 tests
Less than 500 tons	1 test

Subsection 407.20 B 3 (b), Add the following as the first sentence:

Washed gradation of the residual aggregate shall be performed according to AASHTO T-30.

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Subsection 407.20, Table 407-2, Revise table to the following:

The percents passing the sieves will be determined in accordance with AASHTO T-30.

TABLE 407-2

ACCEPTANCE SCHEDULE OF PAYMENT (Asphalt Plant Mix Characteristics)			
Characteristics	Pay Factor	Average Arithmetic Deviation of the Lot Acceptance Test from the Job Mix Formula	
		1 Test	2 Tests or more
Asphalt Cement	1.00	0.00-0.30	0.00-0.25
Content ***	0.95	0.31-0.35	0.26-0.30
(Extraction or	0.90	0.36-0.40	0.31-0.35
ignition oven)	0.80*	over 0.40	over 0.35
Gradation			
3/8 In.	1.00	0.00-6.50	0.00-5.70
(9.5 mm),	0.95	6.51-7.08	5.71-6.20
Sieve and	0.90	7.09-7.66	6.21-6.69
Larger	0.80*	over 7.66	over 6.69
Gradation			
No. 4 Sieve**	1.00	0.00-4.62	0.00-4.00
(4.75 mm)	0.95	4.63-5.20	4.01-4.50
	0.90	5.21-5.77	4.51-5.00
	0.80*	over 5.77	over 5.00
Gradation			
No. 8 16, 30 & 50	1.00	0.00-3.80	0.00-3.30
(2.36 mm, 600 µm	0.95	3.81-4.46	3.31-3.91
& 300 µm ,) Svs**	0.90	4.47-5.12	3.92-4.52
	0.80*	over 5.12	over 4.52
Gradation			
No. 100 & 200	1.00	0.00-1.80	0.00-1.60
(150 µm & 75 µm)	0.95	1.81-2.00	1.61-1.75
Sieves**	0.90	2.01-2.20	1.76-1.90
	0.80*	over 2.20	over 1.90

*If approved by the Engineer, the Contractor may accept the indicated partial pay. The Department may require removal and replacement at no cost. The Contractor has the option to remove and replace at no cost to the Department at any time.

Subsection 411.03 Composition of Mixtures, Replace entire subsection with the following:

411.03-Composition of Mixtures.

- (a) General Composition of mixtures used in this construction shall meet all applicable requirements of Subsection 407.03.

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- (b) The specified mineral aggregate and asphalt cement shall be combined in such proportions as to produce mixtures within the following master composition limits.

Proportions of Total Mixture, Per Cent by Weight

Surface Courses	Effective Combined Mineral Aggregate	Asphalt Cement
Grading D	93.0- 94.3	5.7-7.0*
Grading E**	93.0- 94.3	5.7-7.0*
Grading E (shoulders)	92.0-94.7	6.0-6.5*

*If the effective combined specific gravity of the aggregate exceeds 2.80, the above proportions may be adjusted as directed by the Engineer. The upper limit for Flow values shall not apply to mixes with modified asphalt liquids.

**The minimum allowable asphalt cement content for 411-e low volume mixtures shall be 5.3%.

Grading D

In addition to the other requirements of these specifications the composition of the mineral aggregate shall be such that when combined with the required amount of bitumen the resultant mixture shall have:

All Roads

Mix	Stabil. Min. lbft* (kN)	Flow 0.01 in. (mm) ***	Design Void content t%*	Production Void Content %*	Min. VM A% *	Dust- Asphalt Ratio* *
411D	2,000 (9.0)	8-16 (2-4)	4.0±0.2	3-5.5	14	0.6-1.2

*Tested in accordance with AASHTO T 245 with 75 blows of the hammer on each side of the test specimen, using a Marshall Mechanical Compactor.

**The dust to asphalt ratio is the percent of the total aggregate sample that passes the 200 mesh(75 µm) sieve as determined by AASHTO T 11 divided by the percent asphalt in the total mix

***Flow will only be required when using a non-modified binder (PG 64-22 or 67-22)

****In order to identify critical mixes and make appropriate adjustments, the mix design shall have these required production properties for the bitumen content range of Optimum Asphalt Cement ±0.25%.

When limestone screenings or agricultural limestone are utilized, the maximum amount by weight of the mineral aggregate shall be 25% unless the material is shown to meet the same coarse surface aggregate requirements for limestone as listed in

Subsection 903.11 (c) Grade D (Types I, II, III, IV). In no case shall the combined aggregate blend consist of less than 75% non-skid material. When natural sand is used as fine aggregate, it shall be limited to a maximum amount of 25% by weight of the mineral aggregate. A maximum of 5% mineral filler meeting the requirements of **Subsection 903.16** may be substituted for an equal quantity of the limestone fines. If the mixture does not comply with the design criteria, another source of aggregate shall be required.

When gravel is used as the coarse aggregate for a 411 Grading D mix, a minimum of 20% by weight limestone screenings, agricultural limestone and/or mineral filler shall be required.

Grading E

In addition to the other requirements of these specifications where Grading E is used for the riding surface the composition of the mineral aggregate shall be such that when combined with the required amount of bitumen the resultant mixture shall have:

High Volume Roads (ADT over 1,000)

Mix	Stability Min. lbft* (kN)	Flow 0.01in. (mm) **	Design Void content %*	Production Void Content %*	Min. % VMA *
411 E	2,000 (9.0)	8-16 (2-4)	4.0±0.2	3-5.5	14

Low Volume Roads (ADT 1,000 and below)

Mix	Stability Min. lbft* (kN)	Flow 0.01in. (mm)**	Design Void content %*	Production Void Content %*
411 E	1,500 (6.75)	8-16 (2-4)	3.5±0.5	2-5

*Tested in accordance with AASHTO T 245 with 75 blows of the hammer on each side of the test specimen, using a Marshall Mechanical Compactor.

**Flow will only be required when using a non-modified binder (PG 64-22 or 67-22)

*** Minimum stability for shoulder mixes will be 1500 lb.ft. (kN) and optimum Asphalt Cement content for shoulder mixes shall be as directed by the Regional Materials Supervisor.

If the design criteria above cannot be obtained with the aggregate, submitted to the laboratory for design, another source of aggregate will be necessary.

(c) Recycled Asphalt Pavement and Recycled Asphalt Shingles

Recycled Asphalt Pavement (RAP)

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The Contractor may utilize asphalt pavement that has been removed from a Department project or other State Highway Agency project by an approved method and stored in a TDOT approved stockpile. Recycled Asphalt Pavement (RAP) combined with the appropriate aggregate, asphalt cement, and anti-strip additive when required shall produce a mixture that will otherwise meet all the requirements of **Subsection 903.11** and the requirements herein **Section 411**. RAP shall be allowed in each mix listed in the following table:

Mix Type	% RAP (Non-processed)	Maximum % RAP (Processed)	Maximum % RAP Processed and Fractionated	Maximum Particle size
411D(PG64-22, PG67-22)	0	15	20	½ in. (12.5 mm)
411D(PG70-22)	0	10	15	½ in. (12.5 mm)
411D(PG76-22, PG82-22)	0	10	15	½ in. (12.5 mm)
411E(Roadway)	0	15	20	½ in. (12.5 mm)
411E(Shoulder)	15	30	35	½ in. (12.5 mm)

RAP that has been crushed and screened or otherwise sized such that the maximum recycled material particle size is less than that listed in the table above prior to entering the dryer drum, shall qualify as “Processed”. “Non processed” RAP shall be similar material that has not been crushed and screened or otherwise sized previous to its use. When RAP is processed over more than one screen, producing sources of various maximum particle size (i.e. – ¾” to ½”, ½” to #4, etc.), it will be referred to as “fractionated”, and larger percentages will be allowed as noted above. These increased percentages will only be allowed provided the individual fractions are introduced into the plant as separate material sources for increased control.

All mixes shall contain at least 80% virgin asphalt except for 411E Shoulder Mix which shall have at least 65% virgin asphalt.

The Contractor shall obtain a representative sample from the recycled material stockpile and establish a gradation and asphalt cement content as required. The Contractor shall determine the gradation and asphalt content of the recycled material at the beginning of a project and every 2,000 tons (2,000 metric tons) thereafter. The stockpile asphalt cement content for all recycled material shall not vary from the Job Mix Formula by more than ± 0.8 %. The stockpile gradation tolerance for all recycled material on each sieve is listed below.

3/8in. (9.50 mm) sieve and larger± 10%
 No. 4(4.75 mm) sieve.....± 8%
 No. 8(2.36 mm) sieve.....± 6%
 No. 30(600 µm) sieve.....± 5%
 No. 200(75 µm) sieve.....± 4%

The Contractor will be responsible for his own sampling and testing of the RAP as well as new materials for bid purposes, and for the submission of the job mix formula in accordance with **Subsection 407.03**. After mixing, the moisture content of the total mix shall be no more than 0.1% as determined by oven drying, and the provisions for lowering the temperature because of boiling or foaming shall not apply.

The mixture will be accepted for aggregate gradation and asphalt content based on extractions or in accordance with AASHTO T 308.

Recycled Asphalt Shingles (RAS)

Recycled Asphalt Shingles (RAS) may be included to a maximum of 5 percent of the total weight of mixture. The percentage of RAS used will be considered part of the maximum allowable RAP percentage. The ratio of added new asphalt binder to total asphalt binder shall be 65% or greater for all 411 mixes. Either the mix producer or the RAS supplier shall obtain a representative sample from the recycled material stockpile and establish a gradation and asphalt cement content as required. Shingle asphalt binder content shall be determined by AASHTO T-164 Method A, with a minimum sample size of 500 grams. The Contractor shall determine the gradation and asphalt content of the recycled material at the beginning of a project and every 2,000 tons (2,000 metric tons) of recycled material used thereafter. The stockpile asphalt cement content for all recycled material shall not vary by more than 0.8%. All RAS material shall be processed to a minimum 100 percent passing the 3/8 inch (9.5-mm) sieve and a minimum 90 percent passing the #4 (4.75-mm) sieve.

To conduct the gradation testing, a 500-700 gram sample of processed shingle material is air dried and dry sieved over the 3/8" and #4 sieves and weighed. For Mix Design purposes, the following aggregate gradation may be used as a standard gradation in lieu of determining the shingle gradation by AASHTO T30.

Sieve Size	% Passing
3/8 inch (9.5 mm)	100
#4 (4.75 mm)	97
#8 (2.36 mm)	95
#16 (1.16 mm)	80
#30 (0.60 mm)	60
#50 (0.30 mm)	50
#100 (0.150 mm)	40
#200 (0.075 mm)	30

An aggregate bulk specific gravity (G_{sb}) of 2.650 may be used in lieu of determining the shingle aggregate G_{sb} (AASHTO T84). In addition, the effective binder available for mixing with additional aggregates shall be considered as 75 % of the total binder content as determined by AASHTO T-164 described above and shall be the value listed as the RAS binder content on the Job Mix Formula.

Scrap asphalt shingle shall not contain extraneous waste materials. Extraneous materials including, but not limited to, asbestos, metals, glass, rubber, nails, soil, brick, tars, paper, wood, and plastics shall not exceed 0.5 percent by weight as determined on material retained on the 4.75-mm (No. 4) sieve. To conduct deleterious material testing, a representative 500-700 gram sample of processed shingle material shall be sieved on the #4 sieve and any extraneous waste material retained on the #4 sieve is picked and weighed. The percent extraneous is based on the total sample weight.

RAS shall contain less than the maximum percentage of asbestos fibers based on testing procedures established by TDOT, state or federal environmental regulatory agencies. A minimum of one (1) sample of processed asphalt roofing material for every five hundred (500) tons of material processed shall be analyzed for the presence of asbestos containing material.

Before a Job Mix Formula for a particular design is approved, the following shall be submitted, along with materials and paperwork required by TDOT Specification 407.03:

- Certification by the processor of the shingle scrap describing the shingle scrap content and source.
- A 1000g sample of the processed RAS material for inspection (new designs only)

RAS shall be stockpiled separate from other salvage material. Blending of RAS material in a stockpile with other salvage material is prohibited. Blending of Manufacture Waste Scrap Shingles (MWSS) and TOSS shall not be allowed. In addition, blending of a virgin sand material with the processed shingles, to minimize agglomeration of the shingle material, shall not be allowed.

All RAS supplied to a TDOT project must come from a certified shingle processor/supplier approved by TDOT Headquarters Materials and Tests.

(d) Anti-Strip Additive

Asphaltic concrete surface mixtures (Grading D & E) shall be checked for stripping by the Ten Minute Boil test for dosage rate and ASTM D 4867(Root-Tunnecliff procedure) for moisture susceptibility.

If moisture susceptibility is indicated, then an approved anti-strip agent shall be mixed with the asphalt cement at the dosage recommended by the respective test and as specified in **Subsection 918.09(B)**.

Subsection 411.09-Method of Measurement. Remove and replace the entire subsection with the following:

Subsection 411.09-Method of Measurement. Mineral Aggregate including Mineral Filler, when required, and Asphalt Cement for Asphaltic Concrete Surface (Hot Mix) will be measured as prescribed in Subsection 407.19. Mineral Filler when required will not be measured for payment separately, but will be included as mineral aggregate.

If recycled mix is permitted, the completed mix, including new mineral aggregate, planings, asphalt cement and additive, shall be measured by the ton (tonne) in accordance with Section 109. For bidding purposes, the asphalt cement content of the specified mix shall be used in the chart below:

Mix Type	Asphalt Content
411-D	5.9%
411-E Roadway	6.3%
411-E Shoulder	6.3%

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In the event that the Engineer sets an asphalt content other than that stated above, a price adjustment will be made based on the asphalt content set by the Engineer and the Monthly Bituminous Index for the specific grade asphalt cement on the mix design. The price adjustment will be calculated according to the following formula:

$$PA = [MBI \times (DA - BA) \times T] / 100$$

Where:

PA = Price Adjustment

MBI = Monthly Bituminous Index

DA = Percent asphalt set on the mix design

BA = Percent asphalt specified above to be used for bidding

T = Total tons (metric tons) asphalt mix for price adjustment

The liquid anti-strip additive will be measured by the gallon(liter) and paid as outlined in Subsection 411.10. Hydrated Lime will be measured by the ton(metric ton) and paid as outlined in Subsection 411.10.

No direct payment will be made for polymer or latex additives and cost thereof shall be included in the price bid for the modified asphalt cement or modified mixture.

Subsection 414.03, Revise entire section as follows:

414.03-Composition of Mixture. At least 2 weeks prior to beginning work the Contractor shall submit a signed original of a mix design covering the specific materials to be used on the project to the Materials and Tests Division for acceptance together with representative samples of each ingredient to be used in the mixture. The samples should contain information relative to sources, type of materials and project number.

This design must have been performed by a qualified laboratory. Once the materials are approved, no substitution will be permitted unless first tested and approved by the laboratory preparing the mix design. No work shall begin nor will any mixture be accepted until the Materials and Tests Division has evaluated and accepted the mix design.

The laboratory report will show the results of tests performed on individual materials, comparing their values to those required by this specification. Job aggregates will be used in all laboratory design tests. Mixing tests must pass at the maximum expected air temperature in ISSA T113.

Slurry Seal. The laboratory report will provide the following information on the slurry seal mixture.

Quick-Set Emulsified Asphalt Slurry Seal

Mixing Time Test, seconds
@ 77° F(25° C) (TB #113),

120 minimum

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Mix Time @ (50° and 100° F) (10° and 37.7° C)	(informational)
Set Time Tests	
30-Minutes-Blotter Test (TB #102)	no brown stain
Displacement Test	no displacement
Water Resistance Test @ 30 minutes (TB #102)	no discoloration
Wet Stripping Test, % coating (TB #114)	90% minimum
System Compatibility (TB #115)	Pass
Set Time Tests: 30 minutes (TB #139)	12 kg-cm minimum
Early Rolling Traffic Time: 2 hours (TB #139)	20 kg-cm minimum
Wet Track Abrasion Test, loss in g/ft ² (g/m ²) (TB #100)	75(800) maximum 6 day soak

In addition to the tests specified above, the following test will be required on roadways having greater than 1500 ADT.

ISSA T #109	Test Method for Measurement of Excess Asphalt in Bituminous Mixtures by Use of a Loaded Wheel Tester and Sand Adhesion
1,500-3,000 ADT	Maximum 55grams/psf (590g/m ²) sand adhesion, 1,000 cycles @ 125 lbs. (57 kgs).
3,000+ ADT	Maximum 50grams/psf (540g/m ²) sand adhesion, 1,000 cycles @ 125 lbs.(57 kgs).

Slurry Seal Composition. Emulsified asphalt slurry seal shall be a uniform mixture of aggregate, emulsified asphalt, latex solids when specified on the Plans, mineral filler and water. Compatibility of all ingredients (including the mix set additive) of the mix shall be certified by the emulsified asphalt manufacturer.

The percent of residual asphalt based on the weight of the dry aggregate shall be between 7.5 and 13.5 with a mixture control tolerance of $\pm 0.50\%$.

The aggregate gradation and percent residual asphalt, as provided in the slurry seal design accepted by the Engineer, shall be maintained within the mixture control tolerances stated herein.

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Portland cement may be added to obtain the desired dispersion and working characteristics of the slurry. Such addition shall be stated on the slurry seal design, shall not exceed 3% of the weight of the aggregate, and shall have a mixture control tolerance of $\pm 0.25\%$.

Portland cement added for dispersion of the slurry seal shall be a commercial quality, non-air entraining cement and shall not be considered as mineral filler for the purpose of satisfying the gradation requirements of the aggregate.

The aggregate shall be prewetted with a minimum amount of water prior to blending with the emulsified asphalt to obtain a fluid, homogeneous slurry mixture of the proper consistency. No additional water above that quantity required by the slurry seal mix design shall be added to the slurry mix in order to obtain a more workable mixture.

Micro Surfacing. The laboratory report will provide the following information on the micro-surface mixture.

Mixing Time Test, secs @ 77° F (25° C), (T-102)	120 minimum
Mix Time @ 50 and 100° F (10° C and 37.7° C)	(informational)
Set Time Tests: 30 minutes (T-139)	12 kg-cm minimum
Early Rolling Traffic Time: 60 minutes (T-139)	20 kg-cm minimum
Wet Stripping Test, % coating (T-114)	90% minimum
Wet Track Abrasion Test, loss in g/ft ² (g/m ²) (T-100)	75 (800) max 6 days 50 (538) max. 1 hour
Measurement of Excess Asphalt (T-109)	Max. 50 grams/ft ² (540 grams/m ²) Sand Adhesion, 1,000 Cycles @ 125 lbs. (57 kgs).
Classification Compatibility (T-144)	11 pt. minimum
Loss on Ignition (LOI) Test, TDOT Spec. 40703 E	(informational)

Micro-Surface Composition. For the paving mixture, the design shall verify the functioning of the set regulating additives and shall present certified test results for the Engineer's approval. Aggregate in the mixture shall represent material to be used on the project.

The Engineer shall approve the design prior to use. Proportions for the design shall be within the following limits:

Modified Emulsified Asphalt Residue by Dry Wt. of Aggregates	5.0-9.0%
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Mineral Additive by Dry Weight of Aggregate	0.5%-3.0%
Latex or Polymer Based Modifier provide the specified properties	3% minimum and as required to
Mix Set Additive	As required to provide the specified properties
Water	As required to produce consistency

Portland cement may be added to obtain the desired dispersion and working characteristics of the mix. Such addition shall be stated on the micro-surface design, shall not exceed 3% of the weight of the aggregate, and shall have a mixture control tolerance of $\pm 0.25\%$.

Portland cement added for dispersion shall be a commercial quality, non-air entraining cement and shall not be considered as mineral filler for the purpose of satisfying the gradation requirements of the aggregate.

The mixture shall also be proportioned such that the test strip requirements in **Subsection 414.06** are achieved.

Applicable Specifications. The following specifications and test methods form a part of this specification.

Title	Source
Mixing, Setting and Water Resistance Test to Identify "Quick-Set" Emulsified Asphalts	ISSA TB-102
Wet Track Abrasion of Micro Seals	ISSA TB-100
Measurement of Micro-Seal Consistency	ISSA TB-106
Test Method for Measurement of Excess Asphalt in Bituminous Mixtures by Use of a Loaded Wheel Tester	ISSA TB-109
Outline Guide Design Procedure for Slurry -Seal	ISSA TB-111
Method to Estimate Micro-Seal Spread Rates and to Measure Pavement Macrotecture	ISSA TB-112
Trial Mix Procedure for Slurry -Seal Design	ISSA TB-113
Wet Stripping Test for Cured Slurry-Seal Mixes	ISSA TB-114
Test Method to Classify Emulsified Asphalt/Aggregate Mixture Systems by Modified Cohesion Tester. Measurement of Set and Cure Characteristics	ISSA TB-139
Classification Compatibility	ISSA TB-144
Design, Testing and Construction of Micro-Seal	ASTM D 3910
Quantitative Extraction of Bitumen for Bituminous Paving Mixtures	ASTM D 2172

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The blended asphalt mixture, when combined with aggregate and mineral filler, shall have the following characteristics:

1. Be capable of filling up to ½ in. (13 mm) wheel ruts in one pass.
2. Be capable of field regulation of the setting time.
3. Be suitable for nighttime placement.

Subsection 414.04, Revise subsection as follows:

414.04-Equipment. All equipment necessary for the satisfactory performance of this work shall be on hand and approved before the work is permitted to begin. All equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working condition. The Contractor shall have available at all times a device capable of determining aggregate moisture within 3 minutes.

All trucks shall be covered immediately after loading with a cover of canvas or other suitable material. The cover shall lap down along the sides and rear of the truck bed a minimum of 6 in. (150 mm) and be secured by tie downs at a maximum of 5 ft. (1.5 m) spacing along the sides and rear of the truck bed. All trucks must be equipped to meet the above requirements prior to commencing hauling operations.

Power brooms, power blowers, air compressors, water flushing equipment and hand brooms shall be capable of thoroughly cleaning all cracks and the old surface. Hand squeegees, hand brooms, shovels and other incidental equipment shall be provided as necessary to perform work.

Mixing Equipment. The mixing equipment shall be re-supplied with all materials while depositing the mixture on the roadway in order provide a continuous, non-stop surfacing operation. The paving mixture shall be produced in a self-propelled, front feed, continuous loading, mixing machine equipped with a positive, non-slipping aggregate delivery system and an interconnected, positive displacement water-jacketed gear pump to accurately proportion ingredients.

The mixing machine shall be equipped with an approved fines feeder that has an accurate metering device or method to introduce a predetermined amount of mineral filler into the mixer at the same time and location as the mineral aggregate. A spray bar shall be provided to completely wet the aggregate dropping down to the pug mill with additive and water. The twin-shafted multi-blade pug mill shall be a continuous flow type and a minimum of 50 in. (1.25 m) long. The emulsion shall be introduced above the third point of the mixer to ensure proper premixing of the aggregate, cement, additive and water when the modified emulsified asphalt is added. Blade size and side clearances shall meet the equipment manufacturer's recommendations.

Mixing shall be done in a manner that does not cause premature breaking of the emulsified asphalt. The mixing unit of the mixing chamber shall be capable of thoroughly blending all ingredients.

The mixer shall be equipped with a remote forward speed control at the back mixing platform so the back operator can control forward speed and level of mixture in paving or rut box. Effective April 1, 2006, the Contractor shall provide a computerized material monitoring system with integrated material control devices that are readily accessible and positioned so the amount of each material used can be determined at any time. The mixer shall be equipped with a back-up electronic materials counter that is capable of recording running count totals for each material being monitored. The mixer shall be equipped with a radar ground measuring device.

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Each material control device shall be calibrated prior to each mix application and as often thereafter as deemed necessary by the Engineer. The computer system shall have the capability to record, display and print the following information:

- Individual sensor counts for emulsion, aggregate, cement, water and additive
- Aggregate, emulsion, and cement output in lbs.(kgs) per minute
- Ground travel distance. The mixer shall be equipped with a Radar Ground metering device
- Spread rate in lbs./s.y.(kgs/m²)
- Percentages of emulsion, cement, water and additive
- Cumulative totals of aggregate, emulsion, cement, water and additive
- Scale factor for all materials

The computer system shall be functional at the beginning of work, and must be functional during each calibration.

The mixing machine shall be equipped with a water pressure system and fog type spray bar, adequate for complete fogging of the surface preceding spreading equipment of the mixture.

The mixing machine shall include controls for proportioning and calibrating the aggregate feed. The aggregate feed device shall be equipped with a revolution counter so that the amount of aggregate used may be determined at any time and shall have a positive locking feed gate.

The emulsion pump shall be of the positive displacement type and shall be equipped with a device so that the amount of emulsion used may be determined at any time. The emulsion pump, meter and piping shall be arranged to afford a means to calibrate the meter by weighing a metered volume. The pump shall deliver the emulsion to the mixer box at a uniform rate which shall not vary more than 2% from the required quantity.

The water pump shall be equipped with a minimum of 2 valves. One valve shall establish the required water flow. The other valve shall be a quick acting valve to start and stop the water flow.

The mixing machine shall have sight gauges located at the material storage tanks for the asphalt emulsion and water.

The mixing machine shall be equipped with approved metering devices so that it can be accurately calibrated and the quantities of materials used during any 1 period can be closely estimated. In the event that the metering devices stop working properly, the mixing machine shall no longer be used until necessary repairs have been made.

Satisfactory means shall be provided to afford positive interlocking control between the flow of aggregate from the bins and the flow of emulsion from the pump. Each mixing unit shall be calibrated in the presence of the Engineer prior to construction. The documentation shall include an individual calibration of each material at various settings, which can be related to the machine's metering devices. When calibrating the emulsion system, a minimum of 3 tests shall be run, with each test run being a minimum of 40 gal. (150 liters). Calibration of the aggregate delivery system shall require tests at 3 different gate settings with 2 test runs at each gate setting and a minimum of 425 lbs. (193 kgs) per test run. Calibration of the filler(cement) delivery system shall require 3 tests at a minimum of 25 lbs. (11 kgs) per test. The scales used shall be certified. No machine will be allowed to work on the project until the calibration has been completed and accepted. Additional calibrations may be required during the process of the work as directed by the Engineer.

Spreading Equipment. Attached to the machine shall be hydraulically adjustable (adjustable while applying mixture) type spreader box with a positive screed adjustment for yield control and a positive adjustment for the joint matcher. The box shall be attached to the mixer, equipped with ribbon flights mounted on an adjustable shaft to continually agitate and distribute the materials throughout the box. The box shall be equipped with curb bumpers and replaceable runners with a minimum of 5 ft. (1.5 m) long end runners. The box shall be equipped with a sufficient walkway to provide access to either side of the spreader box without walking through the freshly laid material. The spreader box shall be heavy duty with crossbracing for rigidity and a manufacturer's weight not less than 1,400 lbs. (635 kgs) at a width of 12 ft. (3.6 m). The box must be capable of laying mix to a width of 14 ft. (4.3 m). The equipment shall provide sufficient turbulence to prevent the mix from setting in the box or causing excessive side build-up or lumps. To prevent the loss of the mixture from the box, the Contractor shall attach flexible seals, front and rear, in contact with the road. The full width application box shall be equipped with a secondary strike-off located approximately 2 to 3 ft. (0.5 to 1.0 m) behind the primary strike-off to minimize transverse corrugations. The secondary strike-off shall have elevation and width adjustments similar to the primary strike-off. It shall have a pivot point where it can be tilted for texturing or raised completely off the surface. Rut filling shall require a steel or high density strike-off on the spreading equipment (as approved by the engineer) or the use of a rut box. A rut box shall be used for filling ruts in excess of 3/8 in. (10 mm) unless otherwise specified on the plans. The Contractor shall operate the spreading equipment in such a manner to prevent the loss of the mixture on super-elevated curves. Mixture shall be spread to fill cracks and minor surface irregularities and achieve a uniform skid-resistant surface without causing skips, lumps or tears in the finished mat.

For slurry seals, the use of burlap drags or other drags necessary to obtain the desired finish, shall require approval by the Engineer. Drags having excessive build-up shall be replaced. Drags shall be kept in a completely flexible condition at all times. No drags shall be used on Micro-surfacing.

Subsection 414.06, Revise subsection as follows:

414.06-Application. Prior to the placement of the mixture, a tack coat of SS-1h, CQS-1h or CQS-1hp emulsion shall be applied with an asphalt distributor. The tack coat shall consist of 1 part emulsion and 3 parts water. The application rate shall be 0.10 to 0.15 gal./s.y. (0.5 to 0.7 L/m²) of the diluted emulsion. The actual application rate shall be determined by the Engineer. The method of application of the tack coat shall be in accordance with **Section 403**.

The emulsified asphalt slurry seal shall be applied at a rate of 16 ±2 lbs./s.y. (of 8.75 ±1 kgs/m²) based on dry aggregate weight unless otherwise specified on the Plans. The rate of application shall be varied within the range specified above as required by the condition of the pavement to obtain a minimum thickness of 1/8 in. (3 mm) above the high points of the milled areas and 1/4 in. (6 mm) thickness on unmilled areas.

Micro-surface shall be applied as follows:

- **Rutfill Course.** If a rut fill course is specified, apply enough material to fill the wheel paths without excess crowning (overfilling). An excess crown is defined as 1/8 in. (3 mm) after 24 hours of traffic compaction. Apply rut fill courses in widths from 5 to 6

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ft. (1.5 to 1.8 m) for each wheel path. Provide a smooth, neat seam where 2 rut fill passes meet. Take care to restore the designed profile of the pavement cross-section. Feather the edges of the rut fill course to minimize the use of excess material.

- Leveling Course. If a leveling course is specified, apply at a rate of 14 ± 2 lbs /s.y. (7.6 ± 1.1 kgs/m²) based on dry aggregate.
- Surface Course. If a surface course is specified and it is placed over a leveling course, apply at a rate of 18 ± 1 lbs/s.y. (8.7 ± 0.6 kgs/m²) based on dry aggregate. If a surface course is specified and it is not placed upon another micro-surfacing course, apply the paving mixture at a minimum rate of 22 lbs/s.y. (11.9 kgs/m²) based on dry aggregate.

Micro-surface shall be applied at the rates as specified on the plans for leveling and surface courses.

The mixture shall be applied based on dry aggregate weight as specified on the plans.

The maximum allowable speed of the machine shall be 130 ft. (40 m) per minute. When rut filling, the maximum allowable speed shall be determined by the Engineer. The final surface seal shall be placed uniformly across the width of the traffic lane unless otherwise specified or directed. The action of the squeegee shall permit the mix to flow freely leaving a smooth, uniformly textured surface.

Unless otherwise directed by the Engineer, the surface shall be pre-wetted with water by fogging ahead of the spreader box. Pre-wetting shall be closely controlled to prevent accumulation of water to the point of running off or puddling.

As the aggregate and emulsion are being loaded into the aggregate/emulsion support trucks or mixing machine, the aggregate shall be given a final screening by sieving it through screening equipment capable of removing any random oversize material.

The mixture shall be of the desired consistency when deposited on the surface after which no additional elements shall be added. A sufficient amount of mixture will be carried in all parts of the spreader at all times so the complete coverage is obtained. No lumping, balling or unmixed aggregate shall be permitted. No segregation of the emulsion and aggregate fines from the coarse aggregate will be permitted. If the coarse aggregate settles to the bottom of the mix, the mix will be removed from the pavement. The mixture shall have proper consistency so that excessive splattering and excessive free water is avoided. The spraying of water into the spreader box during lay down operations will not be permitted. Hand tools, lutes and squeegees shall be used to spread mix on areas not accessible to the machine spreading equipment. Rolling with a pneumatic-tired roller shall be required after proper curing for sections of pavement not to be exposed to traffic. The roller shall be equipped with tires with a pressure of 40-60 psi (275 to 425 kPa).

Quality Control: The Contractor shall produce a mixture that will be in compliance with the mix design and the quality control tolerances. The Slurry Seal or Micro-Surface shall be applied at the rates as specified on the plans. The methods described in this section shall be used by the Contractor to measure compliance. Contractor shall maintain all quality control documentation and make available to the Engineer or Project Inspector upon request or at completion of work.

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- a. Asphalt Content – The Contractor shall calculate the % asphalt content of the mixture from the equipment computer display readings randomly, a minimum of 3 times a day. The quality control tolerances from the mix design is $\pm 0.5\%$.
- b. Application Rate – The Contractor shall calculate the yield of the course being placed from the equipment computer display readings randomly, a minimum of 3 times a day. The quality control tolerance from the specified application rate is ± 2 lbs/s.y. (± 1 kg/m²).
- c. Documentation – The Contractor shall maintain a daily report and a lot sheet as follows:
 1. Daily Report – The daily report shall include the following information:
 - Aggregate used, ton(metric ton) (dry)
 - Slurry or Micro-Surfacing emulsion used, ton(metric ton)
 - Bituminous Materials for Tack Coat and for Fog Seal, ton (metric ton)
 - Cement used, ton(metric ton)
 - Water used in mixture, gallons(liters)
 - Additive used in mixture, gallons(liters)
- d. Test Strip Construction - Prior to production application, the Contractor shall place a 1,000 $\pm$ 50 ft. (300 $\pm$ 15 m) test section to verify a quick traffic system is being used. The test strip shall be placed at the same time as paving is to take place, night or day, and under the same ambient conditions. The test strip shall be able to carry normal traffic within 60 minutes. If normal traffic cannot be carried, the emulsion or mixture must be adjusted and another test strip will be required.

Lot Sheet - The project shall be segmented into lots with any 1 lot not to exceed 20,000 s.y.(16,700 m²). For each lot the Contractor shall maintain a lot sheet, providing the following information:

- Control Section, Job Number, Route, Engineer (Project Inspector)
- Date, Air Temperature
- Control Settings, Calibration Values, Unit Weight of Emulsion (lbs per gallon) (kgs per liter), Percent residue in Emulsion.
- Beginning and Ending Intervals
- Computer display readings for material usage (Beginning, and Ending, and Total)
- Length, Width, Total Area (s.y.) (m²), (lbs.) (kg) of Aggregate, lbs. (kg) of Emulsion, lbs. (kg) of Cement.
- Percent of each Material, Percent of Asphalt Cement, Application Rate, Combined Application Rate (lbs./yd²) (kgs/m²)
- Mix Design (Percent Portland Cement, Percent Emulsion, Percent Asphalt Cement)
- Contractors Authorized Signature
- Calibration Forms

Subsection 414.08. Revise entire subsection to the following:

414.08-Fog Seal Application. Fog sealing of shoulders shall meet the requirements of Subsection 403.05.

Subsection 414.09, Revise subsection as follows:

414.09-Weather Limitations. Micro-surface and slurry seal shall be placed only when the pavement surface temperature and the ambient air temperature are a minimum 50° F(10° C) and rising. These applications will not be placed during foggy or rainy conditions. Placement shall be limited to the period from April 1 to October 31.

Subsection 414.11, Revise the first and second paragraphs to as follows:

414.11 Method of Measurement

The Department will measure:

1. Emulsified Asphalt Slurry Seal by the square yards complete in place and accepted.
2. Micro-Surfacing by the square yards complete in place and accepted or
3. The quantity of aggregate for Micro-Surfacing, including mineral filler, by the ton (dry), based on the calibrated metering devices affixed to the micro-surface mixing machine and
4. The quantity of latex or polymer modified emulsion used in the accepted portion of the micro-surfacing by the ton of material, based on the calibrated metering device affixed to the micro-surface mixing machine or
5. Bituminous Materials for Tack Coat and for Fog Seal by the ton of undiluted emulsion.

The quantity for “Bituminous Material for Tack Coat”, Item No. 403.01, should be 1/4 of the estimated application rate. The Department will not directly pay for latex or polymer additives when used and will consider their cost to be included in the price bid for the respective items.

For bidding purposes, assume the emulsified asphalt content for the slurry mix design is 15%. When micro-surfacing is bid by the square yard, the design asphalt content is 12%. If the Engineer sets an emulsified asphalt content for slurry seal other than that stated above, the Department will make a price adjustment based on the emulsified asphalt content set by the Engineer and the invoice price of the emulsified asphalt F.O.B. the project delivery point. The Department will calculate the price adjustment according to the following formula:

$$PA = \frac{[IP \times (DA - BA) \times T]}{100}$$

Where:

- PA = Price Adjustment
 IP = Invoice price of emulsified asphalt cement
 DA = Percent emulsified asphalt set on the mix design
 BA = Percent emulsified asphalt specified above to be used for bidding
 T = Total tons of aggregate for price adjustment as determined by the metering system on the mixing machine

The Department will make payment to the Contractor for additional emulsified asphalt as provided for above at the purchase price F.O.B. the project delivery point, as verified by invoice, with no compensation allowed for further handling or processing. The Department will be reimbursed from monies due the Contractor for a decrease in emulsified asphalt content in the amount equal to the purchase price F.O.B. the project delivery point.

Subsection 415.02, (Delete the third paragraph) “When milling the Interstate...”

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STATE**OF****TENNESSEE**

March 1, 2006

Rev. 07-01-07
Rev. 12-13-2010

Supplemental Specifications - Section 500
of the
Standard Specifications for Road and Bridge Construction
March 1, 2006

Subsection 501.03, Remove and Replace the entire subsection with the following:

501.03-Proportioning and Quality Assurance of Concrete.

A. Proportioning :

The Contractor shall submit the proposed concrete design to the Engineer for approval. The design shall be determined using saturated surface dry aggregate weights and shall be verified by the use of trial batches meeting the requirements of these specifications. The concrete design shall be prepared by a TDOT certified Class 3 concrete plant technician, or by an approved independent testing laboratory under the direction of a registered professional civil Engineer, licensed by the State of Tennessee. The concrete plant technician or the Civil Engineer shall certify that the information contained on the design is correct and is the result of information gained from the trial batches. Trial batches for design, including admixtures in the proper proportion, shall be built no more than 90 days prior to the design submittal. All cost of concrete design, preparation and submittal shall be the responsibility of the Contractor.

The concrete design shall be air entrained and produce a workable concrete mix meeting the following design and production parameters:

CLASS CP - PAVING CONCRETE

28 day Compressive strength, min. (PSI)	Minimum cementitious content (pounds per CY)	Maximum Water/cement ratio (lb/lb)	Air Content (%)	(inch)
3000	526 ¹ 545 ²	0.49	5% design 3-8 % production	0-2.0 ³ 3±1 ⁴

¹-526 lbs required when the coarse aggregate is crushed stone

²-545 lbs required when the coarse aggregate is gravel

³-Allowable slump for slipform paving

⁴-Allowable slump for other than slipform paving

Chemical Admixtures shall be included in the concrete mixture as specified in the following table based on the ambient air temperature and expected weather conditions.

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Class of Concrete	Temperature less than 85° F(30 ° C) and falling	Temperature 85° F(30° C) or greater and rising
CP	Type A or Type F	Type D or Type G

Admixtures to be incorporated into the concrete shall all be from the same manufacturer, shall be incorporated into the concrete in accordance with the manufacturer's recommendations, subject to approval by the Engineer.

The proposed concrete design submittal shall contain as a minimum the following information:

Source of all aggregate
 Brand and type of cement
 Source and class of fly ash (if used)
 Source and grade of ground granulated blast furnace slag (if used)
 Specific gravity of cement
 Specific gravity of fly ash (if used)
 Specific gravity of ground granulated blast furnace slag (if used)
 Admixtures (if used)
 Gradation of aggregates
 Specific gravities of aggregates (saturated surface dry)
 Air content (if air entrainment is used)
 Percentage of fine aggregate of the total aggregate (by volume)
 Slump
 Weight per cubic yard(m3)
 Yield
 Temperature of plastic concrete
 Water/cement ratio lb./lb.(kg/kg)
 7 day compressive strength [minimum of 3 x 6-in. x12in. (150mm x 300mm) cylinders]
 14 day compressive strength [minimum of 3 x-6in. x12in.(150 x 300 mm) cylinders]
 28 day compressive strength [minimum of 3 x-6in. x12in.(150mm x 300mm) cylinders]
 Weight of each material required to produce a yd3(m3) of concrete

In lieu of the above mix design submittal, the Contractor may submit for approval to use an existing design (Contractor or Department prepared) approved by the Department within the current calendar year. The approval of this concrete design submittal will not relieve the Contractor of the responsibility of providing concrete meeting the requirements of these specifications. A temporary mix design may be issued if the 7 day compressive strengths exceed the required 28 day strengths.

If materials from sources other than those shown on the approved concrete design are to be used, the Contractor must submit and obtain approval of a concrete design showing these sources. No concrete shall be accepted with materials that are not shown on an approved concrete design.

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In addition to the option to use Type I-SM cement, the contractor may have the option to replace a portion of Type I cement in Portland cement concrete, up to a maximum specified herein, with fly ash and/or ground granulated blast furnace slag. It is the Contractor's responsibility, if he chooses to use fly ash and/or ground granulated blast furnace slag as a partial cement replacement, to provide Portland cement concrete of the design strengths specified in all applicable special provisions, on the plans, or in the standard specifications. Type I-SM cement or Type I cement with fly ash or ground granulated blast furnace slag as a partial cement replacement will not be used in concrete when high early strength is specified. When the Contractor elects to replace a portion of Type I cement with fly ash and/or ground granulated blast furnace slag, the following requirements must be verified prior to producing any Portland cement concrete:

1. Fly ash or ground granulated blast furnace slag shall be stored in silos separate from each other and separate from the Type I cement.
2. The fly ash or ground granulated blast furnace slag is to be added to the concrete by methods and equipment approved by the Engineer, capable of uniformly distributing the materials throughout the mix.
3. The fly ash or ground granulated blast furnace slag may be weighed cumulatively in the weigh hopper with the cement, provided the cement is added first. The temperature of the fly ash or the ground granulated blast furnace slag is not to exceed 160° F (71° C) at the time of introduction to the mix.
4. The mix shall be closely monitored to maintain a consistent air content between 3% and 8%.

Additional testing may be required to verify desired properties of Portland cement concrete with fly ash or ground granulated blast furnace slag. Additional compensation for the expense and/or lost production due to the additional testing will not be allowed the Contractor. The following are examples of additional testing that may be required:

1. Additional air test as felt necessary by the Engineer to monitor the entrained air due to fluctuations in LOI and fineness of the fly ash or ground granulated blast furnace slag material.
2. Additional compressive test specimens may be needed to determine strengths for form removal due to the slowed strength development inherent with fly ash or ground granulated blast furnace slag concrete.

Design of Portland cement concrete with Type I cement modified by the addition of fly ash or ground granulated blast furnace slag. The following table indicates that maximum cement replacement rates (by weight) and minimum substitution ratios (by weight) for the type of modifier specified:

Modifier	Cement Replacement Rate(Maximum)% (by weight)	Minimum Cement Substitution Rates (by weight)
Ground Granulated Blast Furnace Slag(GGBFS) (grade 100 or 120)	35.0	1:1
Class "F" Fly Ash	20.0	1:1
Class "C" Fly Ash	25.0	1:1

Ternary cementitious mixtures (mixtures with portland cement, GGBFS, and fly ash) will be allowed for Class CP Concrete provided that the minimum portland cement content is 50%. The maximum amount of fly ash substitution in a ternary blend will be 20%. Substitution rates will be at a 1:1 ratio.

Any request for a change in source of materials or admixtures from the original mix design must be made in writing to the Regional Materials and Tests Engineer explaining the necessity for the change and must be accompanied by a new mix design in accordance with the above provisions. No concrete shall be placed until the new design is approved.

When requested by the Contractor and approved by the Engineer, Class A Concrete for structures, as provided for under **Section 604** and herein modified, will be permitted for use in variable width sections, ramps, and on projects containing 10,000 yd²(m²) of concrete pavement or less. The slump shall be modified to be a maximum of 3 in.(75 mm) and the compressive strength of cylindrical specimens molded, cured and tested in an approved laboratory shall be not less than 3,000 psi(20.7 MPa) in 28 days. No additional payment will be made to the Contractor for increased costs due to the use of the above mixture.

The mix proportions approved by the Department shall govern during the progress of the work, except the Contractor shall make the following adjustments with the approval of the Engineer:

- If the cement content of the concrete varies by more than 2% from the designated value, as determined by AASHTO T 121, the proportions will be so adjusted as to maintain a cement content which does not vary more than 2% from the designated value.
- If it is found impossible to obtain concrete of the desired plasticity and workability with the proportions originally designed, changes will be made in aggregate weights as required, provided that in no case shall the cement content originally designated be changed except as provided in paragraphs (c), (d) and (e).
- If it is found impossible to produce concrete having the required consistency without exceeding the maximum allowable water-cement ratio specified, the cement content shall be increased so that the maximum allowable water-cement ratio will not be exceeded.

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- (d) If for any reason the concrete must be placed by hand methods and the water-cement ratio established for the vibrated concrete cannot be maintained, the mix proportions shall be adjusted for placement by hand methods and the cement proportion increased by 38 lbs per cubic yard (22 kgs per m³), or more if necessary in order to maintain the water-cement ratio established for the vibrated concrete. No additional payment will be made to the Contractor for the cost of the additional cement.
- (e) Change the mix proportions because of a change in the character or source of materials.
- (f) Change the mix proportions or mixing procedure in order to maintain the air content within the specified limits.
- (g) Change the mix proportions made necessary by the use of retarders or other chemical additives that may be required or approved.

B. Quality Control and Acceptance of Concrete:

It shall be the responsibility of the Contractor to determine and measure the batch quantities of all ingredients (including all water and any specified or approved admixtures) for all concrete produced for the project and to mix, deliver and place the concrete so that the concrete meets the requirements of these specifications. The minimum size of a batch shall be 2.5 cubic yards (2.0 m³). Sampling, testing and inspection for process control of the concrete at the concrete plant shall be performed by a TDOT Class 2 or higher concrete plant technician certified by the Department. This technician must be present at the concrete plant during all batching operations for the project and his primary responsibility during production shall be process control. Sampling, testing and inspection for process control of the concrete at the placement site shall be performed by a concrete technician that holds a TDOT Class 1, ACI Class 1, or higher certification. A technician shall be present at each placement site during all concrete placement. All necessary equipment required for process control shall be furnished by the Contractor and shall be at the plant and at the placement site at all times during concrete placement. Process control shall include, but not be limited to, the following tests and inspections:

1. Test to determine aggregate gradations (AASHTO T 27 with AASHTO T 11 when required).
2. Frequent inspections of the stockpile to ascertain that stockpiles are being maintained in an uncontaminated and unsegregated manner. A current aggregate quality report shall be kept at the plant.
3. Calibration of weighing systems, water meters and admixture dispensing systems prior to starting production.
4. Assurance of accurate weighing of the aggregates and cement, the proper metering of water and admixtures and the quality of water.
5. Assurance that mixing equipment is in proper working condition and the proper mixing speeds and revolutions are controlled as required by the specifications and the Materials and Tests Circular Letter File book.
6. Adjustment of mix proportions due to moisture content of both coarse and fine aggregates (moisture determination to be in accordance with AASHTO T 255).
7. Slump (AASHTO T 119) and Air Test (AASHTO T 152).

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8. Yield test (AASHTO T 121) (When yield varies more than $\pm 2\%$ from that shown on the design. All batching operations shall cease until the problem has been identified and corrected or a new concrete design has been obtained.
9. Quality control cylinders and early break cylinders (7-14 day, etc), for compression tests in accordance with AASHTO T 22.
10. Tests for concrete and ambient air temperatures.
11. A report furnished daily to the Engineer showing all pertinent information (Date, Contract and Project, Item number(s), batch weights, moisture corrections, admixtures, slump, air content, temperatures, etc.). A sample daily report will be given to the Contractor as an example.
12. A concrete delivery ticket must accompany each load to the placement site. The ticket shall at a minimum include the following:

Date

Contract number

County

Class of concrete

Concrete design number

Number of cubic yards

Load number

Truck number

Maximum water allowed by design

Total water added at the plant

Maximum water allowed to be added on the project

Actual water added on project

Number of revolutions at mixing speed at plant

Number of revolutions at mixing speed at project

Time loaded

Time discharged

Actual and target batch weights of each component including each aggregate, chemical admixture and mineral admixture used.

The Contractor shall develop for approval of the Engineer and maintain at the plant written procedures for sampling, testing and inspection of the concrete. The Contractor shall keep a record of all tests and inspections performed at the plant site and placement site, and this documentation, together with a certification by the Contractor that the concrete incorporated in the work meets the requirements of the specifications, shall be delivered to the Engineer upon completion of the project for inclusion in the project records. Records shall be kept current and shall be made available to the Engineer for review at any time.

It shall be the responsibility of the Contractor to properly make, cure and transport all early break cylinders (7-14 day, etc.) in accordance with AASHTO T 23 and delivered to the Regional laboratory or other established satellite laboratories for tests.

The Department or their representative shall be responsible for performing all acceptance tests. A TDOT Level 1 Certified or ACI Certified Technician shall sample, test air content and slump, and prepare 28 day cylinders for acceptance. The Department shall also be responsible for properly curing and transporting all acceptance cylinders in accordance with AASHTO T 23.

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All independent assurance sampling and testing shall be performed by the Department. All sampling and testing for acceptance and independent assurance shall be at the frequencies established in TDOT Procedures. The time and location for obtaining all acceptance and assurance samples will be determined by the Department.

It shall be the responsibility of the Contractor to provide cylinder molds, a wheelbarrow, and provide a level site to perform testing and for initial curing. The Contractor shall also provide a secure storage shed/building for temporary storage of concrete acceptance cylinders in accordance with **Subsection 722.09** of these Specifications.

A TDOT certified class 2 or higher concrete technician, whose duty is process control, shall be at the ready-mix plant during all batching operations. A TDOT or ACI certified class 1 or higher technician is not required to be at the placement site during all small quantity placing operations but is required to perform one complete set of tests during the life of the project. A delivery ticket must accompany each load delivered to the job site.

Batch weights shall be corrected to compensate for any surface moisture on the aggregate at the time of use. The Contractor may elect to withhold some of the water from the mix at the plant provided the delivery ticket indicates the amount of water withheld. If a portion of the water is withheld at the plant, additional water may be added at the work site provided the design water/cement ratio of the mix is not exceeded.

Subsection 501.09, Revise the fifth paragraph to the following:

The tolerance of the individual quantity of each cementitious material shall be no less than 1% nor no more than 4% of the required weight. Aggregates shall be weighed within a tolerance of 1.5% of the required weight.

Subsection 501.17, 2nd full paragraph on page 321, Change the first sentence from "When the pavement being constructed abuts an adjacent pavement" TO:

When the pavement being constructed longitudinally abuts an adjacent pavement

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STATE**OF****TENNESSEE**

(Rev. 03-23-09)
 (Rev. 02-08-10)
 (Rev. 12-13-10)
 (Rev. 05-09-2011)
 (Rev.06-25-2012)
 (Rev. 04-07-2014)

March 1, 2006

Supplemental Specifications - Section 600**of the****Standard Specifications for Road and Bridge Construction****March 1, 2006**

Subsection 602.05 (d) Paragraph one, **Change** 1125°F to 1100°F, **Change** 600°C to 593°C, **Change** the acronym, **ASSHTO** to **AASHTO**

Subsection 602.05 (d) Paragraph one, eighth sentence, and in the table below paragraph one, **Delete** the following:

Grades 70W, 100 and 100W, and **Replace** with Grades HPS70W, and HPS100W

Subsection 602.05 (d) Paragraph one, eighth sentence **Delete** “only under rigidly controlled procedures” and **Replace** with the following:

“as set forth in the **AASHTO** Guide Specification for Highway Bridge Fabrication with High Performance Steel”, current edition and the **AASHTO** “Bridge Welding Code”, current edition.

Subsection 602.05 (d) Paragraph two, first sentence, **Add** “or either”

“temperature indicating crayons, liquids, or either contact or non-contact...”

Subsection 602.05 (e) 3 First paragraph, **Delete** the first sentence and **Replace** with the following

“The heat-curving operation shall be conducted in such a manner that the temperature of the steel does not exceed 1200°F (649°C) for Grades 36, 50, 50W and HPS50W; and 1100°F (593°C) for Grades HPS70W and HPS100W as measured by temperature-indicating crayons or other suitable means.”

Section 602.17 Delete all references to **AASHTO M 253 (ASTM A 490)** bolts unless otherwise noted on the plans.

Subsection 602.17 (D) Delete the first sentence and replace with the following

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

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“The following provisions apply when high strength bolts are installed in the field or shop.”

Table 602.17 A-BOLT TENSION, page 352 Delete the table conversion values for kilograms
Replace with (Newton) values

TABLE 602.17A-BOLT TENSION Minimum Bolt Tension (1) in Pounds (Newton)		
Bolt Size in inches(mm)	AASHTO M 164 (ASTM A 325) Bolts	AASHTO M 253 (ASTM A 490) Bolts
1/2(13 mm)	12,000(53,379)	15,000(66,723)
5/8(16 mm)	19,000(84,516)	24,000(106,757)
3/4(19 mm)	28,000(124,550)	35,000(155,688)
7/8(22 mm)	39,000(173,481)	49,000(217,963)
1(25 mm)	51,000(226,859)	64,000(284,686)
1-1/8(28 mm)	56,000(249,100)	80,000(355,858)
1-1/4(32 mm)	71,000(315,824)	102,000(453,719)
1-3/8(35 mm)	85,000(378,099)	121,000(538,235)
1-1/2(38 mm)	103,000(458,167)	148,000(658,337)

Subsection 602.17(E) 1 b7 Change “bolt diameter”, and “(kips) number”, in the table

“(in) 1-1/6 to 1-1/2”, “(kips) 42 to 45”

Subsection 602.17(E) 2(a) 2. Change “16mm” to “1.6mm”

Subsection 602.17(E) 2 (b) 5. Change some information in table

1/2 rotation: **Change** “ ≥ 8 x” to, “ ≤ 8 x bolt dia.”

2/3 rotation: **Change** “ ≥ 8 x” to, “ > 8 x but < 12 x bolt dia.”

Subsection 602.17(E) 2 (b) 6. (Change some information in table)

Bolt Length (measured in Step 1)	4 x bolt dia. or less	> 4 bolt ≤ 8 x bolt dia.	> 8 x bolt dia.
Required Rotation	2/3	1	1-1/3

Subsection 602.19-Welds. Include the following as revisions to the **AASHTO/AWS** “Bridge Welding Code”

Delete 6.1.3.4(1) and 6.1.3.4(2)

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Subsection 602.19-Welds. First paragraph, page 363; **Add** the word “joint”;

“Complete joint penetration groove welds...”

Subsection 602.26 (b); Replace the “**THICKNESS IN INCHES (MILLIMETERS)**” Table with the following

MINIMUM COLD-BENDING RADII				
Thickness Inches (t)	Up to 3/4	Over 3/4 to 1, incl.	Over 1 to 2, incl.	Over 2
36	1.5t	1.5t	1.5t	2.0t
50	1.5t	1.5t	2.0t	2.5t
50W	1.5t	1.5t	2.0t	2.5t
HPS70W	1.5t	1.5t	2.5t	3.0t
100	1.75t	2.25t	4.5t	5.5t
100W	1.75t	2.25t	4.5t	5.5t

Subsection 602.26 (b) Second paragraph, after the Table, **Change** “HPS100W” to “HPS70W” and **Change** “1125°F” to “1100°C”, and “607°C” to “593°C”

Subsection 602.29 First paragraph, last sentence, **Change** “56°C” to “38°C”

Subsection 602.29 Third paragraph, last sentence, **Change** the last sentence to read as follows

“The holding temperature for stress relieving **ASTM** A709 Grade HPS70W HPS100W steels shall not exceed 1100°F (593°C).”

Subsection 602.29 Fourth paragraph, first sentence, **Delete** “Section 4.4” after the wording; and **Replace** with “paragraph 3.9”, **Delete** AWS D1.1 and **Replace** with **AASHTO/AWS** D1.5 “Bridge Welding Codes”

Subsection 602.35 Fifth paragraph, **Delete** reference to “Table 602.35”

Subsection 602.35 (b), Delete this section

Section 602.39- Add the following as the last paragraph

Shear Stud Connectors - After the beams have been erected, the contractor shall be required to attach the shear stud connectors in compliance with OSHA standards. The studs shall be installed in the locations shown in the plans. The contractor will be required to install and test shear studs in accordance with the latest version of AASHTO/AWS D1.5M/D1.5, Chapter 7 Stud Welding. The surface receiving the studs shall be cleaned by shot blasting or grinding to a bright metal surface immediately prior to welding. All studs shall be welded using automatically timed stud welding equipment only. At the beginning of each day or shift each individual welder/operator and equipment must complete the Production Control/ Pre-production testing as stated in section 7.7.1. Only individuals who repeatedly demonstrate satisfactory installation shall be allowed to install the shear studs. The contractor is responsible for the quality of all welds.

The Department shall inspect and randomly test the welds before any reinforcing steel is placed.

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Subsection 602.41 Last sentence, **Add** the wording “Plans and”“in accordance with **Subsection 105.02**, Plans and Working Drawings.”**602.41 Replace** entire subsection with the following:

602.41-Temporary Supports. Temporary supports for steel beam erection shall be properly designed, constructed and maintained to support the loads to which they will be subjected. The Contractor shall prepare and submit to the Engineer construction drawings for temporary supports and working drawings for changes in any existing structure necessary for safely maintaining traffic, in accordance with Subsection 105.02, Plans and Working Drawings.

Subsection 602.42 Add “ and stamped” after “prepared” in the first sentence.**Subsection 602.43 (a) Change** the third sentence to read as follows:

“In no case shall the maximum temperature of the **ASTM** A 709 Grade HPS100W, and the HPS70Wsteels exceed 1100°F (593°C).”

Subsection 602.43 (a) Add the following to the end of the first paragraph;

“or infrared thermometers (conductor or non-conductor)

Subsection 602.43 (b) Add the wording “HPS70W, and HPS100W,” after the word “Grade”**Subsection 602.47 (d) Delete** the second sentence of the second paragraph, and **replace** with the following;

“When the contractor has approval to drill holes for setting anchor bolts, the bolts shall be set accurately, and fixed by completely filling the holes with grout meeting the requirements of **Subsection 918.21.**”

Subsection 602.49 (d) Add metric equivalents in (kg)

Weight per 100 Bolts, pounds (kg)
19.7 (8.9)
31.7 (14.4)
52.4 (23.8)
80.4 (36.5)
116.7 (52.9)
165.1 (74.9)
212.0 (96.2)
280.0 (127.0)
340.0 (154.2)

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(e) Add metric equivalents in (kg/m)

Pounds per Linear
Foot (kg/m)
0.20 (0.30)
0.25 (0.37)
0.35 (0.52)
0.55 (0.82)
0.80 (1.19)
1.10 (1.64)
1.50 (2.23)
2.00 (2.98)

Subsection 602.50 (a) Change the name of section (a) to read as follows

(a) Structural Steel – Per Pound (Kilogram)

Section 603, Second paragraph, **Revise** the first sentence by adding the following:

“Effective Lettings after January 01, 2007,” All contractors or subcontractors...

Subsection 604.02 Revise entire subsection as follows:**604.02-Materials.** Materials used in this construction shall meet the requirements of the following sections or Subsections of Division III, Materials, of these Specifications.

<u>Material</u>	<u>Section or Subsection</u>
Water	918.01
Hydraulic cement¹	901.01
Fine Aggregate, (all Classes of concrete)	903.01
Coarse Aggregate	
For Class A Concrete: Size No. 57	903.03
For Class D Concrete: Size No. 57	903.03
For Class L Concrete	903.19
Fly Ash	918.31
Ground Granulated Blast Furnace Slag	918.32
Cement Concrete Curing Materials	913
Air-Entraining Admixtures	918.09
Steel Bar Reinforcement	907.01
Welded Steel Wire Fabric	907.03
Waterstops	918.11
Joint Filler, Preformed Type	905.01
Structural Steel	908.01

¹Type I, Type I-SM or Type I cement with either fly ash and/or ground granulated blast furnace slag as a partial cement replacement shall be used unless otherwise specified or permitted. When Type I cement with either fly ash and/or ground granulated blast furnace slag as a partial cement replacement is used, the requirements of **Subsection 604.03** shall apply.

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Applied Texture Finish	918.30
Steel Castings	908.05
Elastomeric Bearing Pads	908.12
Bronze Bearing Plates, Plain	908.09
Bronze Bearing Plates, Self-Lubricating	908.10
Paints	910
Chemical Additives for Concrete	918.09
Gray Iron Castings	908.07
Permanent Steel Bridge Deck Forms	908.03
Precast Prestressed Bridge Deck Panels	918.29
Precast Concrete Box Culverts	914.08

Fly ash or ground granulated blast furnace slag of different classes or sources used as partial replacement for Portland cement in concrete mixes will not be permitted. FlyAsh or Ground Granulated Blast Furnace Slag shall only be permitted as a partial cement replacement in Type I Portland Cement. A maximum of 20% fly ash shall be permitted as a partial hydraulic cement replacement in Type I-SM cement only in Class A concrete.

Concrete with fly ash as a partial cement replacement shall not be produced until the concrete supplier furnishes the following information to the Engineer:

1. Copies of the results of all tests performed by the fly ash producer within the previous 30 days, on shipments to the concrete supplier showing:
 - Fineness (percent retained on the No. 325(45µm) sieve)
 - LOI (loss on ignition)
 - Specific gravity
 - Soundness (autoclave expansion)
 - Moisture content
 - Pozzuolanic activity, 7 day cement
2. A notarized certification from the fly ash producer stating that the fly ash meets the Departments specifications.

Concrete with ground granulated blast furnace slag as a partial cement replacement shall not be produced until the concrete supplier furnishes the following information to the Engineer:

1. Copies of the results of all tests performed by the ground granulated blast furnace slag producer within the previous 30 days on shipments to the concrete supplier showing:
 - Fineness (percent retained on the No. 325(45µm) sieve.
 - Air content of slag mortar
 - Individual sample slag activity index (percent)
 - Specific gravity
 - Sulfide sulfur(s) (percent)
 - Sulfate ion reported as SO₃ (percent)
 - Total alkalies (Na₂O+0.658K₂O)
 - Compressive strength (28 day)
2. A notarized certification from the ground granulated blast furnace slag producer stating that the slag meets the Departments specifications.

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Unless otherwise indicated on the plans, the Contractor may substitute precast reinforced box sections meeting the requirements of Subsection 914.08, AASHTO specifications for all fill heights for cast in place concrete box sections. The Contractor is only required to notify the project engineer and the Division of Structures that he intends to utilize sections fabricated to the appropriate AASHTO Materials Specifications or the other pre-approved sections contained in the Division of Structures Standard Drawings for Precast Boxes. Should he elect to construct precast boxes of a different design, the Contractor shall submit shop drawings of the proposed precast box section and design calculations to the Structures Division for approval prior to construction. As a minimum, the shop drawings shall include a plan and elevation view of the box culvert showing all precast sections, a typical precast box section showing dimensions and reinforcing, and notes and details required for construction. After securing the necessary approval, the Contractor shall furnish the Structures Division a permanent, 100 µm(4 mil) mylar reproducible of the design for their file. The Contractor will be paid for the precast box based on the price bid for the quantity of the items in the cast in place structure it replaces. The precast reinforced box sections shall be manufactured in accordance with Departmental procedures

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Subsection 604.03 Remove and Replace entire subsection with the following:**604.03-Classification Proportioning and Quality Assurance of Concrete.**(a) Classification and Proportioning and Quality Assurance

Min. 28 Day Comp.Strength PSI (MPa)	Min. lbs. (kg) Cement per C.Y. (C.M..)	Maximum Water/Cem. lb/lb (kg/kg)	Air Content % (Design± production tolerance)	Slump in. (mm)
CLASS A CONCRETE				
3,000 (20.7)	564 (335)	0.45	6 ± 2	3 ± 1 ¹ (75 ± 25)
CLASS D CONCRETE ^{2&3}				
4,000 (27.6)	620 (368)	0.40	7 ³	8 max ⁴ (200 max.)
CLASS L CONCRETE ^{5&3}				
4,000 (27.6)	620 (368)	0.40	7 ³	8 max ⁴ (200 max.)
CLASS S (SEAL) CONCRETE ⁶				
3,000 (20.7)	682 (405)	0.47	6 ± 2	6±2 (150 ± 50)

The proportioning of the concrete shall be based on a predetermined minimum cement content, and the water-cement ratio shall not exceed the maximum shown in the above table. Below this limit, the quantity of water shall be adjusted to meet the slump requirements. The fine aggregate shall not exceed 44% by volume calculation of the total aggregate with the exception of slip formed Class A concrete incorporated into parapets and median barriers. For slip formed parapet and median barriers exclusively, the percentages of fine and coarse aggregate in an approved concrete mix design may be adjusted ± 2%, such that the maximum percent by volume of fine aggregate does not exceed 46%. Mixture adjustments shall be documented in the field book and daily concrete report. Adjusted mix shall comply with all performance criteria specified in **Section 604**.

¹ For slip forming, the slump shall range from 0 to 3 inches.

² Class D concrete shall be used in all bridge decks except box and slab type structures unless otherwise noted on the plans.

³ Design Class D and Class L concrete at 7% air content. Acceptance range for pumping and other methods of placement is 4.5-7.5%. Sampling will be at the truck chute. Sampling will be at the truck chute.

⁴ Water reducing admixtures are acceptable, however, the maximum water/cement ratio shall not be exceeded in order to achieve the required slump.

⁵ The unit weight of air dried Class L Concrete (lightweight concrete) shall not exceed 115 lbs./c.f. (185 kgs/0.1 m²) as determined by ASTM C 567.

⁶ The Use of Fly Ash as a cement replacement will be allowed in Class S (Seal) concrete.

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Chemical Admixtures shall be included in the concrete mixture as specified in the following table based on the ambient air temperature and expected weather conditions.

Class of Concrete	Temperature less than 85°F (30°C) and falling	Temperature 85°F (30°C) or greater and rising
A	Type A or F	Type D or G or A and B
D	Type A or F	Type A or F and B or G
L	Type F	Type F and B or G
S	Type D or G or A and B	Type D or G or A and B

If a Type A, F, or G water reducer is used, then the allowable slump shall be maximum of 8 in. (200 mm).

Admixtures to be incorporated into the concrete shall all be from the same manufacturer, shall be compatible, and shall be incorporated into the concrete in accordance with the manufacturer's recommendations.

The fine aggregate in all Class L Concrete shall be natural sand conforming to the requirements of **Subsection 903.01**.

Fine aggregate manufactured from limestone or other polishing aggregates will not be permitted in concrete to be used as a riding surface in traffic lanes.

The Contractor shall submit the proposed concrete design to the Engineer for approval. The design shall be determined using saturated surface dry aggregate weights and shall be determined by the use of trial batches meeting the requirements of these specifications. The concrete design shall be prepared by a TDOT certified Class 3 concrete technician or approved independent testing laboratory under the direction of a registered civil Engineer licensed by the STATE OF TENNESSEE. The concrete plant technician or the civil Engineer shall certify that the information contained on the design is correct and is the result of information gained from the trial batches. The concrete design shall produce an average compressive strength to indicate that the specified 28 day strength can be obtained in the field. All strength determinations shall be made on equipment meeting the requirements of and in the manner prescribed by AASHTO T 22. It is the contractor's responsibility to provide concrete of the design strength specified in all applicable special provisions, plans, and/or standard specifications. Trial batches for design shall be built no more than 90 days prior to the design submittal. All cost of concrete design, preparation and submittal shall be the responsibility of the Contractor.

The proposed concrete design submittal shall contain as a minimum, the following:

Source of all aggregates

Brand and type of cement

Source and class of fly ash (if used)

Source and grade of ground granulated blast furnace slag (if used)

Specific gravity of cement

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Specific gravity of the fly ash (if used)
 Specific gravity of the ground granulated blast furnace slag (if used)
 Admixtures (if used)
 Gradations of aggregates
 Specific gravity of aggregates (saturated surface dry)
 Air content (if air entrainment is used)
 Percentage of fine aggregate of the total aggregate (by volume)
 Slump
 Weight per c.y. (m^3)
 Yield
 Temperature of plastic concrete
 Water/cement ratio lb/lb (kg/kg)
 7 day compressive strength [minimum of 3 x 6-in. x 12 in. (150mm x 300mm) cylinders]
 14 day compressive strength (minimum of 3-6 in. x 12 in. (150 mm x 300 mm) cylinders)
 28 day compressive strength (minimum of 3-6 in. x 12 in. (150mm x 300mm) cylinders)
 Weight of each material required to produce a c.y. (m^3) of concrete

In lieu of the above mix design submittal, the Contractor may submit for approval an existing design approved by the Department within the current calendar year. The approval of this concrete design submittal will not relieve the Contractor of the responsibility of providing concrete meeting the requirements of these specifications. A temporary mix design may be issued if the 7 day compressive strengths exceed the required 28 day strengths.

Any request for a change in source of materials or admixtures from the original mix design must be made in writing to the Regional Materials and Tests Engineer explaining the necessity for the change and must be accompanied by a new mix design in accordance with the above provisions. The Contractor shall place no concrete until the new design is approved.

Concrete with fly ash or ground granulated blast furnace slag as a partial cement replacement will not be used in concrete when high early strength is specified. When the Contractor elects to replace a portion of hydraulic cement with fly ash or ground granulated blast furnace slag, the following requirements must be verified prior to producing any concrete:

1. Fly ash or ground granulated blast furnace slag shall be stored in silos separate from each other and separate from the hydraulic cement.
2. The fly ash or ground granulated blast furnace slag is to be added to the concrete by methods and equipment approved by the Engineer, capable of uniformly distributing the materials throughout the mix.
3. The fly ash or ground granulated blast furnace slag may be weighed cumulatively in the weigh hopper with the cement, provided the cement is added first. The temperature of the fly ash or the ground granulated blast furnace slag is not to exceed 160° F (71° C) at the time of introduction to the mix.

Design of Portland cement concrete with Type I cement modified by the addition of fly ash and/or ground granulated blast furnace slag. The following table indicates the maximum cement replacement rates (by weight) and minimum substitution ratios (by weight) for the type of modifier specified:

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<u>Modifier</u>	<u>Cement Replacement Rate</u> (Maximum)% (by weight)	<u>Minimum Modifier Cement Substitution Ratio</u> (by weight)
Ground Granulated Blast Furnace Slag (grade 100 or 120)	35.0	1:1
Class F Fly Ash	20.0	1:1
Class C Fly Ash	25.0	1:1

Ternary cementitious mixtures (mixtures with Portland cement, ground granulated blast furnace slag, and fly ash) will be allowed for Class A Concrete provided that the minimum Portland cement content is 50%. The maximum amount of fly ash substitution in a ternary cementitious mixture will be 20%. Type I-SM cement will be allowed with ternary cementitious mixtures. When a Type I-SM cement is used, no additional slag shall be used as a partial replacement for the hydraulic cement.

(b) Quality Control and Acceptance of Concrete

It shall be the responsibility of the Contractor to determine and measure the batch quantities of all ingredients (including all water and any specified or approved admixtures) for all concrete produced for the project and to mix, deliver and place the concrete so that the concrete meets the requirements of these specifications. The minimum size of a batch shall be 2.5 c.y. (2.0 m³). The Contractor shall have a TDOT Class 2 or higher certified technician at the concrete plant during all batching operations with the primary responsibility of process control, which includes all sampling, testing and inspection of the aggregate and concrete.

The Contractor shall have a TDOT or ACI certified Class 1 or higher technician for all sampling, testing and inspection for process control of the concrete at the placement site. A technician shall be present at each placement site during all concrete placement. The technician at both the plant and job site shall be authorized to promptly correct any deficiencies in quality control within approved design parameters. All necessary equipment required for process control shall be furnished by the Contractor and shall be at the plant and at the placement site at all times during concrete and placement.

Process control shall include, but not be limited to, the following test and inspections:

1. Test to determine aggregate gradations (AASHTO T 27 with AASHTO T 11 when required).
2. Frequent inspections of the stockpile to ascertain that stockpiles are being maintained in an uncontaminated and un-segregated manner. A current aggregate quality report shall be kept at the plant.
3. Calibration of weighing systems, water meters and admixture dispensing systems prior to starting production.
4. Assurance of accurate weighing of the aggregates and cement, the proper metering of water and admixtures and the quality of water.

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5. Assurance that mixing equipment is in proper working condition and the proper mixing speeds and revolutions are controlled as required by the specifications and the Materials and Tests Circular Letter File book.
6. Adjustment of mix proportions due to moisture content of both coarse and fine aggregates (moisture determination to be in accordance with AASHTO T 255).
7. Slump (AASHTO T 119) and Air Test (AASHTO T 152 - AASHTO T 196 required for concrete containing light weight aggregate).
8. Yield test (AASHTO T 121) (When yield varies more than $\pm 2\%$ from that shown on the design. All batching operations shall cease until the problem has been identified and corrected or a new concrete design has been obtained.
9. Quality control cylinders and early break cylinders (7-14 day, etc) for compression tests in accordance with AASHTO T 22.
10. Tests for concrete and ambient air temperatures.
11. A report furnished daily to the Engineer showing all pertinent information (Date, Contract and Project, Item number(s), batch weights, moisture corrections, admixtures, slump, air content, temperatures, etc.). A sample daily report will be given to the Contractor as an example.
12. A concrete delivery ticket must accompany each load to the placement site. The ticket shall at a minimum include the following:

Date
 Contract number
 County
 Class of concrete
 Concrete design number
 Number of cubic yards
 Load number
 Truck number
 Maximum water allowed by design
 Total water added at the plant
 Maximum water allowed to be added on the project
 Actual water added on project
 Number of revolutions at mixing speed at plant
 Number of revolutions at mixing speed at project
 Time loaded
 Time discharged
 Actual and target batch weights of each component including each aggregate, chemical admixture, and cementitious material used.

The Contractor shall develop for approval of the Engineer and maintain at the plant written procedures for sampling, testing and inspection of the concrete. The Contractor shall keep a record of all tests and inspections performed at the plant site and placement site and this documentation, together with a certification by the Contractor that the concrete incorporated in the work meets the requirements of the specifications, shall be delivered to the Engineer upon completion of the project for inclusion in the project records. Records shall be kept current and shall be made available to the Engineer for review at any time.

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It shall be the responsibility of the Contractor to properly make, cure and transport all early break cylinders (7-14 day, etc.) in accordance with AASHTO T 23 and delivered to the Regional laboratory or other established satellite laboratories for tests.

The Department or their representative shall be responsible for performing all acceptance tests. A TDOT Level 1 Certified or ACI Certified Technician shall sample, test air content and slump, and prepare 28 day cylinders for acceptance. The Department shall also be responsible for properly curing and transporting all acceptance cylinders in accordance with AASHTO T 23.

All independent assurance sampling and testing shall be performed by the Department. All sampling and testing for acceptance and independent assurance shall be at the frequencies established in TDOT Procedures. The time and location for obtaining all acceptance and assurance samples will be determined by the Department.

It shall be the responsibility of the Contractor to provide cylinder molds, a wheelbarrow, and provide a level site to perform testing and for initial curing. The Contractor shall also provide a secure storage shed/building for temporary storage of concrete acceptance cylinders in accordance with **Subsection 722.09** of these Specifications.

An approved concrete design is required for non-critical items involving small quantities of concrete but these non-critical items may be accepted at a reduced testing frequency in accordance with TDOT Procedures. This is to be used for sidewalks, curbs and gutters, building foundations, slope paving, ditch paving, guardrail anchorages, small culvert headwalls 30 in. (750 mm) diameter or less, fence posts, catch basins, manhole bases and inlets, small sign bases and steel strain pole footings.

A qualified plant technician shall be at the ready-mix plant during all batching operations. A field technician is not required to be at the placement site during all small quantity placing operations but is required to perform one complete set of tests during the life of the project. A delivery ticket must accompany each load delivered to the job site.

Pre-approved, pre-packaged concrete mixtures may be used for the applications listed above provided the quantity does not exceed 2 c.y.(1.5 m³) per day. No design will be required.

Batch weights shall be corrected to compensate for any surface moisture on the aggregate at the time of use. The Contractor may elect to withhold some of the water from the mix at the plant. If a portion of the water is withheld at the plant, additional water may be added at the work site provided the design water/cement ratio of the mix is not exceeded. Water added at the placement site for Class D and Class L concrete shall not exceed one (1) gallon per cubic yard. The total amount of water in the mix shall not exceed the maximum in the approved mix design. Any additional slump shall be achieved using a water reducing admixture. When the addition of water to the mix is made in the field, 30 additional revolutions at mixing speed are required.

(c) High Early Strength

When high early strength concrete is required, in the plans for structural or pavement repairs, or other type work, the use of Type I or Type III cement will be optional with the Contractor. If Type I cement is used, a minimum cement content of 714 lbs/c.y. (424 kgs/m³) will be required. If Type III cement is used, a minimum cement content of 620 lbs./c.y.(368 kgs/m³) will be required. High early strength concrete, meeting these requirements, may be substituted at the option of the Contractor for Class A concrete when approved in writing by the Engineer.

When the Contractor elects to use high early strength concrete, the source and gradation of fine and coarse aggregates shall be the same as that specified for the concrete for which the high

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early strength concrete is substituted. No additional compensation will be made if the Contractor elects to substitute high early strength concrete for Class A concrete. The unit price for the class of concrete for which the substitution is made shall be full compensation for the concrete.

Subsection 604.04 Page 404, Last paragraph, last sentence

The fogger will be designed to provide a maximum VMD (volume mean diameter) of 15 (microns), and a throw distance of 60 ft. (18m).

Subsection 604.08 (4) Third sentence, **Change** “35mm” to, “#36”

Subsection 604.08 page 412 Fifth paragraph, third sentence, **Change** the word “Uncoated” to “Coated”

Section 604, All sections, after **Subsection 604.11** referencing 604 Subsections are off by one subsection. Therefore **change** them by one, see the example below.

Example: **Change** “**Subsection 614.12(b)**” to “**Subsection 604.11(b)**”

“**Subsection 604.23**” to “**Subsection 604.22**”

Subsection 604.13 **Revise** entire subsection to the following:

The requirements for mixing concrete shall be as prescribed in **Subsection 501.10** for major structures. However, when the concrete is mixed and transported in truck mixers, the time elapsing from when the water is added to the mix until the concrete is deposited in place at the site of the work shall not exceed 90 minutes. When the ambient air temperature exceeds 90° F(32° C), the elapsed time above shall be reduced to 60 minutes for concrete placed in bridge decks. Retempering concrete by adding water or by other means will not be permitted; however, a portion of the mixing water or chemical admixtures may be withheld from transit mixers and added at the work site if all requirements of the approved mix design are met. Water added at the placement site for Class D and Class L concrete shall not exceed one (1) gallon per cubic yard. The total amount of water in the mix shall not exceed the maximum in the approved mix design. Any additional slump shall be achieved using a water reducing admixture. In the event water or chemical admixtures are added at the placement site, the concrete shall be mixed a minimum of 30 revolutions at mixing speed after additions are made. Concrete that is not within the specified slump limits, air content limits, temperature limits or time limits at time of placement shall not be used.

For items of construction specified in **Subsection 604.11(b)**, concrete mixing may be performed by mobile volumetric measuring and mixing equipment as prescribed in **Subsection 604.04** of these Specifications.

When concrete placed in the items of construction specified in **Subsection 604.11(b)** does not exceed 25 c.y.(20 m³) per day, it may be accepted on the basis of field testing for air, slump, and occasional strength tests with only random plant inspections as deemed necessary by the Engineer for control.

When this basis of acceptance is used, the ready-mix plant furnishing the concrete shall have been inspected and approved for use as provided in **Subsection 604.04**. In addition, the delivery ticket accompanying each load of concrete shall show the class of concrete, the quantity of

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cement, aggregates, water, and additives used in the batch, and the time of batching. Materials used in the concrete shall be tested and approved.

Subsection 604.15 Delete the seventh paragraph, “If the acceptance cylinders...”

Subsection 604.16 (a) Delete the twelfth paragraph of this section, “If data collected during...”

Subsection 604.16 page 420 Second and third paragraph, **Replace** with the following:

In hot weather mitigation it will be necessary to apply a certified dry fog with a maximum VMD of 15 (microns) with a throw distance of 60 (ft.) above the concrete surface during the placement and finishing operations. The contractor shall furnish a certification to the project supervisor verifying the VMD.

In addition, immediately before the concrete is placed, the forms and reinforcing steel shall be cooled to 90° F (32° C) or less by using a fine spray of water, leaving no puddles or pockets of water. Trucks shall be sprinkled or kept in the shade when not being unloaded so as to contribute to reducing the temperature of the concrete.

Subsection 604.16 (d) Last sentence, **Change** “m³” to “8m³”

Subsection 604.16 (e) Second paragraph, second sentence, **change** “8 m” to “6 m”,

Subsection 604.19. **Add** the following as the last sentence:

“Refer also to Article 107.02 regarding restrictions on loading during bridge construction”

Subsection 604.21 (d) Remove and Replace entire subsection with the following:

(d)Applied Texture Finish.

Surface preparation prior to the textured finish shall include a Class 1 Ordinary Surface Finish in accordance with Subsection 604.22(a). The concrete shall be in place a minimum of 28 days to allow for ample cure time and weathering of curing compounds prior to application of the textured finish. All surfaces shall be pressure washed just prior to application. Surfaces to be coated shall be free from efflorescence, flaking, coating, rust, dirt, oil and other foreign substances. Coatings shall be applied only to surfaces that are free of surface moisture as determined by sight and touch. Surfaces that are not to receive a Coated Finish are to be shielded and masked. Cracks over 1/8 in.(3 mm) wide are to be veed out and filled with an approved product from the TDOT QPL 13-Section B.5.Structural Materials and Components. The surface preparation shall be approved by the Engineer immediately prior to the beginning of the work.

The textured finish shall be applied in the number of coats as recommended by the manufacturer and as posted on the Departments Qualified Products List to achieve a total application rate of one (1) gallon per 45 (±5) s.f. (0.9 ± 0.1 liter per m²). If a two coat system is used, the base coat shall be similar in color to mountain gray, **Federal Specification No. 36440**, when the final coat is White, **Federal Specification No. 37886**. When the final coat is similar in color to mountain gray, **Federal Specification No. 36440** a base coat of white, **Federal Specification No. 37886** shall be used. The contractor/subcontractor shall give advance notice to the Engineer of the date(s) and time(s) the texture coating is to be applied. The textured finish shall be applied with rollers or brushes so as to provide a consistent and uniform coverage. As an alternative, the Contractor may elect to spray the textured finish if he furnishes a containment system meeting the approval of the Engineer. Regardless of the method of application, drippings

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and/or overspray from the texturing process shall be prohibited or otherwise contained in a manner that will not contaminate the environment.

The contractor/subcontractor shall submit to the Engineer certification of the following:

Brand name,
Production batch or lot number,
Qualified Products List Evaluation Number
Manufacturers recommended rate of application,
Materials Safety Data Sheet,
Materials Data Sheet,
Shipping date.

A color sample shall be submitted to the Engineer for approval.

Subsection 604.21 Third paragraph, sentence next to last, **Change** “**Federal Color Standard 594b**”, to “**Federal Color Standard 595b**”

Subsection 604.27, Revise the first sentence under the Pavement Roughness Index Table to the following:

“In addition, all areas of pavement roughness index using a 0.1 in. (2.5 mm) blanking band represented by high points having deviations in excess of 0.4 in (10 mm) for any 25 ft. (7.6 m) section per each wheel path shall be corrected.”

604.28-Loading and Opening to Traffic. **Add** the following as the last sentence:

“Refer also to Article 107.02 regarding restrictions on loading during bridge construction”

Subsection 604.31-Basis of Payment. **Revise** entire subsection to the following:

604.31-Basis of Payment. The accepted quantities will be paid for at the respective contract unit price per c.y.(m³) for Class A Concrete, Class D Concrete, Class L Concrete and Class S Concrete; per lb.(kg) for Steel Bar Reinforcement and Epoxy Coated Reinforcing Steel; and per s.y.(m²) for Scarifying bridge deck surface and Applied Texture Finish; complete in place.

The concrete fillet above fabricated bridge girders will be paid as bridge deck concrete with the quantities based on the fillet required for a conventional deck forming system. Increases in the aforementioned fillet depth to solely accommodate the Contractor's chosen deck forming system (e.g. precast deck panels) will not to be measured and paid for directly. All costs of this increase will be included in other items bid.

The accepted quantities of leveling concrete shall be paid for at 40% of the price bid for the concrete that is to go into the footing.

Any deduction in monies due to the Contractor for failure to comply with the surface rideability requirements set forth in **Subsection 604.28** shall be make on a lump sum basis.

When field conditions result in the construction of a different type of box culvert or box bridge from that established on the Plans (box type to slab type or vice versa) the respective bid price per c.y.(m³) for Class A concrete shall be increased by 15% for constructing a slab type in lieu of box type and decreased by 13% for constructing box type in lieu of slab type. No adjustment of Steel Bar Reinforcement unit bid price is to be made for the change in box culvert or box bridge type.

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Where concrete does not meet the specified strength but is allowed to be included in the permanent construction as set out in Subsection 604.20, Defective Concrete, or tardy acceptance cylinders and/or cores fail to meet the strengths specified in Subsection 604.15, the following equation shall be used to determine percent payment of contract bid price.

$$PP = 100 - (3 * Ds)$$

PP = Percent Payment

Ds = Percent Below Specified Strength

$$Ds = [(Specified\ Strength - Actual\ Strength) / Specified\ Strength] * 100$$

Defective concrete greater than 25 percent below specified strength may remain in place at no cost to the Department if approved by the Department of Structures or the contractor may remove and replace.

*Payment to be based on unit price of item as bid, i.e., volume [c.y.(m³)], length [ft.(m)], each, or other designated bid units. Payment of the above listed percentages includes cost of incidental items such as reinforcing steel when included in the price bid for the Item.

Subsection 606.04 (c) First sentence, **Change** “3(1)” to “1(3)”

Subsection 606.21 Second sentence, **Change** “olne” to “one”

Subsection 607.02-Materials. **Remove and Replace** entire subsection with the following:

607.02-Materials. Materials used in this work shall meet the following requirements:

<u>Material</u>	<u>Subsection</u>
Concrete Pipe, Reinforced	914.02
Corrugated Metal Pipe Culverts, Pipe Arches and Underdrains	915.02
Joint Mortar	905.02
Rubber Gaskets	905.03
Polyvinyl Chloride Pipe (PVC)	914.09
High Density Polyethylene Plastic Pipe	914.10

Where Pipe Culverts (Cross Drains & Median Drains) are specified they shall be in accordance with the following:

- (a) Pipe Culverts (Cross Drains & Median Drains) 15 through 36 in. (375 through 900 mm) shall be one of the following:
 - (1) Class III, IV, or V Concrete pipe meeting the requirements of either **Subsection 914.02** or AASHTO M 86.
 - (2) Metal pipe meeting the requirements of **Subsection 915.02**.
 - (3) High Density Polyethylene pipe meeting the requirements of **Subsection 914.10**.

(4) Polyvinyl Chloride pipe meeting the requirements of **Subsection 914.09.**

(b) Pipe Culverts (Cross Drains & Median Drains) larger than 36 in. through 48 in. (900 through 1200 mm) shall be one of the following:

- (1) Class III, IV, or V Concrete pipe meeting the requirements of either **Subsection 914.02.**
- (2) Metal pipe meeting the requirements of **Subsection 915.02.**
- (3) High Density Polyethylene pipe meeting the requirements of **Subsection 914.10.**

(c) Pipe Culverts (Cross Drains & Median Drains) larger than 48 in. (1200 mm) shall be one of the following:

- (1) Class III, IV, or V Concrete pipe meeting the requirements of Subsection 914.02.
- (2) Metal pipe meeting the requirements of **Subsection 915.02.**

Where Pipe Culverts (Side Drains) are specified they shall be in accordance with the following:

(a) Pipe Culverts(Side Drains) 15 through 36 in.(375 through 900 mm) shall be one of the following:

1. Class III, IV, or V Concrete pipe meeting the requirements of either Subsection 914.02 or AASHTO M 86.
2. Metal pipe meeting the requirements of Subsection 915.02.
3. High Density Polyethylene pipe meeting the requirements of Subsection 914.10.
4. PVC pipe meeting the requirements of **Subsection 914.09**

(b) Pipe Culverts(Side Drains) larger than 36 in.(900 mm) shall be one of the following:

- (1) Class III, IV, or V Concrete pipe meeting the requirements of **Subsection 914.02.**
- (2) Metal pipe meeting the requirements of **Subsection 915.02.**

Where Pipe Culverts (Storm Drains) are specified they shall be in accordance with the following:

(a) Pipe Culverts (Storm Drains) 15 through 36 in. (375 through 900 mm) shall be one of the following:

- (1) Class III, IV, or V Concrete pipe meeting the requirements of either **Subsection 914.02** or AASHTO M 86.
- (2) High Density Polyethylene pipe meeting the requirements of **Subsection 914.10.**
- (3) PVC pipe meeting the requirements of **Subsection 914.09.**

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- (b) Pipe Culverts (Storm Drains) larger than 36 in. through 48 in. (900 through 1200 mm) shall be one of the following:
 - (1) Class III, IV, or V Concrete pipe meeting the requirements of either **Subsection 914.02**.
 - (2) High Density Polyethylene pipe meeting the requirements of **Subsection 914.10**.
- (c) Pipe Culverts (Storm Drains) larger than 48 in. (1200 mm) shall be Class III, IV, or V Concrete pipe meeting the requirements of **Subsection 914.02**.

Where Slope Drains are specified, they shall be in accordance with one of the following:

- (a) Metal pipe meeting the requirements of **Subsection 915.02**.
- (b) High Density Polyethylene pipe meeting the requirements of **Subsection 914.10**.
- (c) Polyvinyl Chloride pipe meeting the requirements of **Subsection 914.09**.

Materials for special end connections to other pipes or structures, required to complete the work as indicated on the Plans or directed by the Engineer shall conform to the requirements of **Section 914** and **Section 915** of the Standard Specifications, unless otherwise specified.

Reinforced concrete pipe shall be flat base, round, or oval, as shown on the Plans.

The sizes of pipe shall be identified by the nominal inside diameter. The pipe shall be of the sizes and classes or gauges stipulated in the Contract, shown on the Plans, or established by the Engineer.

Steel and aluminum pipe are considered as optional for corrugated metal pipe, pipe arches, and underdrains by the Department. The Contractor may use either option he prefers, however, in no case shall different metals or corrugations be mixed in a single line of pipe.

When paved or coated corrugated metal pipe and pipe arches are specified, either aluminum coating or bituminous coating may be used. The aluminum or bituminous coated pipe shall conform to the requirements of AASHTO M 274 or AASHTO M 190 respectively.

When precoated corrugated metal pipe and pipe arches are specified, polymer coating shall be used in accordance with **Subsection 915.03**. Coupling bands and all hardware except nuts, bolts and washers shall be of the same material and coating as the pipe.

When corrugated metal pipe arches are specified as "size equivalent round" the dimensions shall be as shown in the Plans.

Subsection 607.07-Joining Pipe. Remove and Replace entire subsection with the following:

607.07-Joining Pipe. Rigid pipe may be of bell and spigot or tongue and groove design, unless one type is specified. The method of joining pipe sections shall be such that the ends are fully entered and the inner surfaces are reasonably flush and even.

Joints for rigid pipe shall be made with: (a) portland cement mortar; (b) rubber gaskets; or (c) other types of joints recommended by the pipe manufacturer and approved by the Engineer may be permitted.

For mortar joints, the pipe ends shall be thoroughly cleaned and wetted with water before the joint is made. Stiff mortar shall then be placed in the lower half of the bell or groove of the pipe section already laid and on the upper half of the spigot or tongue of the section to be laid. The 2 pipe sections shall then be tightly joined with their inner surfaces flush and even. The inside of

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the joint shall then be finished smooth and any surplus material removed from the pipe. The completed mortar joints shall be protected against rapid drying by suitable covering material.

Rubber ring gaskets shall be installed so as to form a flexible watertight seal. When other type joints are permitted, they shall be installed or constructed in accordance with the recommendations of the manufacturer.

Metal pipe shall be firmly joined by approved coupling bands.

High Density Polyethylene and Polyvinyl Chloride pipe shall meet the performance requirement for soiltightness, unless watertightness is specified. Joints shall be installed so that the connection of pipe sections, for a continuous line, will be free from irregularities in the flow line.

Pipe shall be inspected before any backfill is placed. Any pipe found to be out of alignment, unduly settled, or damaged shall be taken up and relaid or replaced.

Subsection 607.09-Backfilling. Remove and replace entire subsection with the following:

607.09-Backfilling. After the pipe is installed, the trench shall be backfilled in accordance with the provisions of Section 204 and the standard drawings. All pipes shall undergo visual inspection during and after installation to insure conformance to these specifications. Final visual inspections for all pipes shall be conducted no sooner than 30 days after completion of installation and final fill. Final visual inspections shall be conducted from the inlet and outlet ends of all pipe with sufficient hand held lighting to observe any defects. In addition to visual inspection, the following test shall be performed not less than 30 days following completion of pipe installation and final fill placement. All post installation inspections and test shall be observed by Department personnel.

High Density Polyethylene Pipe (HDPE Pipe) , Polyvinyl Chloride Pipe (PVC), and Corrugated Metal Pipe (CMP): The contractor shall be responsible for conducting a deflection test, (mandrel, laser, or manual), on at least 10 percent of the total number of pipe runs representing a minimum 10 percent of the total project footage including a minimum of one run of each pipe size. The Engineer shall randomly select installations to be tested to determine whether the internal diameter of the barrel has been reduced more than 5 percent. If any installation is determined to have deflected more than 5 percent, all pipe installations shall be evaluated for deflection. Documentation of station, pipe size, and deflection results shall be provided to the Engineer.

Reinforced Concrete Pipe (RCP): All RCP shall be visually inspected for deflection, alignment, cracking, and joint construction during and after installation. Any installations where visual inspections detect poor construction techniques shall be further evaluated as directed by the Engineer.

All Pipes with deflections greater than 5 percent of the nominal pipe diameter, undue misalignment, or poor joint construction shall be replaced by the Contractor at his expense. Any excavation or additional work including, but not limited to, base stone or asphalt removal and replacement, required to replace a pipe installation due to poor construction techniques shall be at the Contractor's expense. As visual and deflection test dictate, the Engineer may request additional inspections at the contractors expense.

Subsection 607.12-Method of Measurement. Remove and Replace entire subsection with the following:

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607.12-Method of Measurement. Concrete pipe culverts and concrete storm sewers of the different classes, shapes, and sizes specified, will be measured by the linear foot(meter) of pipe installed and accepted. The quantity of pipe cut off, not to exceed 2 ft.(600 mm), will be paid for at the contract bid price for pipe in place.

Corrugated metal pipe, and corrugated metal structural plate pipe will be measured by the linear foot (meter) of pipe installed and accepted. Measurements will be made as follows:

- (a) Metal pipe and metal structural plate pipe, with square and vertical ends or with skewed and vertical ends will be measured, in place, end to end of the metal on the centerline of the structure.
- (b) Metal pipe and metal structural plate pipe, with square ends beveled, and with ends skewed and beveled, except arch pipe, will be measured, in place, by averaging the end to end distances at the top and bottom of the pipe, measured parallel to the centerline of the structure.
- (c) Metal arch pipe and metal structural plate arch pipe with square ends beveled, and with ends skewed and beveled, will be measured, in place, end to end of the metal along the invert of the structure.

High Density Polyethylene pipe will be measured by the linear foot(meter) of pipe installed and accepted. The quantity of pipe cut off, not to exceed 2 ft.(600 mm), will be paid for at the contract bid price for pipe in place.

Polyvinyl Chloride pipe will be measured by the linear foot(meter) of pipe installed and accepted. The quantity of pipe cut off, not to exceed 2 ft.(600 mm), will be paid for at the contract bid price for pipe in place.

Slope Drains will be measured in the same manner as specified for corrugated metal pipe.

Pipe Culverts(Side Drains) of the different sizes specified will be measured by the linear foot(meter) along the centerline of the installed pipe, except that no measurement for payment will be made in excess of the ordered length of the pipe. Pipe Culverts (Side Drains) will be ordered in increments of 2 ft.(600 mm).

Unless otherwise indicated on the Plans, no measurement of structure excavation will be made; and the costs involved shall be included in the unit prices bid for other items of construction. When the Plans provide for direct payment for structure excavation, measurement and payment will be in accordance with **Section 204**.

No payment will be made for labor and materials used in making branch connections. The length of pipe in the branch connection will be measured and included in the quantity of pipe installed in the branch line.

Strutting of corrugated metal pipe and corrugated metal structural plate pipe will not be paid for separately, but the costs thereof shall be included in the unit price bid per linear foot(meter) of pipe.

Subsection 607.13-Basis of Payment. **Revise** to include bedding and back fill as shown below:

The accepted quantities of pipe culverts and storm sewers, measured as provided for above, will be paid for at the contract unit price per linear foot(meter) for each type, class, shape, and size constructed, complete in place, including placing and compacting bedding and backfill, which price shall be full compensation for labor and materials used in making joints, and

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connections to other structures; for strutting, when required, and for completing all incidentals necessary to complete the item.

Subsection 614.04 First sentence of the second paragraph. Shall read as follows:

The precast concrete deck units shall be cast in a Precast/Prestressed Concrete Institute, Category B-3 certified precast plant under plant control conditions, and in accordance with the TDOT procedure for the Manufacture and Acceptance of pre-cast concrete drainage structures, noise wall panels, and retaining wall panels.

The precast concrete deck units shall be cast in a certified precast plant under plant control conditions, and in accordance with the TDOT procedure for the Manufacture and Acceptance of pre-cast concrete drainage structures, noise wall panels, and retaining wall panels.

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Subsection 615.01, Replace the second paragraph, first sentence with the following:

“The fabrication of these items shall be accomplished in plants that have been certified by the Precast/Prestressed Concrete Institute, Plant Certified Inspector (PCI).”

Subsection 615.02, Replace the third paragraph, first sentence with the following:

“The fabrication of precast/prestressed concrete members shall be in a Precast/Prestressed Concrete Institute category B-3 certified plant and have at each fabrication site a technician skilled in the approved pre-stressing method.”

Subsection 615.05, Replace the second paragraph with the following:

“The panels shall be fabricated in a plant certified by the Precast/Prestressed Concrete Institute (PCI) category B-3.”

Subsection 615.07 First paragraph, fourth sentence, **Change** “4 months” to “6 months”

Subsection 616.05 **Revise the last paragraph to the following:**

“Tendons shall be placed in rigid ducts after concrete placement is completed. Ducts shall be as specified on plans and in conformance with Subsection 616.07.”

Subsection 619.14 Add as the second paragraph

PMC Variable Depth shall be measured by the cubic yard complete in place. The number of cubic yards will be determined by deducting the theoretical volume of Bridge Deck Overlay (PMC) from the total volume of PMC required to obtain the finished grade shown on the Plans or established by the Engineer.

Subsection 621.01 **Add** “and temporary shoring” after “temporary structures” in the first sentence.

Subsection 621.02 **Add** the following as the last paragraph:

Temporary shoring shall be used to retain the earth during grading operations and bridge construction to maintain traffic. Temporary shoring shall be installed at the locations shown on the plans or as directed by the engineer. Payment for this item will not be made when used for the installation of drainage structures, utilities, to meet OSHA regulations, or for the convenience of the contractor, unless these locations are specifically shown on the plans. The contractor shall design the temporary shoring for the specific locations and in-situ soil types. The submittal shall be in accordance with **Subsection 105.02**, shall be stamped by a Professional Engineer, and shall include detailed drawings, design calculations, and shoring material requirements. Temporary shoring may be sheet piling, piling/lagging walls, tie back walls, etc...

Subsection 621.03 **Add** the following as the last paragraph:

Temporary shoring will be measured and paid for by the square foot (square meter) of exposed vertical face area. The bottom of shoring for payment will be where the exposed face intersects the existing or specified grade. The top of shoring for payment will be the actual shoring top, but not more than one (1) foot above where the back of shoring intersects the existing or specified grade.

Subsection 621.04 **Add** the following as the last paragraph:

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Payment for temporary shoring shall be full compensation for all designs, submittals, labor, tools, equipment, materials, and all other incidentals for proper installation and removal of the shoring.

Subsection 623.02 B. 2. First sentence, **Add** after “grade 50” “50S, HPS50W,”

Subsection 623.02 C. 2. Last part of the paragraph, **Add** after “Category I” “Simple Steel Bridges”, SBR-1B.

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(Rev. 02-06-10)

March 1, 2006

(Rev. 05-05-10)

(Rev. 12-13-10)

(Rev. 06-12-13)

Supplemental Specifications - Section 700**of the****Standard Specifications for Road and Bridge Construction****701.13-Method of Measurement.** Add the following as the second paragraph:

Handicap Ramps will be measured by the ft.² (m²) complete in place as specified by standard drawings. The area shall be obtained by surface measurements. Where standard widths are constructed, the measurements shall not exceed the standard widths shown on the Plans, unless approved in writing by the Engineer.

Subsection 701.14-Basis of Payment. Revise paragraph to include Handicap ramps as follows:

The accepted quantities of Concrete Sidewalk of each thickness, Handicap Ramps, and Concrete Driveway will be paid for at the contract unit price per ft.² (m²) for the respective items, complete in place. The accepted quantities of Concrete Median Pavement will be paid for at the contract unit price per yd³. (m³), complete in place.

Subsection 705.06: Delete the second and third paragraph, and add the following as the second, third, and fourth paragraph. Revise the bulleted section as shown below.

All post holes, dug or drilled, shall be of such size as will permit proper setting of the posts, and allow sufficient room for backfilling and tamping.

When solid rock is encountered while drilling post holes.

- Within 18 in. (460mm) of the ground surface, an oversized or elongated hole shall be drilled 24 in. (610mm) into the rock. The post shall be set at the roadside edge of the hole and the hole should be backfilled with the cutting spoils. If using wooden posts the oversized hole shall be a single hole 23 in. (580mm) in diameter or three overlapping holes 10 in. (250mm) in diameter to a length of 23 inches. For steel posts, the oversized hole shall be a single hole, 20 in. (530mm) in diameter or three overlapping holes 8 in. (203mm) in diameter to a length of 20 inches.
- Below 18 in. (460mm) of the ground surface hole shall be drilled 12 in. (300mm) into the rock or to the specified depth in Plans. The holes shall be 8 in. diameter for steel posts, and 12 in. diameter for wood posts.

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- When installing end terminals using tubes, posts 1 and 2 will be installed to full depth or a minimum of 36 in. into the solid rock. The holes around the steel tube shall be backfilled with the cutting spoils.
- See approved shop drawings for additional information concerning post depth, and size of holes.

To validate proper installation of posts, each guardrail contractor/installer doing work for the Department shall have a minimum of 5 line posts and 5 terminal posts per Region per year pulled by the Department for verification of length. The Regional Construction and Materials and Tests offices may select any post for verification, but at a minimum, must select posts from five different runs of rail. If the posts are found to be in accordance with the plans and specifications, they may be re-installed if they were not damaged during the pulling process. If the post length is found to be deficient, the contractor/installer shall be required to remove the entire run of guardrail or end terminal and replace it properly at his expense.

Subsection 705.10: Add to the end of the section

When no contract unit price has been established for drilling or boring in solid rock, for posts, while placing Single Guardrail, payment for each hole shall be made at a rate equal to 2.0 times the contract unit price for Single Guardrail.

While drilling or boring into solid rock for posts placed in conjunction with Guardrail at Bridge Ends, Parapets, Piers, Concrete Endposts, and other similar edifice, payment shall be made at a rate equal to 1.25 times the contract unit price per hole.

When no unit price has been established for drilling or boring into solid rock for End Terminals posts, payment shall be made at a rate equal to 2.0 times the contract unit price for single guardrail per hole.

Unless posts are driven to refusal in solid rock, prior to drilling or boring, no additional payment will be made for drilling or boring for the placement of posts.

Subsection 709.01, Revise entire subsection to the following:

709.01-Description. Riprap shall consist of furnishing and setting or placing, rubble stones, crushed stone, sacked sand-cement, machined riprap, and embedded riprap. Slope Pavement shall consist of the construction of a reinforced concrete mat on prepared slopes. The riprap and slope pavement shall be constructed within reasonably close conformity to the lines, grades, and cross sections, and at the locations indicated on the Plans or as directed by the Engineer, and in conformity with the requirements and provisions of these Specifications.

Subsection 709.02, Revise entire subsection to the following:

709.02-Materials. Materials used in the construction of riprap and slope pavement, in addition to meeting the general requirements of these Specifications, shall conform to the following:

- Rubble-stone Riprap shall consist of stone or broken Class "A" or paving concrete meeting the requirements of **Subsection 918.10**. In addition, at least 80% of the stone shall have a minimum dimension of 10 in.(250 mm). The remainder shall be 2 to 4 in.(50 to 100 mm), and shall be approximately rectangular and/or trapezoidal in shape. Broken Class "A" or paving concrete shall be free of steel and wire fabric reinforcement. Sand

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for rubble-stone riprap(grouted) shall meet the requirements of **Subsection 903.01** or **903.02**. Cement for rubble-stone riprap(grouted) shall meet the requirements of **Subsection 901.01**.

- (b) Sand for sacked sand-cement riprap shall be manufactured or natural sand and shall meet the quality requirements of **Subsection 903.01** or **903.02**. Cement for sacked sand-cement shall meet the requirements of **Subsection 901.01**. Sacks shall be of either cotton or jute, standard grade of cloth, which will hold the sand-cement mixture without leakage during handling and tamping. They shall be strong and shall be sized to hold approximately 1 c.f.(0.03 mm³).
- (c) Reinforced concrete slope pavement shall be composed of Class A concrete meeting the requirements of **Subsection 604.03** and steel reinforcement meeting the requirements of **Subsection 907.01** or **907.03**, whichever is specified. Preformed expansion joint filler shall meet the requirements of **Subsection 905.01**.
- (d) Concrete curing materials shall meet the requirements of **Section 913**.
- (e) Machined Riprap shall be clean shot rock essentially free of sand, dust or organic materials and shall be the size designated for the class specified. The stone shall be uniformly distributed throughout the size range. The thickness of the stone layer shall be that designated for the specified class herein unless otherwise noted on the Plans. Sensitive areas of the project as indicated on project plans, project permits, and/or designated by the Engineer requiring washed and/or clean rock will be provide by the contractor at no additional cost to the project. Washed and/or clean rock must be approved by Engineer prior to placement in environmentally sensitive areas.

When rock or stone is used as riprap, the material when subjected to five alternations of the sodium sulfate soundness test (**AASHTO T 104**), shall not have a weighted percentage of loss of more than 12. The material shall be approved by the Engineer before use.

Subsection 709.08: Second paragraph, **Change** “sawed for a depth of 1 ft.” to “1 in.”

Subsection 709.09, Revise entire subsection to the following:

709.09-Machined Riprap. The Contractor shall exercise care in the preparation of the riprap subgrade to insure that no reduction in the design waterway occurs. No riprap is to be placed until the final subgrade elevation has been verified by the Engineer. When deemed necessary by the Engineer, the riprap shall be rolled down with metal tracked equipment to provide a more dense stone mass with final contours in reasonable conformance to the plans. Placement of the super-structure shall not proceed until the final elevation of the riprap has been accepted by the Engineer.

Upon completion of the work, visual inspection shall reveal that approximately 50% of the surface area consists of stones no smaller than 1/2 of the maximum size specified.

The material shall be dumped and placed by the use of appropriate power equipment in a manner that will produce a surface uniform in appearance. Hand work may be required to correct irregularities.

The Contractor shall exercise care in the preparation of the site referring to erosion control in accordance with the provisions in Subsection 209 and channel excavation in accordance with the provision of Subsections 203.02(c). When required by project plans, permits, or as directed by

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the engineer, embedded riprap in streams, conveyances, diversions, or other sensitive areas shall be properly tamped into the subsurface or otherwise blended into the substrate. Care is to be taken so that water flows over the embedded riprap and that flow is not lost below and/or within the rock. If clean rock is required by the project plans, permit, or directed by the engineer, the rock shall meet the provisions of Subsection 709.02 for clean rock.

Subsection 712.01: Add to the end of paragraph 1.

This work shall include both installing additional devices as necessary in construction work zones.

Subsection 712.04: Remove entire subsection text and replace with the following:

General. At the Pre-construction Conference the Contractor shall designate a responsible person who will be assigned to the project to supervise traffic control.

Signs shall be erected in a workmanlike manner such that all supports are plumb, sign panels generally perpendicular to the travelway and legends horizontal so that they effectively convey the intended message. Advanced warning signs shall not be displayed more than 48 hours before physical construction begins. Signs may be erected up to 1 week before needed, if the sign face is fully covered, in a manner approved by the Engineer. The sheeting of the sign shall be free of any damage that would reduce the reflectivity. The use of overlay plates on signs is prohibited. Signs shall be mounted on stationary or portable supports dependent on the type work being performed. Sign supports shall be driven a minimum of 3.5 ft. (1 m) into soil or 1 ft. (300 mm) into solid rock. Where soil and solid rock are both encountered, the depth of the sign support in the ground shall be:

$$d_1 + 3.33d_2 = 1, \text{ where}$$

$$(d_1 + 3.5d_2 = 42)$$

d_1 = depth in m (in.) of support in soil

d_2 = depth in m (in.) of support in solid rock

Stationary sign supports may be spliced, provided the splice is a minimum of 18 in.(450 mm). In addition, the stubs for the splice shall be driven as required above and shall not extend above 18 in.(450 mm) from ground level. The splice shall be fastened with four bolts, 2 placed at each end of the splice. In general, work being performed at spot locations and of short duration will necessitate the use of portable supports properly weighted for stability.

During periods of non-use, warning signs and other devices shall be removed from the work area, covered or otherwise positioned so they do not convey their message to the traveling public and do not present a safety hazard to drivers. If covered, the covering material shall be maintained in a neat and workmanlike manner during its use. The method of covering the sign face shall not deface or damage the sheeting of the sign.

Barricades and other devices that require lighting shall be lighted, as designated by plans details or as directed by the Engineer, with the use of flashing or steady burning lights. The Contractor will be responsible for procuring and bearing the expense of a continuous power source.

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Flaggers with proper attire and paddle shall be provided when necessary to safely handle traffic through the construction zone. Flaggers shall be trained and certified in flagging operations by one of the following training programs:

- 1) American Traffic Safety Services Association (ATSSA)
- 2) National Safety Council (NSC)
- 3) Tennessee Transportation Assistance Program (TTAP)
- 4) Construction industry associations, consultant organizations, and contractor developed flagger training programs will be acceptable if they have an established, written program which meets all *Manual on Uniform Traffic Control Devices* (MUTCD) requirements and Department Policy.

Flaggers will be considered a general requirement of traffic control and no direct payment will be made for such.

When requested by the Project Engineer or the Contractor and approved by the Regional Safety Coordinator or Regional Operations Office, a Tennessee Highway Patrol (THP) Trooper may be provided to enforce motor vehicle laws and otherwise assist in securing the public safety. Requests to provide the THP should be received at least forty-eight (48) hours in advance of the requested time of service. If the THP is scheduled to work and the work is canceled, or the schedule is changed, the contractor is responsible for notifying the THP and the Project Engineer at least two (2) hours prior to the scheduled time of work.

When a THP Trooper is not available, the contractor may provide a Uniformed Police Officer if approved by the Project Engineer and the Regional Safety Coordinator or Regional Operations Office. The Uniformed Police Officer shall maintain a detailed written log of his enforcement activities and shall submit the log to the Engineer for verification each month.

All Uniformed Law Enforcement Officers working on TDOT projects shall have training from a Peace Officer Standards and Training (POST) certified police training academy in the State of Tennessee and an additional 4 hours of FHWA approved work zone training. Record of this training shall be submitted to the Project Engineer.

The Flashing Arrow Board(s) shall be installed at locations shown on the Plans or as directed by the Engineer and shall comply with all requirements of the "**Manual on Uniform Traffic Control Devices for Highways and Streets**" (MUTCD). The Contractor shall take all necessary precautions to insure that the Flashing Arrow Board(s) perform as described herein. Any Flashing Arrow Board that exhibits any type of malfunction including improper dimming shall be corrected or replaced immediately.

The Flashing Arrow Board shall be capable of displaying the following configurations:

1. Right Arrow - 10 lamps flashing in unison forming an arrow
2. Left Arrow - 10 lamps flashing in unison forming an arrow
3. Double Arrow - 5 lamps in each arrow head and 3 lamps in a common shaft all flashing in unison
4. Four Point Caution - 4 outermost corner lamps flashing in unison

The Flashing Arrow Board(s) shall be used in the single arrow mode for lane closure only and shall be situated and aligned so that the flashing arrow is clearly visible and legible. The

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single arrow mode display shall have 10 lamps flashing in unison. The sequential arrow configuration, chevron arrow configuration, and horizontal bar configuration will not be allowed. The flash rate shall not be less than 25 flashes per minute or more than 40 flashes per minute. Minimum lamp "on-time" shall be 50% of the cycle.

The Flashing Arrow Board(s) shall be mounted so as to provide a minimum of 7 ft.(2.1 m) between the bottom of the panel and the roadway.

Portable signs may be used when the duration of the work is less than three (3) days or as allowed by other conditions in the proposal. All portable signs and sign mounting devices utilized in work shall be **NCHRP 350** compliant. When not being used, portable signs must be removed from the clear zone. Turning signs sideways or backwards is explicitly prohibited while the signs are in the clear zone. Portable interim signs shall be mounted a minimum of one (1) foot above the level of the pavement edge and shall be mounted at the height recommended by the manufacturer's crashworthy testing requirements.

All regulatory sign blanks shall be rigid.

The Contractor shall make every effort to eliminate the use of interim signs as soon as the Work allows for the installation of permanent signs.

Existing street name signs shall be maintained at street intersections.

Any sign(s) or portions of a sign(s) that are not applicable to the traffic control plan shall be covered so as not to be visible to traffic or shall be removed from the roadway when not in use.

The Contractor shall not remove any existing signs and supports without prior approval from the Engineer. All existing signs and supports that are to be removed shall be stored and protected if this material will be required later in the work.

Interim guide, warning, or regulatory signs required to direct traffic shall be furnished, installed, reused, and maintained by the Contractor in accordance with the **MUTCD**. The bottom of all interim signs shall be mounted at least seven (7 ft.) feet above the level of the pavement edge when the signs are used for long-term stationary operations as defined by Section 6G.02 of the **MUTCD**.

Existing guide and exit directional signs on the Project shall be maintained until conditions require a change in location or legend content. When change is required, the signs shall be in accordance with the Traffic Control Plan. When an existing guide and exit directional signs sign is in conflict with work to be performed, the Contractor shall remove the conflicting sign and reset it in a new, non-conflicting location that has been approved by the engineer.

When it is not possible to utilize existing signs, either in place or relocated, the Contractor shall furnish, erect, maintain, modify, relocate, and remove new interim guide and exit directional signs in accordance with the Plans or as directed by the engineer.

The installation of new permanent guide and exit directional signs and the permanent modification or resetting of existing guide and exit directional signs, when included in the contract, shall be accomplished as soon as practical to minimize the use of interim guide and exit directional signs.

Worker Visibility and Safety. All workers within the right-of-way of a project who are exposed to either vehicular traffic or to construction equipment in the work area shall wear high-visibility safety apparel. High-visibility apparel shall be considered personal protective clothing that meets performance Class 2 or Class 3 of the ANSI/ISEA 107-2004 publication. Class 3 apparel shall be required for night work.

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Portable Barrier Rail. All portable barrier rail will be placed as far away from the travel lanes as possible while serving the intended purpose. All portable barrier rail will be moved or removed as directed by the engineer. There shall be no additional payment for removing barrier that is no longer required.

Lane Closures. The length of a lane closure should be held to the minimum length required to accomplish the Work. The advanced warning signs for the project should not overlap with the advanced warning signs for lane shifts, lane closures, etc.

Drums shall be used in all transition tapers for lane closures on multi-lane roads

Night Work Lighting. When night work is required by Contract documents or plans, the Contractor shall supply sufficient lighting according to the following Specification.

The following information regarding the lighting plan must be submitted to the project supervisor:

- Descriptions and sketches of the layout of lighting devices including spacing, luminary height, lateral placement and anticipated illuminance provided.
- Photometric & physical specifications of all lighting equipment.
- Detailed description of all lighting to be used on construction equipment.
- Methods to be employed to reduce glare.
- Contractor's frequency and procedure for checking illumination levels.

In addition to their standard protective equipment, the following information regarding construction personnel and equipment shall be followed as a minimum:

1. Traffic Control Persons, all equipment operators and all other workers shall wear high-visibility apparel that meets performance Class 2 or Class 3 of the ANSI/ISEA 107-2004 publication. Class 3 apparel shall be required for night work.
2. They shall also have a minimum of 12 in² of reflective material added to their hard hats which is visible from all sides.
3. Traffic Control Persons must also be equipped with a flashlight complete with semi-transparent red cone.
4. All traffic control persons shall be equipped with radios or cell phones so that they have communication with each other.
5. All workers shall receive specific training on night work operations.
6. All vehicles in the work area must operate rotating or flashing incandescent amber lights visible in 360 degrees around the vehicle.
7. All work vehicles including trucks must have red and white reflective tape applied to all sides such that it defines the outline of the vehicle.

The following equipment will be outfitted with non glare balloon style lights or equivalent. The lights will be required on each piece of equipment in operation.

Equipment Type

Illuminance Requirement

Paver, Milling Machine,
Material Transfer Devices

1- 4000 watt assembly or 2 - 2000 watts
assemblies

Grader, Roller, Rumble Strip

1 – 400 watt assembly

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Machine, Shoulder Machine

Paint truck

1- 400 watt assembly or
nonglare 300 watt floodlight assemblyGuardrail driver, stationary
Operation1- 4000 watt assembly or 2 - 2000 watts assemblies
or equipment light plant

Trail Vehicle

1-4000 watt assembly or 2 - 2000 watts assemblies

(A trail vehicle will be required to follow the last piece of equipment in a mobile operation(i.e. finish roller, pavement marking, etc.) depicting the beginning of the working area. In addition, portable lighting of at least 400 watts shall be available for the density testing inspector. The illuminance requirement for other vehicles not listed will be determined by the Engineer. A 400 watt metal halide lamp or equal approved by the Engineer may be substituted for a 2000 or 400 watt balloon light assembly.)

All luminaries shall be located and directed in such a way to minimize glare to both motorists and work vehicles. If glare is noted from any travel path, the contractor must adjust the lighting to reduce the glare to an acceptable level to the satisfaction of the Engineer.

The contractor shall replace non-functioning lamps immediately. The luminary aiming shall be checked daily. The luminaries shall be cleaned regularly.

Specification Compliance. The Contractor will be notified for failure to comply with this specification or plans. The safe passage of pedestrians and traffic through and around the temporary traffic control zone, while minimizing confusion and disruption to traffic flow, shall have priority over all other Contractor activities. Continued failure of the Contractor to comply with the requirements of the Traffic Control Standard Specification or Special Provisions will result in non-refundable deductions of monies from the Contract for non-performance of Work that the deficiency is allowed to remain, not as penalty, but as liquidated damages.

Failure of the Contractor to comply with this Specification or take immediate correction actions required within forty-eight (48) hours of written notice shall be reason for the engineer suspending all other work on the Project, except erosion prevention and sediment control and traffic control, applying non-refundable deductions of monies from the Contract at a rate of twenty-five hundred dollars (\$2,500) per calendar day per notice and/or withholding payment of monies due to the Contractor for any work on the Project until traffic control deficiencies are corrected. These other actions shall be in addition to the deductions for non-performance of traffic control.

Subsection 712.05: Remove entire subsection text and replace with the following:

Pavement Marking Removal. Conflicting pavement markings must be removed to prevent confusion to vehicle operators. Pavement marking removal shall be accomplished by the Contractor in a manner acceptable to the Engineer.

Final surface pavement markings shall be removed by sand blasting, water blasting, or acceptable grinding methods that will cause the least possible damage to the pavement. Intermediate surface pavement markings shall be removed by sand blasting or water blasting, or other approved methods that will cause the least possible damage to the pavement. The following methods listed below are considered as acceptable for intermediate surface pavement

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markings: Sand blasting using air or water, High pressure water, steam or superheated water, or Mechanical devices such as grinders, sanders, scrapers, scarifiers, and wire brushes.

The Contractor at his expense shall repair any damage to the pavement or surface caused by pavement marking removal by methods and materials acceptable to the engineer. The end result of the removal shall not cause a condition that appears to be a line that conflicts with the current markings.

Traffic shifts that are done on the final surface shall be accomplished using interim traffic marking tape unless otherwise specified in the plans.

Removal of an existing pavement marking by painting over with black paint or asphalt will not be an acceptable method.

When the method of removal causes sand or other material to be accumulated on the pavement, the residue shall be removed as the work progresses.

Subsection 712-07 Maintenance. **Revise** entire subsection to the following:

712.07-Maintenance. The Contractor shall assume full responsibility for the continuous and expeditious maintenance of all signs, barricades, temporary impact attenuators and all other traffic control devices to meet the “acceptable” category as described in *Quality Guidelines for Temporary Traffic control Devices and Features* published by ATSSA. Such maintenance will be considered a part of the original installation cost. Failure to maintain all traffic control devices in such a manner as to provide continuous safety to the public will be cause for suspension of construction operations until proper traffic control is re-established.

Subsection 712.09: Revise the entire subsection to the following:

712.09-Method of Measurement. Signs, including Vertical Panels, erected on suitable supports will be measured by the actual square foot(square meter) installed. No deduction will be made for corner radii.

Drums for channelizing traffic will be measured per each. This number shall be determined by counting the maximum number of drums on a job site and in use at any one time. If a construction project is being stage constructed, the number will be counted for each construction phase and summed up for a grand total for the project.

Barricades will be measured by the linear foot(meter) for the type designated.

Delineators and Temporary Flexible Tubular Delineators will be measured per each.

Warning Lights and Flashing Arrow Boards will be measured per each for the type designated.

Portable Barrier Rail will be measured by the linear foot(meter). Separate measurement will be made for the initial installation of portable barrier rail at each site that the rail is used on the project as indicated on the plans or approved by the Engineer. No separate measurement will be made for removing and resetting portable barrier rail on new alignment at the same site to provide for changes in traffic control required by the different phases of construction. The following conditions apply to measurements of portable barrier rail:

- 1) The sites on 1 directional roadway of a divided highway will be considered independently of the sites on the other directional roadway and

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- 2) Each bridge for which portable barrier rail is indicated on the plans or approved by the Engineer will be a separate site.
- 3) Additional relocations of barrier rail that will be relocated due to safety of work zone or traffic, as established in the traffic control plans or as directed by the engineer laterally up to 10 ft., shall be paid at ten percent (10%) of the interconnected portable barrier bid amount unless a separate item is in the proposal.

Measurement of Portable Impact Attenuators will be based on the initial installation of each portable impact attenuator. No additional payment will be made for removal, moving and reinstalling impact attenuators at other locations on the project as directed by the Engineer. Payment will be based on the maximum number of portable impact attenuators in place at one time.

Temporary pavement marking line will be measured as described for Painted Pavement Marking Line in **Subsection 716.07** regardless of whether the lines are painted, taped markings or raised pavement markers or a combination of the above as shown on the plans or as required by the Engineer except that Removable Pavement Marking(Line) which will be measured by the linear foot(meter) of installed line.

Unless otherwise specified, no individual measurement will be made of traffic cones, removal of pavement marking or flaggers, as these items will be included in the lump sum item Traffic Control.

THPs shall be compensated by the Department but the contractor will be responsible for notifying the THP and the Project Engineer when work has been canceled within two (2) hours of the schedule of work. When the THP is not notified of work cancellation and the THP elects to monitor/patrol the project for a maximum of two (2) hours, a deduction will be made to monies owed the contractor equaling the THP pay rate for two (2) hours of work.

Uniformed Police Officers shall be provided by the contractor and compensation made by the Department for the invoice price of the work plus 5% not to exceed \$50 per hour for the hours present on the project. No compensation will be made for drive time.

Subsection 712.10: Revise the entire subsection to the following:

712.10-Basis of Payment. The lump sum payment for Traffic Control shall include Temporary Workzone Lighting and all equipment, labor, materials and shall included full compensation for furnishing flaggers, traffic cones and removing conflicting and incorrect pavement markings, as required, until project completion.

Payment for Portable Barrier Rail will be by the linear foot (meter) at the contract bid price which shall be full compensation for all materials, installation, maintenance and all incidentals of the work.

Payment for Portable Energy Absorbing Terminals will be made at the contract price per Portable Energy Absorbing terminal, complete in place, with total payment based on the maximum number of portable energy absorbing terminals in place at one time as specified in **Subsection 712.09**.

Payment for Portable Impact Attenuators will be made at the contract price per Portable Impact Attenuator, complete in place, with total payment based on the maximum number of portable impact attenuators in place at one time as specified in **Subsection 712.09**.

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Payment for Signs and Vertical Panels measured per square foot(square meter) shall be full compensation for sign panels with proper sheeting and legend, erecting on proper supports, furnishing all mounting hardware, covering when not in use, relocating, handling and maintaining until project completion.

Payment for Flexible Drums shall be measured per each, for the highest number that is IN USE on the project at one time. This shall be designated by making a notation such as "On October 29, 2004, there were 242 Flexible Drums in use. Pay quantity is 242 Each."

This will not apply to phase construction projects. On phase construction projects, each phase would need to be treated as a separate project to arrive at a final pay quantity. The highest number used on Phase I, plus the highest number used on subsequent phases, shall constitute the final pay quantity.

Payment for Barricades measured by the linear foot(meter) complete in place, shall be full compensation for materials, equipment, relocating, handling, maintaining, and all incidentals of the work.

Unless otherwise designated, all signs, barricades, and other traffic control devices covered by this section shall become the property of the Contractor at the completion of the project. The salvage value for these items shall be reflected in the contract unit price bid.

Ten ft.(3 m) lane line/center line and solid barrier line will be paid for as Painted Pavement Marking(Line) in accordance with **Subsection 716.08**.

Payment for Removable Pavement Marking Line,(8 in.(200 mm)) Barrier Line, Channelization Striping or Stop Line, shall include installation, maintenance and removal of the marking line when it is no longer required.

Payment for Uniformed Police Officers shall be full compensation for providing the Officer, official law enforcement vehicle, all necessary equipment, and administrative costs associated therewith.

Subsection 714.02 Revise entire subsection to the following:

714.02-Materials and Submittal Data Requirements. Materials used in this construction shall conform to the requirements of **Section 917** and to the following Sections or Subsections, unless otherwise stipulated:

<u>Section or Material</u>	<u>Subsection</u>
Gray Iron Castings	908.07
Portland Cement Concrete, Class	604
Steel Bar Reinforcement for Concrete Structures	907.01
Welded Steel Wire Fabric	907.03
Crushed Stone Grading D	903.05
Cement Concrete Curing Materials	913
Aluminum Paint	910.04
Conduit	917.05 or 917.07

Within 30 days after the issuance of the work order, the Contractor shall submit to the Engineer, four (4) collated sets of the manufacturer's descriptive literature and technical data which fully describes the types of lighting equipment he proposes to use. Descriptive literature shall include the manufacturer, models, etc. and be adequate to determine if the equipment or material meets the requirements of the Plans and these specifications. These sets of submittal

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data shall include a list of the materials submitted along with descriptive material for, but not limited to, the following items when applicable:

1. Complete photometric data of luminaires as published by the manufacturer with independent testing laboratory results.
2. Computer printouts showing illumination levels throughout each interchange area where high mast luminaires are to be installed.
3. General details of light standards, breakaway bases and bracket arms.
4. Highmast tower details with a set of design computation for each height including access hole, base, anchorage, head frame, and lowering device. Details are to include specification references for materials and location, type, size and extent of welds.
5. Dimension sheets and performance data on all related equipment.

The Engineer shall retain one copy and forward one copy to the Regional Materials and Test Division, one copy to the local entity (city or county engineer), and one copy to the Design Division for their review.

The submittal sets shall also include detailed scale drawings of any non-standard or special equipment and of any proposed deviation from the Plans. Any deviation from plans or specifications shall require approval from the Design Division. A letter requesting deviations or alternate materials must be included in the submittal for Design Division approval. If requested to do so, the Contractor shall submit for approval sample articles of any materials proposed for use. The Department will not be liable for any materials purchased, labor performed, or delay to the work prior to such approval.

In addition to the above, each submittal shall include a notarized letter certifying that all lighting system materials listed in the submittal are in conformance with the Plans and Specifications. The Contractor shall also submit to the Engineer a statement from the Maintaining Agency that the system is acceptable to the Agency.

Subsection 716.02 Delete “Adhesive 918.26” from the table.

Subsection 716.03 Revise entire subsection to the following:

716.03-Thermoplastic Pavement Marking.

(a) General.

The material shall be applied to the pavement by the screed extrusion method or the ribbon dispenser method. The screed extrusion device shall have one side of the shaping die open with the other 3 sides being contained by, or being part of, suitable equipment for heating and controlling the flow of material. Ribbon dispensers shall be heated, suspended above the road surface, and shall apply the material to the width and thickness specified.

The equipment shall be constructed to provide continuous mixing and agitation of the material. Conveying parts of the equipment between the main material reservoir and the shaping die shall be so constructed as to prevent accumulation and clogging. All parts of the equipment which come in contact with the material shall be so constructed as to be easily accessible for cleaning and maintenance. The equipment shall be constructed so that all mixing and conveying parts up to and including the shaping die, maintain the material at the plastic temperature with heat transfer oil or electrical element controlled heat. Direct fire heat transfer will not be allowed.

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The equipment shall be so constructed as to insure continuous uniformity in the dimensions of the stripe. The applicator shall provide a method of applying "skip" lines. The use of pans, aprons, or similar appliances which the die overruns will not be permitted under this Specification. The equipment shall be calibrated, and checked periodically by marking over a metal plate. The equipment will be so constructed as to provide for varying widths to produce varying widths of traffic markings.

Glass spheres applied to the surface of the completed stripe shall be applied by an automatic bead dispenser attached to the striping machine in such a manner that the beads are dispensed almost instantaneously upon the installed line. The glass sphere dispenser shall be capable of applying glass spheres to the surface of the completed stripe by a double drop application for initial traffic striping and marking. The bead dispenser for the first bead drop shall be attached to the striping machine in such a manner that the beads are dispensed closely behind with the thermoplastic material. The second bead dispenser bead shall be attached to the striping machine in such a manner that the beads are dispensed immediately after the first bead drop application. Glass spheres dispensers shall be equipped with an automatic cut-off control that is synchronized with the cut-off of the thermoplastic material and applies the glass spheres in a manner such that the spheres appear uniform on the entire traffic stripes and markings surface with, 50 to 60% embedment.

Special kettle(s) shall be provided for melting and heating the thermoplastic material. The kettle(s) must be equipped with automatic thermostatic control devices so that heating can be done by controlled heat transfer rather than by direct flame, so as to provide positive temperature control and prevent over-heating of the material.

Applicators shall be mobile and maneuverable to the extent the straight line can be followed and normal curves can be made in a true arc.

The applicator equipment to be used on roadway installations shall consist of either hand equipment or truck mounted units depending on the type of marking required.

The hand equipment shall have sufficient capacity to hold 150 lbs (70 kgs) of molten material and shall be sufficiently maneuverable to install crosswalks, lane, edge, and center lines, arrows and legends. The truck mounted unit for lane, edge and center lines shall consist of a mobile self contained unit carrying its own material capable of operating at a minimum speed of 5 mph (8 kph) continuously during an 8 hour period while installing striping.

Hand equipment used for stop bars, cross walks, legends, directional arrows and other specialty markings shall use the same thermoplastic formulation as described above with the exception of placing the marking at a minimum thickness of 0.090 in. (3mm) and a single drop of AASHTO M-247-09, Type 1 bead at the rate of 8 to 10 pounds per 100 square feet {3.6 to 4.5 kg per 9.3 m²} of stripe.

As an alternate, the Contractor may apply preformed thermoplastic marking material for stop bars, cross walks, legends or directional arrows. The preformed thermoplastic material shall have a minimum thickness of 0.090 in. (3 mm) and fused to the pavement by the heat of a torch.

(b) Application.

The pavement temperature shall be a minimum of 50° F (10° C) and rising before application begins. Application shall be suspended at any time the pavement temperature

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falls below 50° F (10° C). All surfaces to be marked shall be thoroughly cleaned of all dust, dirt, grease, oil and all other foreign matter before application of the striping.

To insure optimum adhesion of thermoplastic applied on all Portland cement concrete pavements, the Contractor shall apply a binder-sealer material as recommended by the thermoplastic manufacturer. To insure optimum adhesion, the thermoplastic material shall be installed in a melted state at a temperature of 400 to 450° F (205 to 230° C). The material, when formed into traffic stripes, must be readily renewable by placing an overlay of new material directly over an old line of compatible material. Such new material shall bond itself to the old line in such a manner that no splitting or separation takes place.

Longitudinal lines shall be off-set at least 2 in. (50 mm) from longitudinal joints of Portland Cement Concrete pavements.

Unless specified on the plans, a minimum average film thickness of 0.100 in. (2.54 mm) for lane and edge lines shall be maintained on all markings. This is to be computed on the basis of the amount of material used each day. The film thickness shall be uniform in appearance throughout its application. The glass sphere top coating must be applied by means of a pressure type spray gun designed specifically for this purpose, and which will embed the spheres into the line surface to at least one-half their diameter.

Placement of Drop on Glass Beads AASHTO M-247-09, Type 1 and AASHTO M-247-09, Type 4 shall each be placed on the thermoplastic stripe at a rate of 8 to 10 pounds per 100 square feet {3.6 to 4.5 kg per 9.3 m²} of stripe.

The AASHTO M-247-09, Type 4 glass beads shall be placed immediately after the first bead drop application of AASHTO M-247-09, Type 1 beads.

“Regardless of the application methods and procedures, or pavement types, the Contractor will be responsible for replacing any and all pavement markings that fail to comply with these specifications or fail to adhere to the pavement for one year after installation at the Contractor’s own expense.”

Contractor’s Responsibility for Notification.

Notify the Engineer prior to the placement of the thermoplastic materials. Furnish the Engineer with the manufacturer’s name and batch numbers of the thermoplastic materials and glass spheres to be used. Ensure that the approved batch numbers appear on the thermoplastic materials and glass spheres packages.

When thermoplastic is used on the final surface, the Contractor shall have the option of using reflectorized paint installed to permanent standards at the end of each day’s work and then installing the permanent marking after the paving operation is completed. Short, unmarked sections will not be allowed.

Protection of Newly Applied Traffic Stripes and Markings.

Do not allow traffic onto or permit vehicles to cross newly applied pavement markings until they are sufficiently dry. Remove and replace any portion of the pavement markings damaged by passing traffic or from any other cause, at no additional cost to the Department.

Subsection 716.04 Replace the first paragraph with the following:

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716.04-Raised Reflective Pavement Markers. Markers shall be bonded to the pavement with an epoxy listed on the Departments QPL and approved by the marker manufacturer or a hot bituminous adhesive conforming to the requirements as described below. Markers manufactured with a self adhesive backing will not be allowed. Markers shall be spaced as shown on the plans but shall not be installed over joints in rigid type pavements.

Subsection 716.06: Replace with the following

The application of preformed plastic pavement markings shall be made on clean dry surfaces free of dirt and foreign matter. The pavement temperature shall be 60° F (15° C) or over. Should plastic require activators for the adhesive or various special coatings for different pavement surfaces, the bidder shall include the cost of the activator or special coatings in the unit price of plastic bid upon.

The vendor will furnish with each package of reflectorized pavement marking materials complete instructions and/or specifications for the application of pavement marking materials to pavement surface. The reflectorized pavement marking materials are to be installed according to the vendor's specifications. Any adhesion used in the installation shall be as specified by the manufacturer. An adhesion-promoting primer shall be required when recommended by the pavement marking manufacturer.

Guides to mark the lateral location of pavement markings shall be established as shown on the plans or as directed by the Engineer. The Contractor shall establish the pavement marking guides and the Engineer will verify the location of the guides. Markings shall be placed in proper alignment with the guides. The deviation rate in alignment shall not exceed 1 inch per 200 feet of roadway. The maximum deviation shall not exceed 2 inches nor shall any deviation be abrupt.

Markings placed that are not in alignment or sequence, as shown on the plans or as stated in this specification, shall be removed and replaced by the Contractor at the Contractor's expense. Removal shall be in accordance with **Subsection 712.05, Pavement Marking Removal**. Guides placed on the roadway for alignment purposes shall not establish a permanent marking on the roadway in the opinion of the Engineer.

When markings are specified in the contract for newly paved asphalt concrete surfaces, they shall be placed immediately after final rolling of the mat. A rubber tired roller cart with a minimum weight of 200 pounds or a truck operated at no more than 3 m.p.h. shall be used to assure proper adhesion when the markings are in place. Steel wheel rollers may not be used for this purpose.

Subsection 722.09 Concrete Cylinder Storage. Revise entire subsection to the following:

722.09 Concrete Cylinder Storage-The Contractor shall provide a storage shed/building for temporary storage of concrete acceptance cylinders. The storage facility shall be of sufficient size and construction to protect the concrete cylinders from the elements and damage. The storage facility location shall be approved by the Engineer and access to the storage shed/building shall be under the control of Department personnel. The storage shed shall have a concrete curing box or water curing tank with a heating/circulating system of sufficient size to properly cure all acceptance cylinders before transferring for final storage and testing. The curing box or curing tank and heater/circulator shall comply with AASHTO M-201, and proper curing of the cylinders shall be in accordance with AASHTO T-23.

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SECTION 740-GEOTEXTILES. **Revise** heading to the following:

GEOTEXTILES AND GEOSYNTHETICS

Subsection 740.01-Description. **Revise** subsection to include Geosynthetics as follows:

This work shall consist of the placement of Geotextiles and Geosynthetics in accordance with these Specifications and/or Standard Drawings, at the locations and in reasonably close conformity with the lines, grades and dimensions shown on the Plans or established by the Engineer.

Subsection 740.02-Materials. **Revise** subsection to include Geosynthetics as follows:

Materials used in this construction shall meet the requirements of **Subsection 918.27** for the Type Geotextile or Geosynthetic called for in the plans.

The contractor shall furnish a certified laboratory test report from an approved testing laboratory with each shipment of materials. Laboratory test reports shall include the actual numerical test data obtained. All rolls shall be clearly labeled as being part of the same production run from which the test date was derived. Fabric shall be protected to prevent damage during transportation, storage, and installation. Geotextile and geosynthetic rolls shall be covered during storage to protect against UV degradation and shall be stored with rolls elevated up off of the ground. Fabric that is torn, punctured, or otherwise damaged shall not be installed.

Subsection 740.03-General. **Revise** subsection to include Geosynthetics as follows:

Geotextile and Geosynthetic fabric shall be placed as specified on the Plans for the specific application. The surface on which the Geotextile or Geosynthetic fabric is to be placed shall be compacted, as directed by the Engineer, and prepared as smooth as possible and free from debris, obstructions and depressions which could result in gaps, tears, or punctures in the fabric during cover operations. The Geotextile or Geosynthetic shall be installed in such a manner that placement of cover material will not excessively stretch nor tear the Geotextile or Geosynthetic. After fabric is placed, the initial lift of cover material shall be installed within five (5) calendar days. Under no circumstances shall any equipment operate directly on the Geotextile or Geosynthetic fabric. Cover material shall be placed such that at least the minimum initial lift thickness, as specified by the Engineer, is between the Geotextile or Geosynthetic and equipment tires or tracks at all times. Turning of equipment/vehicles shall not be allowed on the first lift above the Geotextile or Geosynthetic.

Subsection 740.04-Method of Measurement. **Revise** subsection to include Geosynthetics as follows:

Geotextiles or Geosynthetics of the type specified shall be measured by the yd² (m²), complete in place. No measurement for payment will be made for overlaps, splices, sewing joints, etc.

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Subsection 740.05-Basis of Payment. **Revise** subsection to include Geosynthetics as follows:

The accepted quantities of Geotextiles or Geosynthetics of the type specified, measured as provided for above, will be paid for at the contract unit price per yd².(m²) complete in place, which price shall be full compensation for labor, equipment, materials, tools and all incidentals necessary to complete the work. Fabric that is damaged during or after placement shall be replaced or repaired, as directed by the Engineer, at the expense of the Contractor.

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(Rev. 05-05-10)

March 1, 2006 |

Roadside Development |

803.02-Sod. New sod shall consist of live, dense, well-rooted growth of permanent grasses, free from Johnson grass, nut-grass, and other undesirable grasses or weeds, well-suited for the intended purpose and for the soil in which it is to be planted. Installed sod which does not meet these requirements shall be corrected as directed by the Engineer at the Contractors expense.

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STATE**OF****TENNESSEE**

(Rev. 09-01-09)
 (Rev. 02-06-10)
 (Rev. 12-13-10)
 (Rev. 02-13-12)
 (Rev. 01-07-13)
 (Rev. 06-12-13)

March 1, 2006

Supplemental Specifications - Section 900**of the****Standard Specifications for Road and Bridge Construction****March 1, 2006**

Subsection 903.03 Coarse Aggregate for Concrete, Revise the fourth paragraph to the following:

Coarse aggregate for prestressed concrete shall be Size No. 57 or Size No. 67, **Subsection 903.22**, as may be specified or directed. Coarse aggregates for precast concrete shall include any size fractions of **Subsection 903.22**, as may be specified or directed.

Subsection 903.12 (b) - Replace with the following:

(b) Aggregate for Micro-Surface. A minimum of 50% of ~~The~~ aggregate shall be crushed slag, crushed granite or crushed stone (crushed stone as specified for the types listed for Grading D in **Subsection 903.11(c)**) meeting the gradation limits below and the physical properties of ASTM D 692 except the percent of fractured pieces shall be 100. The aggregate shall have a minimum sand equivalent (AASHTO T 176) of 65. Blends of more than one aggregate source shall be mixed by means of pug mill only. Blending aggregates with a front end loader will not be permitted. The aggregate shall be proportioned to produce a uniform gradation meeting the following requirements:

**GRADATION LIMITS FOR AGGREGATE
 BASED ON WASH GRADATION**

Design Master Range Mixture Control

Sieve	(Total Percent Passing)	Tolerances
3/8 in.(9.5 mm)	100	
No. 4(4.75 mm)	70-98	±6.0
No. 8(2.36 mm)	45-70	±5.0
No. 16(1.18 mm)	28-50	±5.0
No. 30(600 µm)	19-34	±4.0
No. 50(300 µm)	12-25	±4.0
No. 100(150 µm)	7-18	±2.0
No. 200(75 µm)	4-15	±2.0

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Subsection 904.03 Emulsified Asphalts. Replace Entire subsection with the following:

904.03 - Emulsified Asphalts.

Emulsified asphalts shall meet the following test requirements:

	Test Method	CAE-P	CSS-1	CSS-1H	SS-1H	TST-1P	CQS-1H
Saybolt-Furol Viscosity @ 77F, seconds	AASHTO T59	10-50	20-100	20-100	20-100	10-75	20-100
Saybolt-Furol Viscosity @ 122F, seconds	AASHTO T59	n/a	n/a	n/a	n/a	n/a	n/a
Storage Stability Test, 24-h, %	AASHTO T59	1 Max	1 Max	1 Max	1 Max	n/a	n/a
5-day Settlement, %	AASHTO T59	n/a	n/a	n/a	n/a	n/a	n/a
Particle Charge	AASHTO T59	Positive	Positive	Positive	n/a	n/a	Positive
Sieve Test, %	AASHTO T59	0.1 Max	0.1 Max	0.1 Max	0.1 Max	0.1 Max	0.1 Max
Residue by	AASHTO T59	Distillation	Distillation	Distillation	Distillation	Distillation ¹	Distillation
Residue, %	AASHTO T59	n/a	57 Min	57 Min	57 Min	55-60	62 Min
Demulsibility, %	AASHTO T59	n/a	n/a	n/a	n/a	n/a	n/a
Distillate, %	AASHTO T59	55 Max	n/a	n/a	n/a	n/a	n/a
Oil Test, %	AASHTO T59	12.0 Max	n/a	n/a	n/a	n/a	n/a
Stone Coating	AASHTO T59	n/a	n/a	n/a	n/a	n/a	n/a
Cement Mix	AASHTO T59	n/a	2.0 Max	2.0 Max	2.0 Max	n/a	n/a
Float Test, seconds	AASHTO T50	n/a	n/a	n/a	n/a	n/a	n/a
Solubility in Trichlorethylene, %	AASHTO T44	n/a	n/a	n/a	n/a	n/a	n/a
Penetration	AASHTO T49	300 Min	100-250	40-90	40-90	75-150	40-90
Elastic Recovery, % ³	AASHTO T301	n/a	n/a	n/a	n/a	25 Min	n/a
Ductility @ 77F, cm	AASHTO T51	40 Min	40 Min	40 Min	40 Min	n/a	40 Min
Ductility @ 40F, cm	AASHTO T51	n/a	n/a	n/a	n/a	10-35	n/a
R&B Softening Point, °F	AASHTO T53	n/a	n/a	n/a	n/a	n/a	n/a
Original G*/sinδ @ 82°C	AASHTO T315	n/a	n/a	n/a	n/a	n/a	n/a
1 - Distill at 400°F							
2 - Distill at 350°F							
3 - Straight-sided mold, 20-cm elongation, 5 min hold, 25°C							

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	Test Method	CQS-1HP	SS-1	AEP	CRS-2	AE3
Saybolt-Furol Viscosity @ 77F, seconds	AASHTO T59	20-100	20-100	10-50	n/a	n/a
Saybolt-Furol Viscosity @ 122F, seconds	AASHTO T59	n/a	n/a	n/a	100-400	50 Min
Storage Stability Test, 24-h, %	AASHTO T59	n/a	1 Max	n/a	1 Max	n/a
5-day Settlement, %	AASHTO T59	n/a	n/a	5 Max	n/a	5 Max
Particle Charge	AASHTO T59	Positive	n/a	n/a	Positive	n/a
Sieve Test, %	AASHTO T59	0.1 Max	0.1 Max	0.1 Max	0.1 Max	n/a
Residue by	AASHTO T59	Distillation ²	Distillation	Distillation	Distillation	Distillation
Residue, %	AASHTO T59	62 Min	57 Min	n/a	65 Min	n/a
Demulsibility, %	AASHTO T59	n/a	n/a	n/a	40 Min	n/a
Distillate, %	AASHTO T59	n/a	n/a	55 Max	n/a	30 Max
Oil Test, %	AASHTO T59	n/a	n/a	12.0 Max	3.0 Max	6.0 Max
Stone Coating	AASHTO T59	n/a	n/a	n/a	n/a	90 Min
Cement Mix	AASHTO T59	n/a	2.0 Max	n/a	n/a	n/a
Float Test, seconds	AASHTO T50	n/a	n/a	20 Min	n/a	200 Min
Solubility in Trichlorethylene, %	AASHTO T44	n/a	n/a	n/a	n/a	n/a
Penetration	AASHTO T49	40-90	100-200	n/a	100-250	n/a
Elastic Recovery, % ³	AASHTO T301	n/a	n/a	n/a	n/a	n/a
Ductility @ 77F, cm	AASHTO T51	70 Min	40 Min	n/a	40 Min	n/a
Ductility @ 40F, cm	AASHTO T51	n/a	n/a	n/a	n/a	n/a
R&B Softening Point, °F	AASHTO T53	135 Min	n/a	n/a	n/a	n/a
Original G*/sinδ @ 82°C	AASHTO T315	n/a	n/a	n/a	n/a	n/a
1 - Distill at 400°F						
2 - Distill at 350°F						
3 - Straight-sided mold, 20-cm elongation, 5 min hold, 25°C						

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	Test Method	CRS-2P	RS-2	RS-1	TTT-1	TTT-2
Saybolt-Furol Viscosity @ 77F, seconds	AASHTO T59	n/a	n/a	20-100	30 Min	n/a
Saybolt-Furol Viscosity @ 122F, seconds	AASHTO T59	100-400	75-400	n/a	n/a	15-100
Storage Stability Test, 24-h, %	AASHTO T59	1 Max	1 Max	1 Max	1 Max	1 Max
5-day Settlement, %	AASHTO T59	n/a	n/a	n/a	5 Max	n/a
Particle Charge	AASHTO T59	Positive	n/a	n/a	n/a	Positive
Sieve Test, %	AASHTO T59	n/a	0.1 Max	0.1 Max	0.1 Max	0.1 Max
Residue by	AASHTO T59	Evaporation	Distillation	Distillation	Distillation	Distillation ²
Residue, %	AASHTO T59	65 Min	63 Min	55 Min	40 Min	58 Min
Demulsibility, %	AASHTO T59	40 Min	60 Min	60 Min	n/a	n/a
Distillate, %	AASHTO T59	n/a	n/a	n/a	n/a	n/a
Oil Test, %	AASHTO T59	n/a	n/a	n/a	n/a	n/a
Stone Coating	AASHTO T59	n/a	n/a	n/a	n/a	n/a
Cement Mix	AASHTO T59	n/a	n/a	n/a	n/a	n/a
Float Test, seconds	AASHTO T50	n/a	n/a	n/a	n/a	n/a
Solubility in Trichlorethylene, %	AASHTO T44	n/a	n/a	n/a	n/a	n/a
Penetration	AASHTO T49	75-175	100-200	100-200	5-15	40-90
Elastic Recovery, % ³	AASHTO T301	50 Min	n/a	n/a	n/a	n/a
Ductility @ 77F, cm	AASHTO T51	40 Min	40 Min	40 Min	40 Min	n/a
Ductility @ 40F, cm	AASHTO T51	n/a	n/a	n/a	n/a	n/a
R&B Softening Point, °F	AASHTO T53	125 Min	n/a	n/a	60-75	n/a
Original G*/sinδ @ 82°C	AASHTO T315	n/a	n/a	n/a	1.0 Min	n/a
1 - Distill at 400°F						
2 - Distill at 350°F						
3 - Straight-sided mold, 20-cm elongation, 5 min hold, 25°C						

Emulsified asphalts used on TDOT projects shall only be from Certified Emulsified Asphalt Suppliers that have an approved Quality Control Plan in accordance with TDOT Standard Operating Procedures.

All emulsified asphalts shall be homogeneous, and shall adhere firmly to the surface of the mineral aggregate. Failure of the emulsified asphalt to perform satisfactorily on the job shall be deemed cause for rejection, notwithstanding its ability to pass laboratory tests.

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The test requirement for settlement may be waived when the emulsified asphalt (special tack coat excepted) is used in less than 5 days' time; or the Engineer may require that the settlement test be run from the time the sample is received until it is used, if the elapsed time is less than 5 days.

The AE-3 shall be of such stability that it will remain constant and uniform while being mixed with dry or approximately dry aggregate, and shall thoroughly and uniformly coat the entire surface of each fragment while being manipulated and incorporated into the work. The emulsified asphalt after being incorporated into the work shall show no signs of re-emulsifying.

Solubility in trichloroethylene will be required for information only every 3 months in the supplier's quality control program.

When approved by the Engineer, cationic emulsions may be substituted for anionic emulsions.

Latex, polymer, and other emulsifiers shall be styrene butadiene rubber (SBR) or natural latex, and shall be milled into the asphalt cement and shall show no separation after mixing. When modified emulsions are utilized in microsurface mixtures, the blended mixture when combined with aggregate and mineral filler shall have the following characteristics:

1. Be capable of filling up to 1/2 in.(13 mm) wheel ruts in one pass.
2. Be capable of field regulation of the setting time.
3. Be suitable for nighttime placement.

The latex shall be combined with the asphalt emulsion at the emulsion mill to produce a homogeneous mixture. Latex modified emulsions upon standing undisturbed for a period of 24 hours shall show no color striations, but shall be a uniform color throughout.

Subsection 908.03-Permanent Steel Bridge Deck Forms; Delete ASTM A446 and A525, and **Replace** with A653

Subsection 908.03(C) First paragraph. Change to read as follows:

All high strength bolts, nuts and washers shall be certified to have met the specified tests identified in their individual ASTM Specification designations, both as individual components, and as assemblies (Bolts, Nuts, and Washers).

Subsection 908.07-Gray Iron Castings. Reviseentire subsection to the following:

908.07-Gray Iron Castings. All castings shall be of the type specified and shall be within reasonably close conformity with the dimensions shown on the Plans. The castings shall conform to AASHTO M105, with the additional requirements herein, and unless otherwise specified all castings shall be Class 30.

Test bars for tension testing shall be cast in accordance with AASHTO M 105, Table 2, Test Bar B.

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All castings shall be cleaned of sand and scale by sand blasting or other effective methods so as to present a smooth, clean, and uniform surface.

Gray iron castings shall have the date of manufacture cast into each unit.

Manhole castings shall have the lid and lid seat of the rim machined to form a true bearing.

All castings shall weigh at least 95% of the theoretical weight shown on the Plans.

Subsection 910.02-Revise entire Subsection to the following:

910.02-Quick Dry Traffic Marking Paint (White and Yellow). These specifications cover quick dry white and yellow traffic paint, also referred to as pigmented binder, for use in marking traffic lanes or barrier lines on bituminous and concrete highways.

- (a) General Requirements. The pigmented binder shall be properly formulated so as to be suitable for application by spray equipment when heated to 130°F(55°C) maximum and applied on bituminous or portland cement concrete pavements.
- (b) Drop on Glass Beads. The glass beads drop-on type, shall meet the requirements of AASHTO M 247 Type I.

General: All beads used for Pavement Markings shall be clear, transparent, colorless glass, smooth and spherically shaped, free of milkiness, pits, or excessive air bubbles and conform to the following specific requirements.

Glass Beads shall not contain more than 200 ppm of lead, 200 ppm of antimony, or 200 ppm of arsenic. The contractor shall certify and ensure that all glass beads meet all federal requirements. The contractor shall provide certification that all glass beads contain no more than 200 parts per million of arsenic or lead as determined by a certified independent (third party) laboratory, in accordance with Environmental Protection Agency testing methods 3052, 6010B, or 6010C. The contractor shall provide an independent certified test report showing compliance with these requirements.

Silica content of the glass beads shall be no less than 60%.

Color and Clarity: Beads shall be colorless, clear and free from carbon residues.

Roundness: Minimum true spheres overall shall be 80% when tested in accordance with ASTM-D-1155, for larger beads use visual inspection.

Index of Refraction: Minimum of 1.50, when tested by the liquid emersion method @ 77°F

Air Inclusions: Maximum of 3% overall

- (b) Paint.

Characteristic requirements.

1. Pigment content shall be between 58% and 65% by weight. Pigment for white paint shall contain 0.99 lbs/gal.(120 grams/l) of 94% titanium dioxide. Pigment for yellow paint shall be lead free and contain 0.22 lbs/gal.(26 grams/l) minimum of 94% titanium dioxide.
2. Total non-volatile shall not be less than 76% by weight.
3. Vehicle non-volatile shall not be less than 41% by weight. Vehicle shall be Rohm and Haas E-2706, DOW DT211NA or an approved equal.
4. Minimum weight shall not be less than 13.3 lbs./gal.(1,600 grams/l).
5. The paint viscosity shall be between 78 and 95 Kneb units when tested at $77 \pm 1^\circ \text{F}$ ($25 \pm 1^\circ \text{C}$) in accordance with ASTM D 562.
6. Drying Time:
 FIELD -The paint shall dry to a no-tracking condition in 3 minutes when applied at 15 ± 1 mil($380 \pm 25 \mu\text{m}$.) wet film thickness with a bead application rate of 6 lbs./gal.(0.7 kgs/l) of glass spheres per gallon(liter) of binder, when the pavement temperature is between 40 and 120°F (4 and 49°C) and the relative humidity is not exceeding 80%. The pigmented binder shall be applied with specialized equipment so as to have the binder at a temperature of 100 to 130°F (35 to 55°C) at the spray gun. The no-tracking condition shall be determined by passing over the line as applied above in a simulated passing maneuver with a passenger car travelling 35 mph(56 kph.). A line showing no visual deposition when viewed from a distance of 50 ft.(15 m) shall be considered as conforming to this drying requirement.
 LAB - The pigmented binder without glass spheres, shall dry to no-pick-up condition in 10 minutes or less when tested in accordance with ASTM D 711.
7. The paint shall meet the current EPA VOC requirements or 150 grams/l whichever is lower.
8. The ph of the paint shall be a minimum of 9.6.

Qualitative Requirements.

The finished paint shall meet the following quality requirements:

1. Condition in container: The paint received shall show no livering, skinning, mold growth, corrosion of the container, or hard settling of the pigment. Any settling shall be readily dispersed when stirred by hand with no persistent foaming.
2. Color: The color for white after drying shall be flat white, free from tint, furnishing good opacity and visibility under both daylight and artificial light. For yellow, the color shall closely match chip 33538 of Federal Standard 595B.
3. Flexibility: The paint shall show no cracking or flaking when tested on a $\frac{1}{2}$ in.(13 mm) mandrel in accordance with Federal Specification TT-P-1952B.
4. Dry Opacity: The minimum contrast ratio shall be 0.95 when drawn with a 0.005 Bird Applicator.
5. Daylight Reflectance: The daylight directional reflectance of the white paint shall be not less than 85% and not less than 50% for yellow(relative to manganese oxide) when measured in accordance with Federal Test Method No. 1416.
6. Bleeding: The paint shall have a minimum bleeding ratio of 0.97 when tested in accordance with Federal Specification TT-P-1952B.
7. Scrub Resistance: The paint shall pass 300 cycles when tested in accordance with ASTM D 2484.

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8. Freeze-Thaw Stability: The paint shall show no change in consistency greater than 10% when tested in accordance with Federal Specification TT-P-1952B.
9. Storage Stability: When stored at $77 \pm 2^\circ\text{C}$ in a 3/4- filled can for a period of 30 days, the paint shall be in a homogeneous state with no skinning, curdling, hard settling or caking that cannot be readily remixed.

(e) Inspection, Testing, Packaging, and Marking.

All paint furnished under this specification shall be proportioned in accordance with the characteristic requirements set forth herein. Compounding shall be from ingredients or component materials that have been found to conform with the detail specifications as set forth herein by reference or otherwise. After manufacture, a 0.5 pt.(l) sample along with certified laboratory analysis for each batch shall be sent to the Division of Materials and Tests. A qt.(l) sample and a manufacturer's certification that the glass beads meet the requirements of ASSHTO M 247 for the type beads, shall be sent to the Division of Materials and Tests for each batch or lot of glass beads shipped for use on Tennessee projects.

Each shipment of paint and beads shall be accompanied by a detailed analysis for that particular batch and certification that all ingredients meet the requirements set forth in this specification.

The Department reserves the right to perform in-plant sampling of ingredients and finished product during manufacturing operations and to sample the packaged product when it is received by the Department. Acceptance of the product may be withheld until analysis of samples has been completed.

All paint shall be shipped in new containers that can be properly sealed.

All containers shall be plainly marked or labeled to show the following information: Description of paint, color, net gal.(liters), name of manufacturer, batch number and date of manufacture(month and year).

Subsection 914.09 Polyvinyl Chloride Pipe (PVC). **Revise** entire subsection to the following:

914.09-Polyvinyl Chloride Pipe(PVC) . Pressurized pipe accepted under this Specification shall conform to the requirements of ASTM D 1785. Pipe Culverts accepted under this Specification shall conform to the requirements of ASTM D 1784.

Subsection 914.10-High Density Polyethylene Plastic Pipe. **Revsie** entire subsection to the following:

914.10, High Density Polyethylene Plastic Pipe. Pipe Culverts accepted under this specification shall conform to the requirements of AASHTO M 294, Type S. Slope Drains accepted under this specification shall conform to the requirements of AASHTO M 294, Type C or Type S.

Subsection 916.02 (a) Aluminum flat Sheet; **Revise** as shown below:

- (a). Aluminum flat sheet (sign blanks) and plates (permanent and temporary) shall meet ASTM B 209, Alloy 6061 T6 or 5052-H38. Recycled aluminum flat sheet (sign blanks) meeting ASTM B209, Alloy 6061 T6, or 5052-H38 may be used for temporary signing only. Composite material

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sign blanks (temporary signing only) shall be selected from the Department's QPL. The sign blanks shall be flat and shall contain no visible lateral bow.

Subsection 918.08: Replace entire section, with the following:

918.08-Preformed plastic pavement Marking Materials. The marking material shall be prefabricated plastic consisting of white or yellow pigmented plastic with reflective glass spheres uniformly distributed throughout the entire cross sectional area and shall be capable of being affixed to bituminous or Portland cement concrete pavement by either a pressure sensitive pre-coated adhesive or liquid contact cement. The material shall be provided complete in a form that will facilitate rapid application and protection during shipment and storage. Solvents, adhesives and necessary equipment for proper application for life shall be in accordance with manufacturer's instructions. The material shall be manufactured and packaged in such a manner to permit storage at normal shelf temperatures for periods of up to one year after purchase. Contact cements, where used, shall have a shelf life of 6 months. The material shall mold itself to pavement contours, breaks, faults, and the like by action of traffic at normal pavement temperatures. The material shall have resealing characteristics so that it will fuse with itself and with previously applied marking materials of the same composition under normal conditions of use.

Prefabricated legends and symbols must conform to the applicable shapes and sizes as outlined in the Manual on Uniform Traffic Control Devices for Streets and Highways. These pavement markings shall be on the Department's QPL.

Materials: The marking material shall be a 60 mil (1.50 mm) retroreflective pliant polymer conforming to the following requirements. The retroreflective pliant polymer pavement marking film shall consist of a mixture of high quality polymeric materials and pigments with 1.50 minimum refractive index glass spheres uniformly distributed throughout its cross sectional area, and with a reflective layer of beads bonded to the top surface. Composition shall be as follows:

Material	Min. % by Weight
Resins & Plasticizers	20
Pigments	30
Graded Glass Beads	33

This material shall be capable of adhering to asphaltic or Portland cement concrete, by means of a pressure sensitive, pre-coated adhesive, or by a liquid contact cement applied at the time of installation.

Tensile Strength. The film shall have a minimum tensile strength of 40 psi (275 kPa) of cross section when tested according to ASTM D 638. A sample 6 x 1 x 0.06 in.(150 x 25 x 1.5 mm) shall be tested at a temperature between 70° and 80° F(21 to 27° C) using a jaw speed of ¼ in.(6 mm) per minute.

Elongation. The film shall have a minimum elongation of 75% when tested according to ASTM D 638.

Plastic Pull Test. A test specimen made the same size as described under "Tensile Strength" above shall support a dead weight of 4 lbs. (1.8 kgs.) for not less than 5 minutes at a temperature between 70 and 80° F (21 to 27° C).

Pigmentation. The pigments shall be selected and blended to provide a marking film that is white or yellow conforming to standard highway colors through the expected life of the film.

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Pigments. Sufficient titanium dioxide pigment meeting Federal Specification TT-P-442 shall be used in white markings to insure a dense opaque marking. Pigments shall include titanium dioxide for white plastic and C. P. medium chrome yellow for yellow plastic.

Sufficient medium chrome yellow pigment meeting Federal Specification TT-P-346b, Type 111, shall be used to insure a durable finished color that complies with

Highway Yellow Color Tolerance Chart and matches Chip 33538 of Federal Standard 595. The yellow plastic shall have a minimum of 18% pigment as chrome yellow.

Glass Beads. The glass beads shall be, colorless and have a minimum index of refraction of 1.50 when tested using the liquid oil immersion method. The size and quality of the beads will be such that performance requirements for the retroreflective pliant polymer film shall be met.

Glass beads shall not contain more than 200 ppm of lead, 200 ppm of antimony, or 200 ppm of arsenic. The contractor shall certify and ensure that all glass beads meet all federal requirements. The contractor shall provide certification that all glass beads contain no more than 200 parts per million of arsenic or lead as determined by a certified independent (third party) laboratory, in accordance with Environmental Protection Agency testing methods 3052, 6010B, or 6010C. The contractor shall provide an independent certified test report showing compliance with these requirements.

The film shall have a glass bead retention quality such that when a 2 x 6 in. (50 x 150 mm) sample is bent over a 1/2 in. (13 mm) diameter mandrel, with the 2 in. (50 mm) dimension perpendicular to the mandrel axis, microscopic examination of the area on the mandrel shall show no more than 10% of the beads with entrapment by the binder of less than 40%.

Skid Resistance. The surface of the retroreflective pliant polymer shall provide a minimum skid resistance value of 35 BPN when tested according to ASTM E 303.

Color: *The color of the white thermoplastic material shall be pure white and conform to Federal standard 595-17778. The color of the yellow thermoplastic material shall conform to Federal Standard 595-33538 and meet the following chromaticity specifications.*

X and Y coordinates shall fall in an area bordered by these coordinates:

X	0.470	0.510	0.490	0.537
Y	0.455	0.489	0.432	0.462

Reflectance. The white and yellow markings shall have the following minimum initial retroreflectance values as measured in accordance with the testing procedures of ASTM D 4061. The photometric quantity to be measured shall be specific luminance (SL) and shall be expressed as millicandelas per square foot per footcandle.

	<u>White</u>		<u>Yellow</u>	
Entrance Angle	86.0	86.5	86.0	86.5
Observation Angle	0.2	1.0	0.2	1.0
Specific Luminance	500	300	400	175

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Thickness. The retroreflective pliant polymer film without adhesive shall be supplied in a standard thickness of 60 mils (1.5 mm).

Performance. The retroreflective pliant polymer, when applied according to the recommendations of the manufacturer, shall provide a neat, durable marking that will not flow or distort due to temperature if the pavement surface remains stable. The pliant polymer shall provide a cushioned resilient substrate that reduces bead crushing and loss. The film shall be weather resistant, and through normal traffic wear shall show no appreciable fading, lifting or shrinkage throughout the useful life of the marking. It shall also show no significant tearing, roll back or other signs of poor adhesion.

Subsection 918.09 B 3 Chemical Additives, Add the following as Subsection B-3:

- 3 Warm Mix Asphalt (WMA) additives. Organic wax or foaming additives may be added to bituminous plant mix to reduce placement temperatures in accordance with subsection 407.11. WMA additives should be introduced into the mixture at a constant rate satisfactory to produce mix temperatures as per subsection 407.11. If the proportions of the additive change during the course of mix production, these changes shall be noted and recorded. The manner in which the additive is introduced into the mixture shall be approved by the Department. The Department will maintain a list of qualified WMA additives. No product shall be used unless it appears on this list.

Subsection 918.18-Mulch Material, Add the following as the last sentence:

“An approved tackifier from the QPL shall be used to hold mulch in place.”

Subsection 918.23; Remove and Replace entire subsection with the following:

918.23- Thermoplastic Pavement Marking Material. This material shall conform to AASHTO M-249 with the following changes. The material requirements are as follows.

Composition: The retroreflective pavement marking material shall be an Alkyd / Maleic based thermoplastic material consisting of homogeneously mixed pigments, filler, resins and glass beads. The pigment, beads, and filler shall be uniformly dispersed in the resin. The material shall be manufactured from virgin material using no reprocessed components.

The material shall be free from all skins, dirt, and foreign objects and shall comply with requirements from the following table.

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TABLE 1

<u>Component</u>	<u>White</u>	<u>Yellow</u>
% Binder Content	19.0 min	19.0 min
% TiO ₂ Pigment,	10.0 min	N/A
% Intermix Glass Beads	35 min	35 min
% Calcium Carbonate \ Fillers	36 max*	46 max*

*The amount of Calcium Carbonate and inert fillers shall be as opted by the manufacturer, providing all other specifications are met.

The Titanium Dioxide shall be Rutile Type II in accordance with ASTM D 476 with a minimum purity of 93%.

Use white thermoplastic which does not contain anatase titanium dioxide pigment.

The total silica content used in the formulation of the thermoplastic shall be the premixed beads. Uniformly disperse the pigment, beads and filler in the binder.

The Alkyd / Maleic binder shall consist of a mixture of synthetic resins and high boiling point plasticizers one of, which shall be solid at room temperature. At least one-half of the binder composition shall be 100% Maleic modified glycerol ester of resin and shall be no less than 15% of the entire material formulation. The binder shall contain no petroleum, hydrocarbon resins, tall oil resins or rosins.

The thermoplastic material shall be free of contaminates and shall be dry blended or hot mixed from 100% virgin stock using no reprocessed materials.

The Thermoplastic material shall be formulated such that when it is on the roadway surface at any natural temperature it exists in a hard, solid state with cold ductility that permits normal movement with the road surface without chipping, or cracking.

The thermoplastic shall not deteriorate or discolor when held at the application temperature for periods of time up to 4 hours or upon repeated reheating (a minimum of 4 times).

The color, viscosity, and chemical properties versus temperature characteristics of the thermoplastic material shall remain constant for up to 4 hours at the application temperature and shall be the same from batch to batch.

The thermoplastic material shall be readily applicable at temperatures between 400°F and 440°F from the approved equipment to produce lines and symbols of the specified thickness above the pavement surface.

Physical Requirements: After 4 hours @ 425°F

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The thermoplastic material after heating for 4 hours $\pm$ 5 minutes at $218 \pm 2^{\circ}\text{C}$ ($425 \pm 3^{\circ}\text{F}$) and cooled to $25 \pm 2^{\circ}\text{C}$ ($77 \pm 3^{\circ}\text{F}$) shall meet the physical requirements set forth in AASHTO M-249 with the following changes.

The material shall be tested in accordance with AASHTO T-250 and or with the appropriate method in Federal Test Method Standard #141 or ASTM Designation.

Safety – No toxic fumes.

Bond Strength – (ASTM-D4796), 180 p.s.i. min.

Specific Gravity – Not to exceed 2.30

Yellowness Index – The white thermoplastic shall not exceed a yellowness index of 0.15.

Glass Beads

General: All beads used for Thermoplastic Pavement Markings shall be clear, transparent, colorless glass, smooth and spherically shaped, free of milkiess, pits, or excessive air bubbles and conform to the following specific requirements.

Glass Beads shall not contain more than 200 ppm of lead, 200 ppm of antimony, or 200 ppm of arsenic. The contractor shall certify and ensure that all glass beads meet all federal requirements. The contractor shall provide certification that all glass beads contain no more than 200 parts per million of arsenic or lead as determined by a certified independent (third party) laboratory, in accordance with Environmental Protection Agency testing methods 3052, 6010B, or 6010C. The contractor shall provide an independent certified test report showing compliance with these requirements.

Silica content of the glass beads shall be no less than 60%.

Color and Clarity: Beads shall be colorless, clear and free from carbon residues.

Roundness: Minimum true spheres overall shall be 80% when tested in accordance with ASTM-D-1155, for larger beads use visual inspection.

Index of Refraction: Minimum of 1.50, when tested by the liquid emersion method @ 77°F

Air Inclusions: Maximum of 3% overall

Intermix Glass Beads

Glass Beads used for intermix shall be premixed into the thermoplastic mixture and shall consist of 35% of the overall thermoplastic formulation. Intermix beads shall be uncoated and defined by two distinct gradations and meet the following requirements.

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Type 1 Intermix glass beads shall comprise 50% minimum of the 35% of the overall thermoplastic formulation (Intermix Glass Beads) and shall conform to AASHTO M-247-09, Type 1 with the exception of minimum true spheres overall shall be 80% as stated above, when tested in accordance with ASTM D-1155.

Type 3 Intermix glass beads shall comprise 50% minimum of 35% of the overall thermoplastic formulation (Intermix Glass Beads) and shall conform to AASHTO M-247-09, Type 3 with the exception of minimum true spheres overall shall be 80% as stated above, when tested in accordance with ASTM D-1155.

Specification for Double Drop System

The double drop system shall be capable of applying glass beads at the specified application rates. Beads shall be applied across the entire line width assuring uniform application and embedment of the beads to 50 to 60% of the bead diameter.

Type 1 drop on beads shall be dual coated for moisture resistance and adhesion , Also meet the requirements of AASHTO M-247-09 Type 1 with the exception that the beads shall be 80% round overall.

Type 4 drop on beads shall be dual coated for moisture resistance and adhesion , Also shall meet the requirements of AASHTO M-247-09 Type 4 with the exception that the beads shall be 80% round overall.

918.26-Raised Reflective Pavement Markers with Adhesive. Remove “with Adhesive” from the subsection title.

Subsection 918.27-Geotextile. Add “and Geosynthetics” to subsection title. **Replace** entire subsection with the following:

Geotextile and Geosynthetic materials and their types shall be on the Departments Qualified Products List. Geotextile and Geosynthetic material used shall meet the material requirements of the Standard Drawing.

The contractor shall furnish a certified laboratory test report from an approved testing laboratory and a certified letter stating the product is the same as on the Department’s Qualified Products List with each shipment of materials. Laboratory test reports shall include the actual numerical test data obtained. All rolls shall be clearly labeled as being part of the same production run from which the test date was derived. Fabric shall be protected to prevent damage during transportation, storage, and installation. Geotextile and Geosynthetic rolls shall be covered during storage to protect against UV degradation and shall be stored with rolls elevated up off of the ground. Fabric that is torn, punctured, or otherwise damaged shall not be installed.

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S T A T EO FT E N N E S S E E

March 1, 2006

SPECIAL PROVISION**REGARDING****UNBALANCED BIDS**

The Department will review all unit prices submitted by the apparently lowest responsible bidder and will decide whether any of the unit prices are excessively above or below a reasonable cost analysis value determined by the Engineer.

In the event any unit prices are determined to be unbalanced and contrary to the interest of the Department, the right is reserved to reject such bid at the discretion of the Department or to award the Contract and limit progress payments on units of work performed on any excessively priced items to costs that are satisfactorily documented by the Contractor plus 20 percent, until 85 percent of the Contract has been completed. Upon completion of 85 percent of the Contract, the Contractor will be reimbursed in accordance with **Subsection 109.06** of the Standard Specifications for the accepted quantities of work performed on the excessively priced items.

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S T A T EO FT E N N E S S E E

October 1, 2006

REV: February 5, 2007

SPECIAL PROVISION**REGARDING****EMPLOYING AND CONTRACTING WITH ILLEGAL IMMIGRANTS**

The State shall endeavor to do business only with those contractors and subcontractors that are in compliance with the Federal Immigration and Nationality Act. This policy shall apply to all State Contractors including subcontractors. This policy statement is issued to establish implementation guidance to procuring state agencies and contractors reflecting the requirements of Governor's Executive Order #41, An Order Regarding Compliance with Federal and State Laws Related to Employing and Contracting with Illegal Immigrants, and the requirements of Public Acts of 2006, Chapter Number 878 of the State of Tennessee (codified at *Tennessee Code Annotated*, Title 12, Chapter 4, Part 1).

1. The Contractor hereby attests, certifies, warrants, and assures that the Contractor shall not knowingly utilize the services of an illegal immigrant in the performance of this Contract and shall not knowingly utilize the services of any subcontractor who will utilize the services of an illegal immigrant in the performance of this Contract. The Contractor shall reaffirm this attestation, in writing, by submitting to the State a completed and signed copy of the "Attestation form" provided by the Department, semi-annually during the period of this Contract.
2. Prior to the use of any subcontractor in the performance of this Contract, and semi-annually thereafter, during the period of this Contract, the Contractor shall obtain and retain a current, written attestation that the subcontractor shall not knowingly utilize the services of an illegal immigrant to perform work relative to this Contract and shall not knowingly utilize the services of any subcontractor who will utilize the services of an illegal immigrant to perform work relative to this Contract.
3. The Contractor shall maintain records for its employees used in the performance of this Contract. Said records shall include a completed federal Department of Homeland Security Form I-9, *Employment Eligibility Verification*, for each employee and shall be subject to review and random inspection at any reasonable time upon reasonable notice by the State.

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

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4. The Contractor understands and agrees that failure to comply with this section will be subject to the sanctions of Public Chapter 878 of 2006 for acts or omissions occurring after its effective date. This law requires the Commissioner of Finance and Administration to prohibit a contractor from contracting with, or submitting an offer, proposal, or bid to contract with the State of Tennessee to supply goods or services for a period of one year after a contractor is discovered to have knowingly used the services of illegal immigrants during the performance of this contract.

For the Purposes of this policy, “illegal immigrant” shall be defined as a non-citizen who has entered the United State of America without federal government permission or stayed in this country beyond the period allowed by a federal government-issued visa authorizing the non-citizen to enter the country for specific purposes and a particular time period.

Compliance and non-compliance procedures will be as specified in the Tennessee Department of Finance and Administration’s Policy on “Ensuring Compliance with Federal Immigration Laws by State Contractors and Subcontractors”.

SP106ASP106A

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STATEOFTENNESSEE

(Rev. 6-19-95)

March 1, 2006

(Rev. 6-1-04)

(Rev. 06-20-2011)

SPECIAL PROVISIONREGARDINGBUY AMERICA REQUIREMENTS

All manufacturing processes for iron and steel products, and coatings applied thereon, used in this project shall occur in the United States except that if the proposal has bid items for furnishing domestic and foreign iron and steel, the bidder will have the option of (1) submitting a bid for furnishing domestic iron and steel, or (2) submitting a bid for furnishing domestic iron and steel and a bid for furnishing foreign iron and steel. If option (2) is chosen the bid will be tabulated on the basis of (a) the total bid price using the bid price for furnishing domestic iron and steel and, (b) the total bid price using the bid price for furnishing foreign iron and steel.

For the total bid based on furnishing foreign iron and steel to be considered for award, the lowest total bid based on furnishing domestic iron and steel must exceed the lowest total bid based on furnishing foreign iron and steel by more than 25 percent. The 25 percent differential applies to the total bid for the entire project, not just the bid prices for the steel or iron products.

Iron and steel products are defined as products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed from iron and steel made in the United States. Iron products are included, however, pig iron and processed, pelletized, and reduced iron ore may be purchased outside the United States.

Manufacturing begins with initial melting and continues through the coating stage. Any process which modifies chemical content, physical size or shape, or the final finish is considered a manufacturing process. Coatings include epoxy, galvanizing, painting or any other surface protection that enhances the value and/or durability of a material.

The contractor shall provide a certification to the Engineer with each shipment of iron and steel products to the project site that the manufacturing processes for the iron and steel products occurred in the United States. No steel shall be placed until the contractor ensures the requirements of this Special Provision are met.

The above requirements do not prevent a minimal use of foreign materials, if the cost of such materials used does not exceed 0.1 percent of the total contract cost or \$2,500.00, whichever is greater. If steel not meeting the requirements of this Special Provision is used, the contractor

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shall provide a written statement to the Department prior to its use indicating where the steel will be incorporated in the work, the value of the steel, the percentage of the contract amount, and the appropriate invoices shall be submitted as documentation.

The contractor shall be responsible for all cost associated with any steel that is permanently incorporated into the project that does not meet the requirements of this Special Provision without prior written approval from the Department, up to and including removal and replacement.

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

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S T A T E**O F****T E N N E S S E E**

Rev. 04-03-2006

Rev. 11-22-2011

Rev. 02-13-2012

March 1, 2006

SPECIAL PROVISION**REGARDING****WATER QUALITY AND STORM WATER PERMITS****Scope**

The conditions of this Special Provision apply to all construction on this project pursuant to the following:

1. Section 404 of the Federal Clean Water Act (33 U.S.C. §1344), and all implementing regulations, including without limitation regulations of the U.S. Army Corps of Engineers governing permits for discharges of dredged or fill material into waters of the United States in 33 CFR Part 323; and
2. The Tennessee Water Quality Control Act (T.C.A. §69-3-101, et seq.) and all implementing regulations, including without limitation the Rules of the Tennessee Department of Environment and Conservation governing NPDES permits in Chapter 1200-4-10, and Aquatic Resource Alteration permits in Chapter 1200-4-7; and
3. Section 26a of the TVA Act of 1933 as amended (49 Stat. 1079, 16 U. S. C. sec. 831y1.) and all implementing regulations, including without limitation the regulations of the Tennessee Valley Authority governing construction in the Tennessee River System in 18 C.F.R., Part 1304; and
4. The Tennessee Wildlife Resources Agency Reelfoot Lake Watershed Management permit program (T.C.A. section 70-5-1.), and all implementing regulations, including without limitation regulations authorizing any activity, practice, or project which has or is likely to have the effect of diverting surface or subsurface water from the Lake or have the effect of draining or otherwise removing water from Reelfoot Lake; and
5. Coast Guard Bridge Permit (USCG) (Section 9 of the Rivers and Harbors Appropriation Act of 1899) and all implementing regulations, including but not without limitation for projects which impact streams deemed navigable by the U.S. Coast Guard.

Responsibility

It is understood and agreed that the Contractor assumes all responsibilities of the permittee as indicated in the permit that relates to protection of the "waters of the United States" and/or "waters of the State of Tennessee."

It is also understood and agreed that the Contractor shall be responsible for obtaining any additional permits required by the Contractor's method of construction, including without limitation haul roads, temporary channels or temporary ditches, or off-site waste and/or borrow areas.

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It is also understood that the Contractor shall be responsible for implementing the provisions of the Water Quality (including, but not limited to, TDEC ARAP, USACE 404, TVA Section 26a, Coast Guard, TWRA) and Storm Water [including, but not limited to, National Pollution Discharge Elimination System (NPDES), Statewide Stormwater Management Plan (SSWMP)] Permits and requirements that pertain to construction activities.

The Contractor by signing this contract is indicating that the Contractor has reviewed a copy of the permit provisions, including NPDES Permit provisions at <http://www.tdot.state.tn.us/construction/permits/npdes.pdf>, the site specific SWPPP, the contract plans, Standard Specifications and contract Special Provisions and finds the permit requirements and erosion prevention and sediment control (EPSC) procedures to be reasonable, workable, and binding.

It is also understood that the Contractor shall not be released from the project site responsibilities under the NPDES permit provisions until the Notice of Termination (NOT) is submitted to TDEC by the TDOT Regional Construction Supervisor. The NOT is a certification that the construction project site is permanently stabilized and that all construction related discharges have ceased. This means that the use of EPSC measures to alleviate concerns of surface erosion and transport of sediment to surface water conveyances or to waters of the state is no longer necessary. Furthermore, it means that permanent controls, hard surfaces and/or vegetation, employed at the site are deemed adequate to prevent erosion and sediment transport and no other potential sources of construction-related pollution are on the project.

It is also understood that the Contractor shall not be released from any warranty provided for EPSC plantings, including sod and trees. If the entire project is complete as outlined in **Subsection 105.15** of the **Standard Specifications**, the Contractor shall be required to supply a performance bond as outlined in **Subsection 802.15** of the **Standard Specifications** to cover any warranty for EPSC plantings.

NPDES Permit Required Action

The Contractor (or their representative) shall accompany the EPSC inspector (TDOT personnel or TDOT hired consultant) on all EPSC inspections of the entire construction project including permitted locations and potentially impacted streams as well as attend all QA/QC Project Assessments.

EPSC Inspections shall be conducted as required in the most current TN Construction General Permit.

EPSC inspections shall be performed on the schedule established in the TN Construction General Permit until the site is permanently stabilized to determine if the permit requirements are being met. Where sites or portion(s) of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions (e.g. site covered with snow or ice), such inspection only has to be conducted once per month until thawing or precipitation results in runoff or construction activity resumes. Written notification of the intent to change the inspection frequency and the justification for such request must be submitted to the TDOT Project Supervisor and the TDEC Central Office before proceeding.

An individual representing the Contractor, who holds a current TDEC “*Fundamentals of Erosion Prevention and Sediment Control Level I*” certification shall accompany the EPSC inspector on all required EPSC inspections. The Contractors project supervisor(s) shall also hold a current TDEC “*Fundamentals of Erosion Prevention and Sediment Control Level I*”

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certification. Proof of required personnel training for the individual(s) shall be provided to the TDOT Project Supervisor prior to beginning of construction.

The TDOT EPSC inspector shall document all deficiencies on the required TDOT EPSC Inspection Report form (provided in the SWPPP). The Contractor (or their representative) shall sign the TDOT EPSC Inspection Report form and any supporting documentation indicating that he is in agreement with the report, recommendations and repair schedule as stated within the documentation.

Additionally, the Contractor shall make necessary maintenance and repairs relative to deficiencies in these permit conditions or requirements within twenty-four (24) hours after an inspection identifies the maintenance or repair need, and/or when directed to do so by the TDOT Project Supervisor, unless conditions make a particular activity impracticable. Any such conditions that make immediate repairs impracticable shall be documented and provided to the TDOT Project Supervisor, via the inspection report, and be accompanied by an expected repair schedule based on forecasted weather conditions.

The Contractor further agrees that he will execute two (2) copies of the Notice of Intent (NOI) form of the permit (provided by the Department), indicating his acceptance of the stipulations contained therein. The Contractor further agrees, that should he fail to execute said copies and return them to the TDOT Construction Division within ten (10) calendar days after submittal of the contract proposal to him, that the Department may at its discretion cancel the award with the Contractor forfeiting his bid bond.

Further, the Contractor agrees to review the site specific Stormwater Pollution Prevention Plan (SWPPP) that will be made available prior to or at the pre-construction conference, for any additional EPSC requirements. The Contractor shall sign and submit two copies of the SWPPP signature page (provided by the Department within the site specific SWPPP). The Contractor may submit for review and approval changes/revisions to the SWPPP to better prevent erosion and sediment transport at any time after contract execution. Rejection of any submittals does not relieve the contractor of any liability for appropriate Best Management Practices (BMPs).

If at any time during this contract, the requirements for the Water Quality Permits and/or the Storm Water Permits for Construction Related Activities are changed/revised/updated, the Contractor shall be notified in writing by the Department of such requirements. The Contractor shall comply with the new requirements within thirty (30) days of the Department notification.

If at any time the Contractor becomes aware that sedimentation is occurring or has occurred in streams impacted by the specified project, the Contractor shall immediately notify the TDOT Project Supervisor to evaluate the EPSC measures employed. A determination of the cause for sedimentation will be made by the Department. The Contractor shall immediately repair or replace defective EPSC measures, and install, as applicable, additional or other EPSC measures with the goal of eliminating future sedimentation. Once a remediation plan is provided by the Department, the Contractor shall, within twenty-four (24) hours after notification, begin the remediation as required. Based on the cause of sedimentation, the Department will determine if the cost of remediation will be performed at the Contractor's expense.

Failure to Comply

In the event a Notice of Violation (NOV) or Order pursuant to the Tennessee Water Quality Control Act or the Federal Clean Water Act is issued on this project, any and all fines will be the sole responsibility of the Contractor as outlined in **Subsection 107.01 of the Standard Specifications for Road and Bridge Construction.**

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Failure of the Contractor to comply with this Special Provision or take immediate corrective actions required within twenty-four (24) hours (unless documented conditions make a particular maintenance or repair activity impracticable immediately) shall be reason for the TDOT Project Supervisor to suspend all other work on the Project, except erosion prevention and sediment control (EPSC) and traffic control, applying non-refundable deductions of monies from the Contract per calendar day from monies due to the Contractor for any EPSC work on the Project. This deduction can be made for each location, as determined by the TDOT Project Supervisor, for each calendar day that the deficiency is allowed to remain and charged as item description "*Failure to Comply with Permit Deduction*". A deduction shall be made from monies due the Contractor, not as a penalty, but as liquidated damages, as indicated in **Subsection 108.07** of the **Standard Specifications for Road and Bridge Construction March 1, 2006**, as amended.

If the Contractor does not make necessary corrections/adjustments in a timely manner as required above, the Department will implement the provisions of **Subsection 209.07 and Subsection 109.08** of the **Standard Specifications for Road and Bridge Construction** that provides for the Department making repairs and recovering the costs thereof from the Contractor.

The Department will not participate in any payment or reimbursement for fines and will not authorize time extensions due to delays in project progress for work stoppage, to remedy the violations stated within the NOV, required by the TDOT Project Supervisor as stated in **Subsection 105.01** of the **Standard Specifications for Road and Bridge Construction**.

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STATEOFTENNESSEE

February 6, 2010

March 1, 2006

CONTRACTOR EMPLOYEE SAFETY AND HEALTH PROGRAM
(EFFECTIVE THE MARCH 19, 2010 LETTING)

At the preconstruction meeting, the Contractor shall submit to the Project Supervisor written certification of an Employee Safety and Health Program (ESHP) developed by a safety professional with a minimum of 30 hours OSHA Construction Training. The certification letter shall include the following:

1. Certification that the ESHP meets or exceeds all Federal, State, and local safety and health standards.
2. Qualifications of safety professional responsible for developing and maintaining the ESHP.
3. Chief Safety Personnel- Management-level personnel responsible for managing and implementing the ESHP for the company. Include the name and 24/7 contact information.
4. On-Site Safety Personnel - Supervisory-level personnel responsible for implementing and monitoring the ESHP. Include 24/7 contact information.
5. Traffic Control Coordinator. Include the name and 24/7 contact information.
6. Prime contractor shall insure all sub-contractors have a safety program. The Prime Contractor is responsible for work site safety. The Prime contractor is responsible for conducting all operations so as to protect the workers engaged in duties connected with the work.

The ESHP is a living document and shall be updated as needed. The Contractor shall maintain an original copy at the company's headquarters and shall provide to the Department upon request. Certification of an ESHP will be required before any work can begin.

The ESHP shall at a minimum include the following:

1. **Description.** Describe in detail how the ESHP is implemented and monitored. Provide guidelines for protecting personnel from hazards associated with project operations and activities. Establish the policies and procedures for safety practices that are necessary for the work to be in compliance with the requirements of TOSHA, the MUTCD and other State and Federal regulatory agencies with jurisdiction, rules, regulations, standards, or guidelines in effect at the time the work is in progress.
2. **Certification, Responsibility, and Identification of Personnel.** Identify the safety professional responsible for developing the ESHP and provide that person's qualifications

for developing the ESHP. Qualifications should include but not limited to: education, training, certifications, and experience in developing this type of ESHP.

- a. Provide a certification, executed by the safety professional that developed the ESHP, stating that the safety program complies with the rules, regulations, standards, and guidelines in effect at the time the work is in progress, of TOSHA, the MUTCD and other applicable Federal, State, and local regulatory agencies having jurisdiction.
 - b. Identify the Chief Safety Personnel and designate the On-Site Safety Personnel at supervisory-level responsible for implementing and monitoring the ESHP and having the authority to take prompt corrective measures to eliminate hazards, including the authority to stop work. Include documentation of training provided to the On-Site Safety Personnel.
 - c. For work that requires a competent person as defined by TOSHA, ensure that the On-Site Safety Personnel is capable of identifying existing and predictable hazards and has the authority to take prompt corrective measures to eliminate the hazards, including the authority to stop work. Include documentation of the qualifications of such competent persons identified, including certifications received.
 - d. For work that requires flagging, all flaggers will have proof they have completed an approved Flagging Course.
3. **Elements of the Program.** Include information and procedures for the following elements:
- a. **Chain of Command.** Include the responsibilities of the management, supervisors, safety personnel, and employees.
 - b. **Traffic Control Coordinator.** Include the name and 24/7 contact information. Ensure that the traffic control coordinator meets the requirements specified in the MUTCD and holds a Work Zone Safety Supervisor certificate (ATSSA, NHI, UT).
 - c. **Chief Safety Personnel.** The Chief Safety Personnel shall have a minimum of 10 hours OSHA Construction training and the authority to make immediate decisions concerning safety and health, including the authority to stop work. Include the name and 24/7 contact information. Ensure that the Chief Safety Officer meets the requirements specified in TOSHA.
 - d. **On-site Safety Personnel.** The On-Site Safety Personnel shall have a minimum of 10 hours OSHA Construction training and the authority to make immediate decisions concerning safety and health. Include the name and 24/7 contact information. Ensure that the On-Site Safety Personnel meets the requirements specified in TOSHA.
 - e. **Emergency Procedures.** Provide guidelines for handling emergencies, including emergency action plans for incidents involving a worker's death or serious injury, property damage, fires, explosions, and severe weather. Include the 24/7 emergency

- contact information of the Contractor's personnel responsible for handling emergencies.
- f. **Local Emergency Telephone Numbers.** Include police, fire, and medical numbers. This item will be in the project specific copy to be kept at each worksite.
 - g. **Training Topics.** Include regulatory and jobsite safety meetings.
 - h. **Contractor's Safety Rules.** Include employee safety, housekeeping procedures and personal protective equipment requirements.
 - i. **Employee Disciplinary Policy as related to safety issues.** Documentation shall be maintained at the contractor's headquarters.
 - j. **Work-Site Safety Checklists.** Include project safety-planning, emergency plans and procedures, documentation, and protective materials and equipment. Define procedures for routine work site inspections and correcting hazards reported by employees.
 - k. **Personnel Injuries.** Record all work-site accidents including cause and correction and provide to the department upon request.
 - l. **Hazard Communication Program.** Provide the following:
 - 1. The location of and instructions for understanding the Manufactures Safety Data Sheet (MSDS). Ensure that the location and instruction are available to anyone within the project Limits.
 - 2. The person responsible for the hazard communication program and the method of informing personnel of the hazardous communication program. Attendance sheets of hazard communication meetings shall be maintained.
 - 3. Provide employees a procedure for reporting and recording safety and health concerns to the On-Site Safety Personnel and the Chief Safety Personnel who have the authority to make immediate corrections.
 - 4. When performing work that generates airborne crystalline silica or lead, include engineering and work practice controls to limit exposure levels to, at, or below the permissible exposure limit according to TOSHA. Ensure that the program includes employee training and respiratory protection measures according to TOSHA and control of the area when the permissible exposure limit is exceeded. Provide a trained and competent person, according to TOSHA, within the Project Limits at all times when performing work that produces airborne crystalline silica or lead.
 - m. **Additional Requirements.** Provide additional procedures for Project specific topics including but not limited to:
 - 1. Compressed gas cylinders.
 - 2. Confined spaces.

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3. Cranes.
4. Electrical.
5. Equipment operators.
6. Fall protection.
7. Hand and power tools.
8. Hearing conservation.
9. Highway safety. See supplement specification 700SS
10. Lead.
11. Lock out/tag out.
12. Materials handling, storage, use, and disposal.
13. Night work.
14. Personal protective equipment.
15. Project entry and exit.
16. Respiratory protection.
17. Sanitation.
18. Signs, signals, and barricades.
19. Subcontractors.
20. Trenching.
21. Flagging.

The Contractor is responsible for implementing, monitoring, updating, and revising the ESHP. If an incident occurs that requires hospitalization, or TOSHA Citation to be submitted, notification of the incident shall be sent to the Project Supervisor and forwarded to the Regional Safety Coordinator.

On-call guardrail, sweeping, on-call striping/retracing, litter removal, tree services, mowing, and work performed at Welcome Centers and Rest Stops, will be considered Maintenance Contracts. The Maintenance Contractor, while performing the above listed projects, will have a Safety and Health Program, a Work Zone Traffic Control Supervisor and a Safety Manager. . Certification of an ESHP will be required before any work can begin. The certification letter shall include the following items and names (with 24/7 contact numbers) for:

- Safety and Health Program developed by a safety professional with a minimum of 30 hours OSHA Construction Training. This plan will cover the unique and specific hazards posed by the intended work including a Hazard Communication Program as defined as above.
- Traffic Control and Safety Supervisor to ensure that the traffic control meets the requirements specified in the MUTCD and holds a Work Zone Safety Supervisor certificate (ATSSA, NHI, UT); also have a minimum of 10 hours OSHA Construction training. This employee must have the authority to make immediate decisions concerning safety and health, including the authority to stop work.

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S T A T E**O F****T E N N E S S E E**

March 1, 2006

SPECIAL PROVISION**REGARDING****EQUAL EMPLOYMENT OPPORTUNITY**

Reference:

Federal-Aid Highway Program Manual

Transmittal 147, June 26, 1975

Replaces FHWA Order Interim 7-2(1)

Specific Equal Employment Opportunity Responsibilities**GENERAL**

- a) Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in Required Contract Provisions (Form FHWA-1273 or PR-1316, as appropriate) and these Special Provisions which are imposed pursuant to Section 140 of Title 23, U.S.C., as established by Section 22 of the Federal-Aid Highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.
- b) The contractor will work with the Tennessee Department of Transportation and the Federal Government in carrying out equal employment opportunity obligations and in their review of his/her activities under the contract.
- c) The contractor and all his/her subcontractors holding subcontracts not including material suppliers, exceeding \$10,000, will comply with the following minimum specific requirement activities of equal employment opportunity: (The equal employment opportunity requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection 1 of the Federal-Aid Highway Program Manual, are applicable to material suppliers as well as contractors and subcontractors). The contractor will include these requirements in every subcontract exceeding \$10,000 with such modification of language as is necessary to make them binding on the subcontractor.

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Equal Employment Opportunity Policy

The contractor will accept as his operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their age, race, color, religion, sex, national origin or disability and to promote the full realization of equal employment opportunity through a positive continuing program:

It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment opportunity officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

Equal Employment Opportunity Officer

The contractor will designate and make known to the Tennessee Department of Transportation contracting officers an equal employment opportunity officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

Dissemination of Policy

- (a) All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
- (1) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.
 - (2) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the contractor's equal employment opportunity obligations within thirty days following their reporting for duty with the contractor.
 - (3) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official in the contractor's procedures for locating and hiring minority group employees.

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- (b) In order to make the contractor's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the contractor will take the following actions:
- (1) Notices and posters setting forth the contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - (2) The contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

Recruitment

- (a) When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
- (b) The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the contractor will, through his EEO Officer, identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.
- (c) In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with equal employment opportunity contract provisions. (The U.S. Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended).
- (d) The contractor will encourage his present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

Personnel Actions

Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to age, race, color, religion, sex, national origin or disability. The following procedures shall be followed:

- (a) The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
- (b) The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
- (c) The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- (d) The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

Training and Promotion

- (a) The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
- (b) Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event the Special Provision Regarding Training Program Requirements is provided under this contract, this subparagraph will be superseded as indicated therein.
- (c) The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

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- (d) The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

Unions

If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

- (a) The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
- (b) The contractor will use best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their age, race, color, religion, sex, national origin or disability .
- (c) The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the Tennessee Department of Transportation and shall set forth what efforts have been made to obtain such information.
- (d) In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to age, race, color, religion, sex, national origin or disability, making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees). In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the Tennessee Department of Transportation.

Subcontracting

- (a) The contractor will use his best efforts to solicit bids from and to utilize minority group subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of minority-owned construction firms from the Tennessee Department of Transportation.

- (b) The contractor will use his best efforts to ensure subcontractor compliance with their equal employment opportunity obligations.

Records and Reports

- (a) The contractor will keep such records as are necessary to determine compliance with the contractor's equal employment opportunity obligations. The records kept by the contractor will be designed to indicate:
- (1) The number of minority and non-minority group members and women employed in each work classification on the project.
 - (2) The progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women. (Applicable only to contractors who rely in whole or in part on unions as a source for their work force).
 - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees.
 - (4) The progress and efforts being made in securing the services of minority group subcontractors or subcontractors with meaningful minority and female representation among their employees.
- (b) All such records must be retained for a period of 3 years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the of the Tennessee Department of Transportation and the Federal Highway Administration.
- (c) Each contractor and subcontractor shall submit to the Tennessee Department of Transportation an annual report for every July during which work is performed indicating the number of minority, women and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR 1391 and is to be received by the Department not later than the 20th of the month following the reporting period.
- (d) The contractor and/or sub-contractor will be required to complete other reports as instructed by the Engineer.
- (e) Current estimates may be withheld by the Project Engineer when reports are not received within the above specified time limits.

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March 1, 2006

SPECIAL PROVISIONREGARDINGSTANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITYCONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

- 1) As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941
 - d. "Minority" includes:
 - I. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - II. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish or Portuguese Culture or origin, regardless of race);
 - III. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - IV. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining indentifiable tribal affiliations through membership and participation or community identification).
- 2) Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

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- 3) If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals (including goals and time tables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
- 4) The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goal set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
- 5) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specification, Executive Order 11246, or the regulations promulgated pursuant thereto.
- 6) In order for the nonworking training hours of apprentices and the trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
- 7) The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - (a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

- (b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available and maintain a record of the organization's responses.
- (c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
- (d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- (e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources complied under 7b above.
- (f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- (g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

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- (h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
 - (i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screenings procedures, and tests to be used in the selection process.
 - (j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
 - (k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - (l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriation training, etc., such opportunities.
 - (m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - (n) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - (o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - (p) Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
- 8) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor

association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

- 9) A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women, generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
- 10) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of age, race, color, religion, sex, national origin or disability.
- 11) The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
- 12) The Contractor shall carry out such sanctions and penalties for violations of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
- 13) The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
- 14) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records

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shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

- 15) Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

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S T A T EO FT E N N E S S E E

Revised 10-19-2012

March 1, 2006 |

SPECIAL PROVISION**REGARDING****NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION****TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work are as follows:

<u>County</u>	Goals for Female Participation <u>in each Trade</u>
All Counties	6.9
<u>County</u>	Goals for Minority Participation <u>for each Trade</u>
Lincoln	11.2
Hamilton, Marion, Sequatchie	12.5
Bledsoe, Bradley, Grundy, McMinn, Meigs, Monroe, Polk, Rhea	8.6
Carter, Hawkins, Sullivan, Unicoi, Washington	2.6
Greene, Hancock, Johnson	3.2
Anderson, Blount, Knox, Union	6.6
Campbell, Claiborne, Cocke, Cumberland, Fentress, Grainger, Hamblen, Jefferson, Loudon, Morgan, Roane, Scott, Sevier	4.5

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<u>County</u>	<u>Goals for Minority Participation for each Trade</u>
Montgomery	18.2
Davidson, Cheatham, Dickson, Robertson, Sumner, Williamson, Wilson, Rutherford	15.8
Bedford, Cannon, Clay, Coffee, DeKalb, Franklin, Giles, Hickman, Houston, Humphreys, Jackson, Lawrence, Lewis, Macon, Marshall, Maury, Moore, Overton, Perry, Pickett, Putnam, Smith, Stewart, Trousdale, Van Buren, Warren, Wayne, White	12.0
Shelby, Tipton	32.3
Benton, Carroll, Chester, Crockett, Decatur, Dyer, Fayette, Gibson, Hardeman, Hardin, Haywood, Henderson, Henry, Lake, Lauderdale, McNairy, Madison, Obion, Weakley	26.5

These goals are applicable to all the Contractor's construction work whether or not it is Federal or federally assisted.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in CFR Part 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from Project to Project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Office of Federal Contract Compliance Programs at the following address within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation:

U.S. Department of Labor – Regional Office
Office of Federal Contract Compliance Program
61 Forsyth Street, Room 7B75
Atlanta, GA 30303

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The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

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TENNESSEE(Rev. 06-01-03)
(Rev. 06-23-08)
(Rev. 11-10-08)

March 1, 2006

SPECIAL PROVISION**REGARDING****DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION**

Disadvantaged Business Enterprises (DBE) as defined in 49 CFR Part 23/26 shall have the maximum opportunity to participate in the performance of contracts let by the Department. Consequently, the disadvantaged business enterprise requirements of 49 CFR Part 23/26 apply to this contract.

Disadvantaged Business Enterprises (DBE) as defined in 49 CFR Part 23/26 shall have the maximum opportunity to participate in the performance of this contract or in the performance of subcontracts to this contract. In this latter regard, the Contractor shall take all necessary and reasonable steps in accordance with 49 CFR Part 23/26 to ensure that disadvantaged enterprises, including enterprises owned and controlled by women, have the maximum opportunity to compete for and perform subcontracts. The Contractor shall not discriminate on the basis of age, race, color, religion, national origin, sex or disability in the award of subcontracts.

The Contractor shall submit to the Civil Rights Office Small Business Development Program copies of any agreements with DBE/WBEs upon execution.

The Contractor is advised that failure to carry out the requirements as set forth above shall constitute a breach of contract, and after notification by the Department, may result in termination of the contract or other remedy deemed appropriate by the Department.

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

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S T A T EO FT E N N E S S E E

(Rev. 12-01-06)

(Rev. 11-10-08)

(Rev. 9-17-11)

March 1, 2006

SPECIAL PROVISIONREGARDINGDBE 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 7.0 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

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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.

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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

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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.

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- 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.

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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.

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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.

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor 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 DOT-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 contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SP1275SP1275

Sheet 1 of 1

S T A T EO FT E N N E S S E E

March 1, 2006

CERTIFICATION REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS
PRIMARY AND LOWER TIER COVERED TRANSACTIONS

The prospective Primary and/or Lower Tier participant certifies, by signing and submitting this proposal, to the best of its knowledge and belief, that it and its principals:

Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal, State or local department or agency.

Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in the preceding paragraph of this certification; and

Have not within a three- year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

Where the prospective Primary and/or Lower Tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

(Exceptions to the above are to be submitted on a separate sheet with the bid proposal)

For any exception noted, indicate to whom it applies, initiating agency, and dates of action. Providing false information may result in criminal prosecution or administrative sanctions.

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

SP1320**SP1320**

Sheet 1 of 1

S T A T E**O F****T E N N E S S E E**

March 1, 2006

(Rev. 09-12-11)

(Rev. 12-15-11)

(Rev. 01-11-12)

(Rev. 01-09-13)**SPECIAL PROVISION****REGARDING****TENNESSEE DEPARTMENT OF TRANSPORTATION****2013 MINIMUM WAGE SCALES FOR FEDERAL-AID CONSTRUCTION****& 2013 MINIMUM WAGE SCALES FOR STATE FUNDED CONSTRUCTION**

This Contract contains "Tennessee Department of Transportation 2013 Minimum Wage Scales for State Funded Construction", Tennessee Department of Labor Decision No. T-34300, dated January 2, 2013, and Tennessee Department of Transportation 2013 Minimum Wage Scales for Federal-Aid Highway Construction, U. S. Department of Labor Decision No. TN130002 (dated January 4, 2013).

The Contractor is required to pay the greater of the two (2) rates for each classification.

Note: Minimum Wage Scales for Federal-Aid Heavy Construction are on file with the Department, and will be included in all applicable Contract Proposals.

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

(Rev. 01-03-14)

STATEOFTENNESSEE**TENNESSEE DEPARTMENT OF TRANSPORTATION****MINIMUM WAGE SCALES FOR FEDERAL AID HIGHWAY CONSTRUCTION**

General Decision Number: TN140002 01/03/2014 TN2

Superseded General Decision Number: TN20130002

State: Tennessee

Construction Type: Highway

Counties: Tennessee Statewide.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	01/04/2013

SUTN2010-002 05/06/2010

	Rates	Fringes
BRICKLAYER.....	\$ 16.62	
CARPENTER.....	\$ 16.10	
CEMENT MASON/CONCRETE FINISHER...	\$ 13.91	
ELECTRICIAN.....	\$ 21.62	
IRONWORKER		
Reinforcing.....	\$ 15.90	
Structural.....	\$ 17.15	

LABORER

Common/Unskilled.....\$ 11.50

Skilled

Air Tool Operator,
 Asphalt Raker, Chain Saw
 Operator, Concrete Mixer
 (less than 1 yd),
 Concrete Rubber, Edger,
 Fence Erector, Form
 Setter (steel), Guard
 Rail Erector, Mechanic's
 Tender (tire changer or
 oiler), Mortar Mixer,
 Nozzleman or Gun Operator
 (gunite), Pipelayer,
 Sign Erector.....\$ 13.34

OPERATOR: Power Equipment

Drill Operator (Caisson)....\$ 18.43

Farm Tractor Operator
 (Power Broom).....\$ 12.58

Group 1

Backhoe/Hydraulic
 Excavator (3/4 yd &
 over), Crane, End Loader
 (3 yd & over), Motor
 Patrol (rough), Tractor
 (crawler/ utility),
 Scraper, Shovel,
 Trenching Machine.....\$ 17.14

Group 2

Backhoe/Hydraulic
 Excavator (less than 3/4
 yd), Bulldozer or Push
 Dozer, End Loader (less
 than 3 yd), Motor Patrol
 (rough), Tractor
 (crawler/ utility),
 Scraper, Shovel, or
 Trenching Machine.....\$ 15.26

Group 3

Asphalt Paver, Concrete
 Finishing Machine,
 Concrete Paver, Scale,
 Spreader (self-
 propelled), Concrete
 Grinder, Asphalt Milling
 Machine, Boring Machine
 (horizontal).....\$ 15.75

Group 4

Bobcat, Central Mining
 Plant, Concrete Pump,
 Concrete Saw, Curb
 Machine (automatic or

manual), Dozer or Loader	
(stockpile), Drill	
(piling), Mulcher or	
Seeder, Rock Drill (truck	
mounted), Roller	
(asphalt), Roller	
(compaction self-	
propelled), Soil	
Stabilization Machine,	
Tractor (boom and hoist),	
Bituminous Distributor	
Machine, pump, Track	
Drill, Striping Machine....	\$ 14.19
Heavy Duty Mechanic.....	\$ 18.04
Light Duty Mechanic.....	\$ 16.27
Sweeping Machine (Vacuum)	
Operator.....	\$ 13.39
Painter & Sandblaster.....	\$ 21.54
Powder Person.....	\$ 17.79
Traffic Controller.....	\$ 16.98
TRUCK DRIVER	
2 axles.....	\$ 13.02
3-4 axles.....	\$ 12.91
5 or more axles.....	\$ 15.24
Heavy Duty Off Road.....	\$ 12.98

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

STATEOFTENNESSEETENNESSEE DEPARTMENT OF TRANSPORTATION2014 MINIMUM WAGE SCALES FOR STATE FUNDED CONSTRUCTION

January 1, 2014

Tenn. DOL Decision No. T-40056

CLASSIFICATION (ENGLISH)	CLASSIFICATION (SPANISH)	Basic Hourly Rates	Craft No.
Bricklayer	Ladrillero	21.99	01
Carpenter / Leadsperson	Carpintero o Lider	16.85	02
Class "A" Operators	Operador Clase A	18.62	03
Class "B" Operators	Operador Clase B	16.51	04
Class "C" Operators	Operador Clase C	17.10	05
Class "D" Operators	Operador Clase D	16.02	06
Concrete Finisher	Terminador de Cemento	15.22	07
Drill Operator (Caisson)	Operador de Perfordora	25.04	08
Electrician	Electricista	24.69	09
Farm Tractor Operator (Power Broom)	Operador de Tractor de Rancho	13.21	10
Ironworkers (Reinforcing)	Herrero	15.91	11
Ironworkers (Structural)	Herrero de Estructura	17.97	12
Mechanic (Class I) Heavy Duty	Mecanico Clase 1	20.88	13
Mechanic (Class II) Light Duty	Mecanico Clase 2	17.04	14
Painter / Sandblaster	Pintor o Lajador	26.23	15
Powder Person / Blaster	Proveedor de Explosivos	19.60	16
Skilled Laborer	Obrero Diestro	14.88	17
Survey Instrument Operator	Operador de Agrimensor	22.39	18
Sweeping Machine (Vacuum) Operator	Operador de Barredora	15.54	19
Truck Driver (2 axles)	Camionero (2 ejes)	14.17	20
Truck Driver (3/4 axles)	Camionero (3 o 4 ejes)	14.33	21
Truck Driver (5 or more axles)	Camionero (5 o más ejes)	16.93	22
Laborer /Unskilled , Flagger, Traffic Control, Pickup Driver	Obrero no Diestro	12.89	23
Worksite Traffic Coordinator	Coordinar de Trafico en el Lugar de Trabajo	19.08	24
Crane Operator	Operador de la Grúa	19.02	25

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CLASSIFICATION**CRAFT NO.****SKILLED LABORER:****17**

Air Tool Operator, Asphalt Raker, Chain Saw Operator, Concrete Mixer Operator (less than 1 yard), Concrete Rubber/Edger, Fence Erector, Form Setter (Steel Road), Guardrail Erector, Mechanic's Helper (Tire Changer or Oiler), Mortar Mixer, Nozzelman or Gun Operator (Gunit), *Pipelayer, Sign Erector

CLASS "A" OPERATORS:**03**

Backhoe/Hydraulic Excavator (3/4 yard and over), Crane (less than 20 tons see Crane Operator below), End Loader (3 yards and over), Motor Patrol (Finish), Pile Driver, Dragline

CLASS "B" OPERATORS:**04**

Backhoe/Hydraulic Excavator (less than 3/4 yard), Bull Dozer or Push Dozer, End Loader (less than 3 yards), Motor Patrol (Rough), Tractor (Crawler/Utility), Scraper, Shovel, Trenching Machine

CLASS "C" OPERATORS:**05**

Asphalt Paver, Concrete Finishing Machine, Concrete Paver, Scale, Spreader (Self-Propelled), Concrete Grinder, Asphalt Milling Machine, Boring Machine Operator (Horizontal)

CLASS "D" OPERATORS:**06**

Bobcat, Central Mixing Plant, Concrete Pump, Concrete Saw, Curb Machine (Automatic or Manual), Dozer or Loader (Stockpile), Drill (Piling), Mulcher or Seeder, Rock Drill (Truck Mounted), Roller (Asphalt), Roller (Compaction Self-Propelled), Soil Stabilization Machine, Tractor (Boom & Hoist), Bituminous Distributor Machine, Pump, Track Drill, Striping Machine Operator, Ditch Paving Machine

CRANE OPERATOR:**25**

Means one who operates boom-type equipment equal to or greater than 20 tons to hoist and move materials, raise and lower heavy weights and perform other related operations; may oil, grease or otherwise service and make necessary adjustments to equipment as needed; and may perform other related duties. (Note: The equipment is used for such work as pouring concrete and setting steel. This work is subject to strict inspection and must conform closely to specifications. The equipment may also be used for other miscellaneous tasks for which crane or stick-type equipment is required which may include hoist operations and pile driving operations.)

***Skilled Laborer - Pipelayer Classification**

For any work where prevailing wage rates apply which is located five feet or more outside the actual building if building construction is involved:

AND

- (a) which consists of the building, rebuilding, locating, relocating or repairing any street, highway, bridges, water lines, sewer lines, gas lines, force mains or other related utilities

OR

- (b) which involves the construction or upgrading of industrial parks or sites and is located outside the five foot limitation.

The classification of pipelayer shall be applicable and the description of work under this classification shall be as follows:

Lays, connects, inspects and tests water lines, force mains, gas lines, sanitary or storm sewers and drains, underground telephone and electric ducts or other utilities manufactured from clay, concrete, steel, plastic, cast iron pipe or other similar materials.

May smooth bottom of trench to proper elevation by scooping with a shovel; receives pipe lowered from top of trench; inserts spigot end of pipe into bell end of last laid pipe; adjusts pipe to line and grades, caulks and seals joint with cement or other sealing compound; may connect threaded or flanged joint pipe; may assemble and place corrugated metal or plastic pipe and performs other related duties.

Additional Information :

Wage Rates : <http://www.tennessee.gov/labor-wfd/prevail.html>

Poster Page : <http://www.state.tn.us/labor-wfd/poster.htm>

Note: Adobe Acrobat Reader is required in order to download & print. If you do not have this software a link is provided at the bottom of the Poster Page for a free download.

Tenn.Dept. of Labor & Workforce Development (Labor Standards Division) : (615) 741-2858.

APPRENTICESHIP REGULATIONS:

Under T.C.A., §12-449, the Prevailing Wage Commission has promulgated Rule 0800-3-2-.04 which provides that: "Apprentices shall mean those persons registered individually under a bona fide apprenticeship program registered with the Bureau of Apprenticeship and Training in the United States Department of Labor. The state agency contracting officer shall require the contractor or sub-contractor using the apprentice to submit evidence of his indenture and/or apprenticeship registration when the apprentice's name first appears on a submitting payroll."

AUTHORITY: T.C.A., §12-449. Administrative History: Original Rule filed June 4, 1976. Effective: July 14, 1976.

PROPOSAL
TO THE CITY OF BARTLETT
BARTLETT, TENNESSEE

By submitting this Proposal, the undersigned bidder represents that it has carefully examined the site of the work described herein, has become familiar with local conditions and the character and extent of the work; has carefully examined the Plans, the most current version of the *Standard Specifications for Road and Bridge Construction* and the Standard Roadway and Structures Drawings adopted by the State of Tennessee, Department of Transportation, with subsequent revisions which are acknowledged to be a part of this Proposal, the Special Provisions, the Proposal Form, the Form of Contract, and the Form of Contract Payment and Performance Bond; and thoroughly understands their stipulations, requirements, and provisions.

The undersigned bidder has determined the quality and quantity of materials required; has investigated the location and determined the sources of supply of the materials required; has investigated labor conditions; and, has arranged for the continuous prosecution of the work herein described.

By submitting this Proposal, the undersigned bidder agrees to provide all necessary equipment, tools, labor, incidentals, and other means of construction, to do all the work, and furnish all the materials of the specified requirements which are necessary to complete the work in accordance with the Plans, and the Specifications, and agrees to accept as payment in full the unit prices for the various items described in the Specifications that are set forth in this Proposal. The bidder understands that the quantities of work specified are approximate only and are subject to increase or decrease and that any such increase or decrease will not affect the unit prices set forth in this Proposal. Compensation for "extra work" which may be required by the **CITY** in connection with the construction and completion of the work but which was not reflected in the Plans and Specifications at the time of bidding, will be made in the following manner: work for which there is a unit price set forth in this Proposal will be compensated at that unit price; work for which there is no unit price set forth in this Proposal will be compensated in accordance with the applicable Tennessee Department of Transportation Standard Specifications.

By submitting this Proposal, the undersigned bidder hereby agrees to be bound by the award of the Contract and, if awarded the Contract on this Proposal, to execute the required Contract and the required Contract Payment and Performance Bond within ten (10) days after receipt of notice of the award. The undersigned bidder submits herewith the required Proposal guaranty in an amount of not less than five percent (5%) of the total amount of the Proposal offered and agrees and consents that the Proposal guaranty shall immediately be at the disposal of the **CITY**, not as a penalty, but as an agreed liquidated damage if the required Contract and Contract Payment and Performance Bond are not executed within ten (10) days from receipt of the notice of award.

THIS PROPOSAL SUBMITTED BY:

Bidder (1)

By: _____

Printed Name and Title

Address

City/State/Zip

Bidder (1) being _____ composed of officers, partners, or owners as
a _____ follows:
(Type of business entity)

Name/Title

Name/Title

Name/Title

Name/Title

Name/Title

Name/Title

Bidder (2)*

By: _____

Printed Name and Title

Address

City/State/Zip

Bidder (2) being _____ composed of officers, partners, or owners as
a _____ follows:
(Type of business entity)

Name/Title

Name/Title

Name/Title

Name/Title

Name/Title

Name/Title

BID FOR UNIT PRICE CONTRACTS

PROJECT: **BARTLETT ROAD BRIDGE REPLACEMENT**

Proposal of _____ (hereinafter called "Bidder")* a corporation, organized and existing under the laws of the State of _____, partnership, or an individual doing business as _____.

To **CITY OF BARTLETT** (hereinafter called the "Owner").

GENTLEMEN:

The Bidder, in compliance with your invitation for bids for the construction of **BARTLETT ROAD BRIDGE REPLACEMENT** having examined the plans and specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and the construction of the project in accordance with the contract documents, within the time set forth therein, and at the prices stated below. The prices are to cover all expenses incurred in performing the work required under the contract documents, of which this proposal is a part.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" of the Owner and to fully complete **BARTLETT ROAD BRIDGE REPLACEMENT** within **270** consecutive calendar days thereafter as stipulated in the specifications; Bidder further agrees to pay as liquidated damages the sum of **\$420.00** for each consecutive calendar day thereafter for the structure.

* Insert corporation, partnership or individual as applicable

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

BIDDER acknowledges receipt of the following ADDENDUM:

BIDDER agrees to perform all the **BRIDGE REPLACEMENT – BARTLETT ROAD** work described in the specifications and shown on the plans for the following unit prices:

A. ESTIMATED BRIDGE QUANTITIES

BRIDGE QUANTITIES FEDERAL PROJECT NO. STP-M-9419(6) STATE PROJECT NO. 79LPLM-F3-067 PIN 112819.00					
Item No.	Description	Quantity	Unit	Unit Price	Amount
202-04.01	REMOVAL OF STRUCTURE (EX, BR. NO 57-A310-2.19, STA. 10+00)	1	LS	\$	\$
202-04.02	REMOVAL OF STRUCTURE (EXISTING PEDESTRIAN METAL BRIDGE)	1	LS	\$	\$
204-02.01	DRY EXCAVATION (BRIDGES)	252	C.Y.	\$	\$
303-01.02	GRANULAR BACKFILL (BRIDGES)	38	TON	\$	\$
604-02.03	EPOXY COATED REINFORCING STEEL	33,668	LB.	\$	\$
604-03.01	CLASS A CONCRETE (BRIDGES)	123	C.Y.	\$	\$
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	11,596	LB.	\$	\$
604-03.09	CLASS D CONCRETE (BRIDGE DECK)	138	C.Y.	\$	\$
604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	231	S.Y.	\$	\$
606-09.01	TEST PILES (PRECAST CONCRETE, SIZE 1)	130	L.F.	\$	\$
606-09.02	LOAD TEST (PRECAST CONCRETE, SIZE 1)	1	EACH	\$	\$
606-09.03	PRECAST CONCRETE PILES (SIZE 1)	1,540	L.F.	\$	\$
606-12.01	PILE ANCHORAGE SYSTEM (SEISMIC)	26	EACH	\$	\$
615-02.10	PRESTRESSED CONCRETE BOX BEAM (27"X48")	536	L.F.	\$	\$
620-05	CONCRETE PARAPET WITH STRUCTURE TUBING	184.84	L.F.	\$	\$
710-09.01	6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	82	L.F.	\$	\$
710-09.02	6" PIPE UNDERDRAIN	40	L.F.	\$	\$

(A) SUB-TOTAL BRIDGE CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE

REPLACEMENT = \$_____

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

B. ESTIMATED ROADWAY QUANTITIES

ROAD AND APPROACHES QUANTITIES FEDERAL PROJECT NO. STP-M-9419(6) STATE PROJECT NO. 79LPLM-F3-067 PIN 112819.00					
Item No.	Description	Quantity	Unit	Unit Price	Amount
105-01	CONSTRUCTION STAKES, LINES AND GRADES	1	LS	\$	\$
201-01	CLEARING AND GRUBBING	1	LS	\$	\$
202-12.60	REMOVAL & DISPOSAL OF TEMPORARY RUN-AROUND	1	LS	\$	\$
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	680	C.Y.	\$	\$
203-03	BORROW EXCAVATION (UNCLASSIFIED)	123	C.Y.	\$	\$
203-06	WATER	71	M.G.	\$	\$
203-08	CHANNEL EXCAVATION (UNCLASSIFIED)	1,100	C.Y.	\$	\$
204-08.01	BACKFILL MATERIAL (FLOWABLE FILL)	10	C.Y.	\$	\$
209-05	SEDIMENT REMOVAL	42	C.Y.	\$	\$
209-08.02	TEMPORARY SILT FENCES (WITH BACKING)	1,608	L.F.	\$	\$
209-09.01	SANDBAGS	400	BAG	\$	\$
209-40.41	CATCH BASIN FILTER ASSEMBLY (TYPE I)	3	EACH	\$	\$
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	950	TON	\$	\$
307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	320	TON	\$	\$
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	210	TON	\$	\$
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	7	TON	\$	\$
402-02	AGGREGATE FOR COVER MATERIAL (PC)	19	TON	\$	\$
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	3	TON	\$	\$
411-01.10	ACS MIX (PG64-22) GRADING D	206	TON	\$	\$
607-03.02	18" CONCRETE PIPE CULVERT (CLASS III)	100	L.F.	\$	\$
607-37.02	18" CORRUGATED METAL PIPE CULVERT	47	L.F.	\$	\$
611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	2	C.Y.	\$	\$
611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	220	L.B.	\$	\$
611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	2	EACH	\$	\$
611-12.01	CATCH BASIN, TYPE 12,0'- 4' DEPTH	1	EACH	\$	\$
611-12.03	CATCH BASIN, TYPE 12, 8'-12' DEPTH	2	EACH	\$	\$
701-01.01	CONCRETE SIDEWALK (4")	2,785	S.F.	\$	\$
701-02	CONCRETE DRIVEWAY	3,266	S.F.	\$	\$
701-02.03	CONCRETE HANDICAP RAMP	250	S.F.	\$	\$
702-03	CONCRETE COMBINED CURB AND GUTTER	75	C.Y.	\$	\$
705-01.01	GUARDRAIL AT BRIDGE ENDS	108	L.F.	\$	\$

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**ROAD AND APPROACHES QUANTITIES
FEDERAL PROJECT NO. STP-M-9419(6)
STATE PROJECT NO. 79LPLM-F3-067
PIN 112819.00**

Item No.	Description	Quantity	Unit	Unit Price	Amount
705-02.02	SINGLE GUARDRAIL (TYPE 2)	7	L.F.	\$	\$
705-04.04	GUARDRAIL TERMINAL (TYPE 21)	1	EACH	\$	\$
705-04.05	GUARDRAIL TERMINAL (TYPE-IN-LINE)	3	EACH	\$	\$
707-08.01	FENCE (REPLACE WOODEN FENCE IN KIND)	150	L.F.	\$	\$
709-05.05	MACHINED RIP-RAP (CLASS A-3)	150	TON	\$	\$
709-05.08	MACHINED RIP-RAP (CLASS B)	1,900	TON	\$	\$
712-01	TRAFFIC CONTROL	1	LS	\$	\$
712-05.01	WARNING LIGHTS (TYPE A)	6	EACH	\$	\$
712-06	SIGNS (CONSTRUCTION)	318	S.F.	\$	\$
712-07.03	TEMPORARY BARRICADES (TYPE III)	60	L.F.	\$	\$
713-11.01	"U" SECTION STEEL POSTS	144	LB.	\$	\$
713-13.02	FLAT SHEET ALUMINUM SIGNS (0.080" THICK)	19	S.F.	\$	\$
713-15	REMOVAL OF SIGNS, POST AND FOOTING	1	LS	\$	\$
713-16.20	SIGNS (STOP)	1	EACH	\$	\$
716-02.03	PAINTED PAVEMENT MARKING (CROSS-WALK)	100	L.F.	\$	\$
716-02.05	PAINTED PAVEMENT MARKING (STOP LINE)	18	L.F.	\$	\$
716-05.01	PAINTED PAVEMENT MARKING (4 IN LINE)	0.5	L.M.	\$	\$
716-13.06	SPRAY THERMO PAVEMENT MARKING (40 MIL) (4 IN LINE)	0.5	L.M.	\$	\$
717-01	MOBILIZATION	1	LS	\$	\$
740-10.03	GEOTEXTILE (TYPE III) (EROSION CONTROL)	260	S.Y.	\$	\$
740-11.03	TEMPORARY SEDIMENT TUBE 18IN (DESCRIPTION)	100	L.F.	\$	\$
801-01.07	TEMPORARY SEEDING (WITH MULCH)	20	UNIT	\$	\$
801-03	WATER (SEEDING & SODDING)	16	M.G.	\$	\$
802-01.09	TREES (QUERCUS PHELLOS)(1.5-2" CAL. B&B)	2	EACH	\$	\$
803-01	SODDING (NEW SOD)	3,500	S.Y.	\$	\$

(B) SUB-TOTAL ROAD AND APPROACHES CONSTRUCTION COST FOR BARTLETT

ROAD BRIDGE REPLACEMENT = \$ _____

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C. ESTIMATED WATER LINE QUANTITIES
NON-PARTICIPATING ITEMS (CITY OF BARTLETT)

WATER LINE QUANTITIES FEDERAL PROJECT NO. STP-M-9419(6) STATE PROJECT NO. 79LPLM-F3-067 PIN 112819.00 NON-PARTICIPATING ITEMS, CITY OF BARTLETT					
Item No.	Description	Quantity	Unit	Unit Price	Amount
303-01.04	SELECT SAND BACKFILL	100	TON	\$	\$
303-10.04	MINERAL AGGREGATE (CR610)	100	TON	\$	\$
795-01.04	6IN DIP SLIP JOINT WATER LINE	60	L.F.	\$	\$
795-01.05	8IN DIP RESTRAINED JOINT WATER LINE	170	L.F.	\$	\$
795-01.06	8IN DIP SLIP JOINT WATER LINE	120	L.F.	\$	\$
795-06.04	CONNECT TO 6IN WATER LINE	1	EACH	\$	\$
795-06.05	CONNECT TO 8IN WATER LINE	1	EACH	\$	\$
795-07.06	8IN X 8IN TAPPING SLEEVE AND VALVE	1	EACH	\$	\$
795-07.32	INSERTION VALVE (8IN)	2	EACH	\$	\$
795-11.01	BLOW-OFF ASSEMBLY	1	EACH	\$	\$
795-13.04	BRIDGE CONDUIT HANGER SYSTEM	1	L.S.	\$	\$

(C) SUB-TOTAL WATER LINE CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE

REPLACEMENT = \$ _____

D. ESTIMATED AT&T FIBER OPTIC QUANTITIES
NON-PARTICIPATING ITEMS (AT&T)

AT&T FIBER OPTIC QUANTITIES FEDERAL PROJECT NO. STP-M-9419(6) STATE PROJECT NO. 79LPLM-F3-067 PIN 112819.00 NON-PARTICIPATING ITEMS, AT&T					
Item No.	Description	Quantity	Unit	Unit Price	Amount
793-14.09	BRIDGE CONDUIT HANGER SYSTEM	1	L.S.	\$	\$

(D) SUB-TOTAL AT&T FIBER OPTIC CONSTRUCTION COST FOR BARTLETT ROAD

BRIDGE REPLACEMENT = \$ _____

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- (A) SUB-TOTAL BRIDGE CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE
REPLACEMENT = \$ _____
- (B) SUB-TOTAL ROAD AND APPROACHES CONSTRUCTION COST FOR BARTLETT ROAD
BRIDGE REPLACEMENT = \$ _____
- (C) SUB-TOTAL WATER LINE CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE
REPLACEMENT = \$ _____
- (D) SUB-TOTAL AT&T FIBER OPTIC CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE
REPLACEMENT = \$ _____

(A+B+C+D) TOTAL CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE REPLACEMENT =
\$ _____

TOTAL BID AMOUNT IN WORDS: _____

CONTRACTOR: _____

AUTHORIZED REPRESENTATIVE (SIGNATURE): _____

PRINT NAME: _____

The unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of 60 days after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract attached within 10 days and deliver a Surety Bond or Bonds as required by Article 5 of the General Conditions. The bid security attached in the sum of FIVE PERCENT (5%) OF AMOUNT OF BID is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

RESPECTFULLY SUBMITTED:

BY: _____

***NOTE: The signature and information for Bidder (2) is to be provided when there is a joint venture.**

PROPOSAL CERTIFICATION

The undersigned, being first duly sworn, certifies on behalf of the bidder that it has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this Proposal or Contract. This is an official document that is required or authorized by law to be made under oath and is presented in an official proceeding. A person who makes a false statement in this certification is subject to the penalties of perjury.

The undersigned further certifies that said bidder is not under the control of any person, firm, partnership, or corporation, which has or exercises any control of any other person, firm, partnership, or corporation, which is submitting a bid on this Contract.

_____ Sworn to and subscribed before me

Bidder (1)

By: _____ this _____ day of _____,

Printed Name and Title	Notary Public
	My commission expires

(Seal)

_____ Sworn to and subscribed before me

Bidder (2)

By: _____ this _____ day of _____,

Printed Name and Title	Notary Public
	My commission expires

(Seal)

***NOTE: The signature and information for Bidder (2) is to be provided when there is a joint venture.**

CITY OF BARTLETT

BARTLETT, TENNESSEE

PROPOSAL BOND

CONTRACT NO. _____

Principal: _____
Print Name of Principal

Surety: _____
Print Name of Surety

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety above named, are held and firmly bound unto the **CITY** in the full and just sum of five percent (5%) of the total amount bid by the Principal for the project stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

NOW, THEREFORE, the condition of this obligation is: the Principal shall not withdraw its bid within sixty (60) days after the opening of the bids, or within such other time period as may be provided in the Proposal, and if the **CITY** shall award a Contract to the Principal, the Principal shall, within ten (10) days after written notice of the award is received by him, fully execute a Contract on the basis of the terms, conditions and unit prices set forth in his Proposal or bid and provide bonds with good and sufficient surety, as required for the faithful performance of the Contract and for the protection of all persons supplying labor, material, and equipment for the prosecution of the work. In the event the Principal withdraws its bid after bids are opened, or after award of the Contract has been made fails to execute such the Contract and/or such additional documents as may be required and to provide the required bonds within the time period specified above, then the amount of the Proposal Bond shall be immediately paid to the **CITY**, not as a penalty, but as agreed upon liquidated damages.

IN WITNESS WHEREOF, the Principal has caused these presents to be signed by a duly authorized official and the Surety has caused these presents to be duly signed and sealed by an authorized agent or attorney-in-fact.

Principal (1) Surety (1)

By: _____ By: _____
General Agent or Attorney-in-Fact

Print Name and Title Date

Date

(Seal)

Principal (2) Surety (2)

By:

By:

General Agent or Attorney-in-Fact

Print Name and Title Date

Date

(Seal)

***NOTE: The signature and information for Principal(2) and Surety(2) is to be provided when there is a joint venture.**

CITY OF BARTLETT
BARTLETT, TENNESSEE
PROPOSAL GUARANTEE
CONTRACT NO. _____

Bidder: _____
 Print Name of Bidder

KNOW ALL MEN BY THESE PRESENTS, that the above-named Bidder has tendered the attached cashier's or certified check in an amount equal to five percent (5%) of the total amount it bid for the project stated above, payable to the **CITY**, to be held pending the fulfillment of the following obligation conditions.

NOW, THEREFORE, the condition of this obligation is: the Bidder shall not withdraw its bid within sixty (60) days after the opening of the bids, or within such other time period as may be provided in the Proposal, and if the **CITY** shall award a Contract to the Bidder, the Bidder shall, within ten (10) days after it receives written notice of the award, fully execute a Contract on the basis of the terms, conditions and unit prices set forth in its Proposal or bid and provide bonds with good and sufficient surety, as required for the faithful performance of the Contract and for the protection of all persons supplying labor, material, and equipment for the prosecution of the work. In the event the Bidder withdraws its bid after bids are opened, or after award of the Contract has been made fails to execute such the Contract and/or such additional documents as may be required and to provide the required bonds within the time period specified above, then the **CITY** shall cash the attached check and retain the funds, not as a penalty, but as agreed upon liquidated damages.

IN WITNESS WHEREOF, the Bidder has caused these presents to be signed by a duly authorized official.

Bidder (1)	Bidder (2)*
By:	By:
Print Name and Title	Print Name and Title
Date	Date

***NOTE: The signature and information for Bidder(2) is to be provided when there is a joint venture.**

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CITY OF BARTLETT
BARTLETT, TENNESSEE
CONTRACT NO. _____

This agreement is made and executed in three (3) originals, between the **CITY**, and _____ hereinafter referred to as the "Contractor."

WITNESSETH

The **CITY** did advertise for, receive and accept a bid from the Contractor for work on the above identified contract.

In consideration of the agreements herein contained, to be performed by the parties hereto and of the payments hereafter agreed to be made, it is mutually agreed by both parties that:

1. The contract between the parties consists of the following "Contract Documents" all of which constitute one instrument:
 - (a) the Instructions to Bidders
 - (b) the Proposal
 - (c) all conditions and terms of this Contract form
 - (d) the Contract Payment & Performance Bond and/or Letter of Credit, where applicable
 - (e) the most current version of the *Tennessee Department of Transportation Standard Specifications for Road and Bridge Construction* (herein referred to as *TDOT Standard Specifications*)
 - (f) Supplemental Specifications
 - (g) Revisions and Additions
 - (h) Special Provisions
 - (i) Addenda
 - (j) The most current version of the TDOT Standard Drawings
 - (k) The Contract Plans,
 - (l) The Work Order
 - (m) Construction Changes
 - (n) Supplemental Agreements

All of the provisions contained in the listed Contract Documents are incorporated herein by reference with the same force and effect as though set out in full.

2. The Contract Documents are intended to be complementary and to describe and provide for a complete work. Requirements in one of these are as binding as if occurring in all of them. In case of discrepancy, Supplemental Specifications will govern over the TDOT Standard Specifications; the TDOT Standard Specifications will govern over the local government standard specifications; the Contract Plans will govern over both Supplemental and Standard Specifications, and Special Provisions will govern over both Plans and Specifications. In interpreting Plans, calculated dimensions will govern over scaled dimensions. Contract Plans, typical cross sections and approved working drawings will govern over Standard Drawings.

3. The Contractor agrees to furnish all materials, equipment, machinery, tools and labor and to perform the work required to complete the project in a thorough and workmanlike manner, to the satisfaction of the appropriate official of the **CITY**.
4. The **CITY** agrees to pay to the Contractor such unit prices for the work actually done as are set out in the accompanying proposal, in the manner provided for in the TDOT Standard Specifications, Supplemental Specifications and applicable Special Provisions.
5. The Contractor shall, at all times, observe and comply with all applicable federal, state and local laws, ordinances and regulations and shall indemnify and hold harmless the **CITY** and all of its officers, agents and servants against any claim of liability or assessment of fines or penalties arising from or based upon the Contractor's and/or its employees' violations of any such law ordinance or regulation. The Contractor shall maintain documentation for all charges against the **CITY** under this Contract. The books, records and documents of the Contractor insofar as they relate to the work performed or money received under this contract shall be maintained for a period of three (3) full years from the date of the final payment and shall be subject to audit at any reasonable time and upon reasonable notice by the **CITY**, the State, the Comptroller of the Treasury, the Tennessee Department of Transportation, or their duly appointed representatives.
6. The Contractor shall be responsible for any and all injury or damage to persons or to property arising from the prosecution of the work and due to any act, omission, neglect or misconduct in its manner or method of prosecuting the work or due to its non-execution of the work or due to defective work or materials. The Contractor shall provide proof of adequate and appropriate general liability insurance providing liability coverage in an amount not less than \$1 million dollars per occurrence and \$300,000 per claimant, naming the **CITY** as an additional insured.
7. The Contractor shall indemnify and hold harmless the **CITY** and all of its officers, agents and employees from all suits, actions or claims of any character arising from the Contractor's acts or omissions in the prosecution of the work, use of unacceptable materials in constructing the work, infringement of patent, trade mark or copyright, or claims for Workers' Compensation. If any such suit, action or claim is filed, the **CITY** may retain from the monies due to the Contractor under this Contract a sum deemed sufficient by the **CITY** to protect the **CITY** from loss therefrom. Upon resolution of the suit, action or claim, any remaining retained funds will be released.
8. Upon execution of this Contract, the Contractor shall be prepared to begin the work to be performed under the Contract, but will not proceed until it has received official "Notice to Proceed". This official notice will stipulate the date upon which it is expected that the Contractor will begin his work, and from which date the working days tabulated against its time limit will begin. All other requirements in regard to the beginning of construction set forth in the Proposal and Special Provisions will date from the official notice.

IN WITNESS WHEREOF, the parties hereto have cause this Contract to be signed and executed by their respective authorized agents or officials.

Contractor 1	Contractor 2*
By:	By:
Print Name and Title	Print Name and Title
Date	Date

CITY OF BARTLETT
BARTLETT, TENNESSEE

This Contract is accepted _____ day of _____, _____
this _____ day of _____, _____
and is effective on the _____ day of _____, _____

[CITY/COUNTY Official]

Approved:

CITY Attorney

***NOTE:** The signature and information for Contractor 2 is to be provided when there is a joint venture.

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CONTRACT PAYMENT AND PERFORMANCE BOND**CONTRACT NO.** _____

Be it known that _____,
 as Principal, and _____,
 as Surety(ies), all authorized to do business in the State of Tennessee, hereby bind
 themselves to the **CITY**, and other potential claimants, for all obligations incurred by the
 Principal under its contract with **CITY**, for the construction of the above identified contract; in
 the _____ full _____ contract _____ amount _____ of
 _____ (\$_____).

The obligations of the Principal and Surety(ies) under these payment and performance
 bonds shall continue in full force and effect until all materials, equipment and labor have been
 provided AND all requirements contained in the contract, plans and specifications have been
 completed in a timely, thorough and workmanlike manner. The parties agree that these bonds
 are statutory in nature and are governed by the provisions contained in Title 12, chapter 4 and
 Title 54, chapter 5 of the Tennessee Code Annotated relating to bonds required of contractors
 and that those provisions constitute a part of this bond.

By this instrument, the Principal and Surety(ies) specifically bind themselves, their
 heirs, successors, and assigns, *in solido*, under the following bonds:

Payment Bond. To the **CITY** and all "Claimants," as contemplated by T.C.A. Title 54, chapter
 5, in the full contract amount of

 _____ (\$_____),
 in order to secure the payment in full of all timely claims under the project.

Performance Bond. To the **CITY** in the full contract amount of
 _____ (\$_____),
 in order to secure the full and faithful performance and timely completion of the project
 according to its plans and specifications, inclusive of overpayments to the contractor and
 liquidated damages as assessed.

Upon receipt of notice that the Principal is in default under the contract, the Surety(ies)
 shall undertake to complete performance, without regard to cost. If the Surety(ies) fail or
 refuse to complete performance of the contract, the **CITY** may then proceed with the work in
 any lawful manner that it may elect until it is finally completed. When the work is thus finally
 completed, the total cost of the same will be computed. All costs and charges incurred by the
CITY in completing the Work will be deducted from any monies due or which may become due
 to the Principal. If the total costs of completion exceeds the sum which would have been
 payable under the Contract, then the Principal and the Surety(ies), *in solido*, shall be liable for
 and shall pay to the **CITY** the amount of such excess.

In witness whereof we have signed this instrument as dated.

Principal/Contractor 1:

By: _____ Date: _____

Printed Name and Title

(For Joint Venture)

Principal/Contractor 2:

By: _____ Date: _____

Printed Name and Title

Surety 1:

Surety 2:

By: _____ By: _____

Attorney-in-Fact

Attorney-in-Fact

Printed Name

Printed Name

Agency Name

Agency Name

Street Address

Street Address

City/State/Zip

City/State/Zip

(Seal)

(Seal)

Subsequent correspondence/communication from **CITY** with respect to monthly progress reports and/or the contract bonds should be directed to:

For Surety 1:**For Surety 2:**

Name	Name
Address	Address
City	City
State/Zip	State/Zip
Phone Number	Phone Number
Fax Number	Fax Number

subgrantees and between the sources, kinds, or amounts of income. When Federal agencies authorize the alternatives in paragraphs (g) (2) and (3) of this section, program income in excess of any limits stipulated shall also be deducted from outlays.

(1) *Deduction.* Ordinarily program income shall be deducted from total allowable costs to determine the net allowable costs. Program income shall be used for current costs unless the Federal agency authorizes otherwise. Program income which the grantee did not anticipate at the time of the award shall be used to reduce the Federal agency and grantee contributions rather than to increase the funds committed to the project.

(2) *Addition.* When authorized, program income may be added to the funds committed to the grant agreement by the Federal agency and the grantee. The program income shall be used for the purposes and under the conditions of the grant agreement.

(3) *Cost sharing or matching.* When authorized, program income may be used to meet the cost sharing or matching requirement of the grant agreement. The amount of the Federal grant award remains the same.

(4) Section 3(a)(1)(D) of the UMT Act of 1964, as amended, provides that the Secretary shall establish requirements for the use of income derived from appreciated land values for certain UMTA grants. Specific requirements shall be contained in grant agreements.

(5) UMTA grantees may retain program income for allowable capital or operating expenses.

(6) For grants awarded under section 9 of the UMT Act of 1964, as amended, any revenues received from the sale of advertising and concessions in excess of fiscal year 1985 levels shall be excluded from program income.

(7) 23 U.S.C. 156 requires that States shall charge fair market value for the sale, lease, or use of right-of-way airspace for non-transportation purposes and that such income shall be used for projects eligible under 23 U.S.C.

(h) *Income after the award period.* There are no Federal requirements governing the disposition of program income earned after the end of the award period (i.e., until the ending date of the final financial report, see paragraph (a) of this section), unless the terms of the agreement or the Federal agency regulations provide otherwise.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8087, Mar. 11, 1988]

§ 18.26 Non-Federal audits.

(a) *Basic rule.* Grantees and subgrantees are responsible for obtaining audits in accordance with the Single Audit Act Amendments of 1996 (31 U.S.C. 7501-7507) and revised OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations." The audits shall be made by an independent auditor in accordance with generally accepted government auditing standards covering financial audits.

(b) *Subgrantees.* State or local governments, as those terms are defined for purposes of the Single Audit Act Amendments of 1996, that provide Federal awards to a subgrantee, which expends \$300,000 or more (or other amount as specified by OMB) in Federal awards in a fiscal year, shall:

(1) Determine whether State or local subgrantees have met the audit requirements of the Act and whether subgrantees covered by OMB Circular A-110, "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations," have met the audit requirements of the Act. Commercial contractors (private for-profit and private and governmental organizations) providing goods and services to State and local

governments are not required to have a single audit performed. State and local governments should use their own procedures to ensure that the contractor has complied with laws and regulations affecting the expenditure of Federal funds;

(2) Determine whether the subgrantee spent Federal assistance funds provided in accordance with applicable laws and regulations. This may be accomplished by reviewing an audit of the subgrantee made in accordance with the Act, Circular A-110, or through other means (e.g., program reviews) if the subgrantee has not had such an audit;

(3) Ensure that appropriate corrective action is taken within six months after receipt of the audit report in instance of noncompliance with Federal laws and regulations;

(4) Consider whether subgrantee audits necessitate adjustment of the grantee's own records; and

(5) Require each subgrantee to permit independent auditors to have access to the records and financial statements.

(c) *Auditor selection.* In arranging for audit services, § 18.36 shall be followed.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 61 FR 21387, May 10, 1996; 62 FR 45939, 45947, Aug. 29, 1997]

Changes, Property, and Subawards

§ 18.30 Changes.

(a) *General.* Grantees and subgrantees are permitted to rebudget within the approved direct cost budget to meet unanticipated requirements and may make limited program changes to the approved project. However, unless waived by the awarding agency, certain types of post-award changes in budgets and projects shall require the prior written approval of the awarding agency.

(b) *Relation to cost principles.* The applicable cost principles (see § 18.22) contain requirements for prior approval of certain types of costs. Except where waived, those requirements apply to all grants and subgrants even if paragraphs (c) through (f) of this section do not.

(c) *Budget changes* —(1) *Nonconstruction projects.* Except as stated in other regulations or an award document, grantees or subgrantees shall obtain the prior approval of the awarding agency whenever any of the following changes is anticipated under a nonconstruction award:

(i) Any revision which would result in the need for additional funding.

(ii) Unless waived by the awarding agency, cumulative transfers among direct cost categories, or, if applicable, among separately budgeted programs, projects, functions, or activities which exceed or are expected to exceed ten percent of the current total approved budget, whenever the awarding agency's share exceeds \$100,000.

(iii) Transfer of funds allotted for training allowances (i.e., from direct payments to trainees to other expense categories).

(2) *Construction projects.* Grantees and subgrantees shall obtain prior written approval for any budget revision which would result in the need for additional funds.

(3) *Combined construction and nonconstruction projects.* When a grant or subgrant provides funding for both construction and nonconstruction activities, the grantee or subgrantee must obtain prior written approval from the awarding agency before making any fund or budget transfer from nonconstruction to construction or vice versa.

aggregate fair market value upon termination or completion of the award, and if the supplies are not needed for any other federally sponsored programs or projects, the grantee or subgrantee shall compensate the awarding agency for its share.

§ 18.34 Copyrights.

The Federal awarding agency reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government purposes:

(a) The copyright in any work developed under a grant, subgrant, or contract under a grant or subgrant; and

(b) Any rights of copyright to which a grantee, subgrantee or a contractor purchases ownership with grant support.

§ 18.35 Subawards to debarred and suspended parties.

Grantees and subgrantees must not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension."

§ 18.36 Procurement.

(a) *States*. When procuring property and services under a grant, a State will follow the same policies and procedures it uses for procurements from its non-Federal funds. The State will ensure that every purchase order or other contract includes any clauses required by Federal statutes and executive orders and their implementing regulations. Other grantees and subgrantees will follow paragraphs (b) through (i) in this section.

(b) *Procurement standards*. (1) Grantees and subgrantees will use their own procurement procedures which reflect applicable State and local laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in this section.

(2) Grantees and subgrantees will maintain a contract administration system which ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

(3) Grantees and subgrantees will maintain a written code of standards of conduct governing the performance of their employees engaged in the award and administration of contracts. No employee, officer or agent of the grantee or subgrantee shall participate in selection, or in the award or administration of a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when:

(i) The employee, officer or agent,

(ii) Any member of his immediate family,

(iii) His or her partner, or

(iv) An organization which employs, or is about to employ, any of the above, has a financial or other interest in the firm selected for award. The grantee's or subgrantee's officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential contractors, or parties to subagreements. Grantee and subgrantees may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value.

To the extent permitted by State or local law or regulations, such standards or conduct will provide for penalties, sanctions, or other disciplinary actions for violations of such standards by the grantee's and subgrantee's officers, employees, or agents, or by contractors or their agents. The awarding agency may in regulation provide additional prohibitions relative to real, apparent, or potential conflicts of interest.

(4) Grantee and subgrantee procedures will provide for a review of proposed procurements to avoid purchase of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.

(5) To foster greater economy and efficiency, grantees and subgrantees are encouraged to enter into State and local intergovernmental agreements for procurement or use of common goods and services.

(6) Grantees and subgrantees are encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

(7) Grantees and subgrantees are encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(8) Grantees and subgrantees will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

(9) Grantees and subgrantees will maintain records sufficient to detail the significant history of a procurement. These records will include, but are not necessarily limited to the following: rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(10) Grantees and subgrantees will use time and material type contracts only—

(i) After a determination that no other contract is suitable, and

(ii) If the contract includes a ceiling price that the contractor exceeds at its own risk.

(11) Grantees and subgrantees alone will be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to source evaluation, protests, disputes, and claims. These standards do not relieve the grantee or subgrantee of any contractual responsibilities under its contracts. Federal agencies will not substitute their judgment for that of the grantee or subgrantee unless the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction.

(12) Grantees and subgrantees will have protest procedures to handle and resolve disputes relating to their procurements and shall in all instances disclose information regarding the protest to the awarding agency. A protestor must exhaust all administrative remedies with the grantee and subgrantee before pursuing a protest with the Federal agency. Reviews of protests by the Federal agency will be limited to:

(i) Violations of Federal law or regulations and the standards of this section (violations of State or local law will be under the jurisdiction of State or local authorities) and

(ii) Violations of the grantee's or subgrantee's protest procedures for failure to review a complaint or protest. Protests received by the Federal agency other than those specified above will be referred to the grantee or subgrantee.

(c) *Competition.* (1) All procurement transactions will be conducted in a manner providing full and open competition consistent with the standards of § 18.36. Some of the situations considered to be restrictive of competition include but are not limited to:

- (i) Placing unreasonable requirements on firms in order for them to qualify to do business,
- (ii) Requiring unnecessary experience and excessive bonding,
- (iii) Noncompetitive pricing practices between firms or between affiliated companies,
- (iv) Noncompetitive awards to consultants that are on retainer contracts,
- (v) Organizational conflicts of interest,

(vi) Specifying only a "brand name" product instead of allowing "an equal" product to be offered and describing the performance of other relevant requirements of the procurement, and

- (vii) Any arbitrary action in the procurement process.

(2) Grantees and subgrantees will conduct procurements in a manner that prohibits the use of statutorily or administratively imposed in-State or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts State licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criteria provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(3) Grantees will have written selection procedures for procurement transactions. These procedures will ensure that all solicitations:

(i) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured, and when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description may be used as a means to define the performance or other salient requirements of a procurement. The specific features of the named brand which must be met by offerors shall be clearly stated; and

(ii) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(4) Grantees and subgrantees will ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, grantees and subgrantees will not preclude potential bidders from qualifying during the solicitation period.

(d) *Methods of procurement to be followed* —(1) *Procurement by small purchase procedures.* Small purchase procedures are those relatively simple and informal procurement methods for securing

services, supplies, or other property that do not cost more than the simplified acquisition threshold fixed at 41 U.S.C. 403(11) (currently set at \$100,000). If small purchase procedures are used, price or rate quotations shall be obtained from an adequate number of qualified sources.

(2) Procurement by *sealed bids* (formal advertising). Bids are publicly solicited and a firm-fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bid method is the preferred method for procuring construction, if the conditions in § 18.36(d)(2)(i) apply.

(i) In order for sealed bidding to be feasible, the following conditions should be present:

(A) A complete, adequate, and realistic specification or purchase description is available;

(B) Two or more responsible bidders are willing and able to compete effectively and for the business; and

(C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(ii) If sealed bids are used, the following requirements apply:

(A) The invitation for bids will be publicly advertised and bids shall be solicited from an adequate number of known suppliers, providing them sufficient time prior to the date set for opening the bids;

(B) The invitation for bids, which will include any specifications and pertinent attachments, shall define the items or services in order for the bidder to properly respond;

(C) All bids will be publicly opened at the time and place prescribed in the invitation for bids;

(D) A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs shall be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(E) Any or all bids may be rejected if there is a sound documented reason.

(3) Procurement by *competitive proposals*. The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed-price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:

(i) Requests for proposals will be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals shall be honored to the maximum extent practical;

(ii) Proposals will be solicited from an adequate number of qualified sources;

(iii) Grantees and subgrantees will have a method for conducting technical evaluations of the proposals received and for selecting awardees;

(iv) Awards will be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and

(v) Grantees and subgrantees may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors'

qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

(4) Procurement by *noncompetitive proposals* is procurement through solicitation of a proposal from only one source, or after solicitation of a number of sources, competition is determined inadequate.

(i) Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and one of the following circumstances applies:

(A) The item is available only from a single source;

(B) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(C) The awarding agency authorizes noncompetitive proposals; or

(D) After solicitation of a number of sources, competition is determined inadequate.

(ii) Cost analysis, i.e., verifying the proposed cost data, the projections of the data, and the evaluation of the specific elements of costs and profits, is required.

(iii) Grantees and subgrantees may be required to submit the proposed procurement to the awarding agency for pre-award review in accordance with paragraph (g) of this section.

(e) *Contracting with small and minority firms, women's business enterprise and labor surplus area firms.* (1) The grantee and subgrantee will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

(2) Affirmative steps shall include:

(i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;

(iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises;

(v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and

(vi) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (e)(2) (i) through (v) of this section.

(f) *Contract cost and price.* (1) Grantees and subgrantees must perform a cost or price analysis in connection with every procurement action including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, grantees must make independent estimates before receiving bids or proposals. A cost analysis must be performed when the offeror is required to submit the elements of his estimated cost, e.g.,

under professional, consulting, and architectural engineering services contracts. A cost analysis will be necessary when adequate price competition is lacking, and for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or based on prices set by law or regulation. A price analysis will be used in all other instances to determine the reasonableness of the proposed contract price.

(2) Grantees and subgrantees will negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration will be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(3) Costs or prices based on estimated costs for contracts under grants will be allowable only to the extent that costs incurred or cost estimates included in negotiated prices are consistent with Federal cost principles (see § 18.22). Grantees may reference their own cost principles that comply with the applicable Federal cost principles.

(4) The cost plus a percentage of cost and percentage of construction cost methods of contracting shall not be used.

(g) *Awarding agency review.* (1) Grantees and subgrantees must make available, upon request of the awarding agency, technical specifications on proposed procurements where the awarding agency believes such review is needed to ensure that the item and/or service specified is the one being proposed for purchase. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the grantee or subgrantee desires to have the review accomplished after a solicitation has been developed, the awarding agency may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(2) Grantees and subgrantees must on request make available for awarding agency pre-award review procurement documents, such as requests for proposals or invitations for bids, independent cost estimates, etc. when:

(i) A grantee's or subgrantee's procurement procedures or operation fails to comply with the procurement standards in this section; or

(ii) The procurement is expected to exceed the simplified acquisition threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation; or

(iii) The procurement, which is expected to exceed the simplified acquisition threshold, specifies a "brand name" product; or

(iv) The proposed award is more than the simplified acquisition threshold and is to be awarded to other than the apparent low bidder under a sealed bid procurement; or

(v) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the simplified acquisition threshold.

(3) A grantee or subgrantee will be exempt from the pre-award review in paragraph (g)(2) of this section if the awarding agency determines that its procurement systems comply with the standards of this section.

(i) A grantee or subgrantee may request that its procurement system be reviewed by the awarding agency to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews shall occur where there is a continuous high-dollar funding, and third-party

contracts are awarded on a regular basis.

(ii) A grantee or subgrantee may self-certify its procurement system. Such self-certification shall not limit the awarding agency's right to survey the system. Under a self-certification procedure, awarding agencies may wish to rely on written assurances from the grantee or subgrantee that it is complying with these standards. A grantee or subgrantee will cite specific procedures, regulations, standards, etc., as being in compliance with these requirements and have its system available for review.

(h) *Bonding requirements.* For construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold, the awarding agency may accept the bonding policy and requirements of the grantee or subgrantee provided the awarding agency has made a determination that the awarding agency's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

(1) *A bid guarantee from each bidder equivalent to five percent of the bid price.* The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

(2) *A performance bond on the part of the contractor for 100 percent of the contract price.* A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

(3) *A payment bond on the part of the contractor for 100 percent of the contract price.* A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

(i) *Contract provisions.* A grantee's and subgrantee's contracts must contain provisions in paragraph (i) of this section. Federal agencies are permitted to require changes, remedies, changed conditions, access and records retention, suspension of work, and other clauses approved by the Office of Federal Procurement Policy.

(1) Administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate. (Contracts more than the simplified acquisition threshold)

(2) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of \$10,000)

(3) Compliance with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of \$10,000 by grantees and their contractors or subgrantees)

(4) Compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR part 3). (All contracts and subgrants for construction or repair)

(5) Compliance with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts in excess of \$2000 awarded by grantees and subgrantees when required by Federal grant program legislation)

(6) Compliance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts awarded by grantees and subgrantees in excess of \$2000, and in excess of

\$2500 for other contracts which involve the employment of mechanics or laborers)

(7) Notice of awarding agency requirements and regulations pertaining to reporting.

(8) Notice of awarding agency requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.

(9) Awarding agency requirements and regulations pertaining to copyrights and rights in data.

(10) Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.

(11) Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed.

(12) Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000)

(13) Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

(j) 23 U.S.C. 112(a) directs the Secretary to require recipients of highway construction grants to use bidding methods that are "effective in securing competition." Detailed construction contracting procedures are contained in 23 CFR part 635, subpart A.

(k) Section 3(a)(2)(C) of the UMT Act of 1964, as amended, prohibits the use of grant or loan funds to support procurements utilizing exclusionary or discriminatory specifications.

(l) 46 U.S.C. 1241(b)(1) and 46 CFR part 381 impose cargo preference requirements on the shipment of foreign made goods.

(m) Section 165 of the Surface Transportation Assistance Act of 1982, 49 U.S.C. 1601, section 337 of the Surface Transportation and Uniform Relocation Assistance Act of 1987, and 49 CFR parts 660 and 661 impose Buy America provisions on the procurement of foreign products and materials.

(n) Section 105(f) of the Surface Transportation Assistance Act of 1982, section 106(c) of the Surface Transportation and Uniform Relocation Assistance Act of 1987, and 49 CFR part 23 impose requirements for the participation of disadvantaged business enterprises.

(o) Section 308 of the Surface Transportation Assistance Act of 1982, 49 U.S.C. 1068(b)(2), authorizes the use of competitive negotiation for the purchase of rolling stock as appropriate.

(p) 23 U.S.C. 112(b) provides for an exemption to competitive bidding requirements for highway construction contracts in emergency situations.

(q) 23 U.S.C. 112 requires concurrence by the Secretary before highway construction contracts can be awarded, except for projects authorized under the provisions of 23 U.S.C. 171.

(r) 23 U.S.C. 112(e) requires standardized contract clauses concerning site conditions, suspension or work, and material changes in the scope of the work for highway construction contracts.

(s) 23 U.S.C. 140(b) authorizes the preferential employment of Indians on Indian Reservation road projects and contracts.

(t) FHWA, UMTA, and Federal Aviation Administration (FAA) grantees and subgrantees shall extend the use of qualifications-based (e.g., architectural and engineering services) contract selection procedures to certain other related areas and shall award such contracts in the same manner as Federal contracts for architectural and engineering services are negotiated under Title IX of the Federal Property and Administrative Services Act of 1949, or equivalent State (or airport sponsor for FAA) qualifications-based requirements. For FHWA and UMTA programs, this provision applies except to the extent that a State adopts or has adopted by statute a formal procedure for the procurement of such services.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8087, Mar. 11, 1988; 60 FR 19639, 19647, Apr. 19, 1995]

§ 18.37 Subgrants.

(a) *States.* States shall follow state law and procedures when awarding and administering subgrants (whether on a cost reimbursement or fixed amount basis) of financial assistance to local and Indian tribal governments. States shall:

(1) Ensure that every subgrant includes any clauses required by Federal statute and executive orders and their implementing regulations;

(2) Ensure that subgrantees are aware of requirements imposed upon them by Federal statute and regulation;

(3) Ensure that a provision for compliance with § 18.42 is placed in every cost reimbursement subgrant; and

(4) Conform any advances of grant funds to subgrantees substantially to the same standards of timing and amount that apply to cash advances by Federal agencies.

(b) *All other grantees.* All other grantees shall follow the provisions of this part which are applicable to awarding agencies when awarding and administering subgrants (whether on a cost reimbursement or fixed amount basis) of financial assistance to local and Indian tribal governments. Grantees shall:

(1) Ensure that every subgrant includes a provision for compliance with this part;

(2) Ensure that every subgrant includes any clauses required by Federal statute and executive orders and their implementing regulations; and

(3) Ensure that subgrantees are aware of requirements imposed upon them by Federal statutes and regulations.

(c) *Exceptions.* By their own terms, certain provisions of this part do not apply to the award and administration of subgrants:

(1) Section 18.10;

(2) Section 18.11;

(3) The letter-of-credit procedures specified in Treasury Regulations at 31 CFR part 205, cited in § 18.21; and

Treasury check advance. (i) When a construction grant is paid by letter of credit, electronic funds transfer or Treasury check advances, the grantee will report its outlays to the Federal agency using Standard Form 271, Outlay Report and Request for Reimbursement for Construction Programs. The Federal agency will provide any necessary special instruction. However, frequency and due date shall be governed by § 18.41(b) (3) and (4).

(ii) When a construction grant is paid by Treasury check advances based on periodic requests from the grantee, the advances will be requested on the form specified in § 18.41(d).

(iii) The Federal agency may substitute the Financial Status Report specified in § 18.41(b) for the Outlay Report and Request for Reimbursement for Construction Programs.

(3) *Accounting basis.* The accounting basis for the Outlay Report and Request for Reimbursement for Construction Programs shall be governed by § 18.41(b)(2).

(f) Notwithstanding the provisions of paragraphs (a)(1) of this section, recipients of FHWA and National Highway Traffic Safety Administration (NHTSA) grants shall use FHWA, NHTSA or State financial reports.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8087, Mar. 11, 1988]

§ 18.42 Retention and access requirements for records.

(a) *Applicability.* (1) This section applies to all financial and programmatic records, supporting documents, statistical records, and other records of grantees or subgrantees which are:

(i) Required to be maintained by the terms of this part, program regulations or the grant agreement, or

(ii) Otherwise reasonably considered as pertinent to program regulations or the grant agreement.

(2) This section does not apply to records maintained by contractors or subcontractors. For a requirement to place a provision concerning records in certain kinds of contracts, see § 18.36(i)(10).

(b) *Length of retention period.* (1) Except as otherwise provided, records must be retained for three years from the starting date specified in paragraph (c) of this section.

(2) If any litigation, claim, negotiation, audit or other action involving the records has been started before the expiration of the 3-year period, the records must be retained until completion of the action and resolution of all issues which arise from it, or until the end of the regular 3-year period, whichever is later.

(3) To avoid duplicate recordkeeping, awarding agencies may make special arrangements with grantees and subgrantees to retain any records which are continuously needed for joint use. The awarding agency will request transfer of records to its custody when it determines that the records possess long-term retention value. When the records are transferred to or maintained by the Federal agency, the 3-year retention requirement is not applicable to the grantee or subgrantee.

(c) *Starting date of retention period* —(1) *General.* When grant support is continued or renewed at annual or other intervals, the retention period for the records of each funding period starts on the day the grantee or subgrantee submits to the awarding agency its single or last expenditure report for that period. However, if grant support is continued or renewed quarterly, the retention period for each year's records starts on the day the grantee submits its expenditure report for the last quarter of the Federal fiscal year. In all other cases, the retention period starts on the day the grantee submits its final expenditure report. If an expenditure report has been waived, the retention period starts on the day the report would have been due.

(2) *Real property and equipment records.* The retention period for real property and equipment records starts from the date of the disposition or replacement or transfer at the direction of the awarding agency.

(3) *Records for income transactions after grant or subgrant support.* In some cases grantees must report income after the period of grant support. Where there is such a requirement, the retention period for the records pertaining to the earning of the income starts from the end of the grantee's fiscal year in which the income is earned.

(4) *Indirect cost rate proposals, cost allocations plans, etc.* This paragraph applies to the following types of documents, and their supporting records: indirect cost rate computations or proposals, cost allocation plans, and any similar accounting computations of the rate at which a particular group of costs is chargeable (such as computer usage chargeback rates or composite fringe benefit rates).

(i) *If submitted for negotiation.* If the proposal, plan, or other computation is required to be submitted to the Federal Government (or to the grantee) to form the basis for negotiation of the rate, then the 3-year retention period for its supporting records starts from the date of such submission.

(ii) *If not submitted for negotiation.* If the proposal, plan, or other computation is not required to be submitted to the Federal Government (or to the grantee) for negotiation purposes, then the 3-year retention period for the proposal plan, or computation and its supporting records starts from the end of the fiscal year (or other accounting period) covered by the proposal, plan, or other computation.

(d) *Substitution of microfilm.* Copies made by microfilming, photocopying, or similar methods may be substituted for the original records.

(e) *Access to records* — (1) *Records of grantees and subgrantees.* The awarding agency and the Comptroller General of the United States, or any of their authorized representatives, shall have the right of access to any pertinent books, documents, papers, or other records of grantees and subgrantees which are pertinent to the grant, in order to make audits, examinations, excerpts, and transcripts.

(2) *Expiration of right of access.* The right of access in this section must not be limited to the required retention period but shall last as long as the records are retained.

(f) *Restrictions on public access.* The Federal Freedom of Information Act (5 U.S.C. 552) does not apply to records unless required by Federal, State, or local law, grantees and subgrantees are not required to permit public access to their records.

§ 18.43 Enforcement.

(a) *Remedies for noncompliance.* If a grantee or subgrantee materially fails to comply with any term of an award, whether stated in a Federal statute or regulation, an assurance, in a State plan or application, a notice of award, or elsewhere, the awarding agency may take one or more of the following actions, as appropriate in the circumstances:

(1) Temporarily withhold cash payments pending correction of the deficiency by the grantee or subgrantee or more severe enforcement action by the awarding agency,

(2) Disallow (that is, deny both use of funds and matching credit for) all or part of the cost of the activity or action not in compliance,

(3) Wholly or partly suspend or terminate the current award for the grantee's or subgrantee's program,

Acknowledgment of Davis-Bacon Act Requirements (Revised 11/09/10)

1. Have you determined that your project is exempt from the federal Davis-Bacon Act prevailing wage requirements?

☐ Yes (Continue to Question 2)

☐ No (Skip to Question 4)

2. The proposed project is exempt from Davis-Bacon Act/Tennessee prevailing wage requirements because it falls within the following category or categories:

☐ All project activities will be performed by the governmental agency's own employees

☐ Project activities do not include work done on a public building or public work by laborers and mechanics employed by a construction contractor or construction subcontractor

☐ All project work will be performed by executive, administrative, and professional employees, such as legal counsel, financial advisors, supervisors or employees undertaking any of the following activities: market surveys and marketing, tracking and reporting energy savings, conducting home energy ratings, energy audits or building commissioning inspections

☐ Other – specify:

3. Have you confirmed your determination that the Davis-Bacon Act prevailing wage requirements do not apply to your project with the United States Department of Labor (DOL)?

☐ Yes (Please attach any supporting documentation)

☐ No (Please attach any other documentation that supports your determination)

4. If Davis-Bacon Act prevailing wage requirements apply to individuals employed on your project, including individuals employed by subcontractors, then provide the name and contact information of the person who will be responsible for **reviewing and submitting** certified weekly payroll information to ECD on a weekly basis for all such individuals. **It is the Subgrantee's responsibility to ensure that all certified payroll records are accurate, complete and submitted in a timely manner.**

Signature: _____

Name of Contact Person: _____

Title: _____

Community: _____

Phone Number: _____

Email: _____

Subgrantee DUNS #: _____

5. The Recovery Act provides that "all laborers and mechanics on projects funded directly by or assisted in whole or in part" with Recovery Act funding are subject to the DBA. Therefore, if the EECBG-funded project is part of a larger project, the entire project is subject to DBA. This is especially true where the EECBG-funded work is done in conjunction with the non-EECBG-funded work, so that all the work is ongoing at the same time. If, however, the work can logically be segregated into two separate and distinct projects, the EECBG grant provides funding for the one specific project, work is not performed together (i.e., the work using non-Recovery Act funds is completed prior to or after the Recovery Act-funded work and the work crews are not working together) and separate contracts are used for the two separate projects, the non-Recovery Act funded work would not be subject to the DBA. If the entire project is subject to the DBA requirements, weekly certified payrolls would be required for the entire project.

Please indicate which scenario applies to the EECBG-funded project:

- ☐ EECBG-funded project **is** part of a larger project **and** work **is not** segregated into separate and distinct projects.
- ☐ EECBG-funded project **is** part of a larger project **but** work **is** segregated into separated and distinct projects.
- ☐ EECBG-funded project **is not** part of a larger project.

6. The following Pre-bid Project Wage Rate Sheet will document and identify the job classifications the Subgrantee intends to hire in support of the project based upon the applicable U.S. DOL Wage Determination. **This form must be submitted to and approved by ECD prior to the issuance of requests for bids.**

INSTRUCTIONS FOR PREPARATION OF PRE-BID PROJECT WAGE RATE SHEET

1. List the project name and EECBG Contract Number. List the applicable U.S. DOL Wage Determination Modification Date and county or counties in which the project is located.
2. In the “Project” column, detail the particular EECBG project (e.g. lighting retrofits; HVAC retrofit; insulation installation).
3. In the “Tasks to be Performed” column, list the specific tasks the employee will perform on the project. Provide as much detail as possible (e.g. HVAC system installation only; HVAC ductwork installation; HVAC pipe installation; heat pump installation; install insulation between ceiling and attic floor).
4. In the “Work Classification” column, list the employee’s work classification for the project (e.g. HVAC Mechanic; Sheet Metal Worker; Pipefitter; Operator: Forklift; Laborer: Common or General). This must match a classification listed on the applicable U.S. DOL Wage Determination. However, not all classifications exist for each county (e.g. HVAC Mechanic, Insulation Worker). In that event, ECD may need to request a conformance.
5. In the “Hourly Rate” column, list the prevailing minimum hourly rate of pay set forth in the applicable U.S. DOL Wage Determination.
6. In the “Fringe Benefits” column, list the total amount of employer funded fringe benefits set forth in the applicable U.S. DOL Wage Determination. (Remember, employers may satisfy this requirement by paying cash in lieu of providing fringe benefits.)

PRE-BID PROJECT WAGE RATE SHEET

Community Name:		U.S. DOL Wage Determination Modification Date:		
Contract Number:		Project County or Counties:		
Project	Tasks to be Performed	Work Classification	Hourly Rate	Fringe Benefits

SP999SP999

Sheet 1 of 1

CITYOFBARTLETTSPECIAL PROVISIONREGARDINGCITY OF BARTLETT STANDARD

The following sheets are all City of Bartlett Standard Specifications.

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

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Contract Monitoring	CM-1
Title VI.....	Title VI-1 to Title VI-3
Affidavit of Equivalent Drug Testing Program.....	DAA-1
Bid Submittal Forms	BSF-1
Notice of Award	NA-1
Notice to Proceed	NP-1
Non collusion Affidavit of Prime Bidder	NCA-1

Specifications By Reference: Tennessee Department of Transportation, "Standard Specifications for Road and Bridge Construction Dated March 1, 2006." If a conflict arises between specifications contained herein, TDOT Standard Specifications shall prevail.

INDEX TO SHEET DRAWINGS

1	Title Sheet
1A	Roadway Index and Standard Drawing Index
2	Estimated Bridge Quantities and Bridge Index
2A	Estimated roadway Quantities and Tabulations
2B	Typical Section
2C-2E	General Notes, Special Notes & Scope of Work
3	Property Map and Right-of-Way Acquisition Table
4	Present Layout
4A	Proposed Layout
4B	Proposed Profile
5	Side Road and Driveway Profile
5A	Temporary Run-Around and Driveway Profile
6-6A	Erosion and Sediment Control Plan
7	Drainage Map
8	Traffic Control Plan
9	Roadway Cross Section (Bartlett Road)
U-1	Utility – Water Line
M-348-359 to 368	Bridge Structural Plan

ISD-1

CONTRACT MONITORING

The **Tennessee Department of Transportation** requires the City of Bartlett to maintain records of those ethnic and gender groups who are awarded bids on projects.

You are asked for **voluntary disclosure** of the following information as it pertains to the ownership of the bidding company:

Company Name: _____

Gender: Male _____ Female _____

Race: Caucasian _____
 African American _____
 Hispanic _____
 Other (please specify) _____

_____ I have reviewed this request and have decided NOT to provide the requested information.

CM-1

Title VI Self Survey for Contractors/Consultants/Suppliers

Name of Contractor: _____ Date Completed: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

This should be completed annually while the contract is active and submitted to the sub-recipient's Title VI Coordinator for review.

1. Are Title VI posters visible to staff? If yes, where? _____

2. Are all Physical Areas (i.e. restrooms, dining rooms, waiting rooms, etc.) provided without regard to race, color, or national origin? _____

3. How is Title VI information disseminated to new/current employees? _____

4. Describe how certified Disadvantaged Business Enterprises (DBEs), other small, minority and women-owned businesses are solicited to participate on contracts. _____

5. What process has been established to track and monitor ethnicity and gender of any contractors awarded contracts/sub-contracts? _____

6. Provide documentation to show that contracts contain non-discrimination assurance language.
7. Provide complaint procedures and attach complaint log form.
8. Provide Limited English Proficiency Communications Plan (i.e. how do you communicate with persons that speak a language other than English.)

Title VI Plan-1

The Title VI Assurance (below) is to be submitted on Company (selected bidder's) Letterhead:

Contractor/Consultant Name assures that no person on the grounds of race, color, national origin, or sex, as provided by the Title VI of the Civil Rights Act of 1964 and from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal financial assistance from the Tennessee Department of Transportation (TDOT).

DECLARATION OF RESPONDENT: I declare that I have completed this form to the best of my knowledge and believe it to be true and correct.

Name of Authorized Official

Date

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

Title VI Plan-2

PUBLIC NOTICE

TITLE VI OF THE 1964 CIVIL RIGHTS ACT

"No person in the United States shall, on the ground of race, color or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

The State Department of Military provides benefits and services such as emergency management assistance, National Guard protection services and facility construction and maintenance, and disaster assistance following a major Presidential declaration. The federal assistance administered by the Military Department are pass through funds to local governments, other state agencies, and certain private non-profit organizations.

Anyone who believes that an agency or local government receiving the federal funding mentioned above has discriminated against someone on the basis of race, color or national origin has a right to file a complaint within 180 days of the alleged discrimination.

Local Title VI Coordinator: Bill Yearwood, Director of Public Works
City of Bartlett
385-5570

**MILITARY DEPARTMENT
TITLE VI COMPLAINT HOTLINE:
1-800-367-9635**

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

Title VI Plan-3

SPECIAL CONDITIONS

1. Required Contract Provisions (Federal-Aid Construction Contracts)

Prime contractor must include special provision FHWA-1273 in all subcontracts. The current version is included in this document. It can be found on the TDOT website.

2. AT&T Conduit Cables

This project will require rehangng of the AT&T Telephone conduit cable system currently being supported by a metal foot bridge located west of the concrete bridge structure.

Prior to removing the metal pedestrian structure, the contractor will need to install the box beams and bridge hanger system for the fiber optic cables and then allow AT&T sufficient time to attach the fiber optic cables to the hanger system.

This will require significant coordination with AT&T, Mr. Craig Grabowski at 901-362-9699. This coordination needs to occur at the beginning of the project to ensure no damage occurs to the AT&T lines. This coordination is especially critical as the piles and abutments are being constructed as well as when the box beams are set with the hangers so the cables can be attached to the new hangers prior to demolishing the old metal bridge.

Once the AT&T cables are relocated from the old metal bridge to the new hangers and secured to AT&T's satisfaction the old metal structure can be removed.

AFFIDAVIT OF EQUIVALENT DRUG TESTING PROGRAM

State of _____)
 County of _____) s.s.

_____, being first duly sworn, deposes and says that:

- (1) He is _____ of the company submitting this bid and has authority to sign this affidavit.
- (2) He is fully informed of the City of Bartlett's drug policy as outlined in this bid.
- (3) His company has a testing program in place equal to or greater than the City's program.

Print Name _____

Signed _____

Title _____

Subscribed and sworn before me this _____ day of _____, 20 _____.

Signed _____

Print Name _____

Title _____

My commission expires: _____, 20 _____.

DAA-1

BID SUBMITTAL FORM

The following forms shall be completed and submitted with the bid.

1. Notice to Bidders – Invitation to Bid —NB-1
2. Drug and Alcohol Affidavit—DAA-1
3. Bid Form—BT-1 – BT-6
4. Non-Collusion Affidavit of Principal Bidder—NCA-1
5. Proposal — (1) – (2)
6. Proposal Certification — (3)
7. Proposal Bond — (4) – (5)
8. Proposal Guarantee — (6)
9. Contract Monitoring –CM-1
10. Title VI Self Survey – Title VI Plan 1 and Title VI plan 2 and requested attachments

Note: Failure to include these forms with the bid submittal may be grounds for rejecting the bid as incomplete.

Attachment: 2014-07-01 - 09292 - Specifications - Bid Set (1332 : Bid for Bartlett Road Bridge)

BSF-1

NOTICE OF AWARD

To:

PROJECT Description:

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated _____, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of:
\$_____.

You are required by the Information for Bidders to furnish the required CONTRACTOR'S Performance BOND, Payment BOND and certificates of insurance within ten (10) calendar days from the date of the Notice to you.

If you fail to furnish said BONDS within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER dated this ____ day of _____.

CITY OF BARTLETT
OWNER

Name _____

Print Name _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above **NOTICE OF AWARD** is hereby acknowledged

by _____ this

the _____ day of _____, 20_____.

Name _____

Print Name _____

Title _____

NA-1

NOTICE TO PROCEED

To:

PROJECT Description:

You are hereby notified to commence WORK in accordance with the Agreement dated _____ on or before _____ and you are to complete WORK within 270 consecutive calendar days thereafter. The date of completion of all WORK is therefore: _____.

CITY OF BARTLETT
OWNER

BY _____

PRINT NAME _____

TITLE _____

ACCEPTANCE OF NOTICE

Receipt of the above **NOTICE TO PROCEED** is hereby acknowledged by

this the _____ day of _____ 20____.

BY _____

PRINT NAME _____

TITLE _____

NP-1

BIDDER NONCOLLUSION AFFIDAVIT OF PRIME

State of _____)
S.S.
County of _____)

_____, being first duly sworn,
deposes and says that:

- (1) He is _____ of _____, the Bidder that has submitted the attached BID;
- (2) He is fully informed respecting the preparation and contents of the attached BID and of all pertinent circumstances respecting such BID;
- (3) Such Bid is genuine and is not a collusive or sham BID;
- (4) Neither the said Bidder nor any of its officers, partners owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agree, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to retain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder firm or person to fix the price of prices in the attached Bid, or of any other Bidder, or to fix any overhead, profit or cost element or the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Bartlett or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

(Title) _____

Subscribed and sworn before me this _____ day of _____, 20_____

_____ (Title)

My commission expires _____ 20____.

NCA-1



ENGINEERS · ARCHITECTS · PLANNERS

PROJECT ADDENDUM No. 1

TO: Plan Holders PROJECT: Bartlett Rd Bridge Over Harrington Creek at LM 0.070 Federal Project No: STP-M-9419 (6) State Project No: 79LPLM-F3-067 PIN: 112819.00 FROM: Tet Chiou Project Manager DATE: July 25, 2014	RESPONSE REQUIRED: ☒ YES ☐ NO A2H PROJECT #: 09292 ADDENDUM SENT VIA: ☐ FAX (20 pages total) ☐ MAIL ☐ COURIER ☒ E-MAIL
--	--

THE LISTED CORRECTIONS SHOULD BE INCORPORATED INTO THE PLANS/SPECIFICATIONS. ALL BIDDERS ARE REQUIRED TO INDICATE ON THE OUTSIDE OF THEIR PROPOSAL ENVELOPE THE RECEIPT OF THIS INFORMATION BY GIVING THE DATE AND THE ADDENDA #. IN ADDITION, THE BIDDER SHALL CONFIRM RECEIPT OF THIS ADDENDUM BY A RETURN FAX (901-373-4002) OR EMAIL (daniellek@a2h.com) WITH APPROPRIATE INITIAL WHERE INDICATED.

GENERAL:

1. Attached to this Addendum are the Sign In Sheet from the Pre-Bid Conference conducted on Thursday, July 24, 2014 at 10:00 a.m.
2. No work is to be done on site on Special Event (10/11/2014), Veteran's Day (11/11/2014) Memorial Day (5/25/2015) or as instructed by City Engineer with a 48 hour notice.
3. Contractor shall submit the entire Bid Book. All of the documents that are bound therein are part of the Proposal and should not be detached.
4. Acknowledgement of Davis-Bacon Act Requirements (4 Sheets): This form will have to be completed by the successful bidder as part of the actual contract. This sheet does not have to be completed as part of the bid submittal. Contractor must comply with the wage rates.

CHANGES TO SPECIFICATIONS:

1. Supplemental Specification to Section 100
 - a. Section 102.06 – Delivery of Proposal
 - i. Revise section to read "Hardcopy of the sealed bid will be received by the City of Bartlett, 6400 Stage Road, Bartlett, TN 38154 until 2:00 p.m. on 7/31/2014".
2. Special Provision 1320 - Tennessee Department of Transportation Minimum Wage Scales for Federal-Aid Construction and State Funded Construction
 - a. Delete this Special Provision and replace with the attached SP1320 Rev, 01-03-14.

3. Bid For Unit Price Contracts (Sheet BT-1 thru BT-6)
 a. Delete *BID FOR UNIT PRICE CONTRACTS* and replace with the attached *BID FOR UNIT PRICE CONTRACTS – REVISION 07-25-2014*.

ADD: ITEM NO. 202-03 – REMOVAL OF RIGID PAVEMENT, SIDEWALK, ETC.

ADD: ITEM NO. 202-03.01 – REMOVAL OF ASPHALT PAVEMENT

REVISION: ITEM NO 604-02.03 - EPOXY COATED REINFORCING STEEL (35,182 LB.)

ADD: ITEM NO. 795-07.03 – 6IN X 6IN TAPPING SLEEVE AND VALVE (1 EACH)

ADD: ITEM NO. 795-13.01 – DI FITTINGS (100 LB.)

CHANGES TO THE DRAWINGS:

1. Construction Sheet 2 – Estimated Bridge Quantities and Bridge Index
 a. Delete Construction Sheet 2 and replace with the Construction Sheet 2 attached to this addendum.
 REVISION: ITEM NO. 604-02.03 – EPOXY COATED REINFORCING STEEL – Quantity
2. Construction Sheet 2A – Estimated Roadway Quantities and Tabulated Quantities
 a. Delete Construction Sheet 2A and replace with the Construction Sheet 2A attached to this addendum.
 ADD: ITEM NO. 202-03 – REMOVAL OF RIGID PAVEMENT, SIDEWALK, ETC.
 ADD: ITEM NO. 202-03.01 – REMOVAL OF ASPHALT PAVEMENT
3. Construction Sheet 2B – Estimated Utilities Quantities and Tabulated Quantities
 a. Delete Construction Sheet 2B and replace with the Construction Sheet 2B attached to this addendum.
 ADD: ITEM NO. 795-07.03 – 6IN X 6IN TAPPING SLEEVE AND VALVE (1 EACH)
 ADD: ITEM NO. 795-13.01 – DI FITTINGS (100 LB.)
4. Sheet 2 of 10 – Structural Drawing
 a. Delete Construction Sheet 2 of 10 and replace with the Construction Sheet 2 of 10 attached to this addendum to exclude sidewalk with texture finish.
5. Sheet 4 of 10 – Structural Drawing
 a. Delete Construction Sheet 4 of 10 and replace with the Construction Sheet 4 of 10 attached to this addendum.
 i. Delete reference of (4) grate inlet drains Sheet 4 of 10 Structure.
 ii. Extend proposed sidewalk and match proposed curb and gutter; thickness of sidewalk at curb and gutter at 6" and 1.5% slope.
6. Sheet 7 of 10 – Structural Drawing
 a. Delete Construction Sheet 7 of 10 and replace with the Construction Sheet 7 of 10 attached to this addendum to delete Note 2, Riser blocks to be poured monolithically with abutment beam.

Addendum No. 1
 July 25, 2014
 Page 3

7. Sheet 10 of 10 – Structural Drawing
 a. Delete Construction Sheet 10 of 10 and replace with the Construction Sheet 10 of 10 attached to this addendum to revise epoxy coated reinforcement bar.

RECEIVED BY: _____ COMPANY: _____

INITIAL/SIGNATURE: _____ DATE: _____



A2H, Inc.
 Tet Chiou – Project Manager

Attachments:

SP 1320 – Rev. 01-03-14 (1 page)
 Bid for Unit Price Contracts – Revision 07-25-2014 (6 pages)
 Pre Bid Sign In Sheet (3 pages)
 Construction Sheet 2 – Estimated Bridge Quantities and Bridge Index
 Construction Sheet 2A – Estimated Roadway Quantities and Tabulated Quantities
 Construction Sheet 2B – Estimated Utilities Quantities and Tabulated Quantities
 Sheet 2 of 10 – Structural Drawing
 Sheet 4 of 10 – Structural Drawing
 Sheet 7 of 10 – Structural Drawing
 Sheet 10 of 10 – Structural Drawing

Attachment: 2014-07-25 - 09292 - Addendum 1 (1332 : Bid for Bartlett Road Bridge)

SP1320**SP1320**

Sheet 1 of 1

S T A T E**O F****T E N N E S S E E**

March 1, 2006

(Rev. 12-15-11)

(Rev. 01-11-12)

(Rev. 01-09-13)

(Rev. 01-03-14)**SPECIAL PROVISION****REGARDING****TENNESSEE DEPARTMENT OF TRANSPORTATION****2014 MINIMUM WAGE SCALES FOR FEDERAL-AID CONSTRUCTION****& 2014 MINIMUM WAGE SCALES FOR STATE FUNDED CONSTRUCTION**

This Contract contains "Tennessee Department of Transportation 2014 Minimum Wage Scales for State Funded Construction", Tennessee Department of Labor Decision No. T-40056, dated January 1, 2014, and Tennessee Department of Transportation 2014 Minimum Wage Scales for Federal-Aid Highway Construction, U. S. Department of Labor Decision No. TN140002 (dated January 3, 2014).

The Contractor is required to pay the greater of the two (2) rates for each classification.

Note: Minimum Wage Scales for Federal-Aid Heavy Construction are on file with the Department, and will be included in all applicable Contract Proposals.

Attachment: 2014-07-25 - 09292 - Addendum 1 (1332 : Bid for Bartlett Road Bridge)

PROJECT: BARTLETT ROAD BRIDGE REPLACEMENT

Proposal of _____ (hereinafter called "Bidder")* a corporation, organized and existing under the laws of the State of _____, partnership, or an individual doing business as _____.

To **CITY OF BARTLETT** (hereinafter called the "Owner").

GENTLEMEN:

The Bidder, in compliance with your invitation for bids for the construction of **BARTLETT ROAD BRIDGE REPLACEMENT** having examined the plans and specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and the construction of the project in accordance with the contract documents, within the time set forth therein, and at the prices stated below. The prices are to cover all expenses incurred in performing the work required under the contract documents, of which this proposal is a part.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" of the Owner and to fully complete **BARTLETT ROAD BRIDGE REPLACEMENT** within **270** consecutive calendar days thereafter as stipulated in the specifications; Bidder further agrees to pay as liquidated damages the sum of **\$420.00** for each consecutive calendar day thereafter for the structure.

* Insert corporation, partnership or individual as applicable

BIDDER acknowledges receipt of the following ADDENDUM:

BIDDER agrees to perform all the **BRIDGE REPLACEMENT – BARTLETT ROAD** work described in the specifications and shown on the plans for the following unit prices:

A. ESTIMATED BRIDGE QUANTITIES

BRIDGE QUANTITIES FEDERAL PROJECT NO. STP-M-9419(6) STATE PROJECT NO. 79LPLM-F3-067 PIN 112819.00					
Item No.	Description	Quantity	Unit	Unit Price	Amount
202-04.01	REMOVAL OF STRUCTURE (EX, BR. NO 57-A310-2.19, STA. 10+00)	1	LS	\$	\$
202-04.02	REMOVAL OF STRUCTURE (EXISTING PEDESTRIAN METAL BRIDGE)	1	LS	\$	\$
204-02.01	DRY EXCAVATION (BRIDGES)	252	C.Y.	\$	\$
303-01.02	GRANULAR BACKFILL (BRIDGES)	38	TON	\$	\$
604-02.03	EPOXY COATED REINFORCING STEEL	35,182	LB.	\$	\$
604-03.01	CLASS A CONCRETE (BRIDGES)	123	C.Y.	\$	\$
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	11,596	LB.	\$	\$
604-03.09	CLASS D CONCRETE (BRIDGE DECK)	138	C.Y.	\$	\$
604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	231	S.Y.	\$	\$
606-09.01	TEST PILES (PRECAST CONCRETE, SIZE 1)	130	L.F.	\$	\$
606-09.02	LOAD TEST (PRECAST CONCRETE, SIZE 1)	1	EACH	\$	\$
606-09.03	PRECAST CONCRETE PILES (SIZE 1)	1,540	L.F.	\$	\$
606-12.01	PILE ANCHORAGE SYSTEM (SEISMIC)	26	EACH	\$	\$
615-02.10	PRESTRESSED CONCRETE BOX BEAM (27"X48")	536	L.F.	\$	\$
620-05	CONCRETE PARAPET WITH STRUCTURE TUBING	184.84	L.F.	\$	\$
710-09.01	6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	82	L.F.	\$	\$
710-09.02	6" PIPE UNDERDRAIN	40	L.F.	\$	\$

(A) SUB-TOTAL BRIDGE CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE

REPLACEMENT = \$ _____

B. ESTIMATED ROADWAY QUANTITIES

ROAD AND APPROACHES QUANTITIES FEDERAL PROJECT NO. STP-M-9419(6) STATE PROJECT NO. 79LPLM-F3-067 PIN 112819.00					
Item No.	Description	Quantity	Unit	Unit Price	Amount
105-01	CONSTRUCTION STAKES, LINES AND GRADES	1	LS	\$	\$
201-01	CLEARING AND GRUBBING	1	LS	\$	\$
202-12.60	REMOVAL & DISPOSAL OF TEMPORARY RUN-AROUND	1	LS	\$	\$
202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK, ETC.	950	S.Y.	\$	\$
202-03.01	REMOVAL OF ASPHALT PAVEMENT	900	S.Y.	\$	\$
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	680	C.Y.	\$	\$
203-03	BORROW EXCAVATION (UNCLASSIFIED)	123	C.Y.	\$	\$
203-06	WATER	71	M.G.	\$	\$
203-08	CHANNEL EXCAVATION (UNCLASSIFIED)	1,100	C.Y.	\$	\$
204-08.01	BACKFILL MATERIAL (FLOWABLE FILL)	10	C.Y.	\$	\$
209-05	SEDIMENT REMOVAL	42	C.Y.	\$	\$
209-08.02	TEMPORARY SILT FENCES (WITH BACKING)	1,608	L.F.	\$	\$
209-09.01	SANDBAGS	400	BAG	\$	\$
209-40.41	CATCH BASIN FILTER ASSEMBLY (TYPE I)	3	EACH	\$	\$
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	950	TON	\$	\$
307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	320	TON	\$	\$
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	210	TON	\$	\$
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	7	TON	\$	\$
402-02	AGGREGATE FOR COVER MATERIAL (PC)	19	TON	\$	\$
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	3	TON	\$	\$
411-01.10	ACS MIX (PG64-22) GRADING D	206	TON	\$	\$
607-03.02	18" CONCRETE PIPE CULVERT (CLASS III)	100	L.F.	\$	\$
607-37.02	18" CORRUGATED METAL PIPE CULVERT	47	L.F.	\$	\$
611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	2	C.Y.	\$	\$
611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	220	L.B.	\$	\$
611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	2	EACH	\$	\$
611-12.01	CATCH BASIN, TYPE 12, 0'-4' DEPTH	1	EACH	\$	\$
611-12.03	CATCH BASIN, TYPE 12, 8'-12' DEPTH	2	EACH	\$	\$
701-01.01	CONCRETE SIDEWALK (4")	2,785	S.F.	\$	\$
701-02	CONCRETE DRIVEWAY	3,266	S.F.	\$	\$

Attachment: 2014-07-25 - 09292 - Addendum 1 (1332 : Bid for Bartlett Road Bridge)

**ROAD AND APPROACHES QUANTITIES
FEDERAL PROJECT NO. STP-M-9419(6)
STATE PROJECT NO. 79LPLM-F3-067
PIN 112819.00**

Item No.	Description	Quantity	Unit	Unit Price	Amount
701-02.03	CONCRETE HANDICAP RAMP	250	S.F.	\$	\$
702-03	CONCRETE COMBINED CURB AND GUTTER	75	C.Y.	\$	\$
705-01.01	GUARDRAIL AT BRIDGE ENDS	108	L.F.	\$	\$
705-02.02	SINGLE GUARDRAIL (TYPE 2)	7	L.F.	\$	\$
705-04.04	GUARDRAIL TERMINAL (TYPE 21)	1	EACH	\$	\$
705-04.05	GUARDRAIL TERMINAL (TYPE-IN-LINE)	3	EACH	\$	\$
707-08.01	FENCE (REPLACE WOODEN FENCE IN KIND)	150	L.F.	\$	\$
709-05.05	MACHINED RIP-RAP (CLASS A-3)	150	TON	\$	\$
709-05.08	MACHINED RIP-RAP (CLASS B)	1,900	TON	\$	\$
712-01	TRAFFIC CONTROL	1	LS	\$	\$
712-05.01	WARNING LIGHTS (TYPE A)	6	EACH	\$	\$
712-06	SIGNS (CONSTRUCTION)	318	S.F.	\$	\$
712-07.03	TEMPORARY BARRICADES (TYPE III)	60	L.F.	\$	\$
713-11.01	"U" SECTION STEEL POSTS	144	LB.	\$	\$
713-13.02	FLAT SHEET ALUMINUM SIGNS (0.080" THICK)	19	S.F.	\$	\$
713-15	REMOVAL OF SIGNS, POST AND FOOTING	1	LS	\$	\$
713-16.20	SIGNS (STOP)	1	EACH	\$	\$
716-02.03	PAINTED PAVEMENT MARKING (CROSS-WALK)	100	L.F.	\$	\$
716-02.05	PAINTED PAVEMENT MARKING (STOP LINE)	18	L.F.	\$	\$
716-05.01	PAINTED PAVEMENT MARKING (4 IN LINE)	0.5	L.M.	\$	\$
716-13.06	SPRAY THERMO PAVEMENT MARKING (40 MIL) (4 IN LINE)	0.5	L.M.	\$	\$
717-01	MOBILIZATION	1	LS	\$	\$
740-10.03	GEOTEXTILE (TYPE III) (EROSION CONTROL)	260	S.Y.	\$	\$
740-11.03	TEMPORARY SEDIMENT TUBE 18IN (DESCRIPTION)	100	L.F.	\$	\$
801-01.07	TEMPORARY SEEDING (WITH MULCH)	20	UNIT	\$	\$
801-03	WATER (SEEDING & SODDING)	16	M.G.	\$	\$
802-01.09	TREES (QUERCUS PHELLOS)(1.5-2" CAL. B&B)	2	EACH	\$	\$
803-01	SODDING (NEW SOD)	3,500	S.Y.	\$	\$

(B) SUB-TOTAL ROAD AND APPROACHES CONSTRUCTION COST FOR BARTLETT

ROAD BRIDGE REPLACEMENT = \$ _____

Attachment: 2014-07-25 - 09292 - Addendum 1 (1332 : Bid for Bartlett Road Bridge)

C. ESTIMATED WATER LINE QUANTITIES
NON-PARTICIPATING ITEMS (CITY OF BARTLETT)

WATER LINE QUANTITIES FEDERAL PROJECT NO. STP-M-9419(6) STATE PROJECT NO. 79LPLM-F3-067 PIN 112819.00 NON-PARTICIPATING ITEMS, CITY OF BARTLETT					
Item No.	Description	Quantity	Unit	Unit Price	Amount
303-01.04	SELECT SAND BACKFILL	100	TON	\$	\$
303-10.04	MINERAL AGGREGATE (CR610)	100	TON	\$	\$
795-01.04	6IN DIP SLIP JOINT WATER LINE	60	L.F.	\$	\$
795-01.05	8IN DIP RESTRAINED JOINT WATER LINE	170	L.F.	\$	\$
795-01.06	8IN DIP SLIP JOINT WATER LINE	120	L.F.	\$	\$
795-06.04	CONNECT TO 6IN WATER LINE	1	EACH	\$	\$
795-06.05	CONNECT TO 8IN WATER LINE	1	EACH	\$	\$
795-07.03	6IN X 6IN TAPPING SLEEVE AND VALVE	1	EACH	\$	\$
795-07.06	8IN X 8IN TAPPING SLEVE AND VALVE	1	EACH	\$	\$
795-07.32	INSERTION VALVE (8IN)	2	EACH	\$	\$
795-11.01	BLOW-OFF ASSEMBLY	1	EACH	\$	\$
795-13.01	DI FITTINGS	100	LB.	\$	\$
795-13.04	BRIDGE CONDUIT HANGER SYSTEM	1	L.S.	\$	\$

(C) SUB-TOTAL WATER LINE CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE

REPLACEMENT = \$ _____

D. ESTIMATED AT&T FIBER OPTIC QUANTITIES
NON-PARTICIPATING ITEMS (AT&T)

AT&T FIBER OPTIC QUANTITIES FEDERAL PROJECT NO. STP-M-9419(6) STATE PROJECT NO. 79LPLM-F3-067 PIN 112819.00 NON-PARTICIPATING ITEMS, AT&T					
Item No.	Description	Quantity	Unit	Unit Price	Amount
793-14.09	BRIDGE CONDUIT HANGER SYSTEM	1	L.S.	\$	\$

(D) SUB-TOTAL AT&T FIBER OPTIC CONSTRUCTION COST FOR BARTLETT ROAD

BRIDGE REPLACEMENT = \$ _____

Attachment: 2014-07-25 - 09292 - Addendum 1 (1332 : Bid for Bartlett Road Bridge)

- (A) SUB-TOTAL BRIDGE CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE REPLACEMENT = \$ _____
- (B) SUB-TOTAL ROAD AND APPROACHES CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE REPLACEMENT = \$ _____
- (C) SUB-TOTAL WATER LINE CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE REPLACEMENT = \$ _____
- (D) SUB-TOTAL AT&T FIBER OPTIC CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE REPLACEMENT = \$ _____

(A+B+C+D) TOTAL CONSTRUCTION COST FOR BARTLETT ROAD BRIDGE REPLACEMENT = \$ _____

TOTAL BID AMOUNT IN WORDS: _____

CONTRACTOR: _____

AUTHORIZED REPRESENTATIVE (SIGNATURE): _____

PRINT NAME: _____

The unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of 60 days after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract attached within 10 days and deliver a Surety Bond or Bonds as required by Article 5 of the General Conditions. The bid security attached in the sum of FIVE PERCENT (5%) OF AMOUNT OF BID is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

RESPECTFULLY SUBMITTED:

BY: _____

SIGN-IN SHEET
CITY OF BARTLETT TN
BARTLETT ROAD BRIDGE OVER HARRINGTON CREEK AT L.M. 0.070
FEDERAL PROJECT NO.: STP-M-9419 (6)
STATE PROJECT NO.: 79LPLM-F3-067
PIN: 112819.00
A2H # 09292
PRE-BID MEETING
THURSDAY, JULY 24, 2014 @ 10:00 AM

Name	Company	Phone Number	Fax Number	E-Mail
RICK FLETCHER	Ferrell Paving, Inc.	901-324-3894	901-452-9592	fletcher@ferrellpaving.com
DEXTER DUNLAP	B&C CONST.	901-386-7040	901-386-7063	DEXTER@BANDC CONSTRUCTION.ORG
JAMIE CARPENTER	DEMENT CONSTRUCTION	731-424-6306	731-256-1308	jcarpenter@dementconstruction.com
DANNY STOPPENHAGEN	CHRIS-HILL CONST.	901-767-6312	901-767-1323	danny@chrishillconstruction.com
Don Hickman	Devinay Const	901-465-4365	901-465-4358	Denise.Henry@Devinay.com
Derrick Hurdon	Devinay Const	901-465-4365	901-465-4358	↓

Attachment: 2014-07-25 - 09292 - Addendum 1 (1332 : Bid for Bartlett Road Bridge)

SIGN-IN SHEET
CITY OF BARTLETT TN
BARTLETT ROAD BRIDGE OVER HARRINGTON CREEK AT L.M. 0.070
FEDERAL PROJECT NO.: STP-M-9419 (6)
STATE PROJECT NO.: 79LPLM-F3-067
PIN: 112819.00
A2H # 09292
PRE-BID MEETING
THURSDAY, JULY 24, 2014 @ 10:00 AM

Name	Company	Phone Number	Fax Number	E-Mail
Wade Towles	COB	385-6499	385-7021	wtowles@cityofbartlett.org
TET CHOU	A2H INC.	372-0404	373-4002	tetc@a2h.com
Rich McClanahan	COB	385-6499	385-7021	r.mccclanahan@cityofbartlett.org
Jimmy Chancellor	Chancellor	754-2262	754-1987	jimchancellor@bellseath.net
Richard Gatlin	FORD CONST.	731-285-0800	731-287-0027	richardg@bid-best.com
Mark Gillespie	Jones Bros	615-715-3440		mgillespie@britton.org
Paul Fenzler	ProSolt	901-508-4478	901-736-1140	pfernzler@prosoltllc.com

Attachment: 2014-07-25 - 09292 - Addendum 1 (1332 : Bid for Bartlett Road Bridge)

SIGN-IN SHEET
CITY OF BARTLETT TN
BARTLETT ROAD BRIDGE OVER HARRINGTON CREEK AT L.M. 0.070
FEDERAL PROJECT NO.: STP-M-9419 (6)
STATE PROJECT NO.: 79LPLM-F3-067
PIN: 112819.00
A2H # 09292
PRE-BID MEETING
THURSDAY, JULY 24, 2014 @ 10:00 AM

Name	Company	Phone Number	Fax Number	E-Mail
Johnny Crum	ATT	901-282-9728		jc8003@att.com
JAMES BARNES	ATT	901/128538		JB6533@Att.Com
CRAIG GRABOWSKI	ATT	901 493-8911		CG0633@ATT.CO
Markon Gillespie	Jonas Bros	615-715-3440		m7gillespie@jonasbro.com
TIM HERNIMON	City of Bartlett	901-385-6499		THERNIMON@CityofBartlett.com

Attachment: 2014-07-25 - 09292 - Addendum 1 (1332 : Bid for Bartlett Road Bridge)

TENNESSEE D.O.T.

DESIGN DIVISION

FILE NO.

BARTLETT ROAD
OVER
HARRINGTON CREEK

STA. 10+00
LOG MILE 0.070

CONTINUOUS PRECAST
PRESTRESSED CONCRETE
BOX BEAM WITH
CONCRETE DECK SLAB

1 SPAN BRIDGE
TOTAL LENGTH = 70'-0"

40'-0" ROADWAY WIDTH
STD-11-1 BRIDGERAIL

90° 00'00" SKEW

LAYOUT DWG. NO 1 OF 10

CONST. NO. _____

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	2
ROW	2011	STP-M-9419 (6)	2
CONST	2014	STP-M-9419 (6)	2

REVISION 2014-07-25: REVISED ITEM 604-02.03 QUANTITY

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUT. NO. 1	ABUT. NO. 2
202-04.01	REMOVAL OF STRUCTURES (EXISTING BRIDGE, STA. 10+00)	LS	1			
202-04.02	REMOVAL OF STRUCTURES (EXISTING PEDESTRIAN METAL BRIDGE)	LS	1			
④ 204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	252		142	110
303-01.02	GRANULAR BACKFILL (BRIDGES)	TON	38		19	19
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	35,182	31,450	1,223	995
604-03.01	CLASS "A" CONCRETE (BRIDGES)	C.Y.	123		65	58
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	11,596		6,154	5,442
604-03.09	CLASS "D" CONCRETE (BRIDGE DECK)	C.Y.	138	138		
604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	231	161	36	34
606-09.01	TEST PILES (PRECAST CONCRETE), (SIZE 1)	L.F.	130		65	65
606-09.02	LOADING TEST (PRECAST CONCRETE), (SIZE 1)	EA.	1		1	
606-09.03	PRECAST CONCRETE PILES (SIZE 1)	L.F.	1,540		770	770
606-12.01	PILE ANCHORAGE SYSTEM (SEISMIC)	EA.	26		13	13
② 615-02.10	PRESTRESSED CONCRETE BOX BEAM (27"x48")	L.F.	536.00	536.00		
620-05	CONCRETE PARAPET W/ STRUCTURAL TUBING	L.F.	184.84	134.00	25.42	25.42
③ 710-09.01	6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	82		41	41
710-09.02	6" PIPE UNDERDRAIN	L.F.	40		20	20
⑦ 793-14-09	BRIDGE CONDUIT HANGER SYSTEM	LS	1	1		

- ① EXCAVATIONS BASED ON FINAL PROFILE.
- ② NOTE: COST OF ELASTOMERIC PADS, RUBBER BONDING CEMENT, TO BE INCLUDED IN THE COST OF THE PRESTRESSED BEAM.
- ③ NOTE: COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE COST OF PERFORATED PIPE.
- ④ NOTE: GRANULAR BACKFILL SHALL BE CLASS "A" GRADING "D" MATERIAL. SEE STANDARD DRAWING STD-10-1.
- ⑤ NOTE: THE COST OF BITUMINOUS-FIBERBOARD AND ALL MISCELLANEOUS JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.

- ⑥ COST OF PREPARATION OF THE TOP OF PILE FOR SEISMIC REQUIREMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 606-12.01. SEE STANDARD DRAWING STD-6-1 FOR DETAILS. THE PILE AND TEST PILE LENGTHS SHOWN ON THE PLANS DO NOT INCLUDE THE 2 FEET REQUIRED FOR THE SEISMIC ATTACHMENT.
- ⑦ COST OF ALL MATERIALS AND LABOR NECESSARY FOR INSTALLING CONDUIT HANGER SYSTEM AND U-BOLTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STEEL CONDUIT HANGERS INCLUDING ANY TEMPORARY SUPPORTS NEEDED. SUPPORTS SHALL BE STAINLESS STEEL IN ACCORDANCE W/ ASTM A-167.

LIST OF DRAWINGS

TITLE	DRAWING NO.
LAYOUT OF BRIDGE	1 of 10
GENERAL NOTES & ESTIMATED QUANTITIES	2 of 10
FOUNDATION DATA	3 of 10
SUPERSTRUCTURE (SHEET 1 OF 2)	4 of 10
SUPERSTRUCTURE (SHEET 2 OF 2)	5 of 10
PRESTRESSED BOX BEAM DETAILS	6 of 10
ABUTMENTS NO. 1 & NO. 2 (SHEET 1 OF 2)	7 of 10
ABUTMENTS NO. 1 & NO. 2 (SHEET 2 OF 2)	8 of 10
BRIDGE PILE DATA SHEET	9 of 10
BILL OF STEEL	10 of 10

LIST OF STANDARD DRAWINGS

DRAWING NO.	REVISION DATE
S-PL-2	
S-PL-3	
S-PL-6	
S-GR31-1	
S-GRC-1	
S-GRT-3	
S-GRT-3D	
S-GRT-3P	
S-GRA-3	
STD-4-1	04-08-05
STD-4-2	04-08-05
STD-4-3	03-02-02
STD-4-4	06-10-96
STD-5-1	10-25-93
STD-5-2	05-01-14
STD-6-1	05-21-99
STD-6-2	11-07-94
STD-9-1	10-07-08
STD-10-1	04-08-05
STD-11-1	05-01-14
STD-14-3	10-15-08



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

ESTIMATED BRIDGE
QUANTITIES AND
BRIDGE INDEX

NOT TO SCALE

TENNESSEE D.O.T.

DESIGN DIVISION

FILE NO.

ESTIMATED ROADWAY QUANTITIES

FOOT-NOTES	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
	105-01	CONSTRUCTION STAKES, LINES AND GRADES	L.S.	1
	201-01	CLEARING AND GRUBBING	L.S.	1
4	202-12.60	REMOVAL & DISPOSAL OF TEMPORARY RUN-AROUND	L.S.	1
	202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK, ETC.	S.Y.	950
	202-03.01	REMOVAL OF ASPHALT PAVEMENT	S.Y.	900
	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	680
	203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	123
3	203-06	WATER	M.G.	71
2	203-08	CHANNEL EXCAVATION (UNCLASSIFIED)	C.Y.	1,100
	204-08.01	BACKFILL MATERIAL (FLOWABLE FILL)	C.Y.	10
1	209-05	SEDIMENT REMOVAL	C.Y.	42
1	209-08.02	TEMPORARY SILT FENCES (WITH BACKING)	L.F.	1,608
1, 2	209-09.01	SANDBAGS	BAG	400
	209-40.41	CATCH BASIN FILTER ASSEMBLY (TYPE 1)	EACH	3
	303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	950
	307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	TON	320
	307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	210
	402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	7
	402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	19
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	3
	411-01.10	ACS MIX (PG64-22) (ACS) GRADING D	TON	206
	607-03.02	18" CONCRETE PIPE CULVERT (CLASS III)	L.F.	100
	607-37.02	18" CORRUGATED METAL PIPE CULVERT	L.F.	47
	611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	C.Y.	2
	611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	LB.	220
	611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	EACH	2
	611-12.01	CATCH BASIN, TYPE 12, 0' - 4' DEPTH	EACH	1
	611-12.03	CATCH BASIN, TYPE 12, 8' - 12' DEPTH	EACH	2
	701-01.01	CONCRETE SIDEWALK (4')	S.F.	2,785
	701-02	CONCRETE DRIVEWAY	S.F.	3,266
	701-02.03	CONCRETE HANDICAP RAMP	S.F.	250
	702-03	CONCRETE COMBINED CURB AND GUTTER	C.Y.	75
	705-01.01	GUARDRAIL AT BRIDGE ENDS	L.F.	108
	705-02.02	SINGLE GUARDRAIL (TYPE 2)	L.F.	7
	705-04.04	GUARDRAIL TERMINAL (21)	EACH	1
	705-04.05	GUARDRAIL TERMINAL (TYPE-IN-LINE)	EACH	3
	707-08.01	FENCE (REPLACE WOODEN FENCE IN KIND)	L.F.	150
	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	150
	709-05.08	MACHINED RIP-RAP (CLASS B)	TON	1,900
	712-01	TRAFFIC CONTROL	LS	1
	712-05.01	WARNING LIGHTS (TYPE A)	EACH	6
	712-06	SIGNS (CONSTRUCTION)	S.F.	318
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	60
	713-11.01	"U" SECTION STEEL POSTS	LB.	144
	713-13.02	FLAT SHEET ALUMINUM SIGNS (0.080" THICK)	S.F.	19
	713-15	REMOVAL OF SIGNS, POST AND FOOTING	L.S.	1
6	713-16.20	SIGNS (STOP)	EACH	1
	716-02.03	PLASTIC PAVEMENT MARKING (CROSS-WALK)	L.F.	100
	716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	18
	716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	0.5
	716-13.06	SPRAY THERMO PAVEMENT MARKING (40 MIL) (4" LINE)	L.M.	0.5
	717-01	MOBILIZATION	LS	1
	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	260
	740-11.03	TEMPORARY SEDIMENT TUBE 16IN (DESCRIPTION)	L.F.	100
	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	20
5	801-03	WATER (SEEDING & SODDING)	M.G.	16
	802-01.09	TREE (QUERCUS PHELLOS) (1.5" - 2" CAL. B&B)	EACH	2
	803-01	SODDING (NEW SOD)	S.Y	3,500

FOOTNOTES

1

SEE SUB-SECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT

2

USE SANDBAGS OR OTHER BMP IN CREEK CHANNEL TO DIVERT WATER IN AREAS DURING CHANNEL EXCAVATION

3

INCLUDES 17.64 MG FOR DUST CONTROL

4

INCLUDE REMOVAL OF TEMPORARY COMMERCIAL ACCESS DRIVE AT STA: 8+29 TO STA: 8+59

5

PERMANENTLY STABILIZE AND USE AS DIRECTED BY THE ENGINEER.

6

FOR TEMPORARY RUN-AROUND.

SPECIAL NOTE:

NO ITEM QUANTITIES IN BIDDERS PROPOSAL WILL BE ADJUSTED AFTER RECEIPT OF BIDS, UNLESS CONCURRED BY CITY OF BARTLETT AND TDOT OFFICIALS. CONTRACTOR IS ENCOURAGED TO CHECK QUANTITIES IN BIDDERS PROPOSAL PRIOR TO SUBMITTING BID. ANY DISCREPANCIES FOUND BY THE CONTRACTOR SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEERS AS SOON AS POSSIBLE AND IN ALL CASE PRIOR TO THE OPENING BIDS.

ESTIMATED GRADING QUANTITIES

STATION TO STATION	ROAD AND DRAINAGE EXC. (UNCL.)	BORROW EXCAVATION		CHANNEL EXC. C.Y.	EXCESS EXC. WASTE C.Y.	EMB. C.Y.
		UNCL.-C.Y.	S. ROCK-C.Y.			
8+27.68 TO 12+64.91	426	50	0	1100	1476	
TEMPORARY RUN-AROUND	254	73	0		181	
TOTALS	680	123	0	1100	1657	

ESTIMATED TRAFFIC CONTROL QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
712-01	TRAFFIC CONTROL	L.S.	1
712-05.01	WARNING LIGHT (TYPE 'A')	EACH	6
712-06	SIGN (CONSTRUCTION)	S.F.	318
712-07.03	TEMP. BARRICADE (TYPE III)	L.F.	60

EROSION CONTROL QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
209-05	SEDIMENT REMOVAL	42	C.Y.
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	1608	L.F.
209-40.41	CATCH BASIN FILTER ASSEMBLY (TYPE I)	3	EACH
709-05.05	MACHINED RIP-RAP (CLASS A-3)	150	TON
740-10.03	GEOTEXTILE (TYPE III) (EROSION CONTROL)	260	S.Y.
740-11.03	SEDIMENT TUBE (18")	100	L.F.
801-01.07	TEMPORARY SEEDING WITH MULCH)	20	UNIT
801-03	WATER (SEEDING & SODDING)	16	M.G.
803-01	SODDING (NEW SOD)	3500	S.Y.

PROPOSED GUARDRAIL

SHEET NO.	LOCATION	SIDE	STATION		GUARDRAIL				TERMINAL ANCHORS					REMARKS	
					BRIDGE ENDS	BRIDGE PIERS	SINGLE TYPE 2	MEDIAN TYPE 2	TYPE 12	TYPE 13	TYPE 21	TYPE IN-LINE	TYPE 38		
			LT	RT	FROM	TO	705-01.01 (L.F.)	705-01.02 (L.F.)	705-02.02 (L.F.)	705-03.03 (L.F.)	705-04.02 (EACH)	705-04.03 (EACH)	705-04.04 (EACH)		705-04.05 (EACH)
4A	BARTLETT ROAD	X		9+29.13	9+56.46	27							1		
4A	BARTLETT ROAD	X		9+29.61	9+56.46	27							1		
4A	BARTLETT ROAD	X		10+43.54	10+70.69	27							1		
4A	BARTLETT ROAD	X		10+43.45	10+56.49	27		6.25				1			
TOTALS						108	0	6.25	0	0	0	1	3	0	

ITEM NO.

DESCRIPTION

UNITS

LOCATION

BARTLETT RD.

TEMP. RUN-AROUND

FERGUSON ROAD

TEMP. ACCESS DR.

TOTAL ITEM QUANTITIES

303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	267	582	-	101	950
307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	TON	67	253	-	-	320
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	64	126	-	20	210
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	2.2	2	2	0.4	7
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	7.0	5.1	6.1	0.8	19
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1.2	0.8	0.5	0.5	3
411-01.10	ACS MIX (PG64-22), GRADING D	TON	70	52	75	9	206

STATE OF TENNESSEE

DEPARTMENT OF TRANSPORTATION

BUREAU OF ENGINEERING

ESTIMATED ROADWAY QUANTITIES & TABULATED QUANTITIES

6/25/2014

6/25/2014

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ESTIMATED ROADWAY QUANTITIES (FIBER OPTIC)				
FOOT-NOTES	ITEM NO.	DESCRIPTION (NON-PARTICIPATION ITEM, AT&T)	UNITS	QUANTITY
16	793-14.09	BRIDGE CONDUIT HANGER SYSTEM	LS	1

ESTIMATED ROADWAY QUANTITIES (WATER LINE)				
FOOT-NOTES	ITEM NO.	DESCRIPTION (NON-PARTICIPATION ITEMS, CITY OF BARTLETT)	UNITS	QUANTITY
	303-01.04	SELECT SAND BACKFILL	TON	100
	303-10.04	MINERAL AGGREGATE (CR610)	TON	100
7,11	795-01.04	6IN DIP SLIP JOINT WATER LINE	L.F.	60
7,11,15	795-01.05	8IN DIP RESTRAINED JOINT WATER LINE	L.F.	170
7,11	795-01.06	8IN DIP SLIP JOINT WATER LINE	L.F.	120
8,12	795-06.04	CONNECT TO 6IN WATER LINE	EACH	1
8,13	795-06.05	CONNECT TO 8IN WATER LINE	EACH	1
18	795-07.03	6IN X 6IN TAPPING SLEEVE AND VALVE	EACH	1
9,14, 18	795-07.06	8IN X 8IN TAPPING SLEEVE AND VALVE	EACH	1
10,18	795-07.32	INSERTION VALVE (8IN)	EACH	2
18	795-11.01	BLOW-OFF ASSEMBLY	EACH	1
19	795-13.01	DI FITTINGS	LB	100
	795-13.04	BRIDGE CONDUIT HANGER SYSTEM	LS	1

- FOOTNOTES
- 7 INCLUDES ALL MATERIALS, LABOR, EQUIPMENT FOR COMPLETE INSTALLATION OF PIPE INCLUDING BUT NOT LIMITED TO TRAFFIC CONTROL, MATERIALS, EQUIPMENT, EXCAVATION IN BOTH UNCONSOLIDATED AND ROCK, REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL, ENVELOPE/BEDDING MATERIAL, BACKFILLING, FLOWABLE FILL, THRUST BLOCKING, CONCRETE DEADMAN, PIPE FUSION, TRACER WIRE, WARNING TAPE, APPURTENANCES, TEMPORARY/PERMANENT SHORING, MAINTAINING THE TRENCH, TESTING, FLUSHING, DISINFECTION, BACTERIOLOGICAL SAMPLING, TEMPORARY/PERMANENT SURFACE RESTORATION, AND ANY OTHER LABOR OR MATERIAL REQUIRED TO COMPLETE THE WORK AS SPECIFIED ON THE PLANS
- 8 INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR CONNECTING TO AN EXISTING WATER LINE INCLUDING TRAFFIC CONTROL.
- 9 INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO TAPPING SLEEVE, VALVE, VALVE BOX, BOX ADJUSTMENT, VALVE BOX COLLAR, VALVE MARKER, EXCAVATION, BEDDING, BACKFILL, BLOCKING AND RESTRAINT, TAP OF EXISTING LINE, AND TRAFFIC CONTROL.
- 10 INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO FITTINGS, VALVE, VALVE STEM EXTENSIONS, VALVE BOX AND COVER, BOX ADJUSTMENT, VALVE BOX COLLAR, VALVE MARKER, EXCAVATION, BEDDING, BACKFILL, BLOCKING, AND TRAFFIC CONTROL.
- 11 PRICE INCLUDES ALL FITTINGS, THRUST BLOCKS, AND PIPE HANGER WITH ROLLERS AND MISCELLANEOUS MATERIALS TO INSTALL WATER LINE IN PLACE AND ACROSS THE BRIDGE.
- 12 6" WET TAP AND VALVE BOX TO GRADE
- 13 8" WET TAP AND VALVE BOX TO GRADE
- 14 8"x8" TAPPING TEE AND VALVE BOX TO GRADE
- 15 8" DIP (MECHANICAL JOINT) WATER LINE
- 16 INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR AT&T FIBER OPTIC LINE. SEE STRUCTURAL DRAWINGS FOR DETAILS.
- 17 NO ITEM QUANTITIES IN BIDDERS PROPOSAL WILL BE ADJUSTED AFTER RECEIPT OF BIDS, UNLESS CONCURRED BY CITY OF BARTLETT AND TDOT OFFICIALS. CONTRACTOR IS ENCOURAGED TO CHECK QUANTITIES IN BIDDERS PROPOSAL PRIOR TO SUBMITTING BID. ANY DISCREPANCIES FOUND BY THE CONTRACTOR SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEERS AS SOON AS POSSIBLE AND IN ALL CASE PRIOR TO THE OPENING BIDS.
- 18 INCLUDES VALVE BOX
- 19 8IN X 6IN REDUCER

793-14.09 ESTIMATED BRIDGE CONDUIT HANGER SYSTEM		
DESCRIPTION	UNIT	QUANTITY
STAINLESS STEEL ANGLE L3X2X¼ - LENGTH 2'-0"	EACH	26
STAINLESS STEEL ANGLE L2X2X¼ - LENGTH 5'-4"	EACH	15
STAINLESS STEEL ANGLE L2X2X¼ - LENGTH 3'-5"	EACH	8
STAINLESS STEEL PLATE PL½X3 - LENGTH 0'-3"	EACH	78
¾" Ø STUD - LENGTH 0'-3"	EACH	78
¾" Ø BOLT	EACH	46
SMALL U-BOLT	EACH	60
LARGE U-BOLT	EACH	8

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIMINARY	2011	STP-M-9419 (6)	2
ROW	2011	STP-M-9419 (6)	2
CONST	2014	STP-M-9419 (6)	2B

REVISION 2014-07-25: ADDED ITEMS 795-07.03 AND 795-13.01



NOTES:
1. CONTRACTOR TO VERIFY SUPPORT ELEVATIONS BEFORE INSTALLATION



REVISIONS

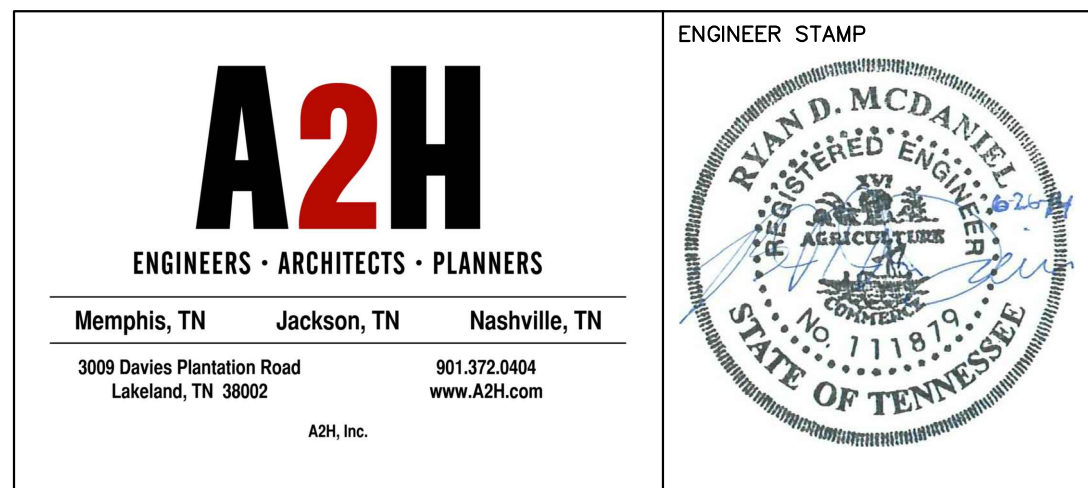
ESTIMATED QUANTITIES

NOTES

- ① NO PORTION OF THE PARAPET SHALL BE POURED UNTIL THE ENTIRE DECK SLAB IS IN PLACE.
- ② **DEAD LOAD CORRECTION CURVE:** THIS CURVE IS FOR DEAD LOAD SLAB AND ALL DEAD LOADS THAT ARE APPLIED AFTER SLAB IS IN PLACE. IF PRESTRESSED DECK PANELS ARE USED AND THE BEAMS ARE PROFILED AFTER PANELS ARE IN PLACE REDUCE THE DEAD LOAD CORRECTION VALUES SHOWN BY 25%.
- ③ WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. THE PARAPET SHALL NOT BE POURED UNTIL THE SLAB IS POURED AND CURED. ALSO SEE DRAWING STD. 9-1.
- ④ THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SUPPORTING THE BEAMS TO PREVENT DAMAGE DUE TO TWISTING OR OVERTURNING DURING ALL PHASES OF CONSTRUCTION.
- ⑤ FOR POURING SEQUENCE AND CONSTRUCTION DETAILS, SEE STRUCTURES MEMORANDUM NO. 050.



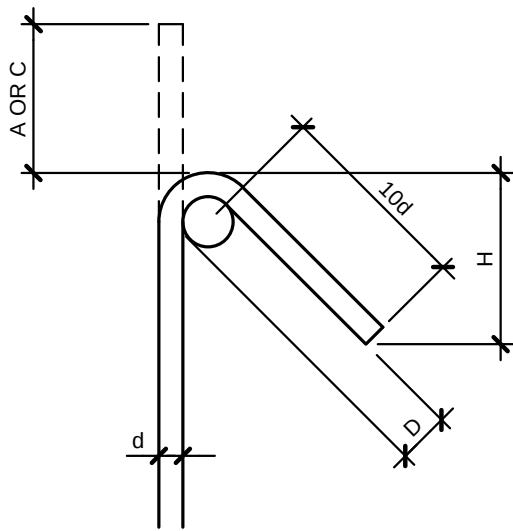
DESIGNED BY T.L.K. DATE 6/2014
 DRAWN BY T.L.K. DATE 6/2014
 SUPERVISED BY R.D.M. DATE 6/2014
 CHECKED BY R.D.M. DATE 6/2014



2031 ADT = 15,245
40'-0" ROADWAY WIDTH
W/ STD. 11-1 RAIL
DESIGN SPEED = 30 MPH

SUPERSTRUCTURE
(SHEET 1 OF 2)
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014

M-348-365

[illegible][illegible]

BAR SIZE	D (IN.)	135° HOOK	
		HOOK A OR C	H APPROX.
#3	1D	4I*	3"
#4	2	4D*	3"
#5	2D	5D*	3½"
#6	4D	8"	4D*
#7	5I	9"	5I*
#8	6	10D*	6"

135° SEISMIC STIRRUP/TIE HOOK DIMENSIONS (ALL GRADES)

REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06

NOTE: DIMENSIONS SHOWN ON THIS SHEET
ARE OUTSIDE TO OUTSIDE OF BAR.
STANDARD C.R.S.I. HOOK DETAILS
SHALL APPLY, EXCEPT AS NOTED.

NOTE: THE SUFFIX E, FOR BARS SO MARKED
DENOTES EPOXY COATED REINFORCEMENT



DESIGNED BY	<u>T.L.K.</u>	DATE	<u>6/2014</u>
DRAWN BY	<u>T.L.K.</u>	DATE	<u>6/2014</u>
SUPERVISED BY	<u>R.D.M.</u>	DATE	<u>6/2014</u>
CHECKED BY	<u>R.D.M.</u>	DATE	<u>6/2014</u>

BARS RB

A2H

ENGINEERS • ARCHITECTS • PLANNERS

Memphis, TN Jackson, TN Nashville, TN

3009 Davies Plantation Road
Lakeland, TN 38002

901.572.0404
www.A2H.com

A2H, Inc.



ENGINEER STAMP



2031 ADT = 15,245
40'-0" ROADWAY WIDTH
W/ STD. 11-1 RAIL
DESIGN SPEED = 30 MPH

BILL OF STEEL
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014



ENGINEERS · ARCHITECTS · PLANNERS

PROJECT ADDENDUM No. 2

TO: Plan Holders PROJECT: Bartlett Rd Bridge Over Harrington Creek at LM 0.070 Federal Project No: STP-M-9419 (6) State Project No: 79LPLM-F3-067 PIN: 112819.00 FROM: Tet Chiou Project Manager DATE: July 29, 2014	RESPONSE REQUIRED: ☒ YES ☐ NO A2H PROJECT #: 09292 ADDENDUM SENT VIA: ☐ FAX (3 pages total) ☐ MAIL ☐ COURIER ☒ E-MAIL
--	---

THE LISTED CORRECTIONS SHOULD BE INCORPORATED INTO THE PLANS/SPECIFICATIONS. ALL BIDDERS ARE REQUIRED TO INDICATE ON THE OUTSIDE OF THEIR PROPOSAL ENVELOPE THE RECEIPT OF THIS INFORMATION BY GIVING THE DATE AND THE ADDENDA #. IN ADDITION, THE BIDDER SHALL CONFIRM RECEIPT OF THIS ADDENDUM BY A RETURN FAX (901-373-4002) OR EMAIL (daniellek@a2h.com) WITH APPROPRIATE INITIAL WHERE INDICATED.

GENERAL:

1. The existing waterline east of existing bridge is an 8"Ø DIP waterline.
2. Due to the importance of the AT&T telephone lines, the brackets and supports need to be stainless steel for the AT&T cables. The 8" water line brackets and supports can be galvanized.
3. MLGW has not relocated their utility lines, but do have it planned as discussed during the pre-bid.

CHANGES TO SPECIFICATIONS:

1. Special Provision 999 - Special Provision Regarding City of Bartlett Standard
 - a. Delete General ConditionsGC-1 to GC-9 from Table of Contents, page TC-1
 - b. The Title VI Self Survey does not have to be filled out by the bidder now but will have to complete by the low bidder before City of Bartlett can submit to TDOT for a bid concurrence. This will have to be completed by low bidder within 72 hours of notification by City of Bartlett..

CHANGES TO THE DRAWINGS:

1. Sheet 2 of 10 – Structural Drawing
 - a. Delete Construction Sheet 4 of 10 and replace with the Construction Sheet 4 of 10 attached to this addendum to change 12" Ø waterline to 8" Ø DIP waterline.

Addendum No. 2
July 29, 2014
Page 2

RECEIVED BY: _____ COMPANY: _____

INITIAL/SIGNATURE: _____ DATE: _____



A2H, Inc.
Tet Chiou – Project Manager

Attachments:

Sheet 4 of 10 – Structural Drawing

Attachment: 2014-07-29 - 09292 - Addendum 2 (1332 : Bid for Bartlett Road Bridge)

CLASS "D" CONCRETE (BRIDGE DECK) C.Y.	STEEL BAR REINFORCEMENT LBS.	EPOXY COATE STEEL REINFOR LBS.
138	0	32,964

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- ⑤ FOR POURING SEQUENCE AND CONSTRUCTION DETAILS, SEE STRUCTURES MEMORANDUM NO. 050.

NOTES:
1. CONTRACTOR TO VERIFY SUPPORT ELEVATIONS BEFORE INSTALLATION.



DESIGNED BY	<u>T.L.K.</u>	DATE	<u>6/2014</u>
DRAWN BY	<u>T.L.K.</u>	DATE	<u>6/2014</u>
SUPERVISED BY	<u>R.D.M.</u>	DATE	<u>6/2014</u>
CHECKED BY	<u>R.D.M.</u>	DATE	<u>6/2014</u>



SUPERSTRUCTURE
(SHEET 1 OF 2)
BARTLETT ROAD
OVER HARRINGTON CREEK
STA. 10+00.00 LOG MILE 0.070
SHELBY COUNTY
2014



Board of Mayor and Aldermen

6400 Stage Road
Bartlett, TN 38134

SCHEDULED

ORDINANCE (ID # 1330)

Meeting: 09/09/14 07:00 PM

Department: Engineering

Category: Amendment

Prepared By: Stefanie McGee

Initiator: Rick McClanahan

Sponsors:

DOC ID: 1330 A

Ordinance 14-08, an ordinance to amend Ordinance 98-15.

BE IT ORDAINED by the Board of Mayor and Aldermen of the City of Bartlett, Tennessee, as follows:

Section 1. In the North Basin ~~(as set forth on the attached plat)~~, the maximum overall density shall be two lots per acre as a general rule. *Note: See North Basin area map.*

Section 2. A looped water system and sewer outfall system will be designed and installed by the developers in the North Basin. *Note: Creditable Water Lines and Sewer Line map.*

Section 3. A dry sewer system is required to be ~~installed~~ *designed and paid for* by the developer at the developer's expense where septic tanks are being used. ~~(This does not apply to one-lot subdivisions.)~~ *The developer will complete the design and pay the in-lieu construction costs to the City of Bartlett with appropriate easements.*

Section 4. Amend the Residential Subdivision Contract, Water Extension Contract, and Sewer Extension Contract fee page as follows: ~~(See attached fee page.)~~ as adopted in latest approved yearly budget.

These new fees will apply to any development construction plans submitted ~~and accepted by the Planning Department prior to May 25, 1993~~ for subdivision contracts after the budget approval in the new budget year.

Section 5. All lots and dwelling units being served by the City of Bartlett sewer lagoon or waste water treatment plant will be included in the new sewer tap fee.

All lots and/or dwelling units being served by the Bartlett water system will be subject to the new water tap fees. ~~The existing sewer contract with Leader Enterprises shall remain in effect at the current sewer rates.~~

Section 6. The offsite water loop extension and sewer outfall costs will be determined and approved by the Bartlett City Engineer for bonding and calculations of credits if any are due. Sewer tap fees, water tap fees, and water plant expansion fee can only be applied as credit for appropriate system construction cost. If construction costs exceed the credit allowance, the developer will be required to absorb these expenses. Construction of work other than the loop water mains and sewer outfalls shown on the map attachment to Ordinance 93-15 will not be eligible for credits. Carryover of these credits will only be allowed for developments of the same company and are nontransferable or ~~assignable~~ *are directly assigned to the land being developed under the master plan.*

Section 7. Developer will pay at his expense for all water and sewer mains at the size determined by the City Engineer and pay the fees as outlined in ~~Section 4~~ *the subdivision contract*.

~~**Section 8.** Engineering and inspection fees will not be waived. No direct expenses incurred by the City of Bartlett will be waived.~~

~~**Section 9 8.** Commercial sewer rates will be at the rates established by Ordinance 92-2 and 92-17 or \$1,750.00 per acre or \$25 per front foot or as amended by the City's fiscal budget.~~

BE IT FURTHER ORDAINED that all Ordinances heretofore passed in conflict herewith are hereby repealed insofar as they are in conflict with this Ordinance.

BE IT FURTHER ORDAINED that this Ordinance take effect from and after its final passage, the public welfare requiring it.

First reading September 9, 2014

Second reading September 23, 2014

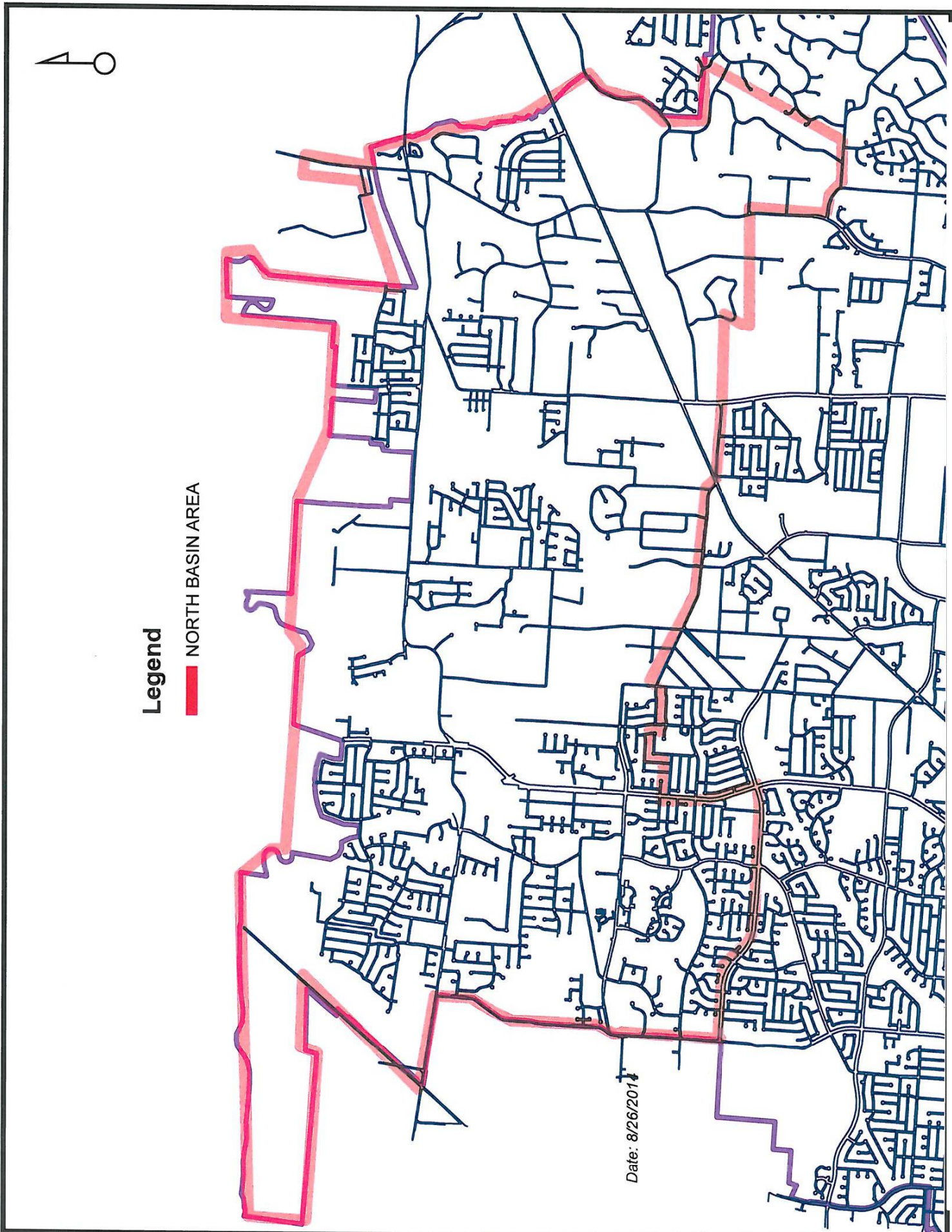
Third reading October 14, 2014

W.C. Pleasant, Register to the
Board of Mayor and Aldermen

A. Keith McDonald
Mayor

Stefanie McGee, City Clerk

RESULT:	APPROVED ON FIRST READING [UNANIMOUS]	Next:
	9/23/2014 7:00 PM	
MOVER:	Jack Young, Vice Mayor	
SECONDER:	David Parsons, Alderman	
AYES:	Pleasant, Elliott, Parsons, Young, Sedgwick	

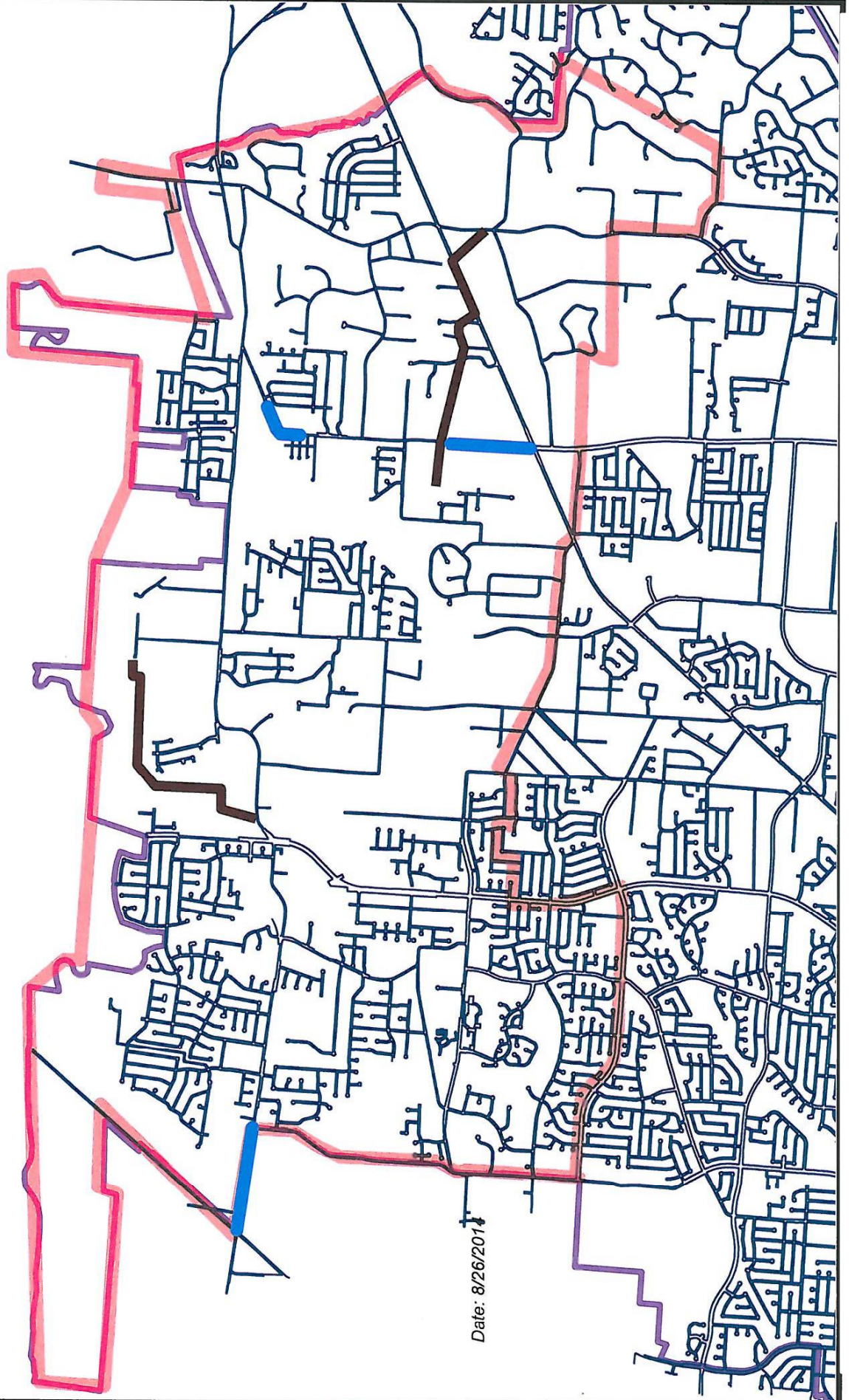


Attachment: SKMBT_28314082610480.pdf (1330 : Ordinance 14-08 amending Ord 98-15)



Legend

-  CREDITABLE WATER LINES
-  CREDITABLE SEWER LINES
-  NORTH BASIN AREA



Date: 8/26/2011