COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
www.transportation.ky.gov/

Andy Beshear
GOVERNOR

Jim Gray
SECRETARY

September 22, 2021

CALL NO. 348
CONTRACT ID NO. 212403
ADDENDUM # 1

Subject: Logan County, FD04 071 3240 001-002
Letting September 24, 2021

(1) Added - Special Note - Pages 11(a)-11(e) of 58
(2) Revised - Traffic Control Plan - Pages 20-29 of 58
(3) Revised - Typical Sections - Pages 35-38 of 58
(4) Revised - Proposal Bid Items - Page 58 of 58

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

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

Sincerely,

Rachel Mills,

Rachel Mills

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:mr
Enclosures

Special Note for Remove Pavement

Payment for Remove Pavement will be measured in “Square Yards”, and the Department will consider payment as full compensation for all work required according to section 203 of the 2019 KYTC Standard Specification.

*** Contrary to section 203 of the 2019 KYTC Specification, payment for removal of the radius at KY-3240 and S. Main St. as shown in the proposal, will be measured and paid as Remove Pavement (Square Yards). This will include but not limited to step removal, pavement removal, excavation, and other items within the new typical within the approach shown on the provided site map.

-Add Standard Header Curb Type 2 to the special note with Modified Header Curb

-Please add a note referencing Remove Curb will be compensation for removal of curb and gutter according to Section 203 of the 2019 Standard Spec. paid by the Linear Foot.

SPECIAL NOTE FOR FIBER REINFORCEMENT OF NO. 4 ASPHALT SURFACE

PART 1 – GENERAL

1.1 DESCRIPTION

This Section includes specifications for furnishing all materials, equipment, labor, and incidentals for mixing aramid fiber reinforcements to hot mix No. 4 asphalt Surface.

1.2 DEFINITIONS

A. HMA - hot mix asphalt, without aramid fiber.
B. WMA- warm mix asphalt, without aramid fiber.
C. Reinforced HMA - hot mix asphalt including aramid fibers properly proportioned, uniformly mixed and coated with asphalt.
D. Aramid fiber – blend of polyolefin and aramid fiber meeting the material properties of this specification, without additive materials.
E. Delivery material(s) - the material(s) combined with the aramid fiber to facilitate aramid fiber and HMA/WMA proportioning, uniform mixing with the HMA/WMA, and asphalt coating of the aramid fibers.
F. Aramid product - the aramid supplier's mixture of ~~pure~~ aramid fiber and delivery material(s).
G. Manufacturer - the company that produces the aramid fiber from raw materials.
H. Supplier - the company that offers an aramid product.

PART 2 – PRODUCT

2.1 MATERIALS

Meet the following aramid fiber properties.

Property	Measure	Standard
Material	Aramid	ASTM D276
Form	Monofilament fibers	Manufacturer Certification
Length	0.75 (+/- 10%)	Manufacturer Cert.
Specific Gravity	1.44	ASTM D276
Minimum Tensile Strength	400,000 psi	ASTM D3379
Maximum Tensile Elongation	1.8 %	ASTM D3379
Degradation Temperature	800 degrees F	ASTM D276
Acid and Alkali Resistance	Inert	Manufacturer Cert.

2.2 SUBMITTALS

Submit the following.

A. Identify the mixing plant.
B. Provide a specification sheet from the aramid fiber manufacturer.
C. Provide the following from the aramid product supplier at least three weeks prior to

HMA/WMA production.

1. The supplier's specified mix rate for the aramid product.
2. Certification that the amount of aramid fiber in the aramid product has a minimum of 2.1 ounces of aramid fiber for each ton of hot mix asphalt.
3. Evidence showing how many times, if any, the supplier's fiber product has been successfully produced at an asphalt plant. List the type of asphalt plant used for each project (drum, batch, or continuous plant) and how the aramid fibers were introduced.
4. Proven method of introducing the aramid fibers into the hot mix asphalt which will not cause the aramid fibers to become airborne.

2.3 JOB MIX FORMULA

When aramid fiber is required as a mixture ingredient, modification to the job mix formula is not required. The aramid fiber shall not be used during the design of the No. 4 asphalt surface mix.

PART 3 – EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

Store aramid product in a dry environment and do not allow them to be in contact with moisture.

Mix a minimum of 2.1 ounces (+10%) of aramid fibers per ton of asphalt. The weight applied is for aramid fibers only, weight of any delivery materials shall not be considered.

Have a fiber supplier's representative on site during the first day of production mixing. This requirement can be waived if fiber supplier and HMA/WMA producer can provide evidence of supplier's fiber product being successfully produced by the HMA/WMA producer. The fiber supplier's representative may be on site for additional days as requested by the Engineer.

Introduce the aramid product as follows:

1. Batch Plant

   When a batch type plant is used, add the aramid product dosage to the aggregate in the weigh hopper. This shall be done with a fiber metering device. If necessary, increase the batch dry mixing time to ensure the aramid fibers are uniformly distributed prior to the injection of asphalt cement into the mixer.

2. Drum Plant

   When a continuous or drier-drum type plant is used, add the aramid product to where the RAP material is introduced into the drum to uniformly disperse with the aggregate and injected asphalt. Use a separate aramid product metering device feed system to proportion by weight of total mix, the required percentage of fiber reinforcement into the mixture. Control the aramid product metering system with a proportioning device to meet the dosing requirements.

The product metering device shall have the capability of delivering ±10% of the aramid fiber mass by design. Calibration of the metering device will be conducted prior to production in the presence of the Department and manufacturer's representative. Manual feeding of the aramid fibers will not be permitted. The metering device shall also have the following:

1. The metering device shall be an automated air blown system.
2. Low level indicators
3. No-flow indicators
4. A digital read out indicating the rate the aramid fibers are being introduced.
5. A section of anti-static transparent pipe in the fiber supply line for observing consistency of flow or feed.
6. Certified scales
7. Capability to automatically change the rate of introduced fibers with the rate of the asphalt plant's production.
8. Manufacturer's representative along with the Department will approve the metering device prior to production.
9. Printout capability indicating the rate and amount of fibers used.

Mix the aramid fiber with the aggregate longer, if needed, to allow thorough distribution of aramid fibers at the end of the mixing process and to promote asphalt coating of individual strands of aramid fiber. At the start of any fiber mixing, visually observe the reinforced HMA/WMA at the plant, in first three trucks at the point of discharge, and prior to delivery to the job site. Observation shall include using a shovel or other device. Look for proper distribution of aramid fibers and make mixing adjustments as needed.

3.2 ACCEPTANCE

Acceptance of the reinforced HMA/WMA will include the following factors:

1. Aramid fiber is properly proportioned based on documentation comparing fiber feed to HMA/WMA mix production.
2. A log, certified by the fiber manufacturer/supplier, totaling the amount of aramid fibers applied shall be required daily.
3. A visual inspection shall be required at the end of the mixing process, verifying the aramid fibers are uniformly distributed and there is no clumping of aramid fiber or the aramid delivery product.
4. All other mixture and density requirements of the asphalt as detailed in the Standard Specifications, current edition, shall apply.
5. Aramid Dispersion State Ratio (ADSR) test will be required for a minimum of one sample per day of production not exceeding three days.
    - Perform ADSR test based on modified ASTM D2172 procedures as provided in the document entitled "Extraction of Aramid Fibers from Fiber Reinforced Asphalt Concrete – methodology can be obtained by making an inquiry to the Pavement and Materials Laboratory at Arizona State University at

NCE@asu.edu.

- The laboratory testing shall be conducted by Rutgers University or an approved laboratory by the Department.
- To validate ADSR results, average extracted aramid fiber quantity must equal 0.007 percent by total sample weight with no individual result less than 0.005 percent by total sample weight.
- All tested fiber mixes must achieve a minimum ADSR of ≥80%.

PART 4 - MEASUREMENT AND PAYMENT

The Department will measure the quantity of Fiber Reinforcement for HMA/WMA as ton of asphalt placed with fibers. Each ton of asphalt placed with the aramid fibers according to this special note will be measured and paid for at the contract unit bid price per ton, and shall include full compensation for furnishing all labor, tools, equipment, and incidentals for doing all the work involved in adding the fibers to HMA/WMA.

Code	Pay Item	Pay Unit
24785EC	Fiber Reinforcement for HMA	Tons

TRAFFIC CONTROL PLAN
KY 3240 – FIBER REINFORCED ASPHALT INTERSECTION
PROJECTS @ S. Main St. & KY 2146

TRAFFIC CONTROL GENERAL

Except as provided herein, maintain and control traffic in accordance with the Standard and Supplemental Specifications and the Standard and Sepia Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic".

Contrary to Section 106.01, furnish new, or used in like new condition, traffic control devices at the beginning of the work and maintain in like new condition until completion of the work.

PROJECT PHASING & CONSTRUCTION PROCEDURES

Refer to special notes and drawings of construction for Fiber Reinforced Asphalt.

The Engineer may specify days and hours when lane closures will not be allowed.

Contractor will be required to give a minimum two week notice prior to setting up a road closure to allow adequate time for the department to make press releases.

The project is to be completed in three phases in conjunction with an allowable 10-calendar day closure:

Phase 1: Install all detour and traffic control signs for full detour of the project. Complete pavement removal and DGA/Asphalt Base lifts associated with the KY-2146 and KY-3240 intersection. This work is to be performed under temporary lane closures and flagging operations.

Phase 2: Complete all work associated with Pavement Removal, Curb Removal, Curb Replacement, DGA/Asphalt Base Replacement, and sidewalk replacements at the intersection of KY-3240 and South Main Street. A full closure of this intersection will be allowed for the above-mentioned work, totaling no more than 10 - Calendar Days before reopening the intersection.

Phase 3: Once all work is completed for Phase 1 & Phase 2, the contractor will then place the Asphalt Surface at all locations (KY 2146/KY 3240 Intersection and KY 3240/S. Main St. Intersection), and install all necessary permanent markings. Do not place new asphalt surface over asphalt base areas until a minimum of 7 calendar days have elapsed after placement of the asphalt base. After a minimum of 7 calendar days and when the Engineer determines the asphalt base areas have sufficiently stabilized, begin resurfacing operations. This work is to be performed under temporary lane closures and flagging operations.

Once a road closure is installed and pavement removal begins, the contractor shall make continuous work progress until that road is reopened to traffic.

Once the intersection is closed for construction, the lanes shall be reopened to traffic within 10-Calendar Days. Failure to meet the 10-Calendar Day phasing, will result in $1500/day or a fraction of a day beyond the 10-Calendar Day limit.

ROAD AND LANE CLOSURES

Limit the length of lane and road closures to only that needed for actual operations as directed by the Engineer.

Once a road closure is installed and pavement removal begins, the contractor shall make continuous work progress until that road is reopened to traffic.

-Coordinate with Engineer to ensure closure will not affect Holiday/City Events, prior to long term closure.

SIGNS

Sign posts and splices shall be compliant with NCHRP 350 or MASH. Manufacturer's documentation validating this compliance shall be provided to the Engineer prior to installation. Signs, including any splices, shall be installed according to manufacturer's specifications and installation recommendations.

Contrary to section 112.04.02, only long term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment; short term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but will be incidental to Maintain and Control Traffic.

Any existing roadway signs that become incorrect due to the detour or are in the way for construction are to be either covered or taken down. Prior to reopening the roads, these signs are to be uncovered/ reinstalled. Covering, removing, uncovering, and reinstalling any existing signs will be considered incidental to maintain and control traffic.

CHANGEABLE MESSAGE SIGNS

Provide changeable message signs in advance of and within the project at locations determined by the Engineer. If work is in progress concurrently in both directions or if more than one lane closure is in place in the same direction of travel, provide additional changeable message signs as directed by the Engineer. Place changeable message signs one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens, relocate or provide additional changeable message signs so that traffic has warning of slowed or stopped traffic at least one mile but not more than two miles before reaching the end of the actual queue. The Engineer may vary the designated locations as the work progresses. The Engineer will determine the messages to be displayed. In the event of damage or mechanical/electrical failure, repair or replace the Changeable Message Sign within 24 hours. The Department will measure for payment the maximum number of Changeable Message Signs in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual Changeable Message Signs only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged Changeable Message Signs or for signs the Engineer directs be replaced due to poor condition or readability. Retain possession of the Changeable Message Signs upon completion of the work.

THERMOPLASTIC INTERSECTION MARKINGS

Consider the locations listed on the summary as approximate only. Prior to milling and/or resurfacing, locate and document the locations of the existing markings. After resurfacing, replace the markings at their approximate existing locations or as directed by Engineer. Place markings not existing prior to resurfacing as directed by the Engineer.

BARRICADES

The Department will not measure barricades used in lieu of barrels and cones for channelization or delineation, but shall be incidental to Maintain and Control Traffic according to Section 112.04.01.

The Department will measure barricades used to protect pavement removal areas in individual units Each. The Department will measure for payment the maximum number of barricades in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual barricades only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged barricades the Engineer directs to be replaced due to poor condition or reflectivity. Retain possession of the Barricades upon completion of construction.

PAVEMENT MARKINGS

If there is to be a deviation from the existing striping plan, the Engineer will furnish the Contractor a striping plan prior to placement of the final surface course.

Install Temporary Striping according to Section 112 with the following exception:

If the Contractor's operations or phasing requires temporary markings that must subsequently be removed from the final surface course, use an approved removable lane tape; however, the Department will not measure any temporary striping for payment for installation or removal, and will consider it incidental to maintain and control traffic.

PAVEMENT EDGE DROP-OFFS

Do not allow a pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation with an elevation difference greater than 1½". Place Warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge all transverse transitions between resurfaced and unresurfaced areas which traffic may cross with asphalt mixture for leveling and wedging. Remove the wedges prior to placement of the final surface course.

Protect pavement edges that traffic is not expected to cross, except accidentally, as follows:

Less than 2" - No protection required.

2" to 4" - Place plastic drums, vertical panels, or barricades every 50 feet. During daylight working hours only, the Engineer will allow the Contractor to use cones in lieu of plastic drums, panels, and barricades. Wedge the drop-off with DGA or asphalt mixture for leveling and wedging with a 1:1 or flatter slope in daylight hours, or 3:1 or flatter slope during nighttime hours, when work is not active in the drop-off area.

Greater than 4' - Protect drop-offs greater than 4 inches within 10 feet of traffic by placing drums, vertical panels, or barricades every 25 feet. The Engineer will not allow the use of cones in lieu of drums, vertical panels, or barricades for drop-offs greater than 4". Place Type III Barricades directly in front of the drop-off facing on coming traffic in both directions of travel. Provide warning signs as shown on the Standard Drawings or as directed by the Engineer

Pedestrians & Bicycles - Protect pedestrian and bicycle traffic as directed by the engineer.

USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS

The following policy is based upon current Changeable Message Signs (CMS) standards and practice from many sources, including the Federal Highway Administration (FHWA), other State Departments of Transportation, and Traffic Safety Associations. It is understood that each CMS installation or use requires individual consideration due to the specific location or purpose. However, there will be elements that are constant in nearly all applications. Accordingly these recommended guidelines bring a level of uniformity, while still being open to regional experience and engineering judgment.

Application

The primary purpose of CMS is to advise the driver of unexpected traffic and routing situations. Examples of applications where CMS can be effective include:

- Closures (road, lane, bridge, ramp, shoulder, interstate)
- Changes in alignment or surface conditions
- Significant delays, congestion
- Construction/maintenance activities (delays, future activities)
- Detours/alternative routes
- Special events with traffic and safety implications
- Crash/incidents
- Vehicle restrictions (width, height, weight, flammable)
- Advance notice of new traffic control devices
- Real-time traffic conditions (must be kept up to date)
- Weather /driving conditions, environmental conditions, Roadway Weather Information Systems
- Emergency Situations
- Referral to Highway Advisory Radio (if available)
- Messages as approved by the County Engineer's Office

CMS should not be used for:

- Replacement of static signs (e.g. road work ahead), regulatory signage (e.g. speed limits), pavement markings, standard traffic control devices, conventional warning or guide signs.
- Replacement of lighted arrow board
- Advertising (Don't advertise the event unless clarifying "action" to be taken by driver – e.g. Speedway traffic next exit)
- Generic messages
- Test messages (portable signs only)
- Describe recurrent congestion (e.g. rush hour)
- Public service announcements (not traffic related

Messages

Basic principles that are important to providing proper messages and insuring the proper operation of a CMS are:

- Visible for at least ½ mile under ideal daytime and nighttime conditions
- Legible from all lanes a minimum of 650 feet
- Entire message readable twice while traveling at the posted speed
- Nor more than two message panels should be used (three panels may be used on roadways where vehicles are traveling less than 45 mph). A panel is the message that fits on the face of the sign without flipping or scrolling.
- Each panel should convey a single thought; short and concise
- Do not use two unrelated panels on a sign
- Do not use the sign for two unrelated messages
- Should not scroll text horizontally or vertically
- Should not contain both the words left and right
- Use standardized abbreviations and messages
- Should be accurate and timely
- Avoid filler/unnecessary words and periods (hazardous, a, an, the)
- Avoid use of speed limits
- Use words (not numbers) for dates

Placement

Placement of the CMS is important to insure that the signs is visible to the driver and provides ample time to take any necessary action. Some of the following principles may only be applicable to controlled access roadways. The basic principles of placement for a CMS are:

- When 2 signs are needed, place on same side of roadway and at least 1,000 feet apart
- Place behind semi-rigid/rigid protection (guardrail, barrier) or outside of the clear zone
- Place 1,000 feet in advance of work zone; at least one mile ahead of decision point
- Normally place on right side of roadway; but should be placed closest to the affected lane so that either side is acceptable
- Signs should not be dual mounted (one on each side of roadway facing same direction)
- Point trailer hitch downstream
- Secure to immovable object to prevent thief (if necessary)
- Do not place in sags or just beyond crest
- Check for reflection of sun to prevent the blinding of motorist
- Should be turned ~3 degrees outward from perpendicular to the edge of pavement
- Bottom of sign should be 7 feet above the elevation of edge of roadway
- Should be removed when not in use
-

Standard Abbreviations

The following is a list of standard abbreviations to be used on CMS.

Word	Abbrev.	Example
Access	ACCS	ACCIDENT AHEAD/USE ACCS RD NEXT RIGHT
Alternate	ALT	ACCIDENT AHEAD/USE ALT RTE NEXT RIGHT
Avenue	AVE	FIFTH AVE CLOSED/DETOUR NEXT LEFT
Blocked	BLKD	FIFTH AVE BLKD/MERGE LEFT
Boulevard	BLVD	MAIN BLVD CLOSED/USE ALT RTE
Bridge	BRDG	SMITH BRDG CLOSED/USE ALT RTE
Cardinal Directions	N, S, E, W	N I75 CLOSED/ DETOUR EXIT 30
Center	CNTR	CNTR LANE CLOSED/MERGE LEFT
Commercial	COMM	OVRSZ COMM VEH/USE I275
Condition	COND	ICY COND POSSIBLE
Congested	CONG	HVY CONG NEXT 3 MI
Construction	CONST	CONST WORK AHEAD/EXPECT DELAYS
Downtown	DWNTN	DWNTN TRAF USE EX 40
Eastbound	E-BND	E-BND I64 CLOSED/DETOUR EXIT 20
Emergency	EMER	EMER VEH AHEAD/PREPARE TO STOP
Entrance, Enter	EX, EXT	DWNTN TRAF USE EX 40
Expressway	EXPWY	WTRSN EXPWY CLOSED/DETOUR EXIT 10
Freeway	FRWY, FWY	GN SYNDR FWY CLOSED/DETOUR EXIT 15
Hazardous Materials	HAZMAT	HAZMAT IN ROADWAY/ALL TRAF EXIT 25
Highway	HWY	ACCIDENT ON AA HWY/EXPECT DELAYS
Hour	HR	ACCIDENT ON AA HWY/2 HR DELAY
Information	INFO	TRAF INFO TUNE TO 1240 AM
Interstate	I	E-BND I64 CLOSED/DETOUR EXIT 20
Lane	LN	LN CLOSED/MERGE LEFT
Left	LFT	LANE CLOSED/MERGE LFT
Local	LOC	LOC TRAF USE ALT RTE
Maintenance	MAINT	MAINT WRK ON BRDG/SLOW
Major	MAJ	MAJ DELWAYS I75/USE ALT RTE

Mile	MI	ACCIDENT 3 MI AHEAD/ USE ALT RTE
Minor	MNR	ACCIDENT 3 MI MNR DELAY
Minutes	MIN	ACCIDENT 3 MI/30 MIN DELAY
Northbound	N-BND	N-BND I75 CLOSED/ DETOUR EXIT 50
Oversized	OVRSZ	OVRSZ COMM VEH/USE I275 NEXT RIGHT
Parking	PKING	EVENT PKING NEXT RGT
Parkway	PKWY	CUM PKWAY TRAF/DETOUR EXIT 60
Prepare	PREP	ACCIDENT 3 MIL/PREP TO STOP
Right	RGT	EVENT PKING NEXT RGT
Road	RD	HAZMAT IN RD/ALL TRAF EXIT 25
Roadwork	RDWK	RDWK NEXT 4 MI/POSSIBLE DELAYS
Route	RTE	MAJ DELAYS I75/USE ALT RTE
Shoulder	SHLDR	SHLDR CLOSED NEXT 5 MI
Slippery	SLIP	SLIP COND POSSIBLE/ SLOW SPD
Southbound	S-BND	S-BND I75 CLOSED/DETOUR EXIT 50
Speed	SPD	SLIP COND POSSIBLE/ SLOW SPD
Street	ST	MAIN ST CLOSED/USE ALT RTE
Traffic	TRAF	CUM PKWAY TRAF/DETOUR EXIT 60
Vehicle	VEH	OVRSZ COMM VEH/USE I275 NEXT RIGHT
Westbound	W-BND	W-BND I64 CLOSED/DETOUR EXIT 50
Work	WRK	CONST WRK 2MI/POSSIBLE DELAYS

Certain abbreviations are prone to inviting confusion because another word is abbreviated or could be abbreviated in the same way. DO NO USE THESE ABBREVIATIONS.

Abbrev.	**Intended Word**	**Word Erroneously Given**
ACC	Accident	Access (Road)
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (merge)
LOC	Local	Location
LT	Light (traffic)	Left
PARK	Parking	Park
POLL	Pollution (index)	Poll
RED	Reduce	Red
STAD	Stadium	Standard

Traffic Control Plan
Page 9 of 10

TEMP	Temporary	Temperature
WRNG	Warning	Wrong

TYPICAL MESSAGES

The following is a list of typical messages used on CMS. The list consists of the reason or problem that you want the driver to be aware of and the action that you want the driver to take.

Reason/Problem	Action
ACCIDENT	ALL TRAFFIC EXIT RT
ACCIDENT/XX MILES	AVOID DELAY USE XX
XX ROAD CLOSED	CONSIDER ALT ROUTE
XX EXIT CLOSED	DETOUR
BRIDGE CLOSED	DETOUR XX MILES
BRIDGE/(SLIPPERY, ICE, ETC.)	DO NOT PASS
CENTER/LANE/CLOSED	EXPECT DELAYS
DELAY(S), MAJOR/DELAYS	FOLLOW ALT ROUTE
DEBRIS AHEAD	KEEP LEFT
DENSE FOG	KEEP RIGHT
DISABLED/VEHICLE	MERGE XX MILES
EMER/VEHICLES/ONLY	MERGE LEFT
EVENT PARKING	MERGE RIGHT
EXIT XX CLOSED	ONE-WAY TRAFFIC
FLAGGER XX MILES	PASS TO LEFT
FOG XX MILES	PASS TO RIGHT
FREEWAY CLOSED	PREPARE TO STOP
FRESH OIL	REDUCE SPEED
HAZMAT SPILL	SLOW
ICE	SLOW DOWN
INCIDENT AHEAD	STAY IN LANE
LANES (NARROW, SHIFT, MERGE, ETC.)	STOP AHEAD
LEFT LANE CLOSED	STOP XX MILES
LEFT LANE NARROWS	TUNE RADIO 1610 AM
LEFT 2 LANES CLOSED	USE NN ROAD
LEFT SHOULDER CLOSED	USE CENTER LANE
LOOSE GRAVEL	USE DETOUR ROUTE
MEDIAN WORK XX MILES	USE LEFT TURN LANE
MOVING WORK ZONE, WORKERS IN ROADWAY	USE NEXT EXIT
NEXT EXIT CLOSED	USE RIGHT LANE
NO OVERSIZED LOADS	WATCH FOR FLAGGER
NO PASSING	
NO SHOULDER	
ONE LANE BRIDGE	

Traffic Control Plan
Page 10 of 10

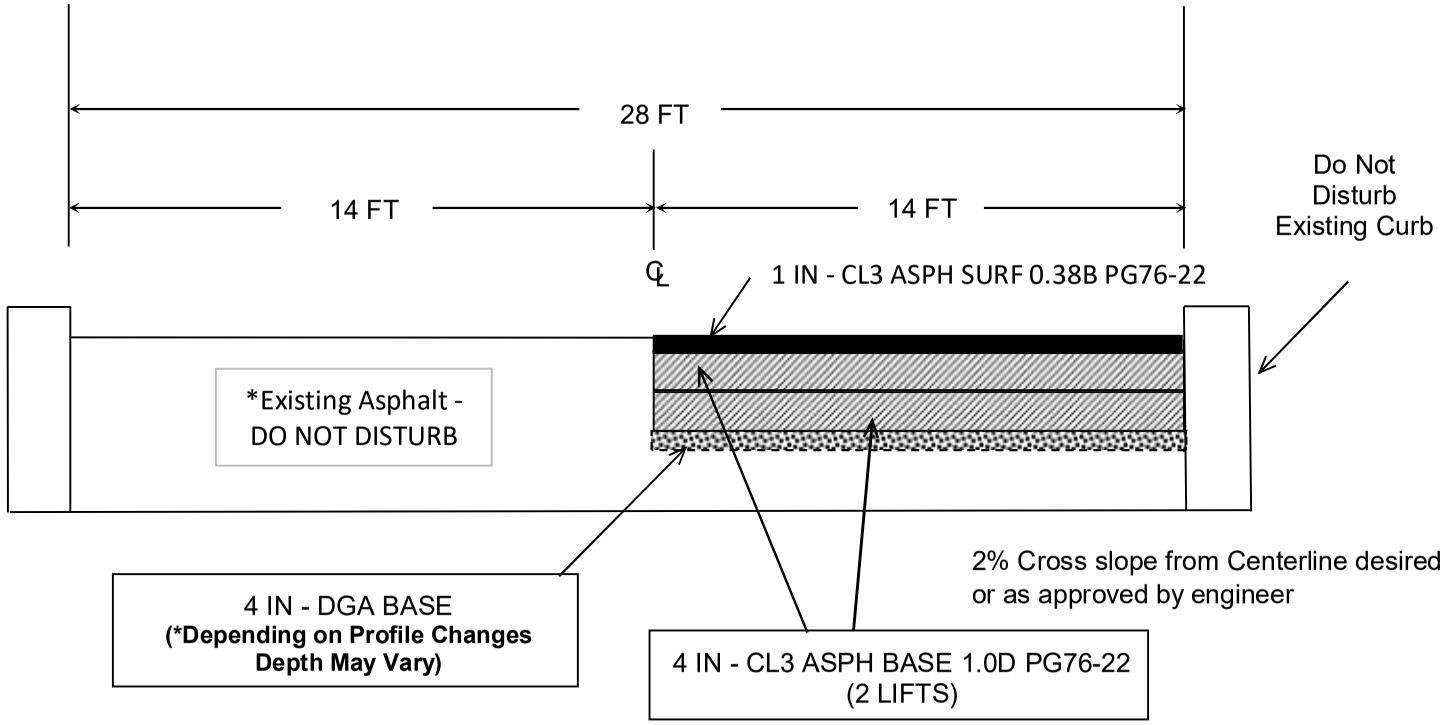
PEOPLE CROSSING
RAMP CLOSED
RAMP (SLIPPERY, ICE, ETC.)
RIGHT LANE CLOSED
RIGHT LANE NARROWS
RIGHT SHOULDER CLOSED
ROAD CLOSED
ROAD CLOSED XX MILES
ROAD (SLIPPERY, ICE, ETC.)
ROAD WORK
ROAD WORK (OR CONSTRUCTION) (TONIGHT, TODAY, TOMORROW, DATE)
ROAD WORK XX MILES
SHOULDER (SLIPPERY, ICE, SOFT, BLOCKED, ETC.)
NEW SIGNAL XX MILES
SLOW 1 (OR 2) - WAY TRAFFIC
SOFT SHOULDER
STALLED VEHICLES AHEAD
TRAFFIC BACKUP
TRAFFIC SLOWS
TRUCK CROSSING
TRUCKS ENTERING
TOW TRUCK AHEAD
UNEVEN LANES
WATER ON ROAD
WET PAINT
WORK ZONE XX MILES
WORKERS AHEAD

TYPICAL SECTION

LOGAN COUNTY

KY 3240 & KY 2146 INTERSECTION

KY 3240 EAST APPROACH MP 1.100 - 1.147



**ALL ASPHALT (BASE COURSES & SURFACE COURSE) WILL BE FIBER REINFORCED
**GEOTEXTILE FABRIC TO BE INSTALLED AS NEEDED AS ENGINEER DIRECTS
**CRUSHED AGGREGATE SIZE NO 2 TO BE INSTALLED AS NEEDED AS ENGINEER DIRECTS

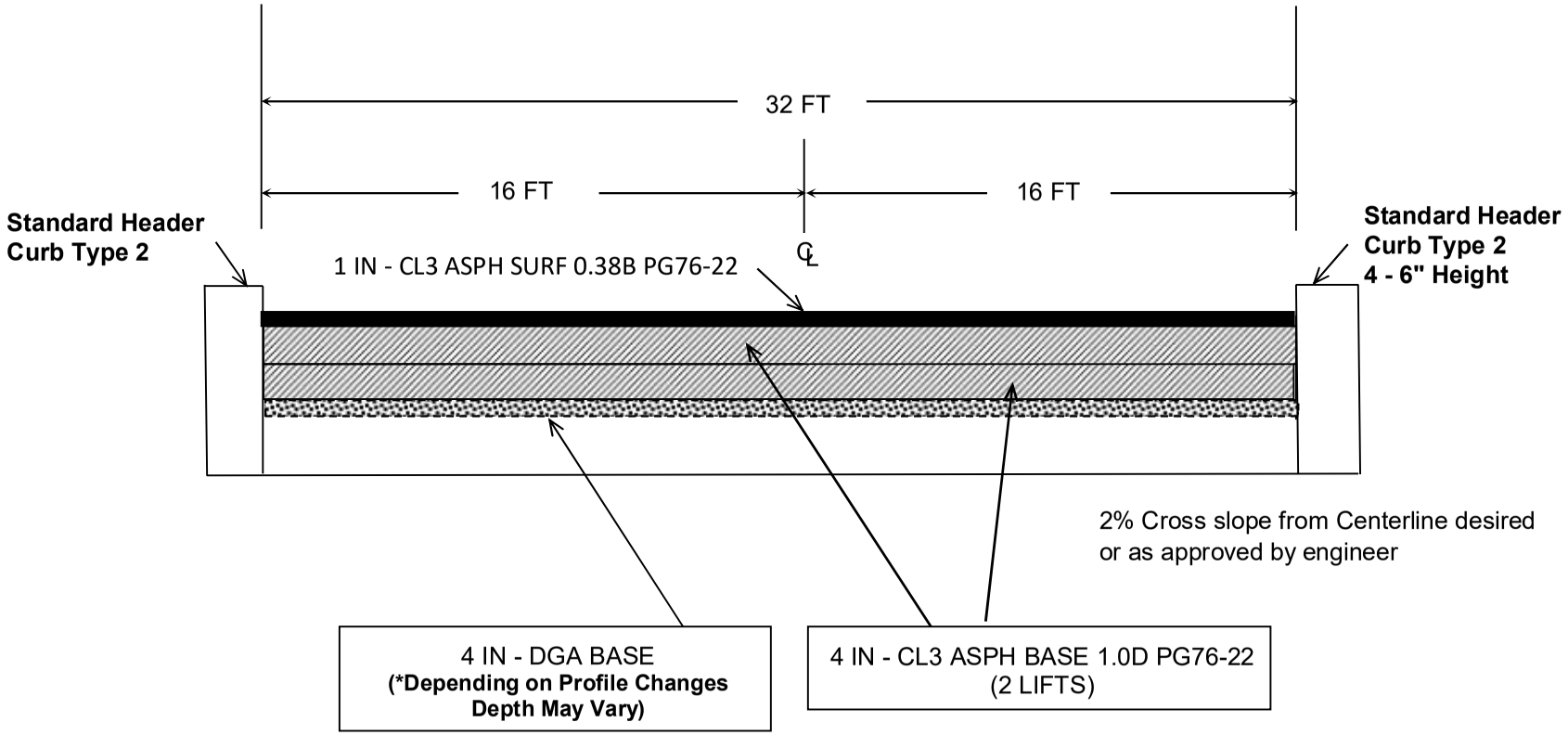
Any additional excavation/undercuts required due to soft soils (below what is shown on the typical section) shall be incidental to (Crushed Aggregate Size No. 2

TYPICAL SECTION

LOGAN COUNTY

KY 3240 & S. Main St. Intersection

MP 1.410 To 1.434



**ALL ASPHALT (BASE COURSES & SURFACE COURSE) WILL BE FIBER REINFORCED
*MODIFIED STANDARD HEADER CURB LOCATION IS SHOWN ON SITE MAP. REMAINING CURB IS TO BE LEFT UNDISTURBED.
**GEOTEXTILE FABRIC TO BE INSTALLED AS NEEDED AS ENGINEER DIRECTS
**CRUSHED AGGREGATE SIZE NO 2 TO BE INSTALLED AS NEEDED AS ENGINEER DIRECTS
**WIDTH MAY VARY FROM TYPICAL SECTION AT THE INTERSECTION OF S. MAIN STREET

Any additional excavation/undercuts required due to soft soils (below what is shown on the typical section) shall be incidental to (Crushed Aggregate Size No 2)

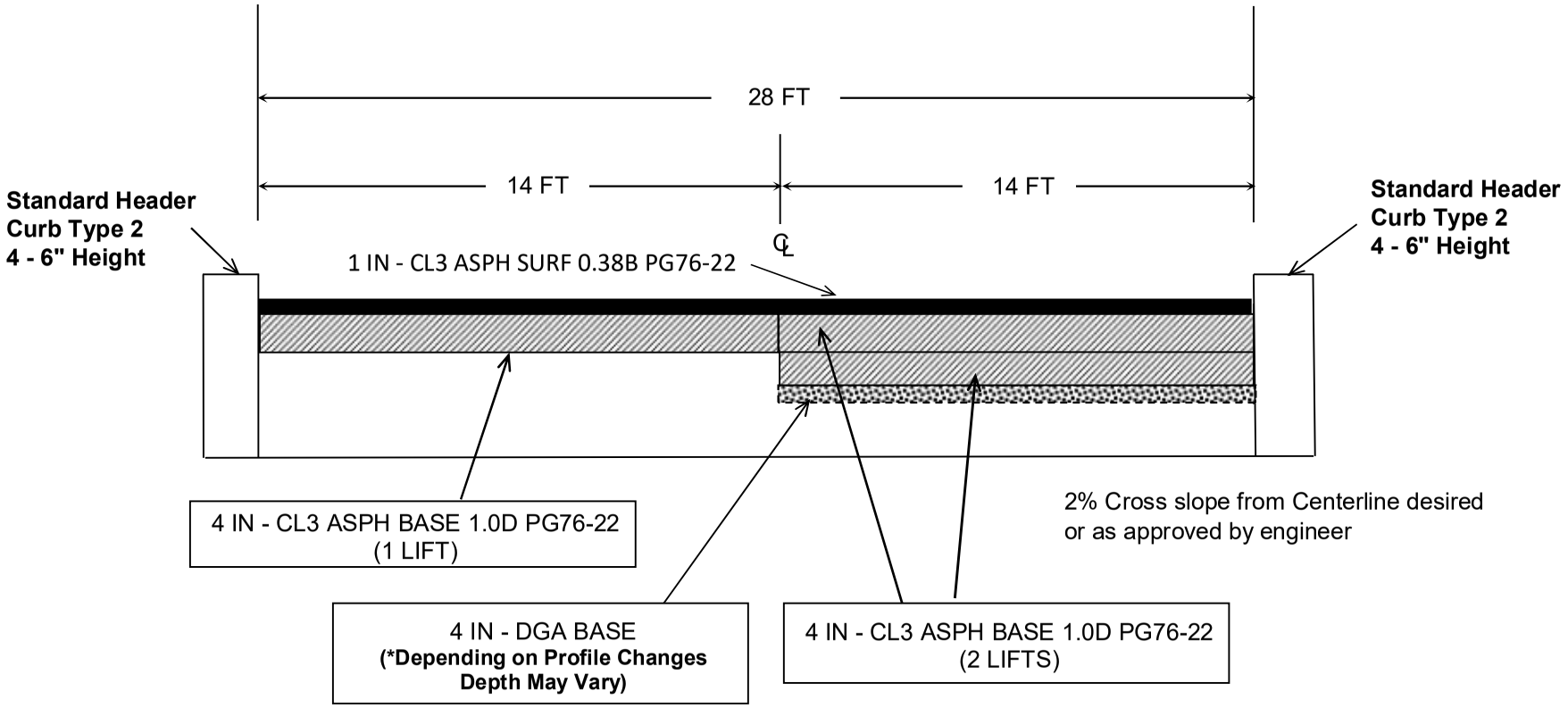
TYPICAL SECTION

LOGAN COUNTY

KY 3240 & S. Main St. Intersection Approaches

WEST APPROACH MP 1.365 To 1.410

EAST APPROACH MP 1.434 To 1.479



**ALL ASPHALT (BASE COURSES & SURFACE COURSE) WILL BE FIBER REINFORCED
**GEOTEXTILE FABRIC TO BE INSTALLED AS NEEDED AS ENGINEER DIRECTS
**CRUSHED AGGREGATE SIZE NO 2 TO BE INSTALLED AS NEEDED AS ENGINEER DIRECTS

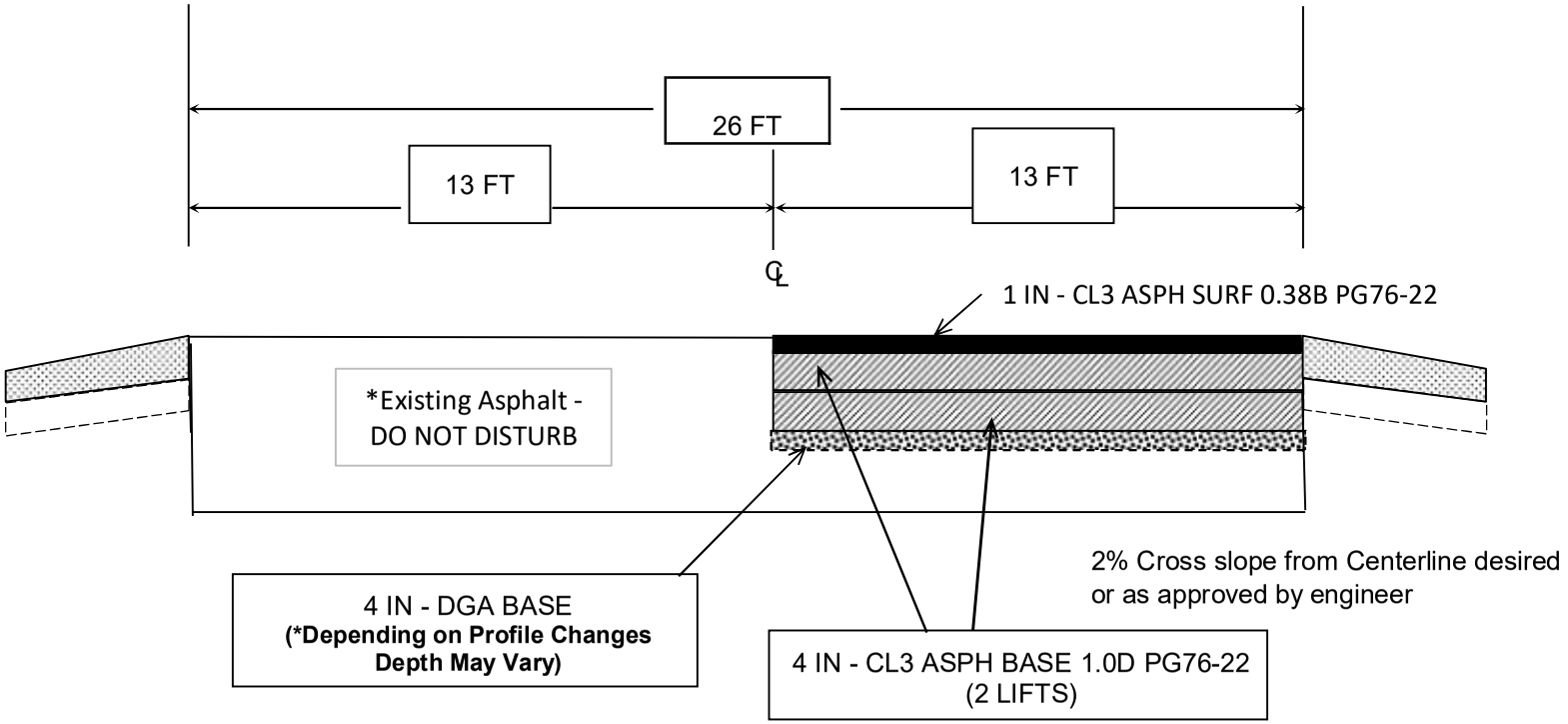
Any additional excavation/undercuts required due to soft soils (below what is shown on the typical section) shall be incidental to (Crushed Aggregate Size No. 2)

TYPICAL SECTION

LOGAN COUNTY

KY 2146 & KY 3240 INTERSECTION

KY 2146 SOUTH APPROACH MP 2.259 - 2.284



**ALL ASPHALT (BASE COURSES & SURFACE COURSE) WILL BE FIBER REINFORCED
**GEOTEXTILE FABRIC TO BE INSTALLED AS NEEDED AS ENGINEER DIRECTS
**CRUSHED AGGREGATE SIZE NO 2 TO BE INSTALLED AS NEEDED AS ENGINEER DIRECTS

Any additional excavation/undercuts required due to soft soils (below what is shown on the typical section) shall be incidental to (Crushed Aggregate No. 2)

212403

PROPOSAL BID ITEMS

Report Date 9/22/21

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	430.00	TON		$	
0020	00078		CRUSHED AGGREGATE SIZE NO 2	250.00	TON		$	
0030	00216		CL3 ASPH BASE 1.00D PG76-22	993.00	TON		$	
0040	00387		CL3 ASPH SURF 0.38B PG76-22	146.00	TON		$	
0050	01791		ADJUST MANHOLE FRAME TO GRADE	1.00	EACH		$	
0060	01875		STANDARD HEADER CURB (MODIFIED)	25.00	LF		$	
0065	01875		STANDARD HEADER CURB (TYPE 2) (ADDED 9-22-2021)	1,100.00	LF		$	
0070	01904		REMOVE CURB (REVISED 9-22-2021)	1,100.00	LF		$	
0080	02014		BARRICADE-TYPE III	24.00	EACH		$	
0090	02091		REMOVE PAVEMENT	2,650.00	SQYD		$	
0100	02562		TEMPORARY SIGNS	646.00	SQFT		$	
0110	02603		FABRIC-GEOTEXTILE CLASS 2	1,900.00	SQYD		$	
0120	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0130	02671		PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH		$	
0140	02720		SIDEWALK-4 IN CONCRETE	83.00	SQYD		$	
0150	02726		STAKING	1.00	LS		$	
0160	04941		REMOVE POLE BASE	1.00	EACH		$	
0170	06510		PAVE STRIPING-TEMP PAINT-4 IN	2,200.00	LF		$	
0180	06514		PAVE STRIPING-PERM PAINT-4 IN	2,200.00	LF		$	
0190	06566		PAVE MARKING-THERMO X-WALK-12 IN	257.00	LF		$	
0200	06568		PAVE MARKING-THERMO STOP BAR-24IN	78.00	LF		$	
0210	23158ES505		DETECTABLE WARNINGS (NEW)	64.00	SQFT		$	
0220	24785EC		FIBER REINFORCEMENT FOR HMA	1,139.00	TON		$	
0230	24955ED		REMOVE SIGNAL EQUIPMENT	2.00	EACH		$	
0240	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	1.00	TON		$	
0250	26119EC		INSTALL RADAR PRESENCE DETECTOR TYPE A	8.00	EACH		$	

Section: 0002 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0260	02569		DEMOBILIZATION	1.00	LS		$	