

GRAY SUMMIT, MISSOURI
HIGHWAY ATTACHMENT 6
EXCERPTS FROM SPECIAL PROVISIONS AND SPECIFICATIONS
27 PAGES

Job No. J6I2011
Route 44
Franklin County

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

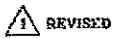
(Job Special Provisions shall prevail over General Special Provisions whenever in conflict therewith.)

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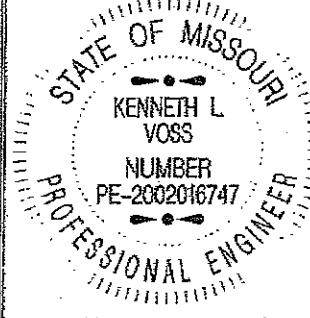
<p>STATE OF MISSOURI KENNETH L. VOSS NUMBER PE-2002016747 PROFESSIONAL ENGINEER</p> <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636
	CRAWFORD, MURPHY & TILLY, INC. [REDACTED] ST. LOUIS, MO 63102 Certificate of Authority: G00631 Consultant Phone: [REDACTED]
	If a seal is present on this sheet, JSP's have been electronically sealed and dated.
	JOB NUMBER: J6I2011 FRANKLIN COUNTY, MO DATE PREPARED: 06/08/2009
	ADDENDUM DATE: <i>Revision No. 1 (06/08/2009)</i>
Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: A - PP	

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2 ADDED

QQ Electronic Information For Bidder's Automation

 <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636
	If a seal is present on this sheet, JSP's have been electronically sealed and dated.
	JOB NUMBER: J6I2011 FRANKLIN COUNTY, MO DATE PREPARED: 6/19/2009
	ADDENDUM DATE: Revision No 2 (6/19/2009)
Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: QQ	

A. GENERAL - FEDERAL JSP-08-02

1.0 Description. The Federal Government is participating in the cost of construction of this project. All applicable Federal laws, and the regulations made pursuant to such laws, shall be observed by the contractor, and the work will be subject to the inspection of the appropriate Federal Agency in the same manner as provided in Sec 105.10 of the Missouri Standard Specifications for Highway Construction with all revisions applicable to this bid and contract.

1.1 This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations, and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at www.modot.mo.gov under "Business With MoDOT". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

1.2 The following documents are available on the Missouri Department of Transportation web page at www.modot.mo.gov under "Business With MoDOT" "Standards and Specifications". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to July 2008 Missouri Std. Plans
For Highway Construction

These supplemental bidding documents contain all current revisions to the bound printed versions and have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

B. WORK ZONE TRAFFIC MANAGEMENT PLAN

1.0 Description. Work zone traffic management shall be in accordance with applicable portions of Division 100 and Division 600 of the Standard Specifications, and specifically as follows.

2.0 Traffic Management Schedule.

2.1 Traffic management schedules shall be submitted to the engineer for review prior to the start of work and prior to any revisions to the traffic management schedule. The traffic management schedule shall include the proposed traffic control measures, hours traffic control will be in place, and work hours.

2.2 The contractor shall notify the engineer 48 hours prior to lane closures or shifting traffic onto detours.

2.3 The engineer shall be notified as soon as practical of any postponement due to weather, material or other circumstances.

2.4 In order to ensure minimal traffic interference, the contractor shall schedule lane closures for the absolute minimum amount of time required to complete the work. Lanes shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

2.5 **Traffic Congestion.** The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone.

2.6 **Traffic Delay.** The contractor shall be responsible for maintaining the existing traffic flow through the job site during construction. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, then the contractor shall review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from occurring again.

2.5.2 Traffic Safety.

2.5.2.1 Where traffic queues routinely extend to within 1000 feet (300 m) of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet (150 m) of the ROAD WORK AHEAD, or similar, sign on an undivided highway, the contractor shall extend the advance warning area, as approved by the engineer.

2.5.2.2 When a traffic queue extends to within 1000 feet (300 m) of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet (150 m) of the ROAD WORK AHEAD, or similar, sign on an undivided highway due to non-recurring congestion, the contractor shall deploy a means of providing advance warning of the traffic congestion, as approved by the engineer. The warning location shall be no less than 1000 feet (300 m) and no more than 0.5 mile (0.8 km) in advance of the end of the traffic queue on divided highways and no less than 500 feet (150 m) and no more than 0.5 mile (0.8 km) in advance of the end of the traffic queue on undivided highways.

3.0 Work Hour Restrictions.

3.1 There are five major holiday periods: Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. All lanes shall be scheduled to be open to traffic during these holiday periods, from 12:00 noon on the last working day preceding the holiday until 9:00 a.m. on the first working day subsequent to the holiday.

3.2 The contractor shall not perform any construction operation on the active lanes, including the hauling of material within the project limits, during restricted periods, the hours listed below, holiday periods or other special events such as sporting events and deer season as determined by the engineer.

3.3 The contractor shall be aware that traffic data indicates construction operations on the roadbed between the below listed hours will likely result in traffic queues greater than 15 minutes. Based on this data the contractors operations will be restricted accordingly unless it

can be successfully demonstrated that their operations can be performed without a 15 minute queue in traffic. It shall be the responsibility of the engineer to determine if the above work hours may be modified. Working hours for evenings, weekends and holidays will be determined by the engineer.

Westbound	
Day	Time
Monday – Thursday	3 PM – 7 PM
Friday	2 PM – 10 PM

Eastbound	
Day	Time
Monday – Friday	5 AM – 9 AM

3.4 Any work requiring a reduction in the number of through lanes of traffic from 2 lanes in each direction shall be completed during unrestricted hours.

4.0 Detours and Lane Closures.

4.1 The contractor shall provide changeable message signs notifying motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The changeable message sign shall be installed at a location as approved or directed by the engineer.

4.2 At least one lane of traffic in each direction on Interstate 44 shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic. Periods during which the contractor will be allowed to halt traffic will be designated by the engineer.

5.0 **Basis of Payment.** No direct payment will be made to the contractor to recover the cost of equipment, labor, materials or time required to fulfill the above provisions, unless specified elsewhere in the contract document.

C. SUPPLEMENTAL REVISIONS JSP-09-01B

Insert 109.15, subsequent section renumbered accordingly:

MEASUREMENT AND PAYMENT

109.15 Asphalt Cement Price Index. Adjustments will be made to the payments due the Contractor for any plant mix bituminous base, plant mix bituminous pavement, plant mix bituminous surface leveling, asphaltic concrete pavement and ultrathin bonded asphalt wearing surface that contains PG64-22, PG70-22 or PG76-22 when it has been determined that the monthly average price for the midpoint of the published prices of PG64-22 for St. Louis, Missouri area and Kansas City area has fluctuated from the monthly average price of the month the project was bid. The St. Louis, Missouri area and Kansas City area prices will be obtained from the Asphalt Weekly Monitor® published by Poten & Partners Inc. The monthly base price will be the price from the last published Asphalt Weekly Monitor® prior to MoDOT's monthly bid

opening. The monthly base price, established prior to the monthly bid opening, shall apply to payment estimates for the following month.

109.15.1 The adjusted contract unit price will be applied to the actual amount of asphalt binder used by the Contractor for all asphalt items. The adjustment will be applied to projects that have a quantity of asphalt wet ton mix pay items or converted square yard quantity over 1000 tons. For projects that are paid for with square yard pay items, the adjustments will be made for applicable tons calculated based upon the plan square yard quantity and thickness converted to tons excluding the 1:1 wedge. The percentage of virgin asphalt as shown in the job mix formula, in accordance with Sec 401, Sec 403 and Sec 413, will be the basis for adjustments for any asphalt mix type placed on the project during the monthly index period. The effective asphalt obtained from the use of Recycled Asphalt Pavement (RAP) and/or Recycled Asphalt Shingles (RAS) will not be eligible for adjustment. The base price index for PG64-22 will be applied to the asphalt mix for mixes using PG64-22, PG70-22 or PG76-22.

109.15.2. **Basis of Payment** To determine the adjustment for any material specified in this provision the following formula will be used.

$$A = (B \times C) \times (D - E)$$

Where:

- A = Adjustment for mix placed during monthly average index period
- B = Tons of Mix Placed during the monthly average index period
- C = % of virgin asphalt binder as listed in the job mix formula in use
- D = monthly average price at time mix placement
- E = monthly average price at time of bid

109.15.3. The engineer will make adjustment payments, as defined above, for the applicable work completed during each month except for projects on which the contractor is being charged liquidated damages, due to working beyond the project completion date, in accordance with Sec 108. In this case, the "D" value used for the price adjustment will be either the last "D" value prior to the date that liquidated damage assessment began or the current monthly "D" value, whichever is lower. If the contractor is being charged liquidated damages due to the contract being beyond the project completion date and the current months "D" value results in a deduction, then the current monthly "D" value will be used.

109.15.4. **Optional** This provision is optional. If the bidder wishes to be bound by this provision, the bidder shall execute the acceptance form in the Bid. Failure by the bidder to execute the acceptance form will be interpreted to mean election to not participate in the Asphalt Cement Price Index. If the Asphalt Cement Price Index is accepted, asphalt binder for the project will not be eligible for a material allowance as described in Sec 108.

D. AMERICAN RECOVERY AND REINVESTMENT ACT PROVISIONS

1.0 **Description.** American Recovery and Reinvestment Act (ARRA) Funds are being used in the cost of construction of this project. ARRA projects require specific employment reporting and are required to include the provisions in this provision.

2.0 **Employment Reporting.** Contractors shall submit to the engineer on or before the 5th of every month Form FHWA-1589, which can be found on MoDOT's web page at www.modot.mo.gov under "Business with MoDOT" "Contractor Forms". The information on the

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form shall be for the previous months data. Failure to submit the form on or before the 5th of the month will result in payment for the project being withheld until form FHWA-1589 is accurately submitted.

3.0 Required Contract Provision to Implement ARRA Section 902.

3.1 Section 902 of the American Recovery and Reinvestment Act (ARRA) of 2009 requires that each contract awarded using ARRA funds must include a provision that provides the U.S. Comptroller General and his representatives with the authority to:

(1) to examine any records of the contractor or any of its subcontractors, or any State or local agency administering such contract, that directly pertain to, and involve transactions relating to, the contract or subcontract; and

(2) to interview any officer or employee of the contractor or any of its subcontractors, or of any State or local government agency administering the contract, regarding such transactions.”

3.2 Accordingly, the Comptroller General and his representatives shall have the authority and rights as provided under Section 902 of the ARRA with respect to this contract, which is funded with funds made available under the ARRA. Section 902 further states that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of the Comptroller General.

4.0 Notification of the Authority of the Inspector General. Section 1515(a) of the ARRA provides authority for any representatives of the Inspector General to examine any records or interview any employee or officers working on this contract. The contractor is advised that representatives of the inspector general have the authority to examine any record and interview any employee or officer of the contractor, its subcontractors or other firms working on this contract. Section 1515(b) further provides that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of an inspector general.

E. PROJECT CONTACT FOR CONTRACTOR/BIDDER QUESTIONS

1.0 All questions concerning this project during the bidding process shall be forwarded to the project contact listed below.

Tim Schroeder, P.E.
Transportation Project Manager
Missouri Department of Transportation
District 6 – St. Louis
1590 Woodlake Drive
Chesterfield, MO 63017

Fax Number 314-340-4172
e-mail Timothy.Schroeder@modot.mo.gov

2.0 In order to properly document all bidder questions and distribute all bidder questions to the appropriate staff members for a timely response, all bidder questions shall be sent to the project contact in the form of a letter, email, or fax. Telephone inquiries will not be accepted.

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3.0 All questions concerning the bid document preparation can be directed to the Central Office
- Design at (573) 751-2876.

F. UTILITIES JSP-93-26C

1.0 For informational purposes only, the following is a list of names, addresses, and telephone numbers of the known utility companies in the area of the construction work for this improvement:

<u>Utility Name</u>	<u>Known Required Adjustment</u>
Mr. Gary Marquart AmerenUE 500 East Independence Drive Union, MO 63084 Telephone: 636-583-7154 GMarquart@ameren.com	No
Mr. John Senn AT&T Company 14780 Manchester Rd Ballwin, MO 630011 Telephone: 636-256-1528 Js5249@att.com	No
Mr. Kirk Thoeke LightCore, a Century Tel Company 1151 CenturyTel Drive Bldg A Wentzville MO 63385 Telephone: 636-887-4752 kirk.thoeke@lightcore.net	Yes
Mr. Brad Paul Missouri Natural Gas Company 1111 S. Washington Farmington, MO 63340 Telephone: 573-756-6607 bpaul@lacledegas.com	No
Mr. Josiah Holst City Engineer City of Pacific 300 Hoven Drive Pacific, MO 63069 Telephone: 636-271-0500 ext. 216 jholst@pacificmissouri.com	No

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Mr. Keith Faucett
ConocoPhillips Pipeline Company
2029 Fairfax Trafficway
Kansas City, KS 66115
Telephone: [REDACTED]
keith.e.faucett [REDACTED] No

Mr. Steve Gerrein
Charter Communications
941 Charter Commons
Town & Country, Missouri 63017
Telephone: [REDACTED]
[REDACTED] No

Mr. Brad McGoen
Sho-Me Technologies
P.O. Box D
301 W. Jackson
Marshfield, MO 65706
[REDACTED] No

Mr. Bob Hathcock
PWSD #3 of Franklin County
150 Old Highway 100
Villa Ridge, Mo 63089
[REDACTED] No

Ms. Marsha Kidd
Level 3 Communications
100 S. Cincinnati Ave, TC 11-N
Tulsa, OK 74103
[REDACTED] No

Mr. Brian George
Sprint
101 Holmes
Kansas City, MO 64106
[REDACTED] No

Mr. Carl Atteberry
McLeod USA/Paetec
102 E. Shafer St.
Forsyth, IL 62521
[REDACTED] No

- 1.1 The existence and approximate location of utility facilities known to exist, as shown on the traffic control plans, are based upon the best information available to the Commission at this time. This information is provided by the Commission "as-is" and the Commission expressly disclaims any representation or warranty as to the completeness, accuracy, or suitability of the information for any use. Reliance upon this information is done at the risk and peril of the user, and the Commission shall not be liable for any damages that may arise from any error in the information. It is, therefore, the responsibility of the contractor to verify the above listing information indicating existence, location and status of any facility. Such verification includes direct contact with the listed utilities.
- 1.2 The contractor is advised that LightCore has fiber optic facilities in the entire project limits, as shown on the plans. The contractor's attention is brought to the close proximity of some of the proposed drainage work (storm structure 20-7B to 20-8B) to LightCore's fiber optic facility. The contractor shall contact LightCore three weeks in advance of performing specific work in proximity to their facility and coordinate with them regarding any adjustment of their facility. No direct payment will be made to the contractor to recover any cost of working in proximity of these facilities. The Commission cannot warrant the information above that was provided by LightCore.
- 1.3 The contractor is advised that ConocoPhillips has pipeline facilities located within the project limits, as shown on the traffic control plans sheet 15 of 17. The Contractor shall directly contact ConocoPhillips Pipeline to verify the location of existing facilities prior to grading median over the pipeline. No direct payment will be made to the contractor to recover any cost of working in proximity of these facilities. The Commission cannot warrant the information above that was provided by ConocoPhillips Pipeline.
- 1.4 The contractor agrees that any effects of the presence of the utilities, their relocation, contractor's coordination of work with the utilities and any delay in utility relocation shall not be compensable as a suspension of work, extra work, a change in the work, as a differing site condition or otherwise including but, without limitation, delay, impact, incidental or consequential damages. The contractor's sole remedy for the effects of the presence of utilities, delay in their relocation or any other effects shall be an excusable delay as provided in Section 105.7.3. The contractor waives, for itself, its subcontractors and suppliers the compensability of the presence of utilities, delay in their relocation and any cost to the contractor, its subcontractors and suppliers in any claim or action arising out of or in relation to the work under the contract.
- 1.5 The contractor shall be solely responsible and liable for incidental and consequential damage to any utility facilities or interruption of the service caused by it or its subcontractors operation. The contractor shall hold and save harmless the Commission from damages to any utility facilities interruption of service by it or its subcontractor's operation.
- 2.0 It shall be noted by the contractor that MoDOT is a member of Missouri One Call (800 Dig Rite). Some work on this project may be in the vicinity of MoDOT utility facilities, which includes but is not limited to traffic signal cables, highway lighting circuits, ITS cables, cathodic protection cables, etc. Prior to beginning work, the contractor shall request locates from Missouri One Call. The contractor shall also complete the Notice of Intent to Perform Work form located at the Missouri Department of Transportation website:

<http://www.modot.mo.gov/asp/intentToWork.shtml>


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The contractor shall submit the form over the web (preferred method) or by fax to the numbers on the printed form. The notice must be submitted a minimum of 2 and a maximum of 10 working days prior to excavation just as Missouri One Call requires.

G. EMERGENCY PROVISIONS AND INCIDENT MANAGEMENT

1.0 The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from the police or other emergency agencies for incident management. In case of traffic accidents or the need for police to direct or restore traffic flow through the job site, the contractor shall notify police or other emergency agencies immediately as needed. The area engineer's office shall also be notified when the contractor requests emergency assistance.

2.0 In addition to the 911 emergency telephone number for ambulance, fire or police services, the following agencies may also be notified for accident or emergency situation within the project limits.

Missouri Highway Patrol		
Franklin County Sheriff		
Franklin County Emergency		
Fire: (636) 583-2560		
City of Pacific Police Dept.	300 North Hoven Street	
City of Pacific Fire Dept.	910 West Osage Street	
Boles Fire Protection District		
Meramec Ambulance District		

2.1 This list is not all inclusive. Notification of the need for wrecker or tow truck services will remain the responsibility of the appropriate police agency.

2.2 The contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.

3.0 No direct payment will be made to the contractor to recover the cost of the communication equipment, labor, materials or time required to fulfill the above provisions.

H. ALTERNATES FOR PAVEMENTS

1.0 **Description.** This work shall consist of pavement composed of either Portland cement concrete or asphaltic concrete, constructed in accordance with the standard specifications and in conformity with the lines, grades, thickness and typical cross sections shown on the plans or established by the engineer.

2.0 **Alternates.** To exercise this option, separate pay items, descriptions and quantities are included in the itemized proposal for each of the two alternates. The bidder shall bid only one of

the two alternates and leave blank in the contract unit price column for any pay item listed for the other alternate.

2.1 A sum of \$1,406,200 will be added by the Commission to the total bid using the asphalt alternate for bid comparison purposes to factor in life cycle cost analysis of the roadway. The additional amount added will not represent any additional payment to be made to the successful bidder and is used only for determining the low bid.

2.2 The quantities shown for each alternate reflect the total square yards for concrete pavement surface and overlay and the total square yards for asphalt pavement surface and overlay designated for alternate pavement types as computed and shown on the plans. No additional payment will be made for asphaltic concrete mix quantities to construct the required 1:1 slope along the edge of the pavement.

2.3 The plans were designed for the concrete pavement and overlay alternate.

2.4 Since the thickness of the asphalt overlay is 4" greater than the thickness of the concrete overlay, additional design shall be provided by the Contractor to address all issues associated with the change in grades. The following is a list of known concerns that shall be designed by the Contractor and approved by MoDOT prior to construction. This list may or may not include all items to be designed by the Contractor.

- a. Pavement tie-ins at I-44 Bridges over Missouri Pacific Railroad (Bridge A5243 and Bridge A5258)
- b. Pavement tie-ins at Ramps and Auxiliary lanes
- c. Tie-in at Existing Concrete Median and Barrier at Route 100 West (Washington) – STA 1518+00. The additional length of transition will require additional drainage design and removal and replacement of additional median barrier to maintain required height.
- d. Tie-in at East End of Project – STA 1727+77
- e. Sign Modifications / Adjustments if impacted by slope work and sign not shielded
- f. Guardrail Needed due to additional slope work
- g. Temporary Pavement Markings (type and lengths)
- h. Drainage Features
- i. Earthwork
- j. Remove and reinstall all emergency reference markers
- k. Redesign of temporary pavement transition in the median on the west end tie-in
- l. Use of marking tape in lieu of paint for striping on final pavement surface

2.4.1 The design of any changes to the plans shall be sealed by a Registered Professional Engineer in the State of Missouri. The plans shall be submitted to MoDOT prior to the Notice to Proceed. The plans will be reviewed by MoDOT to ensure their compliance with MoDOT's current standards and specifications.

2.5 Milling into the existing concrete up to 2.5" at spot locations (as determined and approved by the Engineer) is acceptable.

2.6 Taper rates for transitions on I-44 shall be 1" in 100'. Taper rates for transitions on ramps shall be 1" in 50'.

2.7 Minimum clearance at all bridges shall be 16.0'.

2.8 Refer to Job Special Provision BB for availability of pavement core information.

3.0 **Method of Measurement.** The quantities for concrete pavement will be measured in accordance with Section 502.14. The quantities for asphaltic concrete pavement will be measured in accordance with Section 403.22. The quantities for the concrete overlay will be measured in accordance with Job Special Provision N. The quantities for the asphalt overlay will be measured in accordance with Job Special Provision I.

4.0 **Basis of Payment.** The accepted quantity of the chosen alternate and other associated items will be paid for at the unit price for each of the appropriate pay items included in the contract.

4.1 There will be no adjustment of the earthwork quantities due to adjusting the roadway subgrade or slopes for alternate pavements.

4.2 There shall be no additional payment provided to the Contractor for design work required if the asphalt pavement alternate is selected.

4.3 There shall be no additional payment provided to the Contractor for any additional work or associated items required that are not included in the original contract pay items if the asphalt pavement alternate is selected.

I. HOT-MIX ASPHALT OVERLAY ON RUBBLIZED CONCRETE JSP-02-02

1.0 **Description.**

1.1 This work shall consist of installing geocomposite or pipe-aggregate pavement edge drains, rubblizing and compacting the existing reinforced or non-reinforced Portland cement concrete (PCC) pavement to create a base, and placing a hot-mix asphalt (HMA) overlay as shown on the plans or directed by the engineer.

1.2 Dynamic cone penetrometer test results on the subgrade material beneath the pavement will be available from MoDOT's Plan Room through services by INDOX. This information will be considered as non-contractual subsurface information, and the provisions under Sec 102.5.1 shall apply.

2.0 **Material.** Filler aggregate shall be Type 1 or 5 aggregate and compacted in all applications in accordance with Sec 304.3.4.2. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

Item	Section
Type 1 or 5 Aggregate Base	1007
Geocomposite Pavement Edge Drain	1012

3.0 **Equipment.**

3.1 Rubblizing shall be accomplished with a multi-head breaker, a resonant breaker or other suitable equipment that breaks the PCC pavement into the required particle sizes without excessively displacing the rubblized material into the base or subgrade. The rubblization equipment shall be a self-contained, self-propelled unit. The unit shall provide a positive means

of protecting vehicles in the adjacent lane from flying debris during rubblization operations. Other methods and equipment may be used when approved by the engineer.

3.2 Vibratory rollers shall weigh (have a mass of) no less than 10 tons (9 Mg). A Z-pattern steel grid roller shall be capable of providing additional particle breakdown by reducing flat and elongated material into more uniform pieces of material.

4.0 Construction Requirements.

4.1 Preparation for Rubblization.

4.1.1 Partial and full depth asphalt patches shall be removed and replaced with filler aggregate.

4.1.2 Full-depth relief joints shall be cut and load transfer devices shall be severed at all termini where the rubblized pavement abuts concrete pavement that is to remain intact.

4.1.3 Pavement edge drains shall be installed in accordance with Sec 605 and shall be functional, at a minimum, two weeks prior to rubblizing the existing PCC pavement.

4.2 Rubblization Requirements. Uniform breaking of the existing PCC pavement shall be maintained as much as possible throughout the project limits. The existing PCC pavement shall be broken into pieces meeting the following requirements:

Location Within Pavement	Sieve Size	Percent Passing
Full Depth	18 inches (450 mm)	100
Full Depth	12 inches (225 mm)	95
At the Surface	3 inches (75 mm)	95
Above Reinforcing Steel or Upper One-Half of Pavement	6 inches (150 mm)	75
Below Reinforcing Steel or Lower One-Half of Pavement	9 inches (225 mm)	75

4.2.1 Conditions, such as subgrade stability, may warrant rubblized particle sizes to vary from the above requirements. Such variance in particle sizes will be allowed as approved by the engineer.

4.2.2 Reinforcement steel shall be debonded from the rubblized PCC pavement.

4.2.3 When the roadway must be overlaid one lane at a time, the first lane shall be rubblized at minimum 6 inches beyond the centerline or 6 inches beyond the extent of the first HMA lift, whichever is greater.

4.2.4 Rubblizing equipment shall not be used within 2 feet (600 mm) of an existing joint to a bridge approach slab. Equipment suitable for small areas in these restricted areas shall be used adjacent to the approach slabs to prevent damage to the sleeper pads at these locations.

4.2.5 The contractor shall not damage any underground utilities, drainage structures, adjacent pavement not planned to be rubblized, the aggregate base layer or any other structures. Repair or replacement shall be as approved by the engineer and shall be at the contractor' expense.

4.2.6 Large unstable areas or areas that cannot be adequately rubblized to the specified particle size shall be removed and replaced with filler aggregate as directed by the engineer. Rubblized pavement dislodged by construction traffic shall be repaired with filler aggregate and compacted prior to the paving operation.

4.2.7 The contractor's rubblization operation shall comply with federal, state and local environmental laws including those restricting particulate matter dispersion to the ambient air beyond the project limits.

4.3 Acceptance of Rubblization.

4.3.1 At the start of the rubblization operation, a 300 foot test section at a location designated by the engineer shall be rubblized. The contractor shall rubblize the test section using varying energy and striking patterns as deemed necessary by the contractor to successfully achieve a rubblized pavement in accordance with Section 4.2. The test section shall also be used to establish the rolling pattern to achieve compaction in accordance with Section 4.4. The engineer will select a 4 x 4 foot area in the test strip for excavation and visual evaluation. The top half shall be manually removed and the bottom half below the steel shall be manually or mechanically removed to verify conformance with Section 4.2. The extent of rubblization of the test section shall be used as a guide for rubblizing the remainder of the pavement.

4.3.2 In addition, one test hole per 0.5 lane-mile shall be excavated and inspected, except when waived by the engineer. The engineer may require additional test sections any time during the course of the work when rubblization is in question.

4.3.3 Test holes shall be backfilled and compacted with filler aggregate.

4.4 Rolling of Rubblized Pavement. At minimum, two passes with a vibratory roller, with a pass being defined as down and back on the same path, shall be made over the rubblized pavement. The roller shall be in the vibratory mode and at a speed not to exceed 6 feet/second. In addition, when a multi-head breaker is used, a minimum of two passes shall be made first with a Z-pattern steel grid roller. A rolling pattern shall be used that will ensure that the entire area of the rubblized pavement is well seated and is thoroughly and uniformly compacted. The rolling pattern shall not result in rutting, pumping or de-densification of the rubblized material. Rolling shall be done in such a manner as to prevent the outside edges of the pavement from shoving.

4.4.1 Reinforcement steel projecting above the rubblized surface shall be cut off below the surface and removed prior to compaction. All loose bituminous material, joint filler material, expansion material or other similar items shall be removed prior to compaction.

4.4.2 Water may be used to aid the compaction effort.

4.4.3 The rolling pattern shall be established when conducting the initial test section.

4.5 Finished Surface of Rubblized Pavement. The finished surface, after rolling, shall be a relatively level grade and be to the satisfaction of the engineer. Rubblized pieces projecting 2 inches above the surface shall be removed and replaced with filler aggregate. The contractor shall not trim the rubblized pavement or otherwise attempt to grade the rubblized pavement to improve grade lines. Cross-slope corrections shall be made with the first HMA overlay lift.

4.6 Opening to Traffic. On dual lane facilities, rubblized pavement shall not be opened to traffic until the entire HMA overlay as required by the plans is in place, unless stated otherwise. On two lane facilities, rubblized pavement shall not be opened to traffic until at least 4 inches of compacted HMA mix is in place, unless stated otherwise. The engineer may increase the required minimum thickness of compacted HMA in place as deemed necessary to handle traffic. Rubblized crossover or access points may be opened to traffic for 24 hours without any HMA overlay in place. Crossovers and access points shall be maintained in the same compacted state as the other areas until the HMA overlay is in place. Construction traffic shall be limited to delivery of material directly ahead of the paver.

4.7 Field Established Profile. The contractor shall establish the roadway profile prior to the construction of the median and the overlay. The profile shall be developed to provide a minimum thickness of 12" of hot mix asphalt overlay. The profile shall be submitted to the Resident Engineer and include edge of pavement and centerline elevations at 50 foot intervals. The engineer will determine the final profile within 7 calendar days of receipt. The engineer may adjust the final profile as needed. The tons of HMA mix required will be determined by the engineer from the set or adjusted profile. This quantity will be the field established plan quantity.

4.8 Construction of the Hot-Mix Asphalt Overlay.

4.8.1 Placement of the first HMA overlay lift shall follow the rubblizing and rolling operations as closely as practicable, and in no case shall the rubblized pavement remain exposed for more than 48 hours unless approved otherwise by the engineer. In the event of rain, the engineer may waive this time limitation to allow sufficient time for the rubblized pavement to dry to the satisfaction of the engineer. If this 48-hour requirement is not met, rubblizing operations shall be suspended until all rubblized pavement has been covered.

4.8.2 HMA types and thicknesses shall be placed as outlined on the plan typical sections.

4.8.3 A final pass with a vibratory smooth drum roller shall be made immediately prior to paving the rubblized pavement. The HMA overlay shall be placed in accordance with Sec 403 and as shown on the plans or as directed by the engineer. Profilograph requirements are in effect per Section 403.

5.0 Method of Measurement.

5.1 Rubblizing the existing PCC pavement will be measured by area in square yards.

5.2 Measurement for furnishing and placing HMA mixes for the HMA overlay will be made to the nearest 0.1 ton in accordance with Sec 403 and will be based on the field established plan quantity, except for authorized changes during construction or where appreciable errors are found in the field established plan quantity. The revision or correction will be computed and added to or deducted from the field established plan quantity.

5.3 Filler aggregate for partial or full depth asphalt repair removals and for large unstable areas identified in the plans or by the Engineer after the existing asphalt overlay has been removed will be measured to the nearest 0.1 ton.

6.0 Basis of Payment.

6.1 Rubblizing existing PCC pavement will be paid for at the contract unit price per square yard. Payment will be considered full compensation for cutting relief joints at PCC pavement termini, rubblizing the pavement; excavating and backfilling test holes, dust suppression, removing and backfilling partial and full depth asphalt patches, repair or replacement of underground utilities and drainage structures damaged during rubblization, removing exposed steel, rolling the rubblized surface, furnishing and adding water, correcting out-of-tolerance surface elevations, furnishing and compacting filler aggregate for contractor-induced pavement failures, maintaining the stabilized condition of the rubblized pavement until overlaid, and all labor, equipment and material to complete the described work.

6.2 Payment for contractor staking will be in accordance with Sec 627.

6.3 The HMA mixes will be paid for at the unit price of Pay Item No. 403-99.10, 12 inches, Asphaltic Concrete Pavement SP 125 BSM, per ton.

6.4 Filler aggregate will be paid at the contract unit price per ton.

J. STOCKPILING OF COLDMILLED MATERIALS

1.0 Description. All coldmilled material from the project shall be used as shown on the typical sections and traffic control plans. Any additional coldmilled material not used on the project shall become the property of the Contractor.

2.0 Construction Requirements. The following shall be considered the minimum requirements for performing this work within the project limits.

2.1 Coldmilled material to be stockpiled shall be stockpiled at locations approved by the Engineer.

2.2 The contractor shall submit to the Engineer for approval in writing prior to the pre-construction meeting, the best management practices (BMP's) to be used to protect the environment, including the method of disposal of the residue whether on right of way or off-site.

2.3 BMP's shall be installed to keep sediment from entering drainage structures, from entering any waterways and from leaving the right of way.

3.0 Basis of Payment. No direct payment will be made to the contractor to fulfill the above provision.

K. SLURRY AND RESIDUE PRODUCED DURING SURFACE TREATMENT

1.0 Description. This work covers the requirements for controlling residue or slurry produced by milling, grinding, planing, grooving or other methods of surface treatments on new or existing PCCP in addition to Section 622.

2.0 Construction Requirements. The following shall be considered the minimum requirements for performing this work within the project limits.

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2.1 The contractor shall submit to the Engineer for approval in writing prior to the pre-construction meeting, the best management practices (BMP's) to be used to protect the environment, including the method of disposal of the residue whether on right of way or off-site.

2.2 Prior to starting work, slurry or residue "no discharge zones" will be identified by the Engineer with respect to the contractor's approved BMP and residue disposal plan.

2.3 Operations may be suspended by the Engineer during periods of rainfall or during freezing temperatures.

2.4 When slurry is dispersed on the right of way, BMP's shall be installed to keep slurry residue from entering drainage structures, from entering any waterways and from leaving the right of way.

3.0 **Basis of Payment.** No direct payment for slurry or residue control requirements for BMP's will be made. Compliance with this specification along with the cost of all materials, labor and equipment necessary for the surface treatment work shall be included in and completely covered by the unit price bid for each of the items of work for surface treatment included in contract.

L. DISPOSAL OF EXCESS CONCRETE MATERIAL

1.0 **Description.** Removal of the existing pavement in specified areas will create an excess of material. The contractor shall be responsible for removing and disposing of all excess material from the project limits.

2.0 **Basis of Payment.** No direct payment will be made for any labor, equipment, or materials necessary to remove and dispose of all excess material from the project limits.

M. LINEAR GRADING ROCK CUTS

1.0 **Description.** This work covers the removal of debris and/or excavation in rock or other material at existing rock cut locations to the lines and grades shown in the contract plans within reasonable tolerances. The contractor shall be responsible for removing and disposing of the debris and excavated material from the project limits.

2.0 **Construction Requirements.** The area between the rock cut face and the edge of shoulder shall be brought to the required grade and cross section within reasonable tolerances by backsloping, ditching, removing stone and boulders, or any other work necessary, including drifting and hauling of any removed material. A reasonable tolerance in grade will be defined as a final grade that is uniform in appearance, free of sharp breaks or humps, and within 3 inches of plan grade. All ditches shall be cut to grades that will properly drain. This may require grading beyond the limits of the rock cut.

3.0 **Method of Measurement.** Measurement of Linear Grading Rock Cuts will be made to the nearest 1/10 station.

4.0 Basis of Payment. The accepted quantity of linear grading rock cuts will be paid for at the contract unit price for Pay Item Number 207.99.09, Linear Grading Rock Cuts, per station. The contract unit price shall be considered as full compensation for all labor, equipment, materials or other construction involved to complete the described work.

N. PORTLAND CEMENT CONCRETE UNBONDED OVERLAY

Delete Sec 506.20 through Sec 506.20.5.5 and substitute the following:

1.0 Description. This work shall consist of applying a debonding material and constructing a Portland cement concrete unbonded overlay in accordance with the details and locations shown on the plans. Work shall also include minor surface pavement repair, joint filling, interlayer placement and other associated operations.

1.1 The concrete unbonded overlay shall be placed on a geotextile interlayer.

1.2 All procedures, specifications and material for the concrete unbonded overlay shall be in accordance with Section 502, including QA/QC and PWL provisions for non-reinforced concrete pavement, except the strength pay factor will account for 100 percent of the total pay factor. The pay factor for thickness will not apply. Profilograph requirements are in effect per Section 502.

2.0 Material. All material shall be in accordance with Division 1000, Material Details, unless specified otherwise.

2.1 Geotextile Interlayer. The geotextile interlayer shall have the following properties:

Property	Requirement
Fabric Type	Non-woven geotextile
Mass per unit area	≥ 13.3 oz/sq.yd. ≤ 16.2 oz/sq.yd.
Thickness under load (pressure)	0.29 psi: ≥ 0.12 in. 2.9 psi: ≥ 0.10 in. 29 psi: ≥ 0.04 in.
Tensile Strength	≥ 685 lb/ft
Maximum elongation	≥ 130%
Water permeability in normal direction under load (pressure)	≥ 3.3 10 ⁻⁴ ft/s [under pressure of 2.9 psi]
Water permeability in the plane direction of the fabric (transmittivity) under load (pressure)	≥ 1.6 10 ⁻³ ft/s [under pressure of 2.9 psi] ≥ 6.6 10 ⁻⁴ ft/s [under pressure of 29 psi]
Weather resistance	Resistance ≥ 60% (per EN 12224)
Alkali resistance	≥ 96% Polypropylene/Polyethylene

2.2 Patching Material. Patching material for use in repair of surface defects prior to the overlay shall consist of bituminous material, cementitious material or other equivalent material meeting the approval of the engineer.

2.3 Dowel Bars. Dowel bars shall be in accordance with Sec 1057.1 and of the size shown in the Standard Plans for an 8" pavement.

3.0 Construction Requirements.

3.1 Handling Traffic. Preliminary work, including joint sealing and patching may be done under traffic as permitted elsewhere in the contract. Prior to placement of the interlayer, the traffic shall be diverted as shown on the plans, and the remaining operations shall commence.

3.2 Surface Preparation.

3.2.1 All existing pavement cracks and joints shall be sealed or re-sealed where required, prior to placement of the interlayer, to keep overlay material and incompressibles from penetrating unsealed joints. All holes greater than 2 inches wide and one inch deep in the surface of the traffic lanes, excluding shoulders, shall be patched by filling with patching material. The patching material shall be compacted to a flat, tight surface.

3.2.2 In order to properly locate the saw cuts in the overlay, the location of all transverse expansion (Type E) joints and longitudinal lane joints in the existing pavement shall be identified by a reliable method. The contractor shall receive prior approval from the engineer for the procedure to be used to mark and relocate existing joints.

3.3 Interlayer.

3.3.1 When a geotextile interlayer is placed, it shall meet the following conditions:

(a) **Installation.** Fabric shall be tight without excess wrinkles and folds.

(b) **Pinning.** Fabric shall be pinned to underlying layer with bolts/nails punched through 2- to 2.75-in. galvanized washers/disc every 6 ft.

(c) **Overlapping.** Where it occurs, fabric shall overlap by 8 ± 2 in.

(d) **Condition.** Fabric shall be damp, but not saturated, prior to concrete placement.

(e) **Location.** Fabric shall extend throughout the travelway.

(f) **Traffic.** Construction traffic on the geotextile shall be kept at a minimum prior to placement of the overlay.

3.3.2 Before the concrete unbonded overlay is placed, the interlayer surface shall be free of loose material.

3.4 Joints.

3.4.1 Tie bars and dowel bars shall be placed in accordance with the required specifications and standard plans for an 8" non-reinforced concrete pavement. Tie bars will be required for the centerline. Saw cut shall be made to the depth of one third the pavement based on the actual thickness placed.

3.4.2 Dowel bars shall be installed the full width of the unbonded overlay and the baskets shall be firmly anchored to the existing surface.

3.4.3 New transverse joints will not be required to match existing transverse joints, except new transverse expansion joints shall be cut or placed to match the underlying expansion joint configuration.

3.4.4 The expansion joint shall be precut in the plastic concrete to allow for any slab movement until sawing can begin. As soon as sawing may be possible, the contractor shall saw two full-depth cuts on each side of the precut joint following the edges of the underlying expansion joint, as shown on the details. The concrete between the saw cuts shall be removed and disposed of by the contractor at the contractor's expense at a location meeting the approval of the engineer. The expansion joint shall be filled and sealed in accordance with Sec. 502.5.1.

3.5 Placement. Provided no loose foreign material is tracked onto the surface, trucks used for transporting concrete may drive on the pavement being overlaid and concrete may be deposited directly in front of the concrete spreader.

4.0 Method of Measurement.

4.1 Measurement for furnishing unbonded overlay concrete will be to the nearest 0.1 cubic yard.

4.1.1 Field Established Profile. The contractor shall establish the roadway profile prior to the overlay. The profile shall be submitted to the Resident Engineer and include edge of pavement and centerline elevations at 50 foot intervals. The engineer will determine the final profile within 7 calendar days of receipt. The engineer may adjust the final profile as needed. The cubic yards of concrete required will be determined by the engineer from this profile. This quantity will be the field established plan quantity.

4.2 Measurement for placing unbonded overlay concrete will be computed to the nearest 0.1 square yard. Final measurement of the completed pavement will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

4.3 Measurement for the interlayer will be made to the nearest square yard.

5.0 Basis of Payment.

5.1 When there is a direct payment for volume of unbonded concrete listed in the contract, the accepted volume of Portland cement concrete for the unbonded overlay will be paid for at the contract unit price for furnishing unbonded concrete overlay, per cubic yard. Further payment for the placement of the Portland cement concrete unbonded overlay will be paid for at the contract unit price for placing unbonded overlay per square yard. No direct payment will be made for furnishing labor, equipment, surface preparation, dowels, reinforcement and other materials to place, finish, texture and cure the overlay including sawing and sealing the joints, in accordance with the plans and specifications.

5.2 Any adjustments in payment as a result of the profilograph index or pavement deficiency of the unbonded overlay will be made to the contract unit price for furnishing unbonded overlay

concrete and placing unbonded overlay, each, for the segments involved. Adjustment in payment for QC/QA concrete strength pay factors will be made to the contract unit price for placing unbonded overlay concrete and furnishing unbonded overlay concrete, each, for the segments involved. For all adjustments, the furnishing unbonded overlay concrete per cubic yard price will be adjusted to a square yard price based on the plan overlay thickness.

5.3 Payment for full depth and partial depth repairs shall be in accordance with Sec 613.

5.4 Payment for geotextile fabric will be paid for at the contract unit price, per square yard, Pay Item No. 506.99.05 Geotextile Bondbreaker.

5.5 Payment for contractor staking will be in accordance with Sec 105.

O. VERIFICATION OF FIELD INFORMATION

1.0 It shall be the contractor's responsibility to accurately verify the location of any and all guardrail, rock cuts, signs, structures, etc. that are within the project limits. Due to the timing of this project, complete field surveys were not conducted. Therefore, it is recommended that the contractor field verify all information in the contract plans prior to removals, ordering any materials or constructing any improvements. No compensation will be made for any expenses directly or indirectly incurred, resulting from the contractor's failure to accurately verify the location of any and all guardrail, rock cuts, signs, structures, etc. within the project limits.

P. CONTRACTOR RETAINED GUARDRAIL JSP-04-11

1.0 **Description.** All guardrail removed from this project shall become the property of the Contractor and shall be disposed of in accordance with Sec 202.

2.0 **Basis of Payment.** All costs incurred for complying with this provision shall be considered completely covered by the contract unit price for Item No. 202-20.10, Removal of Improvements.

Q. GRADING AROUND EMERGENCY REFERENCE MARKERS AND SIGNS

1.0 **Description.** This work shall consist of grading around existing signs and emergency reference markers in addition to removing and reinstalling impacted emergency reference markers.

2.0 **Construction Requirements.**

2.1 Unless noted for removal or otherwise directed by the engineer all signs shall be left undisturbed and the contractor will be required to grade around the signs. The grading shall be performed without abrupt changes in grade to leave an aesthetically pleasing appearance.

2.2 The plans include the removal and reinstallation of emergency reference markers impacted by slope improvements at proposed guardrail locations in addition to the markers impacted by improvements to superelevated curves. The impacted emergency reference markers shall be removed and reinstalled in new anchor sleeves and foundations in accordance with standard

plan 903.03. The contractor will be required to grade around the remaining emergency reference markers unless otherwise directed by the engineer.

2.3 Any signs, emergency reference markers, posts, foundations, etc. damaged by the contractor's operation shall be replaced as directed by the engineer at the contractor's expense.

3.0 **Basis of Payment.** No direct payment will be made to the contractor for grading around existing signs and emergency reference markers. Emergency reference markers which are removed and reinstalled will be paid for by Pay Item No. 903-50.13, Emergency Reference Marker, per each.

R. TEMPORARY TRAFFIC BARRIER AND IMPACT ATTENUATORS

1.0 **Description.** Sections 612 and 617 of the Missouri Standard Specification and Standard Plans 617.20 and 612.20 are in effect for the temporary concrete traffic barrier and impact attenuators except as modified by this Job Special Provision.

2.0 **Requirements.** In stage 2B, the temporary concrete traffic barrier shall be relocated to the newly constructed median shoulder or to storage prior to the stage 2B overlay placement. If stored in the median, the barrier shall be placed in a manner which meets the requirements in the specifications and standard plans for temporary traffic barrier and impact attenuators.

3.0 **Method of Measurement.** No payment will be made for relocating the barrier and impact attenuators to the median or storage in stage 2B to meet this requirement. When the barrier is moved into position as outlined in the traffic control plans for stage 3, payment will be made for relocating the temporary concrete traffic barrier and impact attenuators per the method of measurement and basis of payment outlined in Sections 612 and 617.

4.0 **Basis of Payment.** Payment for Impact Attenuators and Relocating Impact Attenuators will be in accordance with Sec 612 and payment for Temporary Concrete Traffic Barrier and Relocating Temporary Concrete Traffic Barrier will be in accordance with Section 612 and 617 except as modified by this Job Special Provision.

S. PAVEMENT EDGE TREATMENT

1.0 **Description.** Sections 619 of the Missouri Standard Specification and Standard Plans 619.10 are in effect for pavement edge treatment on the project except as modified by this Job Special Provision.

2.0 **Requirements.** Any pavement edge drops shall be addressed in accordance with Missouri Standard Plan 619.10. The amount of pavement edge treatment required in stage 2B is dependent on the contractor's sequence of operations; therefore no direct payment will be made for Pavement Edge Treatment, if required, in stage 2B.

3.0 **Basis of Payment.** Payment for pavement edge treatment will be in accordance with Section 619 except as modified by this Job Special Provision.

T. LOCATION OF EXISTING EDGE OF PAVEMENT

1.0 It shall be the contractor's responsibility to accurately determine the location of the existing edge of concrete pavement at locations where it is necessary to make saw cuts to construct lane extensions or pavement widening. No compensation will be made for any expenses directly or indirectly incurred, resulting from the contractor's failure to accurately locate the pavement edge.

U. STAGE 1 CONSTRUCTION REQUIREMENTS

1.0 Description. This work shall consist of replacing the outside shoulder of eastbound and westbound I-44 to the lines and limits shown in the contract plans.

2.0 Construction Requirements.

2.1 This work shall be performed using a temporary lane closure during unrestricted hours as defined in JSP B.

2.2 The shoulder shall be removed, the pavement edge drain installed and alternate temporary pavement constructed during this stage. The shoulder shall be brought back to original grade prior to opening the lane for the next restricted work hours period.

2.3 The existing guardrail shall be left in place during this stage.

2.4 The contractor will be required to sawcut the edge of pavement and find and construct the new pavement and edge drain adjacent to the underlying concrete pavement.

2.5 The excavation shall not extend past that which pavement construction can be completed before the restricted hours resume.

V. FERTILIZING, SEEDING AND MULCHING

1.0 Soil Neutralization. In accordance with Section 801.2.2, application of effective calcium shall be 1,600 lbs. per acre.

1.1 Commercial Fertilizer. In accordance with Section 801.2.3, the following fertilizers shall be applied at the rate specified. No direct payment will be made for fertilizer.

Nitrogen (N)	80 lbs. per acre
Phosphoric Acid (P2O5)	160 lbs. per acre
Potash (K2O)	80 lbs. per acre

1.2 In accordance with Section 805.3.2, the following seed mixture shall be applied at the rate specified:

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<u>Season</u>	<u>Mixture</u>	<u>Live Seed/Acre</u>
All Year	Tall Fescue	40 lb./Ac.
	Annual Ryegrass	8 lb./Ac.
	White Clover	2.5 lb./Ac.

1.3 Vegetative mulch shall be applied in accordance with Section 802 to all seeded areas unless otherwise directed by the engineer.

1.4 Areas disturbed by the contractor outside the normal construction limits shall be reshaped, seeded, and mulched as directed by the engineer. No direct payment will be made for this work.

1.5 **Acceptance of Seeded Areas.** The contractor shall maintain all seeded and mulched areas until vegetative cover, acceptable to the engineer, is established.

1.5.1 An additional amount of 10 percent seeding and mulching has been added to the contract for maintenance of these areas.

1.5.2 All costs incurred will be paid for at the contract unit price for seeding and mulching. No direct pay will be made for any seed and mulch over 10 percent, or additional work or inconvenience to the contractor in complying with this special provision.

W. WORK ZONES AND PUBLIC SAFETY

1.0 The contractor shall maintain work zones on a daily basis to assure safety to the travelling public and the workers. If the engineer reports any deficiency to the contractor concerning safety items in the work zone, which create a safety concern, the contractor shall immediately work to correct the situation. The contractor shall have personnel reviewing regular traffic control items daily and any temporary lane drop traffic control items at initial set up and during the operation. Traffic control items shall typically be corrected without the need for direction by the engineer. The engineer will notify the contractor first verbally if work zones are not being maintained at an acceptable level. If verbal notification does not resolve the work zone deficiencies, then the engineer may issue an order record to correct traffic control items. Any traffic control items that remain uncorrected 24 hours after issuance of an order record will result in a \$500.00 deduct. The \$500.00 deduct will be applied each and every calendar day until the traffic control items are brought into full compliance. Safety with the workers and travelling public will be the highest work priority. Work zone deficiencies could involve, but are not limited to, missing or damaged signs not replaced or repaired in a timely manner, faded striping, non-reflective traffic control items, non-standard lane drops, non-functioning changeable message signs, non-functioning work zone lighting, etc. Missing signs with non-typical wording can be replaced with Changeable Message Signs until new signs can be made and installed, however no additional compensation will be made to the contractor. The contractor shall have a supply of standard replacement signs and devices available at all times to make needed corrections. The determination by the engineer as to the acceptable quality of the traffic control devices shall be final.