TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

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Secretary

July 9, 2012

CALL NO. 304
CONTRACT ID NO. 122423
ADDENDUM # 1

Subject: Fulton County, FE01 038 9003 000-002
Letting July 13, 2012

(1) Revised – Special Notes – Pages 10-19 of 61
(2) Revised – Typical Section – Page 32 of 61
(3) Revised – Bid Items – Page 61 of 61

Proposal revisions are available at http://transportation.ky.gov/Construction-Procurement/.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

Ryan Griffith

Ryan Griffith
Director
Division of Construction Procurement

RG:ks
Enclosures

SPECIAL NOTES FOR CONSTRUCTION

I. DESCRIPTION

Perform all work shall in accordance with the Department's Current Standard Specifications, Supplemental Specifications, other applicable Special Provisions, and applicable Standard Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

(1) Overband Crack Seal; (2) Microsurface rut fill, leveling and surface course; (3) Maintain and Control Traffic; and (4) All other work specified as part of this contract.

II. MATERIALS

The Department will sample and test all materials according to Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Overband Crack Sealing. See Special Note for Overband Crack Sealing.

C. Microsurfacing. See Special Note for Microsurfacing.

D. Pavement Markings. See Traffic Control Plan.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Be responsible for all site preparation. This item shall include, but is not limited to, removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; temporary and permanent erosion and pollution control; and any other incidentals. All site preparation shall be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but shall be incidental to the other items of the work.

C. Microsurfacing. Place overband crack sealing and then use rut box to apply rut fill course. Construct Microsurfacing leveling and surface courses as per the

attached Special Note for Microsurfacing on mainline. Place the leveling course between the centerline and edge lines. The surface course will cover the centerline and edge lines.

D. Disposal of Waste. Dispose of all removed concrete, asphalt materials, debris, excess excavation, and other waste off the right-of-way at approved sites obtained by the Contractor at no cost to the Department. The Engineer will not allow temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads.

E. Final Dressing, Clean Up, and Seeding and Protection. After all work is completed, remove all waste and debris from the construction sites. Remove all temporary shoulder widening and restore disturbed median and shoulders. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. I.

F. Restoration. Restore any roadway features disturbed by the work or the Contractor's operations in like kind materials and design as directed by the Engineer.

G. Pavement Striping. See Traffic Control Plan. Allow a minimum of 14 days (maximum 30 days) before applying permanent pavement striping.

H. On-Site Inspection. Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Other than the bid items listed, site preparation will not be measured for payment, but shall be incidental to the other items of the work.

C. Overband Crack Sealing. See Special Note for Overband Crack Sealing.

D. Microsurfacing. See Special Note for Microsurfacing.

E. Temporary and Permanent Striping. See Traffic Control Plan.

F. Final Dressing, Clean Up, and Seeding and Protection. Final Dressing, Clean Up, and Seeding and Protection will not be measured for separate payment, but shall be incidental to other items of work.

G. Restoration. All items of restoration will not be measured for payment, but shall be incidental to the other items of work.

V. BASIS OF PAYMENT

No direct payment will be made other than for the bid items listed. All other items required to complete the construction shall be incidental to the bid items listed.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Overband Crack Sealing. See Special Note for Overband Crack Sealing.

C. Microsurfacing. See Special Note for Microsurfacing.

SPECIAL NOTE FOR MICRO-SURFACING

1. DESCRIPTION. This work consists of constructing a cold-laid, polymer-modified, emulsified asphalt pavement course to fill ruts or provide an intermediate or surface course for existing pavements. The paving mixture is composed of a polymer-modified emulsified asphalt, crushed aggregate, mineral filler, water, and possibly other additives. Follow the requirements outlined in ASTM D 6372, *Standard Practice for Design, Testing, and Construction of Micro-Surfacing*, with modifications as found in this note. Apply this material according to the lines, grades, and typical cross-sections in the plans or as established by the Engineer.

Unless otherwise noted, Section references herein are to the Department's *Standard Specifications for Road and Bridge Construction*. All applicable portions of the Department's *Standard Specifications* apply unless specifically modified herein.

2. MATERIALS AND EQUIPMENT.

2.1 Mineral Filler. Use Portland Cement, Type I, conforming to Section 801.

2.2 Aggregate. Provide 100-percent crushed aggregate conforming to Sections 804 and 805. Use polish-resistant coarse and fine aggregate conforming to Subsection 403.03.03 for a Type A mixture. Do not use mineral aggregates that are inherently porous, such as blast-furnace slag, expanded shale, porous limestone, and lightweight aggregates, in this mixture.

Contrary to ASTM D 6372, test sand equivalent according to AASHTO T 176, soundness according to Kentucky Method (KM) 64-610, and LA abrasion according to AASHTO T 96. Ensure all aggregates satisfy ASTM D 6372 for sand equivalent, soundness, and LA abrasion.

2.3 Water. Conform to Section 803.

2.4 Emulsified Asphalt. The polymer-modified emulsion will be manufactured by addition of polymer to a CSS-1h conforming to AASHTO M 208 except the milling or blending of polymer shall occur into the base asphalt or emulsifier solution prior to the emulsification process. The asphalt emulsion manufacturer shall certify that the emulsion contains a minimum of 3 percent polymer solids based on the mass of asphalt (asphalt residual) within the emulsion. In addition, ensure that the emulsified asphalt conforms to the following criteria:

Test	**Criteria**
Elastic Recovery at 77 °F (AASHTO T 301)	60 % (min)
Residue by Distillation (AASHTO T 59)	62 % (min)
Ductility at 77 °F (AASHTO T 51)	40 cm (min)
Softening Point (AASHTO T 53)	140 °F (min)

Submit samples of the polymer-modified emulsion, along with the manufacturer's

corresponding test results, to the Division of Materials for testing at least two weeks prior to initial shipment to the project.

2.5 Mixing Equipment. Produce the mixture in a self-propelled, front-feed, continuous-loading machine equipped with a conveyer-belt aggregate-delivery system and an interconnected, positive-displacement, water-jacketed gear pump to accurately proportion the aggregate and asphalt emulsion. Locate the mineral filler feed so the proper amount of mineral filler is dropped on the aggregate before discharge into the pug mill. Provide a spray bar to completely pre-wet the aggregate dropping down to the pug mill with additive and water before the introduction of the asphalt emulsion. Provide a twin-shaft, continuous-flow, multi-blade pug mill that is a minimum of 49 in. long. Ensure that the blade size and side clearances meet the equipment manufacturer's recommendations. Introduce the emulsion within the first one-third of the mixer length to ensure proper mixing of all materials before exiting the pug mill.

Equip the machine with opposite-side driving stations to allow full control of the machine from either side. Equip the mixer with a remote, forward-speed control at the rear mixing platform so the rear operator can control the forward speed and level of mixture in the paving or rut box. Provide material control devices that are readily accessible and positioned so the amount of each material used can be determined at any time.

Equip the mixing machine with a water pressure system and nozzle-type spray bar to provide a water spray ahead of and outside the spreader box when required. Apply water at a rate that will dampen the surface but not create free-flowing water ahead of the spreader box.

Use truck-mounted machines with a conveyer-belt aggregate-delivery system and without the front-feed, continuous-loading feature on projects of less than 15,000 total yd^2 or on spot repairs.

2.6 Spreading Equipment. If a leveling or surface course is specified, apply the mixture uniformly by means of a conventional spreader box.

If a rut-fill course is specified, apply the mixture with a "V-shaped" rut-filling spreader box. Equip the rut-filling spreader box with a steel strike-off device.

Attach either type of a spreader box to the mixer, and equip it with paddles mounted on an adjustable shaft to continually agitate and distribute the materials throughout the box. Ensure that the equipment provides sufficient turbulence to prevent the mix from setting in the box or causing excessive build-up or lumps. To prevent loss of the mixture from the box, attach flexible seals, front and rear, in contact with the road. Operate the spreading equipment in such a manner as to prevent the loss of the mixture on super-elevated curves.

For surface courses, attach a secondary strike-off device to the spreader.

Use burlap drags or other drags, if necessary, to obtain the desired finish. Replace drags having excessive buildup.

2.7 Calibration Equipment. Supply all of the equipment, materials, and scales necessary to perform the calibration according to Section 3.5 of this note.

3. CONSTRUCTION.

3.1 Preparation and Proportioning of Mixture. Submit a complete mix design, prepared by an approved laboratory, to verify the compatibility of the aggregate, asphalt emulsion, mineral filler, and other additives. Make the mix design with the same materials that will be used on the project.

Ensure the mix design has a residual asphalt content, by dry weight of aggregate, of 7.0 to 8.5 percent for leveling and surface courses and 6.5 to 8.0 percent for rut-filling mixes. Also ensure the mixture contains no reclaimed materials and a mineral filler content between 0.25 and 2.0 percent by dry weight of aggregate.

In addition to the mix design information required by KM 64-421, provide the following (all percentages are based on the dry weight of aggregate):

- minimum and maximum percentage of water; and
- percentage of mix-set additives, if required.

Provide test results from an accredited laboratory that conform to Section 8 of ASTM D 6372.

Submit the mix design and ingredient materials to the Division of Materials for verification according to Subsection 402.03 a minimum of two weeks prior to initial use for testing and approval.

3.2 Mixture Gradation. Conform to the Type II requirements from ASTM D 6372 for leveling and surface courses and Type III requirements from ASTM D 6372 for rut-fill courses.

3.3 Weather Limitations. In addition to the applicable requirements in ASTM D 6372, apply the mixture only when it is not raining. Between September 30 and May 1, do not apply the mixture if the existing pavement surface temperature is less than 50 °F.

3.4 Surface Preparation. Apply a tack coat conforming to Section 406 at a rate of 0.06 to 0.12 gal/yd^2.

3.5 Calibration. Before mix production, calibrate the mixing equipment in the presence of the Engineer. Generate documentation for the Engineer, including individual calibrations of each material at various settings. Perform a new calibration if there is any change in the mix design. Following calibration and adjustments for changes in the mix

design, do not make any further calibration adjustments to the mixing equipment without the Engineer's approval.

3.6 Application. Apply the paving mixture in a manner to fill minor surface irregularities and achieve a uniform surface without causing skips, lumps, or tears.

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. after 24 h of traffic compaction. Apply rut-fill courses in widths from 5 to 6 ft for each wheel path. Provide a smooth, neat seam where two rut-fill passes meet. Restore the design profile of the pavement cross-section. Feather the edges of the rut-fill course to minimize the use of excess material.

If a leveling course is specified, apply the paving mixture at a rate of 14 ± 2 lb/yd^2. If a surface course is specified over a leveling or rut-fill course, apply the paving mixture at a rate of 18 ± 2 lb/yd^2. If a surface course only is specified, apply the paving mixture at a rate of 24 ± 2 lb/yd^2. For leveling and surface courses, provide a smooth, neat center seam with a maximum overlap of 2 in. where two passes meet. Immediately remove excess material from the ends of each run. Construct surface courses wide enough to cover the outside edges of rut-fill and leveling courses.

Use squeegees and lutes to spread the mixture in areas inaccessible to the spreader box and areas requiring hand-spreading. With the Engineer's approval, adjust the mix-set additive to provide a slower setting time if hand-spreading is needed. Do not adjust the water content or adjust the setting time. If hand-spreading, pour the mixture in a small windrow along one edge of the surface to be covered, and spread it uniformly by a hand squeegee or lute.

Repair areas of the micro-surfacing that are damaged by traffic, rain, or other causes during construction of the project.

3.7 Acceptance and Verification.

3.7.1 Proportion and Spread Rate. Maintain continuous control of the emulsified asphalt-to-dry aggregate proportion to conform to the approved mix design within a tolerance of ± 2 gal/ton. Ensure the spread rate satisfies the specified quantity of aggregate per square yard on a dry-weight basis.

The Department will base acceptance of the emulsified asphalt-to-dry aggregate proportion and the spread rate on the Engineer's summary of daily quantities. The Department will accept a day's application of micro-surfacing provided the Engineer's summary indicates conformance with the requirements for proportion and spread rate.

3.7.2 Emulsified Asphalt. Submit samples of the polymer-modified emulsion, along with the manufacturer's test results, to the Division of Materials for testing at a frequency of one per day of production.

3.7.3 Mixture Gradation. Perform combined-gradation determinations on the aggregates used in the micro-surfacing at a frequency of one per day of production. The Department will allow the tested gradation to vary within the tolerances given in ASTM D 6372 provided the percent passing any sieve remains within the master gradation limits from ASTM D 6372.

The Department will perform combined-gradation determinations on the aggregates used in the micro-surfacing at a frequency of one per four days of production and compare those results with the contractor's combined-gradation results according to Subsection 402.03.03.

4. MEASUREMENT. The Department will pay for surface and leveling micro-surfacing courses by the number of square yards, complete and accepted in place. The Department will pay for micro-surfacing rut-fill course by the number of tons of dry aggregate used, complete and accepted in place. The weight of the dry aggregate used will be based on the calibrated weight of aggregate provided by the paving machine.

The Department will base the width of the pavement course on the width shown on the plans or as directed by the Engineer. The Department will measure the length along the centerline of each roadway or ramp.

The Department will not measure the surface preparation or tack coat for payment and will consider them incidental to the micro-surfacing.

5. PAYMENT. The Department will consider the unit bid price per square yard to include all labor, materials, and equipment necessary to complete the work. The Department will make payment for the completed and accepted quantities according to the following:

Code	Pay Item	Pay Unit
------	Micro-surfacing, surface course	Square Yard
	Micro-surfacing, leveling course	Square Yard
	Micro-surfacing, rut-fill course	Ton

April 22, 2008

SPECIAL NOTE FOR OVERBAND CRACK SEALING

DESCRIPTION OF WORK

This work shall consist of the preparation and sealing of pavement cracks with a fiber reinforced sealant using a mixture of polypropylene fibers, asphalt cement, and any additives necessary to prevent tracking.

MATERIALS

1.) Asphalt Cement- PG 64-22 meeting the requirements of AASHTO M320.

2.) Polypropylene fibers meeting the following properties:

Material	Polypropylene
Denier:	15 +/- 2
Length:	10 +/- 2mm
Crimps:	None
Tensile Strength:	40,000psi minimum
Specific Gravity:	0.91
Moisture Regain At:	70F and 65% RH: 0.001
Salt Resistance:	100% Strength Retained
Acid Resistance:	100% Strength Retained

The fibers shall be certified by the manufacturer as meeting the specifications.

COMPOSITION

The material shall be combined so the fibers are a minimum of 7.0% by total weight of the asphalt cement. The combined materials shall meet the following properties:

Strength (at break) at 72F	350psi minimum	at 0F	500psi minimum
Elongation (at break) at 72F	50% minimum	at 0F	20% minimum

WEATHER LIMITATIONS

Over band crack sealing shall only be performed when the surface temperature is 40F and rising.

MIXING

Weigh tickets for the asphalt cement shall be used in determining the above proportion of fiber to be blended. The crack sealing material shall be blended in an oil-jacketed double walled kettle equipped with full sweep agitator and reverse rotary auger, capable of maintaining the mixture with separate thermometers for oil bath and melting vat. Unit

must also be quipped with a pump (equal or better than Roper 2" hot asphalt pump). Temperature of the sealant shall be maintained between 265F and 295F.

PREPARATION

Prior to the application of the sealant, joints and cracks shall be thoroughly cleaned by the use of compressed air. This tool shall produce a blast of air between 75 and 150psi to remove dust, dirt, moisture, vegetation, and other foreign material that will prevent bonding of the sealant. These areas shall be kept clean and dry until all sealing operations are completed. Whenever moisture is present, a hot compressed air lance shall be used. This tool shall produce a blast of air between 75 and 150psi and heated between 600f and 2000F that cleans and removes all vegetation and dries out the cracks to maximize sealability.

Sealing shall be limited to cracks that are open enough to permit entry of the sealant. Tightly closed cracks (less than ¼ inches) shall only be sealed if they show signs of raveling or spalling as directed by the engineer. Spalls and cavities, which are greater than four (4) inches in diameter, shall not be sealed unless directed by the engineer.

INSTALLATION

The sealant shall be placed with an applicator head; which will completely fill the crack and leave a 3.0 to 5.0 inch wide band having a thickness of 0.065 to 0.125 inches. Compress the crack sealing material in the crack or joint to ensure a good bond as directed by the engineer.

MANUFACTURER'S REPRESENTATIVE

The sealant manufacturer's technical representative shall be notified by the Contractor and shall be present during the initial installation. Operations and procedures, which are considered by the representative as being detrimental to the effectiveness of the sealant, shall not be permitted.

BASIS OF PAYMENT

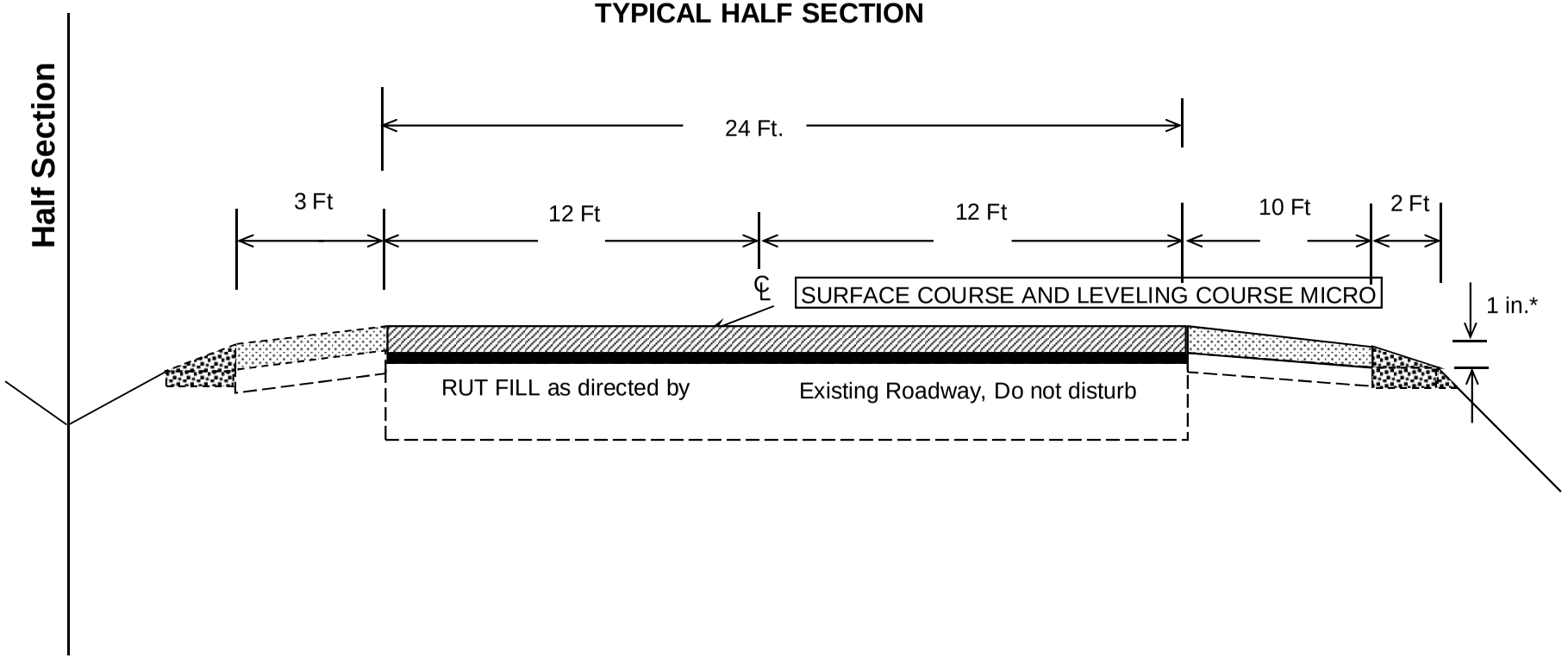
Payment for this work shall be made at the contract unit price for preparation and sealing of joints and/or cracks in the existing pavement, complete in place, which price includes all materials, equipment, tools, traffic control, and labor incidental thereto.

Pay Item	Unit
Overband Crack Sealing	Pound

FULTON COUNTY

FD05-038-9003-000-002

TYPICAL HALF SECTION



***Where Existing Site Conditions Permit**

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 122423 PAGE: 1
COUNTY: FULTON LETTING: 07/13/12
PROPOSAL: FE01 038 9003 000-002 CALL NO: 304

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
	SECTION 0001	ROADWAY			
0010	02562	SIGNS	720.000 SQFT		
0020	02650	MAINTAIN & CONTROL TRAFFIC	(1.00) LS		
0030	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.000 EACH		
0040	02775	ARROW PANEL	2.000 EACH		
0050	06510	PAVE STRIPING-TEMP PAINT-4 IN	43,275.000 LF		
0060	06531	PAVE STRIPING REMOVAL-6 IN	42,300.000 LF		
0070	06592	PAVEMENT MARKER TYPE V-B W/R	280.000 EACH		
0080	06600	REMOVE PAVEMENT MARKER TYPE V	280.000 EACH		
0090	20814EC	MICRO SURFACING-SURFACE COURSE	54,500.000 SQYD		
0100	21652EN	MICRO SURFACING-LEVELING COURSE	52,410.000 SQYD		
0110	23071EN	OVERBAND CRACK SEALING	38,920.000 LB		
0120	24189ER	DURABLE WATERBORNE MARKING-6 IN W	23,510.000 LF		
0130	24190ER	DURABLE WATERBORNE MARKING-6 IN Y	18,810.000 LF		
0140	24191ER	DURABLE WATERBORNE MARKING-12 IN W	1,600.000 LF		
0150	24515EC	MICRO SURFACING-RUT FILL COURSE	65.000 TON		
	SECTION 0002	DEMOBILIZATION			
0160	02569	DEMOBILIZATION (AT LEAST 1.5%)	LUMP		
		TOTAL BID			