

- LEGEND**
- FLAGGER
 - ▬ SIGN
 - CHANNELIZING DEVICES
CONES
DRUMS

~ NOTES ~

1. THE SIZE OF SIGNS 2 THRU 5 SHALL BE 48" X 48" WITH 30" X 24" SUPPLEMENTAL PLAQUES FOR EXPRESSWAYS/FREEWAYS. THE MINIMUM SIZE OF SIGNS 2 THRU 5 SHALL BE 36" X 36" WITH 24" X 18" SUPPLEMENTAL PLAQUES FOR OTHER ROADWAYS. SIGN NOS. 1 AND 6 SHALL BE 48" X 24" FOR EXPRESSWAYS/FREEWAYS AND 36" X 18" FOR OTHER ROADWAYS. A FREEWAY IS DEFINED AS A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS. AN EXPRESSWAY IS DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.
2. THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. FLAGGER STATIONS SHALL BE LOCATED FAR ENOUGH IN ADVANCE OF THE ACTIVITY AREA SO THAT APPROACHING ROAD USERS WILL HAVE SUFFICIENT DISTANCE TO STOP BEFORE ENTERING THE WORK SPACE. ILLUMINATION SHALL BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT.
3. DRUMS SHALL BE USED IN LIEU OF CONES IF CLOSURE EXTENDS INTO NIGHTTIME HOURS. GRABBER CONES MAY BE USED IN LIEU OF DRUMS IF THE USE OF DRUMS WOULD RESULT IN LANES THAT ARE TOO NARROW OR AN UNACCEPTABLE SITUATION BASED ON ENGINEERING JUDGMENT.
- ④ SIGN NO. 1 SHOULD BE INSTALLED AT THE LIMITS OF THE PROJECT WHEN THE CONSTRUCTION ZONE IS LONGER THAN TWO MILES IN LENGTH. THE DISTANCE SHOWN SHALL BE STATED TO THE NEAREST WHOLE MILE.
- ⑤ TAPERS SHALL BE 50' (MIN) TO 100' (MAX) IN LENGTH. SPACING OF CHANNELIZING DEVICES SHOULD BE 20' THRU THE TAPER AREAS.
- ⑥ BUFFER SPACE (OPTIONAL). IF USED, THE BUFFER SPACE SHOULD BE EXTENDED SO THAT THE TWO-WAY TRAFFIC TAPER IS PLACED BEFORE A HORIZONTAL OR CREST VERTICAL CURVE TO PROVIDE ADEQUATE SIGHT DISTANCE FOR THE FLAGGER AND A QUEUE OF STOPPED VEHICLES. REFER TO TABLE 6C-2 OF THE MUTCD FOR GUIDANCE ON BUFFER SPACE LENGTH.
- ⑦ SPACING OF CHANNELIZING DEVICES THRU THE ACTIVITY AREA SHOULD BE 80'. ON ROADWAYS WITH WIDTHS LESS THAN 20 FEET, CHANNELIZING DEVICES MAY BE OMITTED THRU THE ACTIVITY AREA BASED ON ENGINEERING JUDGMENT.

BID ITEMS AND UNIT TO BID
 LANE CLOSURE EACH
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

SIGNING AND SPACING TABLE				
ROAD TYPE	A	B	C	D
EXPRESSWAY/ FREEWAY	1000'	500'	1100'	2600'
SP. LT. ≥ 45 MPH*	500'	500'	500'	1100'
SP. LT. ≤ 40 MPH*	250'	250'	250'	250'

*NOTE: USE NORMAL POSTED SPEED LIMIT

DRAWING NOT TO SCALE

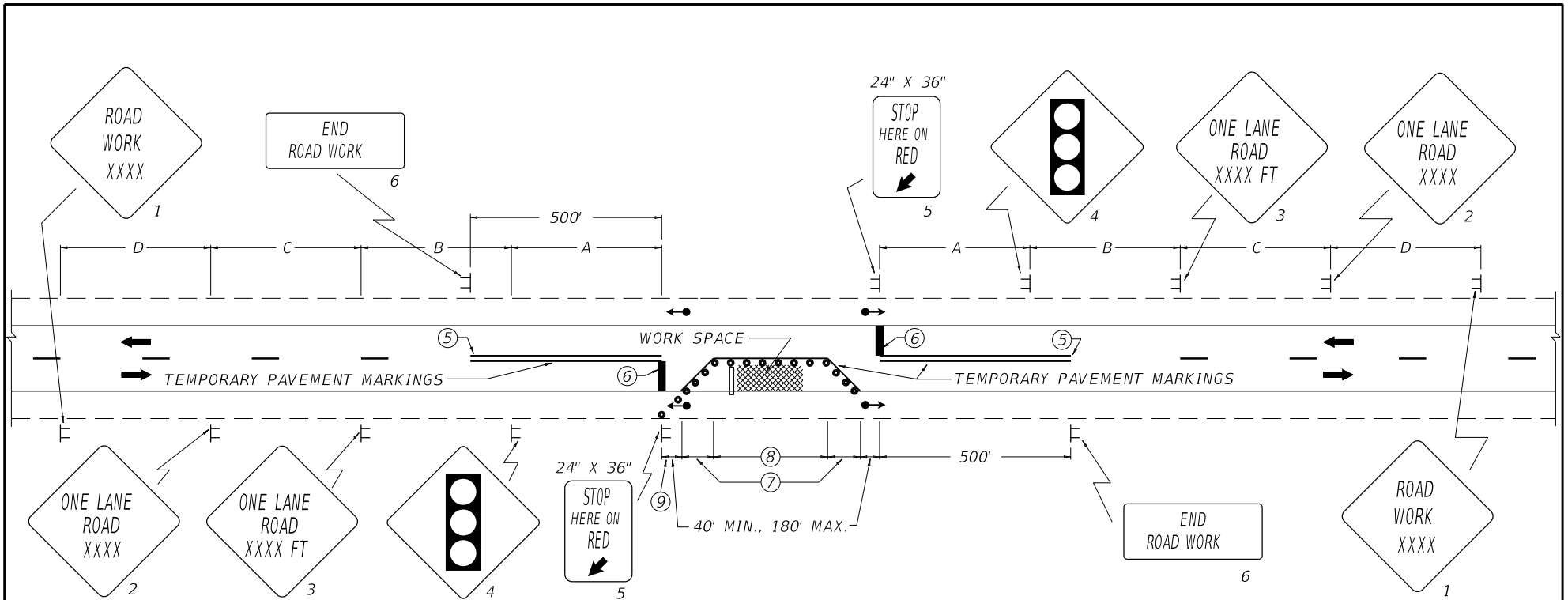
**KENTUCKY
DEPARTMENT OF HIGHWAYS**

**LANE CLOSURE
TWO-LANE HIGHWAY**

STANDARD DRAWING NO. TTC-100-05

SUBMITTED *B. Allen Wolf* 02-26-20
DIRECTOR OF STATE HIGHWAY OPERATIONS DATE

APPROVED *[Signature]* 02-26-20
STATE HIGHWAY ENGINEER DATE



~ NOTES ~

1. THE SIZE OF SIGNS 2 THRU 5 SHALL BE 48" X 48" FOR EXPRESSWAYS/FREEWAYS. THE MINIMUM SIZE OF SIGNS 2 THRU 5 SHALL BE 36" X 36" FOR OTHER ROADWAYS. SIGN NOS. 1 AND 6 SHALL BE 48" X 24" FOR EXPRESSWAYS/FREEWAYS AND 36" X 18" FOR OTHER ROADWAYS. A FREEWAY IS DEFINED AS A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS. AN EXPRESSWAY IS DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.
2. TEMPORARY TRAFFIC SIGNALS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH THE PROVISIONS OF PART 4 OF THE MUTCD.
3. ALL SHOULDER MOUNTED SIGNAL HEADS SHALL BE A MINIMUM HEIGHT OF 12 FEET. ANY SIGNAL HEADS OR OTHER DEVICES MOUNTED OVER THE ROADWAY SHALL HAVE A MINIMUM UNDERCLEARANCE OF 17 FEET.
4. ALL CONFLICTING PAVEMENT MARKINGS BETWEEN THE STOP BARS SHALL BE OBLITERATED BY AN APPROVED METHOD.
- ⑤ "NO PASSING" ZONES (500' MIN.) SHALL BE INSTALLED ON THE APPROACHES TO THE CLOSURE.
- ⑥ STOP BARS SHALL HAVE A WIDTH OF 24".
- ⑦ TAPERS SHALL BE 50' (MIN) TO 100' (MAX) IN LENGTH. SPACING OF CHANNELIZING DEVICES SHOULD BE 20' THRU THE TAPER AREAS.
- ⑧ SPACING OF CHANNELIZING DEVICES THROUGH THE ACTIVITY AREA SHOULD BE 80'.
- ⑨ SPACING OF CHANNELIZING DEVICES THROUGH SHOULDER TAPER SHOULD BE 20'.
10. GRABBER CONES MAY BE USED IN LIEU OF DRUMS IF THE USE OF DRUMS WOULD RESULT IN LANES THAT ARE TOO NARROW OR AN UNACCEPTABLE SITUATION BASED ON ENGINEERING JUDGMENT.
11. TEMPORARY TRAFFIC CONTROL SIGNAL TIMING, INCLUDING CLEARANCE INTERVALS, SHALL BE VERIFIED BY DISTRICT TRAFFIC.

BID ITEMS AND UNIT TO BID
 LANE CLOSURE EACH
 TEMP SIGNAL EACH
 BARRICADE TYPE-III EACH
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

SIGNING AND SPACING TABLE				
ROAD TYPE	A	B	C	D
EXPRESSWAY/ FREEWAY	1000'	500'	1100'	2600'
SP. LT. ≥ 45 MPH*	500'	500'	500'	1100'
SP. LT. ≤ 40 MPH*	250'	250'	500'	500'

*NOTE: USE NORMAL POSTED SPEED LIMIT

LEGEND

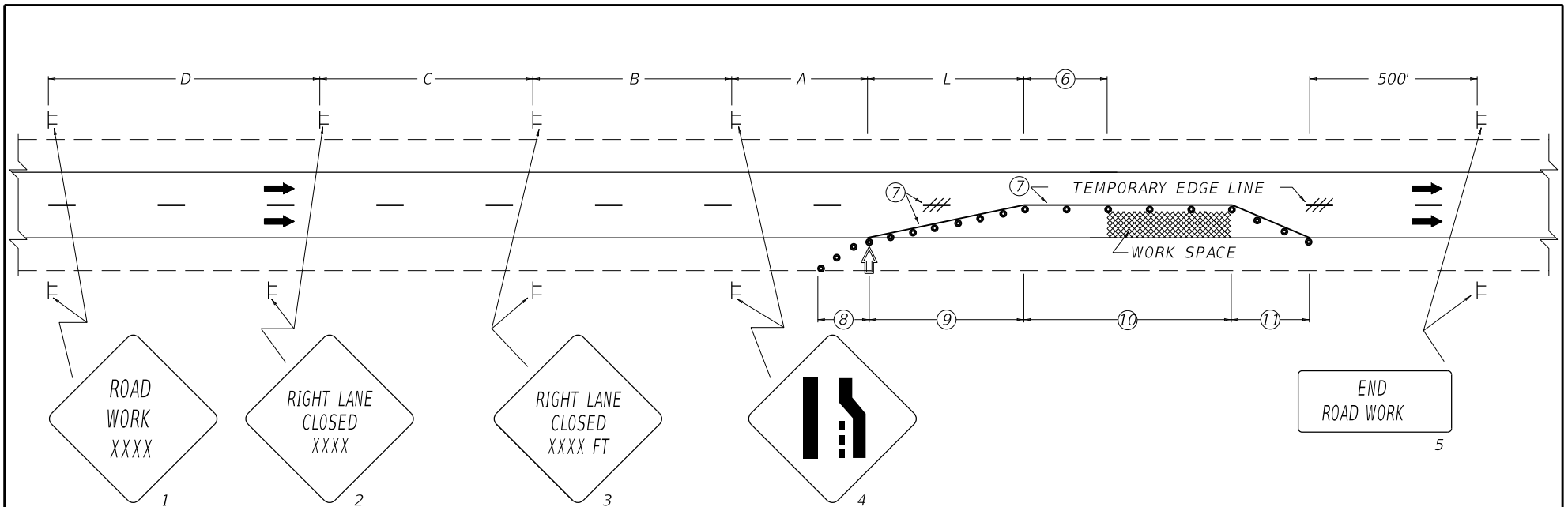
- TYPE III BARRICADE
- ⊥ SIGN
- ←● TRAFFIC SIGNAL
- CHANNELIZING DEVICES DRUMS

DRAWING NOT TO SCALE

KENTUCKY
DEPARTMENT OF HIGHWAYS

LANE CLOSURE
USING TRAFFIC SIGNALS

STANDARD DRAWING NO. TTC-110-04
 SUBMITTED *B. Allen Wolf* 02-26-20
DIRECTOR OF PUBLIC SAFETY OPERATIONS
 APPROVED *[Signature]* 02-26-20
STATE HIGHWAY ENGINEER



~ NOTES ~

1. IF MEDIAN IS NOT WIDE ENOUGH TO MAINTAIN LATERAL CLEARANCES SHOWN IN MUTCD, SIGNS 1 THRU 5 SHALL NOT BE DUAL MOUNTED.
2. THE SIZE OF SIGNS 1 THRU 4 SHALL BE 48" X 48" FOR EXPRESSWAYS/FREEWAYS. THE MINIMUM SIZE OF SIGNS 1 THRU 4 SHALL BE 36" X 36" FOR OTHER ROADWAYS. SIGN NO. 5 SHALL BE 48" X 24" FOR EXPRESSWAYS/FREEWAYS AND 36" X 18" FOR OTHER ROADWAYS. A FREEWAY IS DEFINED AS A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS. AN EXPRESSWAY IS DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.
3. AN ARROW PANEL SHALL BE LOCATED ON THE SHOULDER AT THE BEGINNING OF THE MERGING TAPER OR LOCATED IN THE CLOSED LANE WHEN THE SHOULDER IS NARROW.
4. ALL VEHICLES, EQUIPMENT, WORKERS, AND THEIR ACTIVITIES SHALL BE RESTRICTED TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
5. DRUMS SHALL BE USED IN LIEU OF CONES IF CLOSURE EXTENDS INTO NIGHTTIME HOURS. GRABBER CONES MAY BE USED IN LIEU OF DRUMS IF THE USE OF DRUMS WOULD RESULT IN LANES THAT ARE TOO NARROW OR AN UNACCEPTABLE SITUATION BASED ON ENGINEERING JUDGMENT.
- ⑥ BUFFER SPACE (OPTIONAL). REFER TO TABLE 6C-2 OF THE MUTCD FOR GUIDANCE ON BUFFER SPACE LENGTH.
- ⑦ IF DURATION OF LANE CLOSURE EXCEEDS THREE DAYS, TEMPORARY EDGE LINE SHALL BE REQUIRED AND SKIP LINES SHALL BE OBLITERATED BY APPROVED METHOD THRU LENGTH OF TAPER. ANY OTHER CONFLICTING PAVEMENT MARKINGS SHALL BE OBLITERATED.
- ⑧ IF AN ARROW PANEL IS INSTALLED ON THE SHOULDER OR WITHIN THE CLEAR ZONE, A SHOULDER TAPER SHALL BE REQUIRED. WHEN PAVED SHOULDERS HAVING A WIDTH OF 8' OR MORE ARE CLOSED, A SHOULDER TAPER SHALL BE REQUIRED. TAPER LENGTH SHALL BE 0.33 L. SPACING OF CHANNELIZING DEVICES THRU THE SHOULDER TAPER SHOULD BE 40'.
- ⑨ SPACING OF CHANNELIZING DEVICES THRU THE MERGING TAPER SHOULD BE 40'.
- ⑩ SPACING OF CHANNELIZING DEVICES THRU THE ACTIVITY AREA SHOULD BE 80'.
- ⑪ DOWNSTREAM TAPER SHALL HAVE A MINIMUM LENGTH OF 50' AND A MAXIMUM LENGTH OF 100'. SPACING OF CHANNELIZING DEVICES THRU THE DOWNSTREAM TAPER SHOULD BE 20'.

LEGEND

- ➡ ARROW PANEL
- ⊢ SIGN
- CHANNELIZING DEVICES
CONES
DRUMS

BID ITEM AND UNIT TO BID
 LANE CLOSURE EACH
 ARROW PANEL EACH
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

SIGNING AND SPACING TABLE					
ROAD TYPE	A	B	C	D	L
EXPRESSWAY/ FREEWAY	1000'	500'	1100'	2600'	840'
SP. LT. ≥ 45 MPH*	500'	500'	500'	1100'	680'
SP. LT. ≤ 40 MPH*	250'	250'	500'	500'	320'

*NOTE: USE NORMAL POSTED SPEED LIMIT

DRAWING NOT TO SCALE

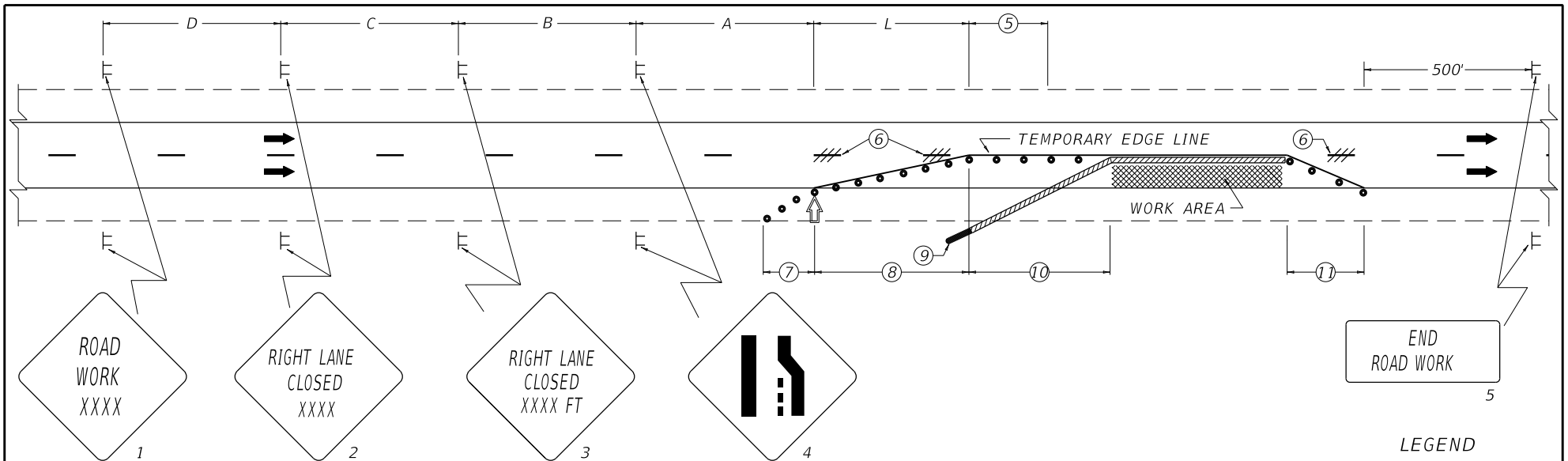
USE WITH CUR. STD. DWG.
TTC-160

KENTUCKY
DEPARTMENT OF HIGHWAYS

LANE CLOSURE
MULTI-LANE HIGHWAY
CASE I

STANDARD DRAWING NO. TTC-115-04

SUBMITTED BY *B. Allen Wolf* DATE 02-26-20
DIRECTOR OF TRANSPORTATION OPERATIONS
 APPROVED BY *[Signature]* DATE 02-26-20
STATE HIGHWAY ENGINEER



APPLICATION

THIS DRAWING APPLIES TO LANE CLOSURES OF LEFT OR RIGHT LANES USING TEMPORARY TRAFFIC BARRIER ON TWO-DIRECTION, MULTI-LANE HIGHWAYS. IF TEMPORARY TRAFFIC BARRIER IS NOT USED, REFER TO CURRENT STANDARD DRAWING **TTC-115**.

~ NOTES ~

1. IF MEDIAN IS NOT WIDE ENOUGH TO MAINTAIN LATERAL CLEARANCES SHOWN IN THE MUTCD, SIGNS 1 THRU 5 SHALL NOT BE DUAL MOUNTED.
 2. THE SIZE OF SIGNS 1 THRU 4 SHALL BE 48" X 48" FOR EXPRESSWAYS/FREEWAYS. THE MINIMUM SIZE OF SIGNS 1 THRU 4 SHALL BE 36" X 36" FOR OTHER ROADWAYS. SIGN NO. 5 SHALL BE 48" X 24" FOR EXPRESSWAYS/FREEWAYS AND 36" X 18" FOR OTHER ROADWAYS. A FREEWAY IS DEFINED AS A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS. AN EXPRESSWAY IS DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.
 3. AN ARROW PANEL SHALL BE REQUIRED. IT SHALL BE LOCATED ON THE SHOULDER AT THE BEGINNING OF THE MERGING TAPER OR LOCATED IN THE CLOSED LANE WHEN THE SHOULDER IS NARROW.
 4. THE BARRIER SHALL NOT BE PLACED ALONG THE MERGING TAPER. THE LANE SHALL FIRST BE CLOSED USING CHANNELIZING DEVICES AND PAVEMENT MARKINGS.
 - ⑤ BUFFER SPACE (OPTIONAL). REFER TO TABLE 6C-2 OF THE MUTCD FOR GUIDANCE ON BUFFER SPACE LENGTH.
 - ⑥ SKIP LINES SHALL BE OBLITERATED BY AN APPROVED METHOD THRU LENGTH OF TAPERS. OTHER CONFLICTING PAVEMENT MARKINGS SHALL BE OBLITERATED.
 - ⑦ IF AN ARROW PANEL IS INSTALLED ON THE SHOULDER OR WITHIN THE CLEAR ZONE, A SHOULDER TAPER SHALL BE REQUIRED. WHEN PAVED SHOULDERS HAVING A WIDTH OF 8' OR MORE ARE CLOSED, A SHOULDER TAPER SHALL BE REQUIRED. TAPER LENGTH SHALL BE 0.33 L. SPACING OF CHANNELIZING DEVICES THRU THE SHOULDER TAPER SHOULD BE 40'.
 - ⑧ SPACING OF CHANNELIZING DEVICES THRU THE MERGING TAPER SHOULD BE 40'.
 - ⑨ IN ORDER TO MITIGATE THE EFFECT OF STRIKING THE END OF A TEMPORARY TRAFFIC BARRIER, THE END SHALL BE INSTALLED IN ACCORDANCE WITH THE ROADSIDE DESIGN GUIDE BY FLARING (SEE TABLE) UNTIL THE END IS OUTSIDE THE ACCEPTABLE CLEAR ZONE OR BY PROVIDING CRASHWORTHY END TREATMENTS. FLATTER FLARE RATES MAY BE USED.
 - ⑩ SPACING OF CHANNELIZING DEVICES THRU THIS AREA SHOULD BE 80'.
 - ⑪ DOWNSTREAM TAPER SHALL HAVE A MINIMUM LENGTH OF 50' AND A MAXIMUM LENGTH OF 100'. SPACING OF CHANNELIZING DEVICES THRU THE DOWNSTREAM TAPER SHOULD BE 20'.
 12. GRABBER CONES MAY BE USED IN LIEU OF DRUMS IF THE USE OF DRUMS WOULD RESULT IN LANES THAT ARE TOO NARROW OR AN UNACCEPTABLE SITUATION BASED ON ENGINEERING JUDGMENT.
 13. THE COLOR OF BARRIER WALL DELINEATORS SHALL MATCH THE COLOR OF THE EDGE LINE THAT THEY SUPPLEMENT.
- BID ITEMS AND UNIT TO BID
 ARROW PANEL - EACH; LANE CLOSURE - EACH
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

LEGEND

- TEMPORARY TRAFFIC BARRIER
- ARROW PANEL
- SIGN
- CRASH CUSHION
- CHANNELIZING DEVICES DRUMS

MAXIMUM FLARE RATES FOR TEMPORARY TRAFFIC BARRIER			
DESIGN SPEED	70 MPH	60 MPH	50 MPH
FLARE RATE	15:1	14:1	11:1

DRAWING NOT TO SCALE

SIGNING AND SPACING TABLE					
ROAD TYPE	A	B	C	D	L
EXPRESSWAY/ FREEWAY	1000'	500'	1100'	2600'	840'
SP. LT. ≥ 45 MPH*	500'	500'	500'	1100'	680'
SP. LT. ≤ 40 MPH*	250'	250'	500'	500'	320'

*NOTE: USE NORMAL POSTED SPEED LIMIT

USE WITH CUR. STD. DWGS.
RBM-020 AND **TTC-160**

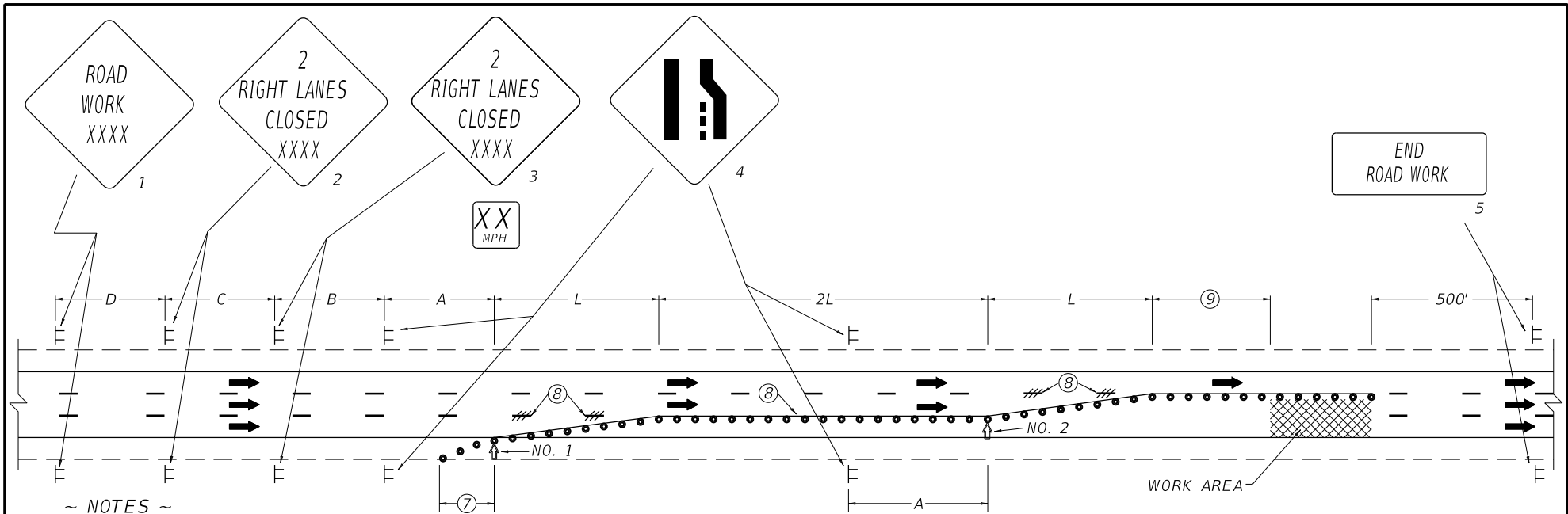
**KENTUCKY
DEPARTMENT OF HIGHWAYS**

**LANE CLOSURE
MULTI-LANE HIGHWAY
CASE II**

STANDARD DRAWING NO. **TTC-120-04**

SUBMITTED *B. Allen Wolf* DATE **02-26-20**
DIRECTOR DIVISION OF OPERATIONS

APPROVED *[Signature]* DATE **02-26-20**
STATE HIGHWAY ENGINEER



~ NOTES ~

1. THE SIZE OF SIGNS 1 THRU 4 SHALL BE 48" X 48" WITH 30" X 24" SUPPLEMENTAL PLAQUES FOR EXPRESSWAYS/FREEWAYS. THE MINIMUM SIZE OF SIGNS 1 THRU 4 SHALL BE 36" X 36" WITH 24" X 18" SUPPLEMENTAL PLAQUES FOR OTHER ROADWAYS. SIGN NO. 5 SHALL BE 48" X 24" FOR EXPRESSWAYS/FREEWAYS AND 36" X 18" FOR OTHER ROADWAYS. A FREEWAY IS DEFINED AS A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS. AN EXPRESSWAY IS DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.
2. WHEN MORE THAN TWO LANES ARE TO BE CLOSED, SIGNS 2 AND 3 SHALL AGREE WITH THE NUMBER OF LANES CLOSED. ADDITIONAL TRANSITION SIGNS AND ACCOMPANYING ARROW PANELS SHALL BE USED ACCORDINGLY. ADDITIONAL TAPERS AND TANGENTS FOR CHANNELIZING DEVICES SHALL BE THE SAME AS THOSE SHOWN.
3. THE ADVISORY SPEED LIMIT ON SIGN 3 SHALL BE 10 MPH LESS THAN THE NORMAL SPEED LIMIT UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. DRUMS SHALL BE USED IN LIEU OF CONES IF CLOSURE EXTENDS INTO NIGHTTIME HOURS. GRABBER CONES MAY BE USED IN LIEU OF DRUMS IF THE USE OF DRUMS WOULD RESULT IN LANES THAT ARE TOO NARROW OR AN UNACCEPTABLE SITUATION BASED ON ENGINEERING JUDGMENT.
5. SPACING OF THE CHANNELIZING DEVICES THRU THE MERGING TAPERS SHOULD BE 40'. SPACING OF THE CHANNELIZING DEVICES THRU THE REMAINDER OF THE CLOSURE SHOULD BE 80'.
6. ARROW PANEL NO. 1 SHALL BE LOCATED ON THE SHOULDER AT THE BEGINNING OF THE FIRST MERGING TAPER. IF THE SHOULDER IS NARROW, ARROW PANEL NO. 1 SHALL BE LOCATED IN THE FIRST CLOSED LANE. ARROW PANEL NO. 2 SHALL BE PLACED IN THE FIRST CLOSED LANE AT THE BEGINNING OF THE SECOND MERGING TAPER. IF ARROW PANEL NO. 1 IS INSTALLED IN THE FIRST CLOSED LANE, ARROW PANEL NO. 2 SHALL BE PLACED IN THE SECOND CLOSED LANE AT THE DOWNSTREAM END OF THE SECOND MERGING TAPER.
- ⑦ IF ARROW PANEL NO. 1 IS INSTALLED ON THE SHOULDER OR WITHIN THE CLEAR ZONE, A SHOULDER TAPER SHALL BE REQUIRED. TAPER LENGTH SHALL BE 0.33 L. SPACING OF CHANNELIZING DEVICES THRU THE SHOULDER TAPER SHOULD BE 40'.
- ⑧ IF DURATION OF LANE CLOSURE EXCEEDS THREE DAYS, TEMPORARY EDGE LINE SHALL BE REQUIRED AND SKIP LINES SHALL BE OBLITERATED BY APPROVED METHOD THRU THE LENGTH OF TAPERS. OTHER CONFLICTING PAVEMENT MARKINGS SHALL BE OBLITERATED.
- ⑨ BUFFER SPACE (OPTIONAL). REFER TO TABLE 6C-2 OF THE MUTCD FOR GUIDANCE ON BUFFER SPACE LENGTH.

BID ITEMS AND UNIT TO BID
 LANE CLOSURE EACH
 ARROW PANEL EACH
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

APPLICATION

THIS DRAWING DEPICTS THE MIDDLE AND OUTSIDE LANES CLOSED ON A MULTI-LANE HIGHWAY. THE SAME PRINCIPLES APPLY WHEN THE MIDDLE AND INSIDE LANES ARE CLOSED. WHEN MORE THAN TWO LANES ARE CLOSED, REFER TO NOTE 2.

LEGEND

- ➡ ARROW PANEL
- ⊞ SIGN
- CHANNELIZING DEVICES
- CONES
- DRUMS

DRAWING NOT TO SCALE

USE WITH CUR. STD. DWGS.
 TTC-160 AND TTD-110

SIGNING AND SPACING TABLE					
ROAD TYPE	A	B	C	D	L
EXPRESSWAY/ FREEWAY	1000'	500'	1100'	2600'	840'
SP. LT. ≥ 45 MPH*	500'	500'	500'	1100'	680'
SP. LT. ≤ 40 MPH*	250'	250'	500'	500'	320'

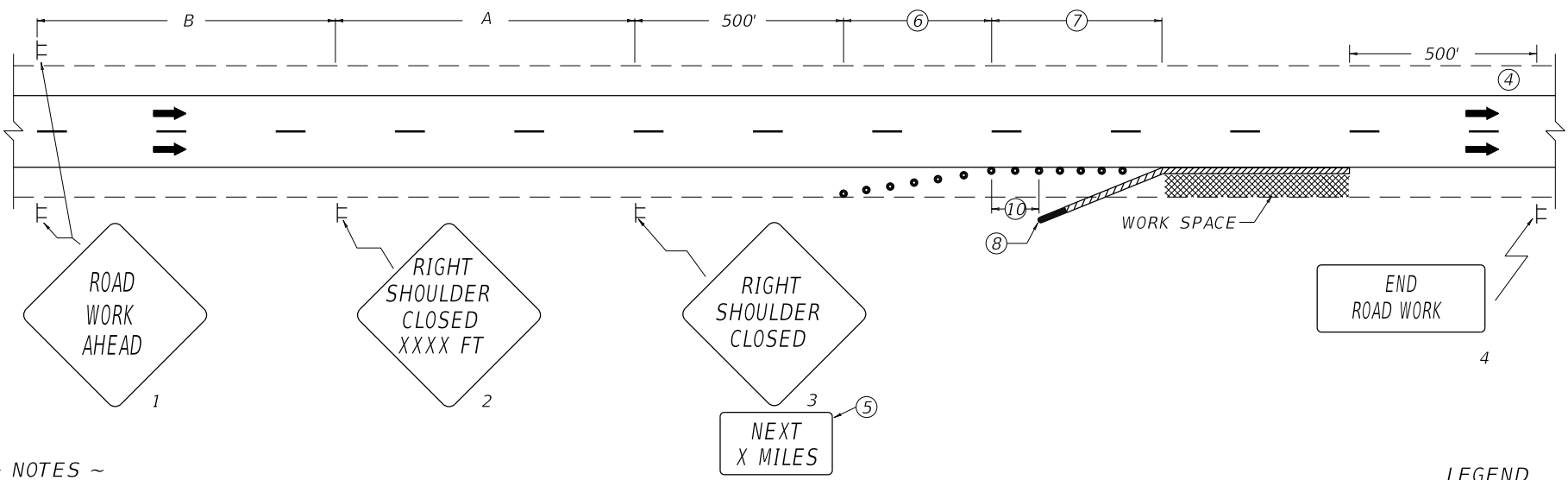
*NOTE: USE NORMAL POSTED SPEED LIMIT

KENTUCKY
 DEPARTMENT OF HIGHWAYS

DOUBLE
 LANE CLOSURE

STANDARD DRAWING NO. TTC-125-04

SUBMITTED BY *B. Allen Wolf* DIRECTOR OF OPERATIONS DATE 02-26-20
 APPROVED BY *[Signature]* ENGINEER DATE 02-26-20



~ NOTES ~

1. THE SIZE OF SIGNS 1 THRU 3 SHALL BE 48" X 48" WITH 30" X 24" SUPPLEMENTAL PLAQUES FOR EXPRESSWAYS/FREEWAYS. THE MINIMUM SIZE OF SIGNS 1 THRU 3 SHALL BE 36" X 36" WITH 24" X 18" SUPPLEMENTAL PLAQUES FOR OTHER ROADWAYS. SIGN NO. 4 SHALL BE 48" X 24" FOR EXPRESSWAYS/FREEWAYS AND 36" X 18" FOR OTHER ROADWAYS. A FREEWAY IS AS A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS. AN EXPRESSWAY IS DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.
2. SIGN 1 SHALL NOT BE DUAL-MOUNTED ON TWO-LANE, TWO-DIRECTION HIGHWAYS OR ON MULTI-LANE HIGHWAYS WHERE MEDIAN IS NOT WIDE ENOUGH TO MAINTAIN LATERAL CLEARANCES SHOWN IN THE MUTCD. SIGNS 2 AND 3 SHALL BE INSTALLED ONLY ON THE SIDE OF THE AFFECTED SHOULDER.
3. DRUMS SHALL BE USED IN LIEU OF CONES IF CLOSURE EXTENDS INTO NIGHTTIME HOURS. GRABBER CONES MAY BE USED IN LIEU OF DRUMS IF THE USE OF DRUMS WOULD RESULT IN LANES THAT ARE TOO NARROW OR AN UNACCEPTABLE SITUATION BASED ON ENGINEERING JUDGMENT.
- ④ ON TWO-LANE TWO-DIRECTION HIGHWAYS, SIGNS 1 THRU 3 SHALL BE INSTALLED ON THE APPROACH WITH THE RIGHT SHOULDER CLOSED. A "ROAD WORK AHEAD" AND "SHOULDER WORK" SIGN SHALL BE INSTALLED ON THE OPPOSITE APPROACH. THE "SHOULDER WORK" SIGN SHALL BE MOUNTED IN ADVANCE OF THE CLOSURE AT A SPACING OF "A" (SEE SIGNING AND SPACING TABLE). AN ADDITIONAL "ROAD WORK AHEAD" SIGN SHALL BE INSTALLED IN ADVANCE OF THE "SHOULDER WORK" SIGN AT A SPACING OF "B".
- ⑤ WHEN THE END OF THE CLOSURE CANNOT BE SEEN BY ROAD USERS, A "NEXT X MILES" PLAQUE SHALL BE INSTALLED BELOW THE "SHOULDER CLOSED" SIGN. THE PLAQUE SHALL BE 36" X 30" FOR EXPRESSWAYS/FREEWAYS AND 24" X 18" FOR OTHER ROADWAYS.
- ⑥ TAPER LENGTH SHALL BE 0.33 L. SPACING OF CHANNELIZING DEVICES THROUGH THE SHOULDER TAPER SHOULD BE 40'.
- ⑦ SPACING OF CHANNELIZING DEVICES THROUGH THE REMAINDER OF THE CLOSURE SHOULD BE 80'.
- ⑧ TEMPORARY TRAFFIC BARRIER SHALL BE REQUIRED ONLY IF DESIGNATED ELSEWHERE IN THE PLANS. IN ORDER TO MITIGATE THE EFFECT OF STRIKING THE END OF A TEMPORARY TRAFFIC BARRIER, THE END SHALL BE INSTALLED IN ACCORDANCE WITH THE ROADSIDE DESIGN GUIDE BY FLARING (SEE TABLE) UNTIL THE END IS OUTSIDE THE ACCEPTABLE CLEAR ZONE OR BY PROVIDING CRASHWORTHY END TREATMENTS. FLATTER FLARE RATES MAY BE USED.
9. THE COLOR OF BARRIER WALL DELINEATORS SHALL MATCH THE COLOR OF THE EDGE LINE THAT THEY SUPPLEMENT.
10. BUFFER SPACE (OPTIONAL). REFER TO TABLE 6C-2 OF THE MUTCD FOR GUIDANCE ON BUFFER SPACE LENGTH.

BID ITEMS AND UNIT TO BID
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

MAXIMUM FLARE RATES FOR TEMPORARY TRAFFIC BARRIER			
DESIGN SPEED	70 MPH	60 MPH	50 MPH
FLARE RATE	15:1	14:1	11:1

SIGNING AND SPACING TABLE			
ROAD TYPE	A	B	L
EXPRESSWAY/FREEWAY	1000'	1600'	840'
SP. LT. ≥ 45 MPH*	500'	500'	680'
SP. LT. ≤ 40 MPH*	500'	500'	320'

*NOTE: USE NORMAL POSTED SPEED LIMIT

LEGEND

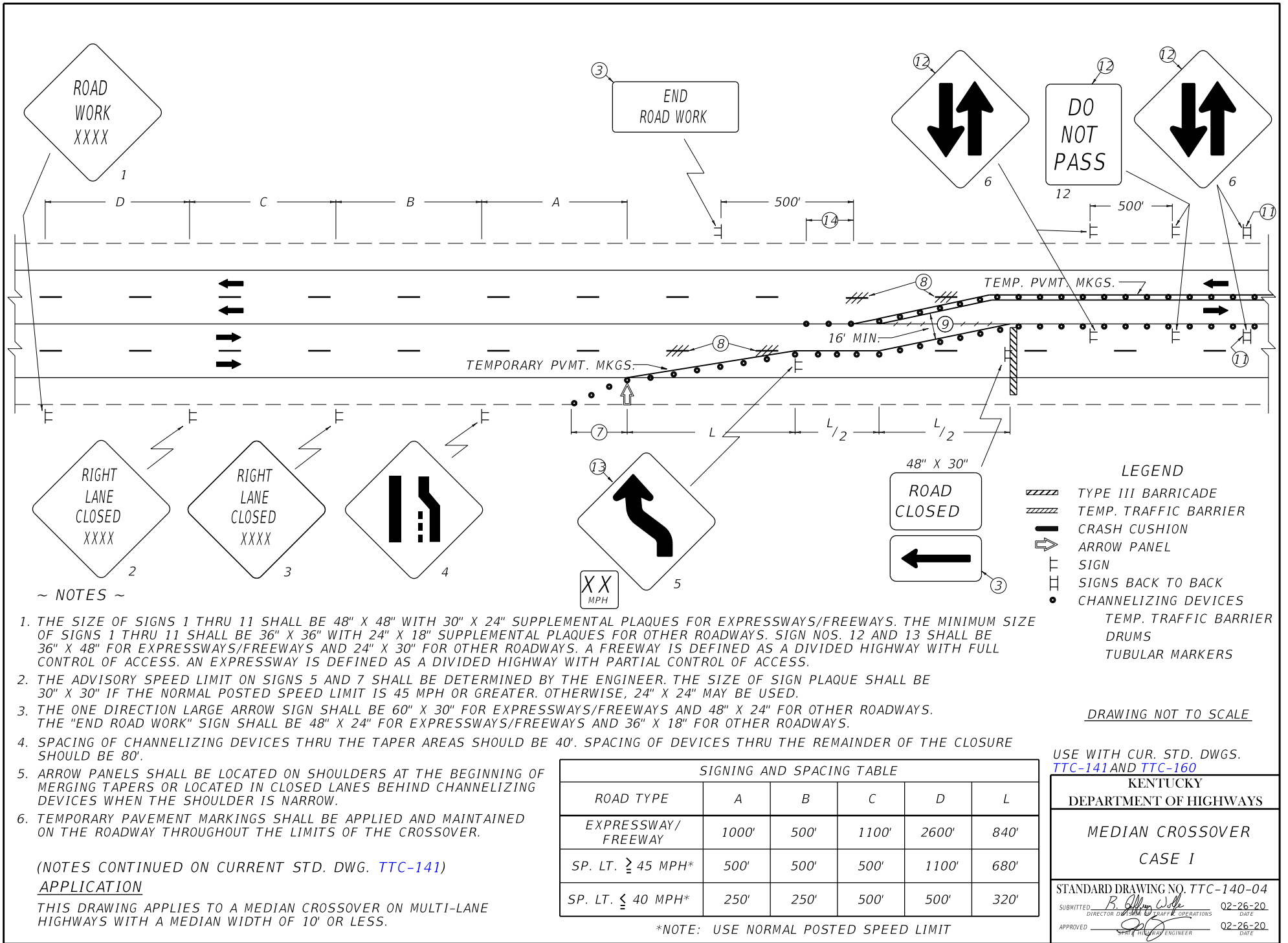
- TEMPORARY TRAFFIC BARRIER
- SIGN
- CHANNELIZING DEVICES
- CONES
- DRUMS
- CRASH CUSHION

DRAWING NOT TO SCALE

KENTUCKY DEPARTMENT OF HIGHWAYS

SHOULDER CLOSURE

STANDARD DRAWING NO. TTC-135-03
 SUBMITTED *B. Allen Wolf* 02-26-20
 DIRECTOR OF TRAFFIC OPERATIONS DATE
 APPROVED *[Signature]* 02-26-20
 STATE HIGHWAY ENGINEER DATE



~ NOTES ~

1. THE SIZE OF SIGNS 1 THRU 11 SHALL BE 48" X 48" WITH 30" X 24" SUPPLEMENTAL PLAQUES FOR EXPRESSWAYS/FREEWAYS. THE MINIMUM SIZE OF SIGNS 1 THRU 11 SHALL BE 36" X 36" WITH 24" X 18" SUPPLEMENTAL PLAQUES FOR OTHER ROADWAYS. SIGN NOS. 12 AND 13 SHALL BE 36" X 48" FOR EXPRESSWAYS/FREEWAYS AND 24" X 30" FOR OTHER ROADWAYS. A FREEWAY IS DEFINED AS A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS. AN EXPRESSWAY IS DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.
2. THE ADVISORY SPEED LIMIT ON SIGNS 5 AND 7 SHALL BE DETERMINED BY THE ENGINEER. THE SIZE OF SIGN PLAQUE SHALL BE 30" X 30" IF THE NORMAL POSTED SPEED LIMIT IS 45 MPH OR GREATER. OTHERWISE, 24" X 24" MAY BE USED.
3. THE ONE DIRECTION LARGE ARROW SIGN SHALL BE 60" X 30" FOR EXPRESSWAYS/FREEWAYS AND 48" X 24" FOR OTHER ROADWAYS. THE "END ROAD WORK" SIGN SHALL BE 48" X 24" FOR EXPRESSWAYS/FREEWAYS AND 36" X 18" FOR OTHER ROADWAYS.
4. SPACING OF CHANNELIZING DEVICES THRU THE TAPER AREAS SHOULD BE 40'. SPACING OF DEVICES THRU THE REMAINDER OF THE CLOSURE SHOULD BE 80'.
5. ARROW PANELS SHALL BE LOCATED ON SHOULDERS AT THE BEGINNING OF MERGING TAPERS OR LOCATED IN CLOSED LANES BEHIND CHANNELIZING DEVICES WHEN THE SHOULDER IS NARROW.
6. TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED AND MAINTAINED ON THE ROADWAY THROUGHOUT THE LIMITS OF THE CROSSOVER.

(NOTES CONTINUED ON CURRENT STD. DWG. [TTC-141](#))

APPLICATION

THIS DRAWING APPLIES TO A MEDIAN CROSSOVER ON MULTI-LANE HIGHWAYS WITH A MEDIAN WIDTH OF 10' OR LESS.

ROAD TYPE	A	B	C	D	L
EXPRESSWAY/ FREEWAY	1000'	500'	1100'	2600'	840'
SP. LT. ≥ 45 MPH*	500'	500'	500'	1100'	680'
SP. LT. ≤ 40 MPH*	250'	250'	500'	500'	320'

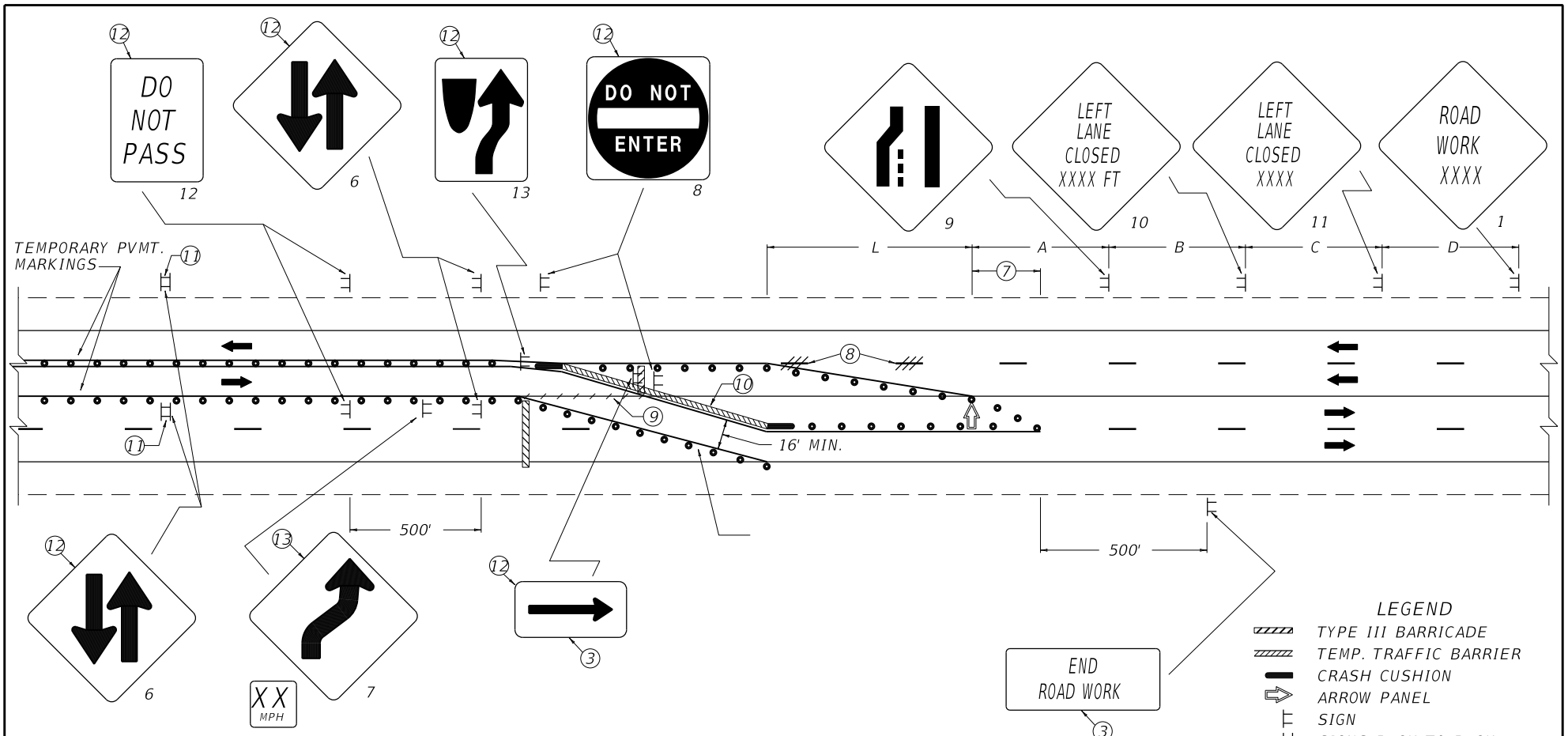
*NOTE: USE NORMAL POSTED SPEED LIMIT

- LEGEND**
- TYPE III BARRICADE
 - TEMP. TRAFFIC BARRIER
 - CRASH CUSHION
 - ARROW PANEL
 - SIGN
 - SIGNS BACK TO BACK
 - CHANNELIZING DEVICES
 - TEMP. TRAFFIC BARRIER DRUMS
 - TUBULAR MARKERS

DRAWING NOT TO SCALE

USE WITH CUR. STD. DWGS.
[TTC-141](#) AND [TTC-160](#)

KENTUCKY DEPARTMENT OF HIGHWAYS	
MEDIAN CROSSOVER CASE I	
STANDARD DRAWING NO. TTC-140-04	
SUBMITTED BY <i>B. Allen Wolf</i> DIRECTOR OF DESIGN & CONSTRUCTION OPERATIONS	DATE 02-26-20
APPROVED BY <i>[Signature]</i> STATE HIGHWAY ENGINEER	DATE 02-26-20



(NOTES CONTINUED FROM CUR. STD. DWG. **TTC-140**)

- ⑦ IF AN ARROW PANEL IS INSTALLED ON THE SHOULDER OR WITHIN THE CLEAR ZONE, A SHOULDER TAPER SHALL BE REQUIRED. TAPER LENGTH SHALL BE 0.33 L. SPACING OF CHANNELIZING DEVICES THRU THE SHOULDER TAPER SHOULD BE 40'.
- ⑧ OBLITERATE SKIP LINES THRU THE LENGTH OF TAPERS BY APPROVED METHOD.
- ⑨ OBLITERATE EXISTING CENTER LINE BY AN APPROVED METHOD. OTHER CONFLICTING PAVEMENT MARKINGS SHALL BE OBLITERATED.
- ⑩ TEMPORARY TRAFFIC BARRIER SHALL BE USED ON TAPER IF CROSSOVER REMAINS IN PLACE OVERNIGHT. IN URBAN AREAS WITH LOW OPERATING SPEEDS WHERE THE USE OF THE BARRIER RESULTS IN REDUCED LANE WIDTHS OR WHERE THE BARRIER INTERFERES WITH ACCESS TO ADJOINING PROPERTY, DRUMS OR TUBULAR MARKERS MAY BE USED IN LIEU OF TEMPORARY TRAFFIC BARRIER.
- ⑪ WHEN CHANNELIZING DEVICES ARE USED TO SEPARATE OPPOSING TRAFFIC, TWO-WAY TRAFFIC SIGN(S) SHALL BE REPEATED EVERY MILE.
- ⑫ WHEN TEMPORARY TRAFFIC BARRIER IS CONTINUOUS THROUGHOUT THE CLOSURE ZONE, THESE SIGNS SHALL BE ELIMINATED.
- ⑬ REVERSE TURN SIGN (W1-3) SHALL BE USED IN LIEU OF REVERSE CURVE SIGN WHEN THE ADVISORY SPEED IS 30 MPH OR LESS.
- ⑭ CHANNELIZING DEVICES SHALL BE EXTENDED BEYOND THE TRANSITION AREA FOR A DISTANCE EQUAL TO TWO TIMES THE NORMAL POSTED SPEED LIMIT.
- 15. GRABBER CONES MAY BE USED IN LIEU OF DRUMS IF THE USE OF DRUMS WOULD RESULT IN LANES THAT ARE TOO NARROW OR AN UNACCEPTABLE SITUATION BASED ON ENGINEERING JUDGMENT.
- 16. THE COLOR OF BARRIER WALL DELINEATORS SHALL MATCH THE COLOR OF THE EDGE LINE THAT THEY SUPPLEMENT.

BID ITEMS AND UNIT TO BID

BARRICADE TYPE-III	EACH
ARROW PANEL	EACH
CROSSOVER	LUMP SUM

REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

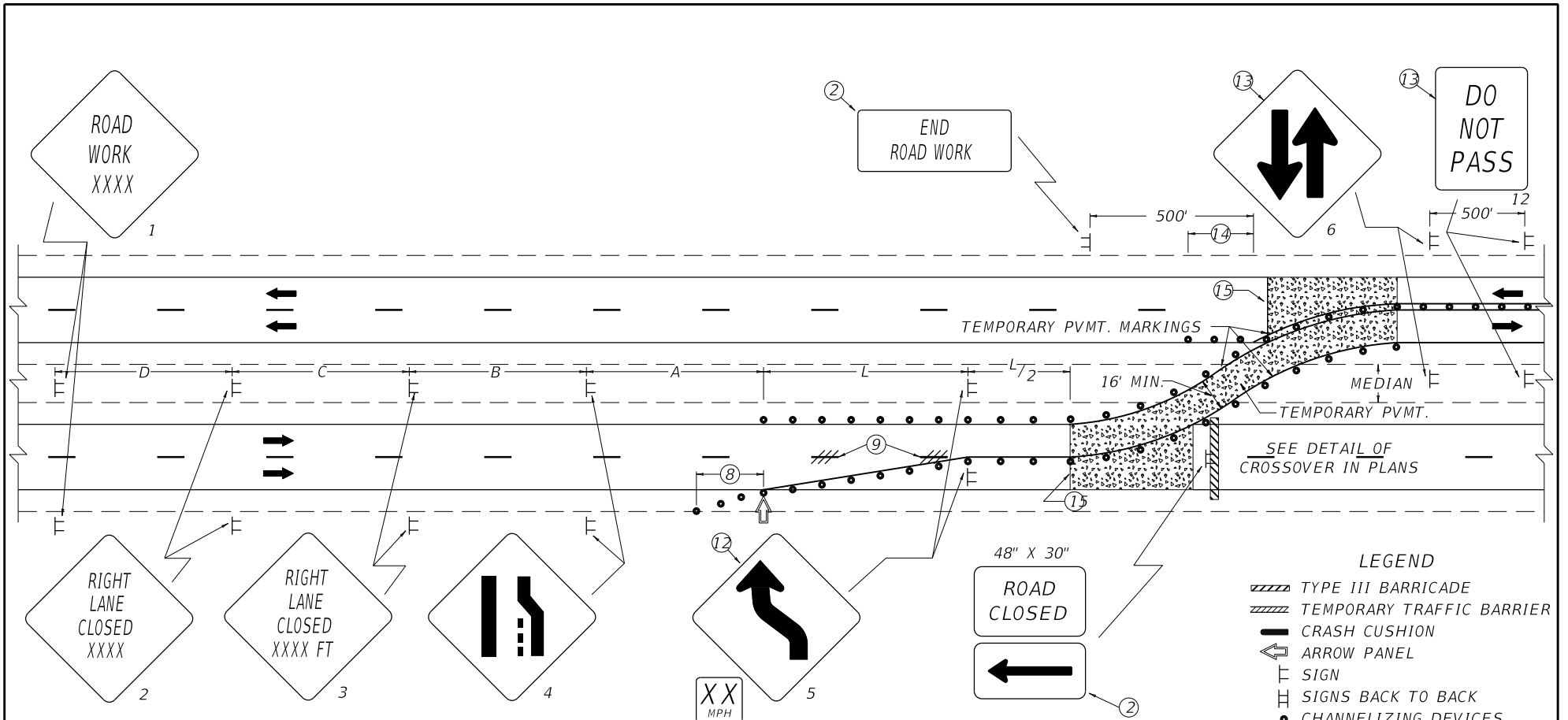
LEGEND

- TYPE III BARRICADE
- TEMP. TRAFFIC BARRIER
- CRASH CUSHION
- ARROW PANEL
- SIGN
- SIGNS BACK TO BACK
- CHANNELIZING DEVICES
- TEMP. TRAFFIC BARRIER DRUMS
- TUBULAR MARKERS

DRAWING NOT TO SCALE

USE WITH CUR. STD. DWGS.
RBM-020, TTC-140, TTC-160

KENTUCKY DEPARTMENT OF HIGHWAYS	
MEDIAN CROSSOVER CASE I	
STANDARD DRAWING NO. TTC-141-04	
SUBMITTED <i>B. Allen Wolf</i>	DATE 02-26-20
APPROVED <i>[Signature]</i>	DATE 02-26-20
DIRECTOR OF HIGHWAY OPERATIONS	DATE
SUPERVISOR	DATE



~ NOTES ~

1. THE SIZE OF SIGNS 1 THRU 11 SHALL BE 48" X 48" WITH 30" X 24" SUPPLEMENTAL PLAQUES FOR EXPRESSWAYS/FREEWAYS. THE MINIMUM SIZE OF SIGNS 1 THRU 11 SHALL BE 36" X 36" WITH 24" X 18" SUPPLEMENTAL PLAQUES FOR OTHER ROADWAYS. SIGN NOS. 12 AND 13 SHALL BE 36" X 48" FOR EXPRESSWAYS/FREEWAYS AND 24" X 30" FOR OTHER ROADWAYS. A FREEWAY IS DEFINED AS A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS. AN EXPRESSWAY IS DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.

② THE ONE DIRECTION LARGE ARROW SIGN SHALL BE 60" X 30" FOR EXPRESSWAYS/FREEWAYS AND 48" X 24" FOR OTHER ROADWAYS. THE "END ROAD WORK" SIGN SHALL BE 48" X 24" FOR EXPRESSWAYS/FREEWAYS AND 36" X 18" FOR OTHER ROADWAYS.

3. THE ADVISORY SPEED LIMIT ON SIGNS 5 AND 7 SHALL BE DETERMINED BY THE ENGINEER. THE SIZE OF SIGN PLAQUE SHALL BE 30" X 30" FOR EXPRESSWAYS/FREEWAYS AND 24" X 24" FOR OTHER ROADWAYS.

4. SPACING OF CHANNELIZING DEVICES THRU THE TAPER AREAS SHOULD BE 40'. SPACING OF DEVICES THRU THE REMAINDER OF THE CLOSURE SHOULD BE 80'.

5. ARROW PANELS SHALL BE LOCATED ON THE SHOULDERS AT THE BEGINNING OF THE MERGING TAPERS OR LOCATED IN THE CLOSED LANE BEHIND CHANNELIZING DEVICES WHEN SHOULDERS ARE NARROW.

6. TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED AND MAINTAINED ON THE ROADWAY THROUGHOUT THE LIMITS OF THE CROSSOVER.

(NOTES CONTINUED ON CURRENT STD. DWG. **TTC-146**)
APPLICATION

THIS DRAWING APPLIES TO A MEDIAN CROSSOVER ON MULTI-LANE HIGHWAYS WITH A MEDIAN WIDTH GREATER THAN 10 FEET.

LEGEND

- ▨ TYPE III BARRICADE
- ▨ TEMPORARY TRAFFIC BARRIER
- ▬ CRASH CUSHION
- ⇨ ARROW PANEL
- ⊥ SIGN
- ⊥ SIGNS BACK TO BACK
- CHANNELIZING DEVICES
- TEMP. TRAFFIC BARRIER DRUMS
- TUBULAR MARKERS

DRAWING NOT TO SCALE

SIGNING AND SPACING TABLE

ROAD TYPE	A	B	C	D	L
EXPRESSWAY/ FREEWAY	1000'	500'	1100'	2600'	840'
SP. LT. ≥ 45 MPH*	500'	500'	500'	1100'	680'
SP. LT. ≤ 40 MPH*	250'	250'	500'	500'	320'

*NOTE: USE NORMAL POSTED SPEED LIMIT

USE WITH CUR. STD. DWGS.
TTC-146 AND **TTC-160**

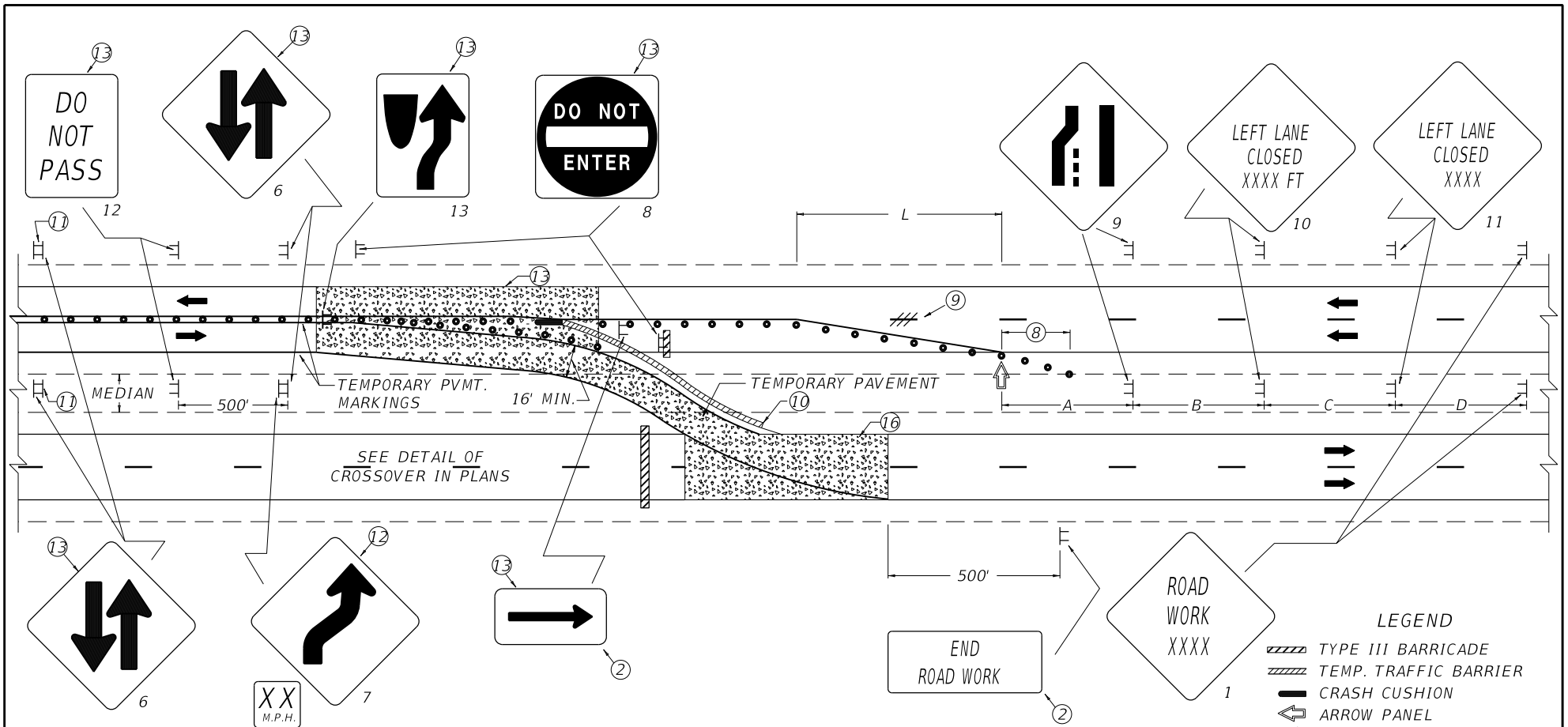
**KENTUCKY
DEPARTMENT OF HIGHWAYS**

**MEDIAN CROSSOVER
CASE II**

STANDARD DRAWING NO. **TTC-145-04**

SUBMITTED *R. Allen Wolf* DIRECTOR OF DESIGN OPERATIONS **02-26-20**

APPROVED *[Signature]* STATE HIGHWAY ENGINEER **02-26-20**



(NOTES CONTINUED FROM CUR. STD. DWG. TTC-145)

- 7. CRASH CUSHION SHALL BE INSTALLED PARALLEL TO THE APPROACH LANE OF TRAFFIC.
- ⑧ IF AN ARROW PANEL IS INSTALLED ON THE SHOULDER OR WITHIN THE CLEAR ZONE, A SHOULDER TAPER SHALL BE REQUIRED. TAPER LENGTH SHALL BE $0.33 L$. SPACING OF CHANNELIZING DEVICES THRU THE SHOULDER TAPER SHOULD BE 40'.
- ⑨ OBLITERATE SKIP LINES THRU THE LENGTH OF TAPERS BY APPROVED METHOD. OTHER CONFLICTING PAVEMENT MARKINGS SHALL BE OBLITERATED.
- ⑩ CRASH CUSHION SHALL BE REQUIRED WHEN THE END OF THE BARRIER WALL IS WITHIN CLEAR ZONE (REFER TO ROADSIDE DESIGN GUIDE).
- ⑪ WHEN CHANNELIZING DEVICES ARE USED TO SEPARATE OPPOSING TRAFFIC, TWO-WAY TRAFFIC SIGN(S) SHALL BE REPEATED EVERY MILE.
- ⑫ REVERSE TURN SIGN (W1-3) SHALL BE USED IN LIEU OF REVERSE CURVE SIGN WHEN THE ADVISORY SPEED IS 30 MPH OR LESS.
- ⑬ WHEN TEMPORARY TRAFFIC BARRIER IS CONTINUOUS THROUGHOUT THE CLOSURE ZONE, THESE SIGNS SHALL BE ELIMINATED.
- ⑭ CHANNELIZING DEVICES SHALL BE EXTENDED BEYOND THE TRANSITION AREA FOR A DISTANCE EQUAL TO TWO TIMES THE NORMAL POSTED SPEED LIMIT.
- 15. GRABBER CONES MAY BE USED IN LIEU OF DRUMS IF THE USE OF DRUMS WOULD RESULT IN LANES THAT ARE TOO NARROW OR AN UNACCEPTABLE SITUATION BASED ON ENGINEERING JUDGMENT.
- ⑮ THIN ASPHALT OVERLAY TO BE USED AS DIRECTED BY THE ENGINEER.
- 17. THE COLOR OF BARRIER WALL DELINEATORS SHALL MATCH THE COLOR OF THE EDGE LINE THAT THEY SUPPLEMENT.

BID ITEMS AND UNIT TO BID	
BARRICADE TYPE-III	EACH
ARROW PANEL	EACH
CROSSOVER	LUMP SUM

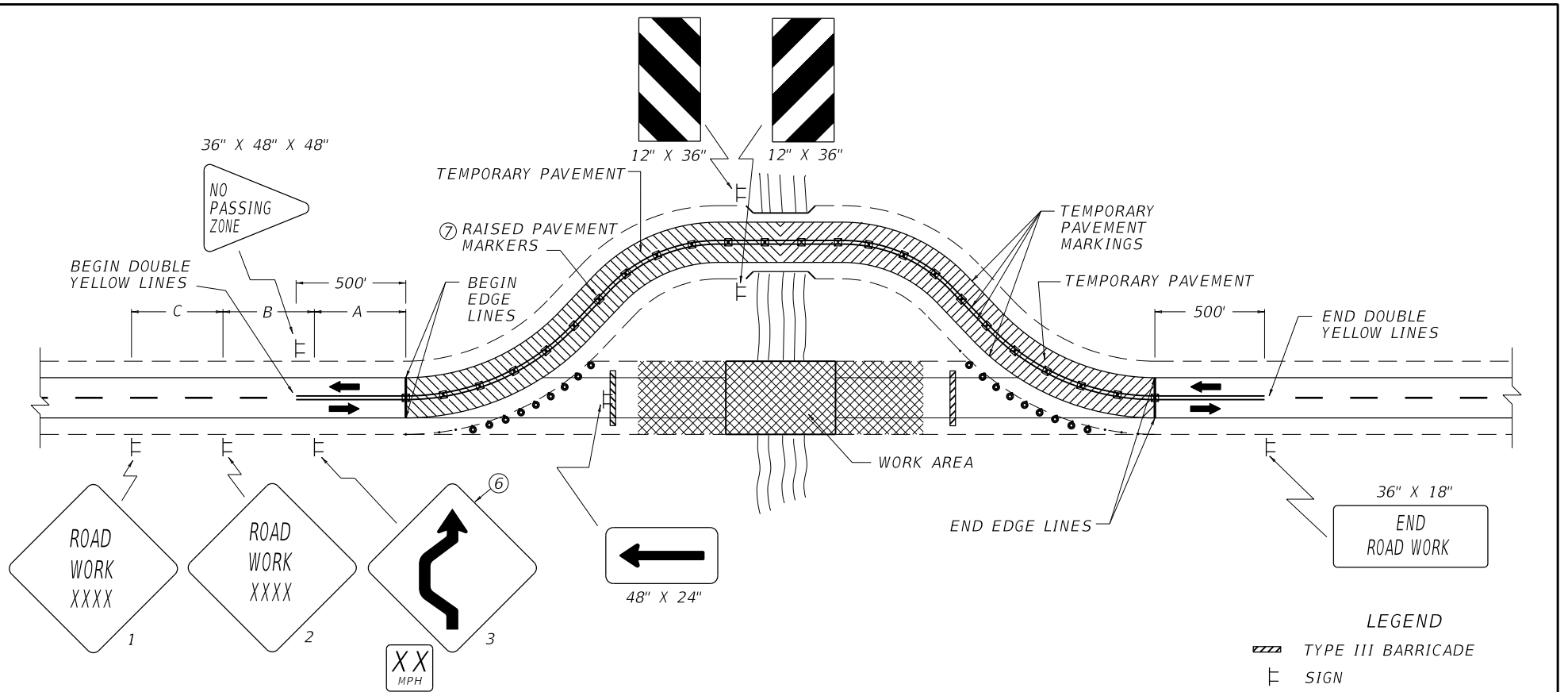
REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

- LEGEND**
- TYPE III BARRICADE
 - TEMP. TRAFFIC BARRIER
 - CRASH CUSHION
 - ARROW PANEL
 - SIGN
 - SIGNS BACK TO BACK
 - CHANNELIZING DEVICES
 - TEMP. TRAFFIC BARRIER DRUMS
 - TUBULAR MARKERS

DRAWING NOT TO SCALE

USE WITH CUR. STD. DWG.
RBM-020

KENTUCKY DEPARTMENT OF HIGHWAYS	
MEDIAN CROSSOVER CASE II	
STANDARD DRAWING NO. TTC-146-04	
SUBMITTED <i>B. Allen Wolf</i>	DATE 02-26-20
APPROVED <i>[Signature]</i>	DATE 02-26-20



LEGEND

- TYPE III BARRICADE
- SIGN
- CHANNELIZING DEVICES
DRUMS
- PAVEMENT MARKERS
TYPE IVA
(BI-DIRECTIONAL YELLOW)

~ NOTES ~

1. DEVICES SIMILAR TO THOSE DEPICTED SHALL BE PLACED FOR OPPOSITE DIRECTION OF TRAVEL.
2. THE SIZE OF SIGNS 1 THRU 3 SHALL BE 48" X 48" IF THE SPEED LIMIT IS 45 MPH OR GREATER. OTHERWISE, 36" X 36" SIGNS MAY BE USED.
3. THE ADVISORY SPEED LIMIT ON SIGN 3 SHALL BE DETERMINED BY THE ENGINEER.
4. PAVEMENT MARKINGS WHICH ARE NO LONGER APPLICABLE SHALL BE OBLITERATED BY AN APPROVED METHOD.
5. SPACING OF CHANNELIZING DEVICES SHOULD NOT EXCEED 20'.
- ⑥ IF THE TANGENT DISTANCE ALONG THE TEMPORARY DIVERSION IS MORE THAN 600 FEET, A REVERSE CURVE SIGN, LEFT FIRST, SHOULD BE USED INSTEAD OF THE DOUBLE REVERSE CURVE SIGN, AND A SECOND REVERSE CURVE SIGN, RIGHT FIRST, SHOULD BE PLACED IN ADVANCE OF THE SECOND REVERSE CURVE BACK TO THE ORIGINAL ALIGNMENT. WHEN THE TANGENT SECTION OF THE DIVERSION IS MORE THAN 600 FEET, AND THE DIVERSION HAS SHARP CURVES WITH RECOMMENDED SPEEDS OF 30 MPH OR LESS, REVERSE TURN SIGNS SHOULD BE USED.
- ⑦ RAISED PAVEMENT MARKERS ARE REQUIRED ONLY FOR HARD SURFACE ROADWAYS. TYPE IVA MARKERS SHALL BE MAINTAINED THROUGHOUT THE ENTIRE LIMITS OF THE DIVERSION AT A SPACING OF 20'.

SIGNING AND SPACING TABLE			
ROAD TYPE	A	B	C
EXPRESSWAY/ FREEWAY	1000'	1600'	2600'
SP. LT. ≥ 45 MPH*	500'	500'	500'
SP. LT. ≤ 40 MPH*	250'	250'	500'

*NOTE: USE NORMAL POSTED SPEED LIMIT

DRAWING NOT TO SCALE

**KENTUCKY
DEPARTMENT OF HIGHWAYS**

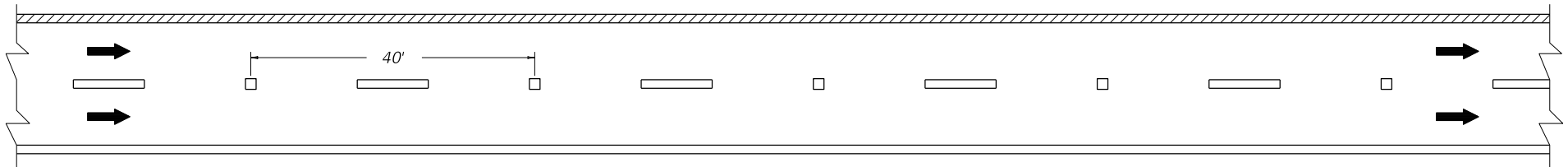
**ROAD CLOSURE
WITH
DIVERSION**

STANDARD DRAWING NO. TTC-150-04

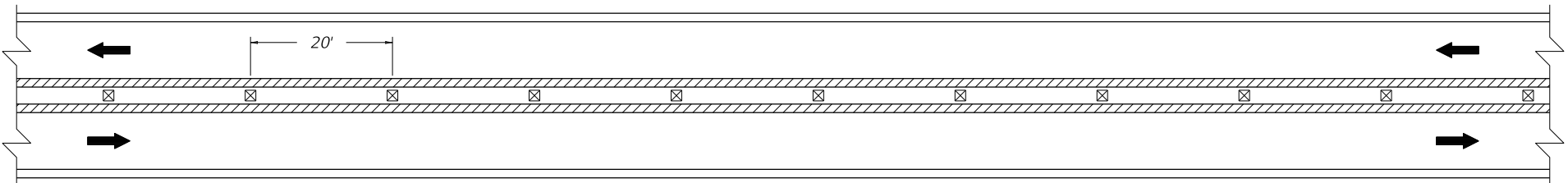
SUBMITTED *B. Allen Wolf* DATE 02-26-20
DIRECTOR OF TRANSPORTATION OPERATIONS

APPROVED *[Signature]* DATE 02-26-20
STATE HIGHWAY ENGINEER

BID ITEMS AND UNIT TO BID
 BARRICADE TYPE-III EACH
 DIVERSION LUMP SUM
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE
 CONSTRUCTION, CURRENT EDITION.



ARRANGEMENT "A" (WHITE LANE LINES)



ARRANGEMENT "B" (DOUBLE YELLOW CENTER LINES)

LEGEND	
⊗	BI-DIRECTIONAL (YELLOW)
□	MONO-DIRECTIONAL (WHITE)
▨	MARKINGS (YELLOW)
▭	MARKINGS (WHITE)

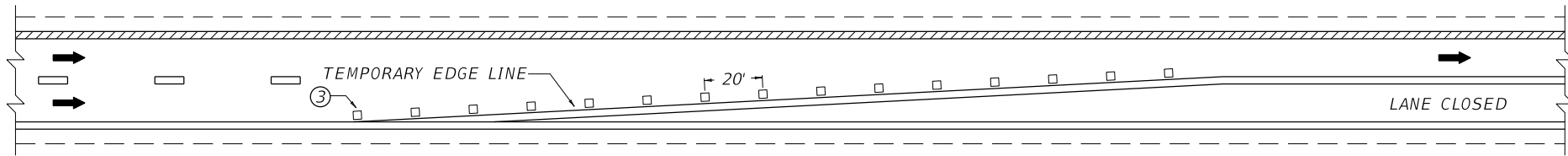
~ NOTES ~

1. TEMPORARY PAVEMENT MARKERS SHALL BE APPLIED AS DIRECTED BY THE ENGINEER.
2. BI-DIRECTIONAL MARKERS, (WHITE-RED) OR (YELLOW-RED), MAY BE USED IN LIEU OF MONO-DIRECTIONAL MARKERS IF RED FACE WILL NOT BE VISIBLE TO OPPOSING TRAFFIC IN THEIR NORMAL TRAVEL LANE.
3. MARKERS INSTALLED AT DOUBLE YELLOW CENTERLINES SHALL BE PLACED BETWEEN THE TWO LINES.
4. MARKERS INSTALLED ALONG LANE LINES SHALL BE PLACED BETWEEN AND IN LINE WITH THE SKIPS.
5. MARKERS INSTALLED ALONG EDGE LINES SHALL BE PLACED SO THAT THE NEAR EDGE OF THE MARKER IS NO MORE THAN 1" FROM THE NEAR EDGE OF THE LINE.

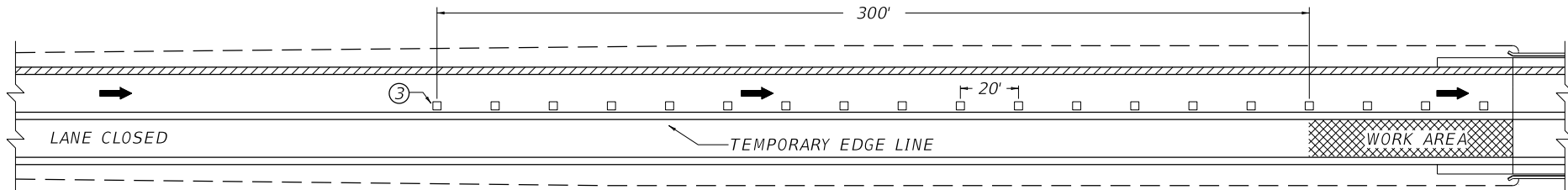
BID ITEMS AND UNIT TO BID
 PAVEMENT MARKER TY IVA (BW, BY, MW, MY) TEMP EACH

DRAWING NOT TO SCALE

KENTUCKY DEPARTMENT OF HIGHWAYS	
TEMPORARY PAVEMENT MARKER ARRANGEMENTS FOR CONSTRUCTION ZONES	
STANDARD DRAWING NO. TTC-155-02	
SUBMITTED <i>B. Allen Wolf</i>	12-01-15
DIRECTOR OF TRAFFIC OPERATIONS	DATE
APPROVED <i>[Signature]</i>	12-01-15
STATE HIGHWAY ENGINEER	DATE



ARRANGEMENT "A" ①



ARRANGEMENT "B" ②

APPLICATION

THIS DRAWING APPLIES TO LANE CLOSURE TRANSITIONS OR CASES WHERE DELINEATION IS DESIRABLE WITHIN LANE CLOSURES ON MULTI-LANE HIGHWAYS. THE DRAWINGS DEPICT LANE CLOSURES IN THE OUTSIDE LANE. WHEN THE INSIDE LANE IS CLOSED, THE SAME PRINCIPLES APPLY, EXCEPT MONO-DIRECTIONAL (YELLOW) MARKERS SHALL BE USED. BI-DIRECTIONAL MARKERS, (WHITE-RED) OR (YELLOW-RED), MAY BE USED IN LIEU OF MONO-DIRECTIONAL MARKERS IF RED FACE WILL NOT BE VISIBLE TO OPPOSING TRAFFIC IN THEIR NORMAL TRAVEL LANE.

THIS STANDARD DRAWING SHALL BE USED IN CONJUNCTION WITH THE APPROPRIATE STANDARD DRAWING FOR THE LANE CLOSURE.

~ NOTES ~

- ① ARRANGEMENT "A" SHALL BE APPLIED WHEN THE LANE CLOSURE IS TO BE IN EFFECT AT THE SAME LOCATION FOR FOUR (4) DAYS OR GREATER AND THE EXISTING ADT IS 5,000 OR GREATER.
- ② ARRANGEMENT "B" SHALL BE APPLIED WHEN THE EXISTING PAVEMENT HAS BEEN REMOVED ADJACENT TO TRAFFIC (INCLUDING BRIDGE ENDS AND OTHER SPOT IMPROVEMENTS).
- ③ MARKERS INSTALLED ALONG EDGE LINES SHALL BE PLACED SO THAT THE NEAR EDGE OF THE CASTING IS NO MORE THAN 1" FROM THE NEAR EDGE OF THE LINE.

BID ITEMS AND UNIT TO BID
PAVEMENT MARKER TY IVA (BW, BY, MW, MY) TEMP

EACH

LEGEND

- MONO-DIRECTIONAL (WHITE)
- ▨ MARKINGS (YELLOW)
- ▭ MARKINGS (WHITE)

DRAWING NOT TO SCALE

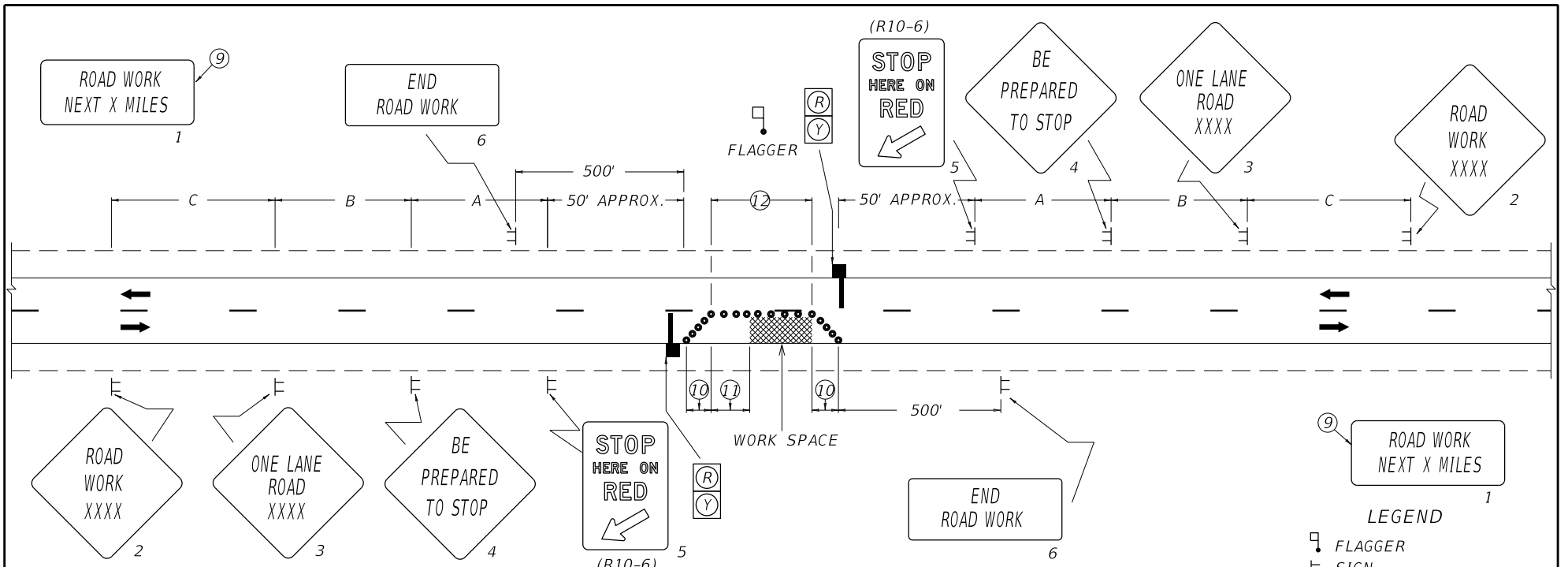
KENTUCKY
DEPARTMENT OF HIGHWAYS

TEMPORARY PAVEMENT
MARKER ARRANGEMENTS
FOR LANE CLOSURES

STANDARD DRAWING NO. TTC-160-02

SUBMITTED *B. Allen Wolf* 12-01-15
DIRECTOR OF TRANSPORTATION OPERATIONS DATE

APPROVED *[Signature]* 12-01-15
STATE HIGHWAY ENGINEER DATE



~ NOTES ~

1. AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADS) SHALL CONFORM TO CHAPTER 6E OF THE MUTCD.
2. AFADS SHALL BE OPERATED BY A SINGLE FLAGGER IF THE FLAGGER HAS AN UNOBSTRUCTED VIEW OF BOTH AFADS AND APPROACHING TRAFFIC IN BOTH DIRECTIONS OR BY SEPARATE FLAGGERS NEAR EACH DEVICE'S LOCATION. FLAGGER(S) OPERATING AFADS SHALL NOT LEAVE THEM UNATTENDED AT ANY TIME WHILE AFADS ARE BEING USED.
3. WHEN AFADS ARE USED AT NIGHT, THEIR LOCATION SHALL BE ILLUMINATED IN ACCORDANCE WITH SECTION 6E.08 OF THE MUTCD.
4. WHEN THE AFAD IS NOT IN USE, THE SIGNS ASSOCIATED WITH THE AFAD, BOTH AT THE AFAD LOCATION AND IN ADVANCE, SHALL BE REMOVED OR COVERED.
5. FOR AFADS THAT ARE POST-MOUNTED, THE BOTTOM OF THE SIGNAL HOUSING SHALL BE AT LEAST 7 FEET ABOVE THE PAVEMENT. FOR OVERHEAD INSTALLATIONS, THE BOTTOM OF THE SIGNAL HOUSING SHALL BE AT LEAST 15 FEET ABOVE THE PAVEMENT.
6. WHEN THE ARM OF THE AFAD IS IN THE DOWN POSITION BLOCKING THE APPROACH LANE, THE ARM SHALL REACH AT LEAST TO THE CENTER OF THE LANE BEING CONTROLLED.
7. THE STEADY CIRCULAR YELLOW CHANGE INTERVAL SHOULD HAVE A DURATION OF AT LEAST 5 SECONDS.
8. DRUMS SHALL BE USED IN LIEU OF CONES IF CLOSURE EXTENDS INTO NIGHTTIME HOURS. GRABBER CONES MAY BE USED IN LIEU OF DRUMS IF THE USE OF DRUMS WOULD RESULT IN LANES THAT ARE TOO NARROW OR AN UNACCEPTABLE SITUATION BASED ON ENGINEERING JUDGMENT.
- ⑨ SIGN NO. 1 SHOULD BE INSTALLED AT THE LIMITS OF THE PROJECT WHEN THE CONSTRUCTION ZONE IS LONGER THAN TWO MILES IN LENGTH. THE DISTANCE SHOWN SHALL BE STATED TO THE NEAREST WHOLE MILE.
- ⑩ TAPERS SHALL BE 50' (MIN) TO 100' (MAX) IN LENGTH. SPACING OF CHANNELIZING DEVICES SHOULD BE 20' THRU THE TAPER AREAS.
- ⑪ BUFFER SPACE (OPTIONAL). IF USED, THE BUFFER SPACE SHOULD BE EXTENDED SO THAT THE TWO-WAY TRAFFIC TAPER IS PLACED BEFORE A HORIZONTAL OR CREST VERTICAL CURVE TO PROVIDE ADEQUATE SIGHT DISTANCE FOR THE AFAD AND A QUEUE OF STOPPED VEHICLES. REFER TO TABLE 6C-2 OF THE MUTCD FOR GUIDANCE ON BUFFER SPACE LENGTH.
- ⑫ SPACING OF CHANNELIZING DEVICES THRU THE ACTIVITY AREA SHOULD BE 80'. ON ROADWAYS WITH WIDTHS LESS THAN 20 FEET, CHANNELIZING DEVICES MAY BE OMITTED THRU THE ACTIVITY AREA BASED ON ENGINEERING JUDGMENT.

LEGEND

- FLAGGER
- ⊥ SIGN
- DRUMS/CONES
- ▬ AFAD WITH RECOMMENDED GATE AND TWO-SECTION SIGNAL FACE

BID ITEMS AND UNIT TO BID
 AFAD EACH
 LANE CLOSURE EACH
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

ROAD TYPE	A	B	C
SP. LT. ≥ 45 MPH*	500'	500'	500'
SP. LT. ≤ 40 MPH*	250'	250'	250'

*NOTE: USE NORMAL POSTED SPEED LIMIT

SIGN	CONVENTIONAL	EXPRESSWAY/FREEWAY
2, 3, AND 4	36" X 36"	48" X 48"
1 AND 6	36" X 18"	48" X 24"
5	24" X 36"	36" X 48"

DRAWING NOT TO SCALE

KENTUCKY
 DEPARTMENT OF HIGHWAYS

AUTOMATED FLAGGING
 ASSISTANCE DEVICES
 RED/YELLOW LENS

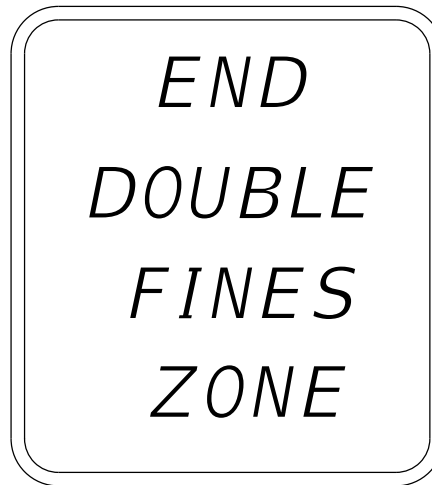
STANDARD DRAWING NO. TTC-165

SUBMITTED BY: *B. Allen Wolf* DATE: 02-26-20
DIRECTOR DIVISION OF TRAFFIC OPERATIONS

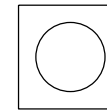
APPROVED BY: *[Signature]* DATE: 02-26-20
STATE HIGHWAY ENGINEER



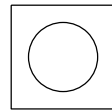
R2-10



R2-11



12" FY



12" FY



S4-4P

APPLICATION

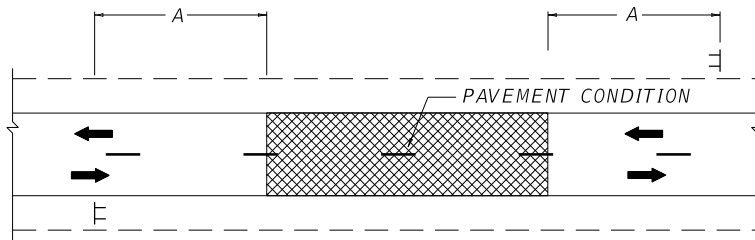
IN ACCORDANCE WITH KRS 189.2327, IN ORDER FOR FINES TO BE DOUBLED IN A HIGHWAY WORK ZONE, WORK ZONE SIGNS AND DOUBLE FINE SIGNS MUST BE DISPLAYED AND AT LEAST ONE (1) BONA FIDE WORKER MUST BE PRESENT.

~ NOTES ~

1. THE BEGIN AND END DOUBLE FINES SIGNS SHALL BE 48" X 60" FOR FREEWAYS, 36" X 48" FOR EXPRESSWAYS, AND 24" X 30" FOR OTHER ROADWAYS. "WHEN FLASHING" PLAQUES SHALL BE 48" X 18" FOR FREEWAYS, 36" X 18" FOR EXPRESSWAYS, AND 24" X 10" FOR ALL OTHER ROADWAYS.
2. SIGNS SHALL HAVE A WHITE BACKGROUND AND SHALL BE MOUNTED AT ELEVATIONS AND OFFSETS PRESCRIBED IN THE MUTCD.
3. USE ENGINEERING JUDGMENT WHEN DETERMINING THE LIMITS OF DOUBLE FINE ZONES. FOR SHORT LENGTH PROJECTS WHERE WORK WILL OCCUR THROUGHOUT THE PROJECT LIMITS, LOCATE "BEGIN DOUBLE FINES ZONE" SIGN ASSEMBLY BETWEEN THE LAST ADVANCE WARNING SIGN AND THE BEGINNING OF THE ACTIVITY AREA AND LOCATE THE "END DOUBLE FINES ZONE" SIGN 250' IN ADVANCE OF THE "END ROAD WORK" SIGN. FOR LONG LENGTH PROJECTS WHERE WORK WILL NOT OCCUR THROUGHOUT THE PROJECT LIMITS, CONSIDER PLACING SIGNS ONLY IN AREAS WITH ACTIVE CONSTRUCTION.
4. SIGNS SHALL BE DUAL-MOUNTED ON MULTI-LANE HIGHWAYS WHERE MEDIAN IS WIDE ENOUGH TO MAINTAIN LATERAL CLEARANCES AS PRESCRIBED IN THE MUTCD. WHERE CONSTRUCTION ONLY AFFECTS ONE DIRECTION OF A DIVIDED HIGHWAY WITH A BARRIER OR WIDE MEDIAN, SIGNS SHALL NOT BE ERECTED FOR OPPOSING DIRECTION.
5. ADDITIONAL SIGNS MAY BE REQUIRED FOR LONG CONSTRUCTION ZONES OR WHERE RAMPS OR INTERSECTING STREETS JUNCTION WITHIN THE PROJECT LIMITS.
6. BEGIN DOUBLE FINE SIGN ASSEMBLIES MAY INCLUDE A "WHEN FLASHING" PLAQUE AND FLASHING BEACONS. BEACONS SHALL BE YELLOW AND TWELVE (12") INCHES IN DIAMETER, BE MOUNTED HORIZONTALLY NEAR THE TOP OF THE SIGN ASSEMBLY, AND SHALL FLASH ALTERNATELY. BEACONS SHALL CONFORM TO PART 4L OF THE MUTCD.
7. "BEGIN DOUBLE FINES ZONES" SIGNS SHOULD BE COVERED IF A BONA FIDE WORKER WILL NOT BE PRESENT FOR A SIGNIFICANT PERIOD OF TIME. IN SUCH CASES, ASSEMBLIES WITH FLASHING BEACONS SHALL BE TURNED OFF.

BID ITEM UNIT TO BID
SIGNS SQFT

KENTUCKY DEPARTMENT OF HIGHWAYS	
DOUBLE FINES ZONE SIGNS	
STANDARD DRAWING NO. TTD-120-03	
SUBMITTED <i>B. Allen Wolf</i>	DATE 02-26-20
DIRECTOR OF HIGHWAY OPERATIONS	
APPROVED <i>SJO</i>	DATE 02-26-20
STATE HIGHWAY ENGINEER	



SIGN SPACING TABLE	
ROAD TYPE	A
EXPRESSWAY/ FREEWAY	750'
RURAL/URBAN SP. LT. \geq 45 MPH*	500'
URBAN SP. LT. \leq 40 MPH*	250'

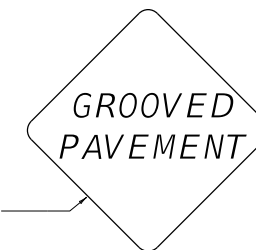
*NOTE: USE NORMAL POSTED SPEED LIMIT



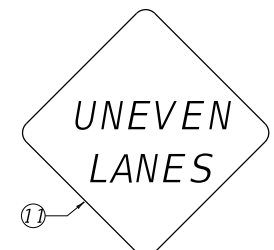
W21-2



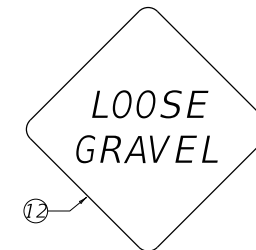
W8-8



W8-15



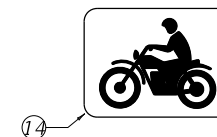
W8-11



W8-7



W8-24



W8-15P

APPLICATION

PAVEMENT CONDITION SIGNS GIVE MOTORISTS ADVANCE WARNING OF TEMPORARY IMPACTS TO PAVEMENT CONDITIONS WITHIN WORK ZONES. SUCH ADVANCE WARNING IS PARTICULARLY CRITICAL FOR MOTORCYCLISTS. THIS DRAWING IS INTENDED TO BE USED IN CONJUNCTION WITH OTHER APPLICABLE TEMPORARY TRAFFIC CONTROL STANDARD DRAWINGS.

~ NOTES ~

1. SIGNS SHALL HAVE A BLACK LEGEND ON A FLUORESCENT ORANGE BACKGROUND.
 2. THE SIZE OF ABOVE SIGNS SHALL BE 48" X 48" FOR EXPRESSWAYS/FREEWAYS AND 36" X 36" FOR OTHER ROADWAYS. A FREEWAY SHALL BE DEFINED AS A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS. AN EXPRESSWAY SHALL BE DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.
 3. SIGNS SHALL BE MOUNTED AT ELEVATIONS AND OFFSETS PRESCRIBED IN THE MUTCD.
 4. SIGNS SHALL BE DUAL-MOUNTED ON MULTI-LANE HIGHWAYS WHERE MEDIAN IS WIDE ENOUGH TO MAINTAIN LATERAL CLEARANCES AS PRESCRIBED IN THE MUTCD.
 5. ADDITIONAL SIGNS MAY BE REQUIRED FOR LONG CONSTRUCTION ZONES OR WHERE RAMPS OR INTERSECTING STREETS JUNCTION WITHIN THE PROJECT LIMITS.
 6. SIGNS SHOULD BE INSTALLED IN ACCORDANCE WITH SPACING IN SIGN SPACING TABLE AND NO CLOSER THAN 250' TO ANY OTHER REQUIRED WORK ZONE SIGNING.
 7. IF A PAVEMENT CONDITION EXISTS OVER A LONG STRETCH OF ROADWAY, PAVEMENT CONDITION WARNING SIGNS MAY BE USED IN COMBINATION WITH A SUPPLEMENTARY DISTANCE PLAQUE (W7-3A).
 - ⑧ "WET PAVEMENT" SIGNS SHOULD BE INSTALLED IN ADVANCE OF LOCATIONS WHERE WATER IS APPLIED TO THE PAVEMENT TO CONTROL DUST IN A WORK ZONE.
 - ⑨ "FRESH OIL" SIGNS SHOULD BE INSTALLED WHERE PAVING OPERATIONS RESULT IN A SLIPPERY PAVEMENT SURFACE AND/OR WHERE SPLASHING MAY OCCUR.
 - ⑩ "ROUGH ROAD" OR "GROOVED PAVEMENT" SIGNS SHOULD BE INSTALLED IN ADVANCE OF ANY TEMPORARILY TEXTURED/MILLED PAVEMENT SURFACES. PERMANENT SIGNS MAY BE INSTALLED IF ENGINEERING JUDGMENT DETERMINES THAT WARNING FOR A NON-TEMPORARY TEXTURED SURFACE (I.E. DIAMOND GRINDED PAVEMENT) IS NECESSARY.
 - ⑪ "UNEVEN LANES" SIGNS SHOULD BE INSTALLED IN ADVANCE OF LOCATIONS WHERE THERE IS A SUBSTANTIAL DIFFERENCE IN ELEVATION BETWEEN ADJACENT LANES THAT ARE OPEN TO TRAVEL.
 - ⑫ "LOOSE GRAVEL" SIGNS SHOULD BE INSTALLED WHERE WORK ZONE OPERATIONS FREQUENTLY RESULT IN ROCK DEBRIS IN THE ROADWAY.
 - ⑬ "STEEL PLATE AHEAD" SIGNS WITH SUPPLEMENTAL "STEEL PLATE" PLAQUES SHOULD BE INSTALLED IN ADVANCE OF LOCATIONS WHERE STEEL PLATES ARE USED TO BRIDGE OPEN CUTS IN THE ROADWAY.
 - ⑭ A MOTORCYCLE (W8-15P) PLAQUE MAY BE MOUNTED BELOW OR ABOVE ANY OF THE PRESCRIBED SIGNS IN THIS DRAWING IF THE WARNING IS INTENDED TO BE DIRECTED PRIMARILY TO MOTORCYCLISTS.
- BID ITEMS AND UNIT TO BID
REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

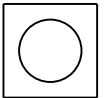
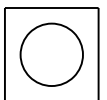
KENTUCKY
DEPARTMENT OF HIGHWAYS

PAVEMENT CONDITION
WARNING SIGNS

STANDARD DRAWING NO. TTD-125-03

SUBMITTED R. Allen Wolf 02-26-20
DIRECTOR DIVISION OF TRAFFIC OPERATIONS DATE

APPROVED [Signature] 02-26-20
STATE HIGHWAY ENGINEER DATE



Option A



Option B



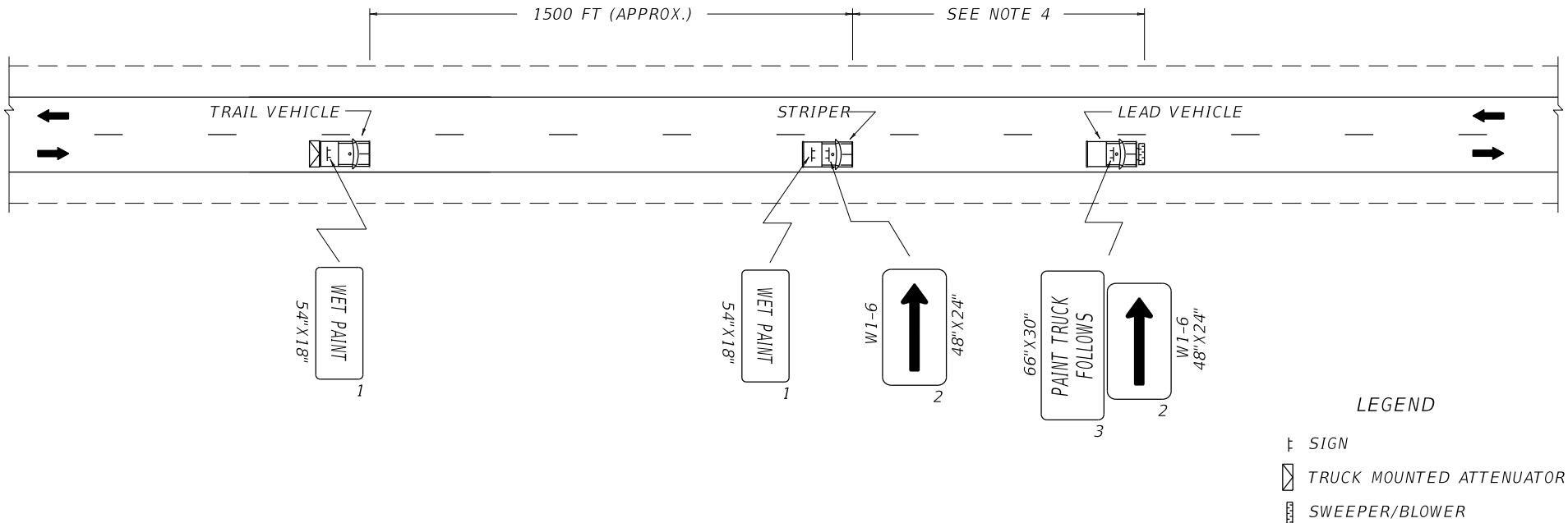
SIGN	COLORS BACKGROUND COLOR	SIZES	
		CONVENTIONAL	EXPRESSWAY/ FREEWAY
W3-5	FLUORESCENT ORANGE	48" x 48"	48" x 48"
G20-5aP	FLUORESCENT ORANGE	36" x 24"	36" x 24"
R2-1	WHITE	36" x 48"	36" x 48"
R2-12	WHITE	24" x 36"	36" x 54"
S4-4P	WHITE	36" x 18"	36" x 18"

~ NOTES ~

1. REDUCED SPEED ZONES SHOULD BE USED ONLY IN SPECIFIC PORTIONS OF THE WORK ZONE WHERE CONDITIONS OR RESTRICTIVE FEATURES ARE PRESENT. LOWERING THE REGULATORY SPEED LIMIT SHOULD BE AVOIDED AS MUCH AS PRACTICAL BECAUSE DRIVERS REDUCE THEIR SPEEDS ONLY IF THEY CLEARLY PERCEIVE A NEED TO DO SO.
2. SPEED LIMIT MAY BE REDUCED BY 15 MPH WITHOUT A TRAFFIC ENGINEERING INVESTIGATION ON HIGHWAYS WHERE THE NORMAL POSTED SPEED LIMIT IS 70 MPH. THE SPEED LIMIT MAY BE REDUCED BY 10 MPH WITHOUT A TRAFFIC ENGINEERING INVESTIGATION ON OTHER HIGHWAYS. LARGER SPEED REDUCTIONS REQUIRE A TRAFFIC ENGINEERING INVESTIGATION AND APPROVAL OF THE SECRETARY OF TRANSPORTATION.
3. A SPEED REDUCTION (W3-5) SIGN SHALL BE INSTALLED IN ADVANCE OF A WORK ZONE WITH A TEMPORARY WORK ZONE SPEED LIMIT. SIGNS SHALL BE DUAL-MOUNTED ON MULTI-LANE HIGHWAYS WHERE MEDIAN IS WIDE ENOUGH TO MAINTAIN LATERAL CLEARANCES AS PRESCRIBED IN THE MUTCD. THE SPEED LIMIT DISPLAYED ON THE SIGN SHALL MATCH THE DESIRED SPEED LIMIT THROUGH THE WORK ZONE.
4. IF THE END OF THE REDUCED SPEED ZONE DOES NOT COINCIDE WITH THE "END ROAD WORK" SIGN, AN "END WORK ZONE SPEED LIMIT" (R2-12) OR A "SPEED LIMIT" (R2-1) SIGN DISPLAYING THE NORMAL POSTED SPEED LIMIT SHOULD BE INSTALLED AT THE END OF THE REDUCED SPEED ZONE.
5. SPEED LIMIT ASSEMBLIES MAY INCLUDE A "WHEN FLASHING" PLAQUE AND FLASHING BEACONS. BEACONS SHALL BE YELLOW, AT LEAST EIGHT (8) INCHES IN DIAMETER, AND MOUNTED VERTICALLY. BEACONS SHALL FLASH ALTERNATELY AND CONFORM TO PART 4L OF THE MUTCD.
6. IF A SPEED LIMIT IS TO APPLY TO THE ENTIRE LENGTH OF THE WORK ZONE, THE SPEED REDUCTION (W3-5) SIGN SHOULD BE INSTALLED BETWEEN THE FIRST AND SECOND ADVANCE WARNING SIGN, AND THE SPEED LIMIT (R2-1) SIGN OR FLASHER ASSEMBLY SHOULD BE INSTALLED BETWEEN THE SECOND AND THIRD ADVANCE WARNING SIGN. IF A SPEED LIMIT ONLY APPLIES TO A SHORT SECTION OF A LONGER WORK ZONE, THE W3-5 SIGN SHOULD BE MOUNTED APPROXIMATELY 500 FEET IN ADVANCE OF THE SPEED LIMIT SIGN ASSEMBLY AND NO CLOSER THAN 250 FEET TO ANY OTHER SIGNS.

BID ITEM UNIT TO BID
SIGNS SQFT

KENTUCKY DEPARTMENT OF HIGHWAYS	
SPEED ZONE SIGNING FOR WORK ZONES	
STANDARD DRAWING NO. TTD-130	
SUBMITTED <i>B. Allen Wolf</i> DIRECTOR OF PUBLIC SAFETY OPERATIONS	DATE 02-26-20
APPROVED <i>[Signature]</i> STATE ENGINEER	DATE 02-26-20



LEGEND

- ⊠ SIGN
- ☒ TRUCK MOUNTED ATTENUATOR
- ☒ SWEEPER/BLOWER

~ NOTES ~

1. SIGNS 1 THRU 3 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF FLOURESCENT ORANGE SHEETING.
2. ALL VEHICLES IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ON THE CAB.
3. THE LAST TRAIL VEHICLE IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (T.M.A.) IF LANES ARE 10' WIDE OR GREATER.
4. THE LEAD VEHICLE SHALL MAINTAIN VISUAL CONTACT WITH THE STRIPER WHENEVER POSSIBLE TO COORDINATE ON AND OFF THE ROAD MANEUVERS. THE STRIPING TRAIN SHALL BE REQUIRED TO PULL OFF THE ROADWAY PERIODICALLY TO ALLEVIATE TRAFFIC CONGESTION.
5. TWO-WAY RADIO COMMUNICATION SHALL BE MAINTAINED BETWEEN ALL VEHICLES IN THE STRIPING TRAIN.
6. ADDITIONAL VEHICLES MAY BE ADDED TO THE STRIPING TRAIN AS NEEDED TO PROTECT THE FRESHLY PAINTED LINE.
7. THE SPACING BETWEEN VEHICLES IN THE WORK TRAIN SHOULD BE ADJUSTED, AS NEEDED, TO PROVIDE ADEQUATE SIGHT DISTANCE TO APPROACHING VEHICLES AND TO PROTECT THE FRESHLY APPLIED LINE.
8. VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS. IF AN ARROW PANEL IS USED, IT SHALL BE USED IN THE CAUTION MODE.

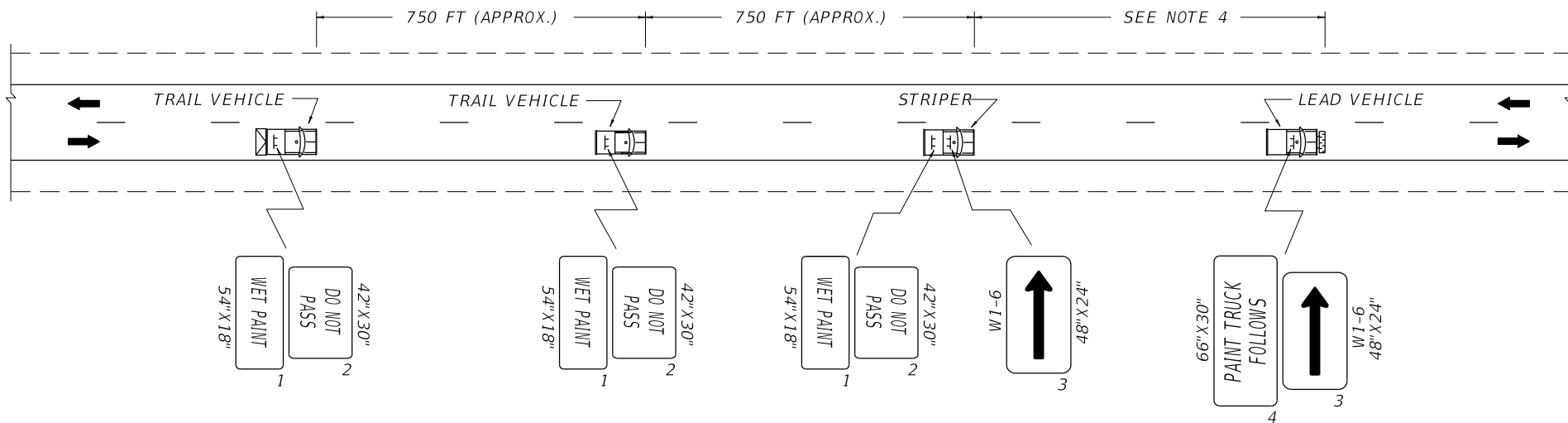
BID ITEMS AND UNIT TO BID
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

APPLICATION

THIS DRAWING APPLIES TO STRIPING OPERATIONS ON TWO-LANE, TWO-WAY ROADWAYS INVOLVING THE PLACEMENT OF EDGE LINES ONLY.

DRAWING NOT TO SCALE

KENTUCKY DEPARTMENT OF HIGHWAYS	
MOBILE OPERATION FOR PAINT STRIPING CASE I	
STANDARD DRAWING NO. TTS-100-02	
SUBMITTED <i>B. Allen Wolf</i>	DATE 12-01-15
DIRECTOR OF TRAFFIC OPERATIONS	DATE
APPROVED <i>[Signature]</i>	DATE 12-01-15
STATE HIGHWAY ENGINEER	DATE



LEGEND

- † SIGN
- ▣ TRUCK MOUNTED ATTENUATOR
- ☐ SWEEPER/BLOWER

~ NOTES ~

1. SIGNS 1, 3, AND 4 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF FLUORESCENT ORANGE SHEETING. SIGN 2 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF REFLECTIVE WHITE SHEETING.
2. ALL VEHICLES IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ON THE CAB.
3. THE LAST TRAIL VEHICLE IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (T.M.A.) IF LANES ARE 10' WIDE OR GREATER.
4. THE LEAD VEHICLE SHALL MAINTAIN VISUAL CONTACT WITH THE STRIPER WHENEVER POSSIBLE TO COORDINATE ON AND OFF THE ROAD MANEUVERS. THE STRIPING TRAIN SHALL BE REQUIRED TO PULL OFF THE ROADWAY PERIODICALLY TO ALLEVIATE TRAFFIC CONGESTION.
5. TWO-WAY RADIO COMMUNICATION SHALL BE MAINTAINED BETWEEN ALL VEHICLES IN THE STRIPING TRAIN.
6. ADDITIONAL VEHICLES MAY BE ADDED TO THE STRIPING TRAIN AS NEEDED TO PROTECT THE FRESHLY PAINTED LINE.
7. THE SPACING BETWEEN VEHICLES IN THE WORK TRAIN SHOULD BE ADJUSTED, AS NEEDED, TO PROVIDE ADEQUATE SIGHT DISTANCE TO APPROACHING VEHICLES AND TO PROTECT THE FRESHLY APPLIED LINE.
8. VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS. IF AN ARROW PANEL IS USED, IT SHALL BE USED IN THE CAUTION MODE.

BID ITEMS AND UNIT TO BID
REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

APPLICATION

THIS DRAWING APPLIES TO STRIPING OPERATIONS ON TWO-LANE, TWO-WAY ROADWAYS INVOLVING THE PLACEMENT OF EITHER THE CENTERLINE ONLY OR A COMBINATION OF THE CENTERLINE AND EDGE LINE.

DRAWING NOT TO SCALE

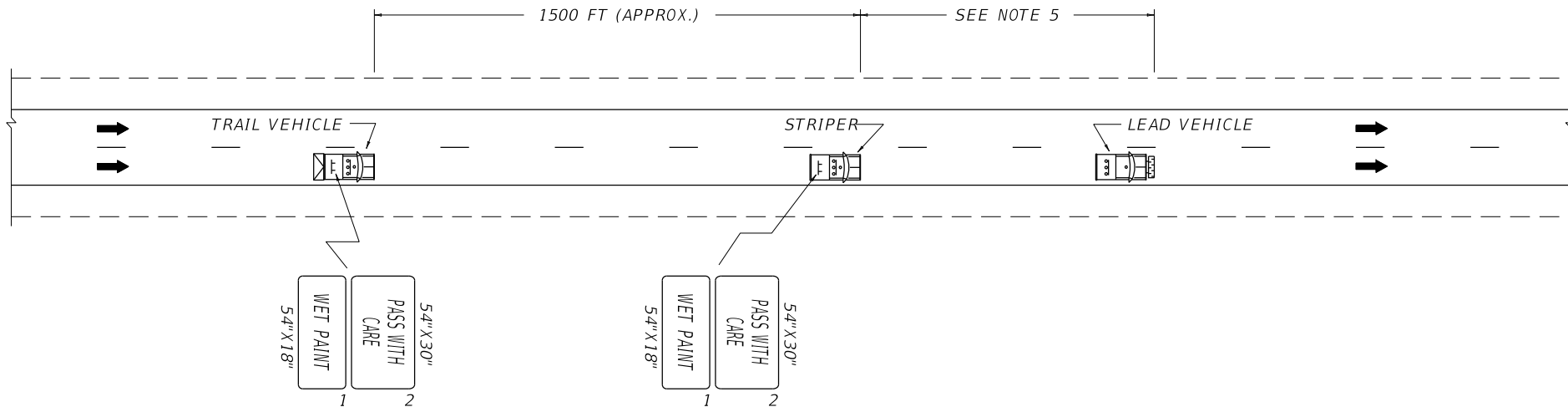
KENTUCKY
DEPARTMENT OF HIGHWAYS

MOBILE OPERATION
FOR PAINT STRIPING
CASE II





STANDARD DRAWING NO. TTS-105-02

SUBMITTED *B. Allen Wolf* 12-01-15
DIRECTOR OF TRAFFIC OPERATIONS DATE

APPROVED *[Signature]* 12-01-15
STATE HIGHWAY ENGINEER DATE



LEGEND

-  FLASHING ARROW PANELS
-  SIGN
-  TRUCK MOUNTED ATTENUATOR
-  SWEEPER/BLOWER

~ NOTES ~

1. FLASH ARROW PANELS TO DIRECT TRAFFIC RIGHT OR LEFT AS APPROPRIATE. FLASHING ARROW PANELS SHALL BE TYPE B (60"X30") OR LARGER.
 2. SIGN 1 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF FLOURESCENT ORANGE SHEETING. SIGN 2 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF REFLECTIVE WHITE SHEETING.
 3. ALL VEHICLES IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ON THE CAB.
 4. THE LAST TRAIL VEHICLE IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (T.M.A.) IF LANES ARE 10' WIDE OR GREATER.
 5. THE LEAD VEHICLE SHALL MAINTAIN VISUAL CONTACT WITH THE STRIPER.
 6. TWO-WAY RADIO COMMUNICATION SHALL BE MAINTAINED BETWEEN ALL VEHICLES IN THE STRIPING TRAIN.
 7. ADDITIONAL VEHICLES MAY BE ADDED TO THE STRIPING TRAIN AS NEEDED TO PROTECT THE FRESHLY PAINTED LINE.
 8. THE SPACING BETWEEN VEHICLES IN THE WORK TRAIN SHOULD BE ADJUSTED, AS NEEDED, TO PROVIDE ADEQUATE SIGHT DISTANCE TO APPROACHING VEHICLES AND TO PROTECT THE FRESHLY APPLIED LINE.
 9. VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.
- BID ITEMS AND UNIT TO BID
REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

DRAWING NOT TO SCALE

APPLICATION

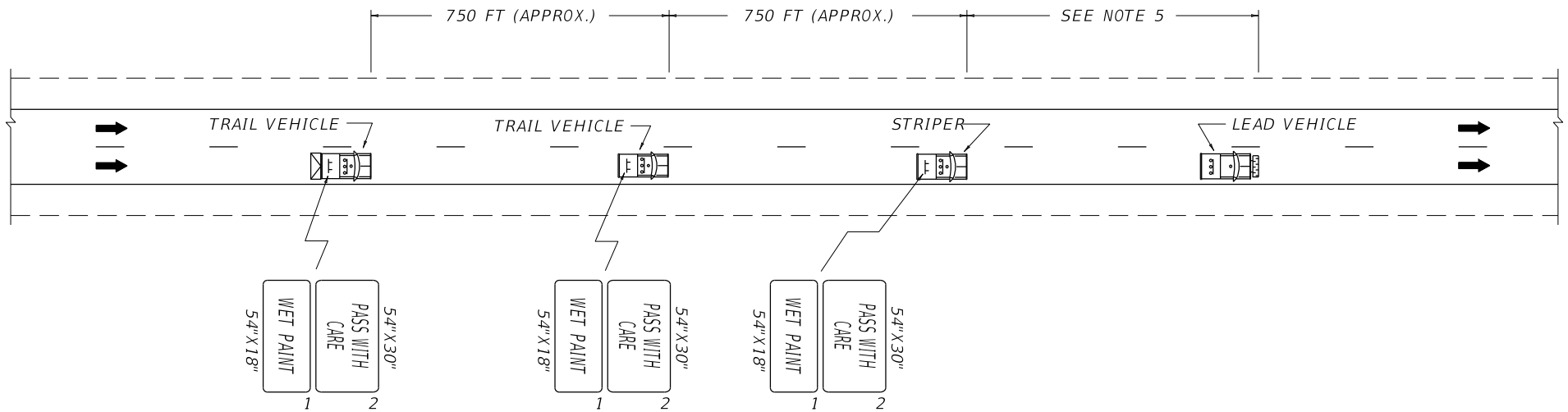
THIS DRAWING APPLIES TO PAINT STRIPING OPERATIONS ON MULTI-LANE ROADWAYS INVOLVING THE PLACEMENT OF EDGE LINES ONLY.

KENTUCKY
DEPARTMENT OF HIGHWAYS

MOBILE OPERATION
FOR PAINT STRIPING
CASE III

STANDARD DRAWING NO. TTS-110-02

SUBMITTED *B. Allen Wolf* 12-01-15
DIRECTOR OF TRAFFIC OPERATIONS DATE
APPROVED *[Signature]* 12-01-15
STATE HIGHWAY ENGINEER DATE



LEGEND

- ⚡ FLASHING ARROW PANELS
- ⊠ SIGN
- 🚚 TRUCK MOUNTED ATTENUATOR
- 🧹 SWEEPER/BLOWER

~ NOTES ~

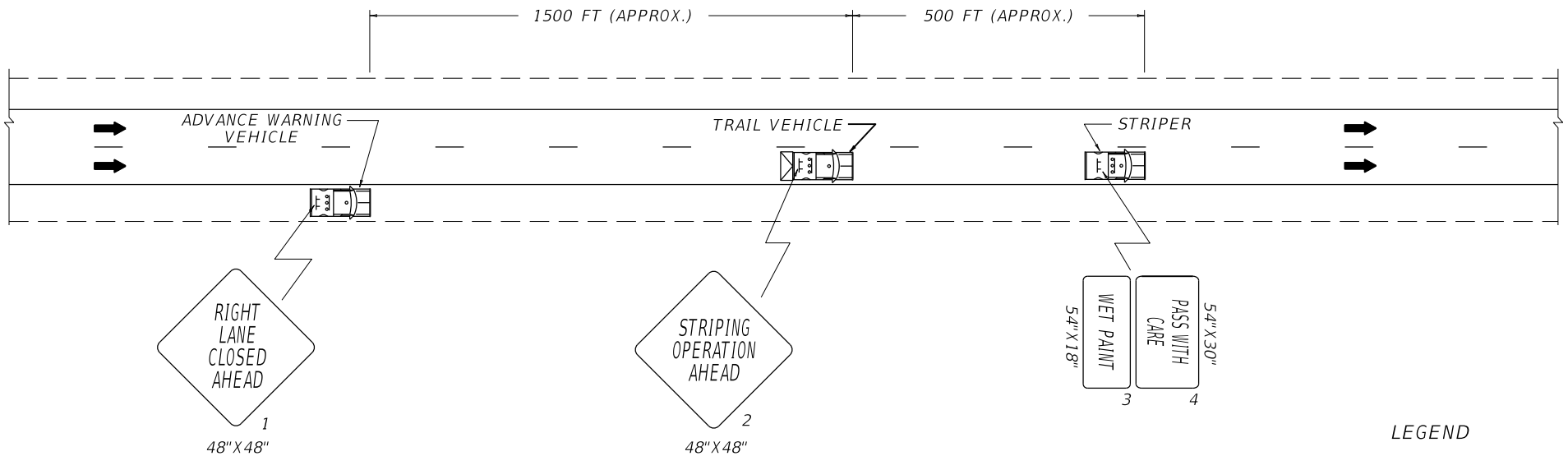
1. FLASH ARROW PANELS TO DIRECT TRAFFIC RIGHT OR LEFT AS APPROPRIATE. FLASHING ARROW PANELS SHALL BE TYPE B (60"X30") OR LARGER.
 2. SIGN 1 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF FLUORESCENT ORANGE SHEETING. SIGN 2 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF REFLECTIVE WHITE SHEETING.
 3. ALL VEHICLES IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ON THE CAB.
 4. THE LAST TRAIL VEHICLE IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (T.M.A.) IF LANES ARE 10' WIDE OR GREATER.
 5. THE LEAD VEHICLE SHALL MAINTAIN VISUAL CONTACT WITH THE STRIPER.
 6. TWO-WAY RADIO COMMUNICATION SHALL BE MAINTAINED BETWEEN ALL VEHICLES IN THE STRIPING TRAIN.
 7. ADDITIONAL VEHICLES MAY BE ADDED TO THE STRIPING TRAIN AS NEEDED TO PROTECT THE FRESHLY PAINTED LINE.
 8. THE SPACING BETWEEN VEHICLES IN THE WORK TRAIN SHOULD BE ADJUSTED, AS NEEDED, TO PROVIDE ADEQUATE SIGHT DISTANCE TO APPROACHING VEHICLES AND TO PROTECT THE FRESHLY APPLIED LINE.
 9. VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.
- BID ITEMS AND UNIT TO BID
REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

DRAWING NOT TO SCALE

APPLICATION

THIS DRAWING APPLIES TO PAINT STRIPING OPERATIONS ON MULTI-LANE ROADWAYS INVOLVING EITHER THE PLACEMENT OF LANE LINES ONLY OR A COMBINATION OF LANE LINES AND EDGE LINES.

KENTUCKY DEPARTMENT OF HIGHWAYS	
MOBILE OPERATION FOR PAINT STRIPING CASE IV	
STANDARD DRAWING NO. TTS-115-02	
SUBMITTED <i>B. Allen Wolf</i>	12-01-15
DIRECTOR OF OPERATIONS	DATE
APPROVED <i>[Signature]</i>	12-01-15
STATE HIGHWAY ENGINEER	DATE



LEGEND

- ⊠ FLASHING ARROW PANEL
- ⊠ SIGN
- ⊠ TRUCK MOUNTED ATTENUATOR

~ NOTES ~

1. FLASH ARROW PANELS TO DIRECT TRAFFIC RIGHT OR LEFT AS APPROPRIATE. FLASHING ARROW PANELS SHALL BE TYPE B (60"X30") OR LARGER.
2. SIGNS 1 THRU 3 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF FLUORESCENT ORANGE SHEETING. SIGN 4 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF REFLECTIVE WHITE SHEETING.
3. ALL VEHICLES IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ON THE CAB.
4. THE LAST TRAIL VEHICLE IN THE WORK TRAIN SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (T.M.A.) IF LANES ARE 10' WIDE OR GREATER.
5. TWO-WAY RADIO COMMUNICATION SHALL BE MAINTAINED BETWEEN ALL VEHICLES IN THE WORK TRAIN.
6. THE SPACING BETWEEN VEHICLES IN THE WORK TRAIN SHOULD BE ADJUSTED, AS NEEDED, TO PROVIDE ADEQUATE SIGHT DISTANCE TO APPROACHING VEHICLES AND TO PROTECT THE FRESHLY APPLIED LINE.
7. VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

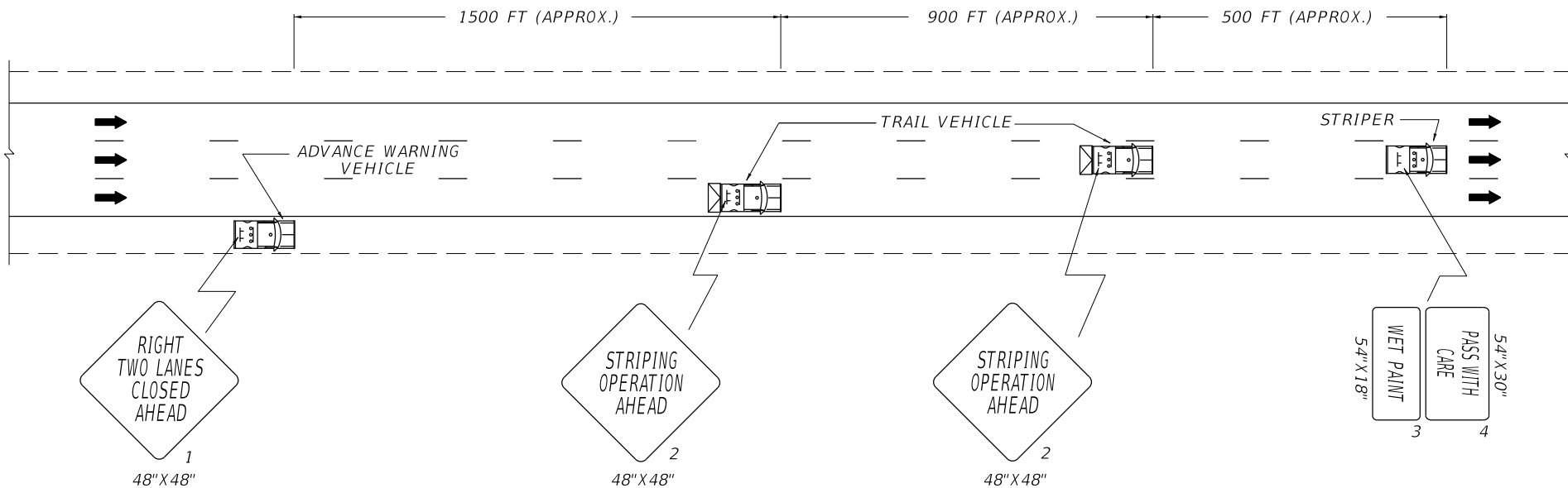
BID ITEMS AND UNIT TO BID
 REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

DRAWING NOT TO SCALE

APPLICATION

THIS DRAWING APPLIES TO DURABLE STRIPING OPERATIONS ON MULTI-LANE ROADWAYS INVOLVING THE CLOSURE OF ONE LANE ONLY.

KENTUCKY DEPARTMENT OF HIGHWAYS	
MOBILE OPERATION FOR DURABLE STRIPING CASE I	
STANDARD DRAWING NO. TTS-120-02	DATE
SUBMITTED <i>B. Allen Wolf</i>	12-01-15
DIRECTOR OF PUBLIC OPERATIONS	DATE
APPROVED <i>[Signature]</i>	12-01-15
STATE HIGHWAY ENGINEER	DATE



~ NOTES ~

1. FLASH ARROW PANELS TO DIRECT TRAFFIC RIGHT OR LEFT AS APPROPRIATE. FLASHING ARROW PANELS SHALL BE TYPE B (60"X30") OR LARGER.
 2. SIGNS 1 THRU 3 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF FLUORESCENT ORANGE SHEETING. SIGN 4 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF REFLECTIVE WHITE SHEETING.
 3. ALL VEHICLES IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ON THE CAB.
 4. THE LAST TRAIL VEHICLE IN THE WORK TRAIN SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (T.M.A.) IF LANES ARE 10' WIDE OR GREATER.
 5. WHEN MORE THAN TWO LANES ARE TO BE CLOSED, SIGN 1 SHALL AGREE WITH THE NUMBER OF LANES CLOSED AND ADDITIONAL TRAIL VEHICLES SHALL BE USED.
 6. TWO-WAY RADIO COMMUNICATION SHALL BE MAINTAINED BETWEEN ALL VEHICLES IN THE WORK TRAIN.
 7. THE SPACING BETWEEN VEHICLES IN THE WORK TRAIN SHOULD BE ADJUSTED, AS NEEDED, TO PROVIDE ADEQUATE SIGHT DISTANCE TO APPROACHING VEHICLES AND TO PROTECT THE FRESHLY APPLIED LINE.
 8. VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.
- BID ITEMS AND UNIT TO BID
REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

LEGEND

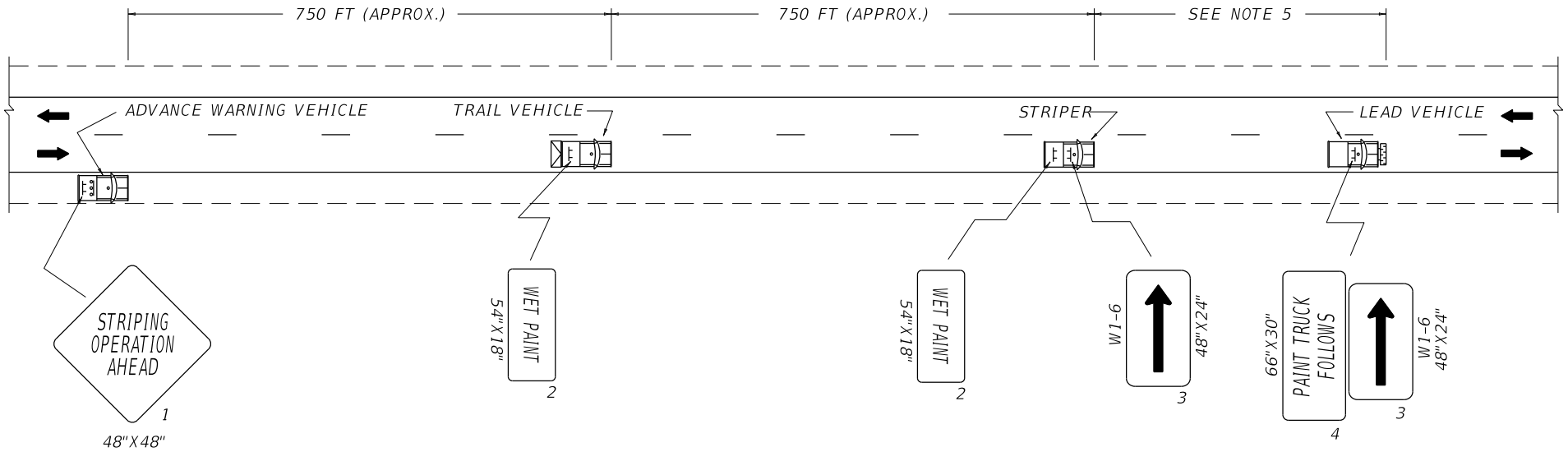
- ⚡ FLASHING ARROW PANEL
- ⊠ SIGN
- ⊠ TRUCK MOUNTED ATTENUATOR

DRAWING NOT TO SCALE

APPLICATION

THIS DRAWING APPLIES TO DURABLE STRIPING OPERATIONS INVOLVING MULTIPLE LANE CLOSURES ON MULTI-LANE ROADWAYS.

KENTUCKY DEPARTMENT OF HIGHWAYS	
MOBILE OPERATION FOR DURABLE STRIPING CASE II	
STANDARD DRAWING NO. TTS-125-02	
SUBMITTED <i>B. Allen Wolf</i>	12-01-15 DATE
DIRECTOR OF OPERATIONS	DATE
APPROVED <i>[Signature]</i>	12-01-15 DATE
STATE HIGHWAY ENGINEER	DATE



LEGEND

- ⊠ SIGN
- ▣ TRUCK MOUNTED ATTENUATOR
- ☐ SWEEPER/BLOWER
- ⬆ FLASHING ARROW PANEL

~ NOTES ~

1. OPERATE FLASHING ARROW PANEL IN CAUTION MODE. THE ARROW PANEL SHALL BE TYPE B (60"X30") OR LARGER.
2. SIGNS 1 THRU 4 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF FLUORESCENT ORANGE SHEETING.
3. ALL VEHICLES IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ON THE CAB.
4. THE LAST TRAIL VEHICLE IN THE WORK TRAIN SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (T.M.A.) IF LANES ARE 10' WIDE OR GREATER.
5. THE LEAD VEHICLE SHALL MAINTAIN VISUAL CONTACT WITH THE STRIPER WHENEVER POSSIBLE TO COORDINATE ON AND OFF THE ROAD MANEUVERS. THE WORK TRAIN SHALL BE REQUIRED TO PULL OFF THE ROADWAY PERIODICALLY TO ALLEVIATE TRAFFIC CONGESTION.
6. TWO-WAY RADIO COMMUNICATION SHALL BE MAINTAINED BETWEEN ALL VEHICLES IN THE WORK TRAIN.
7. THE SPACING BETWEEN VEHICLES IN THE WORK TRAIN SHOULD BE ADJUSTED, AS NEEDED, TO PROVIDE ADEQUATE SIGHT DISTANCE TO APPROACHING VEHICLES AND TO PROTECT THE FRESHLY APPLIED LINE.
8. VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

BID ITEMS AND UNIT TO BID

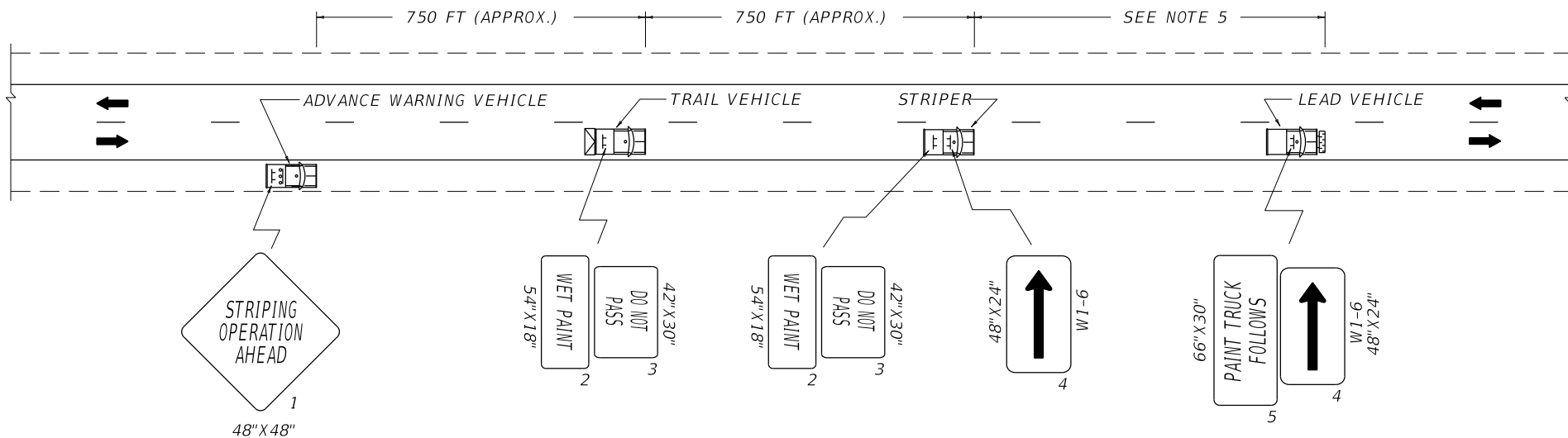
REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

APPLICATION

THIS DRAWING APPLIES TO DURABLE STRIPING OPERATIONS ON TWO-LANE, TWO-WAY ROADWAYS INVOLVING THE PLACEMENT OF EDGE LINES ONLY.

DRAWING NOT TO SCALE

KENTUCKY DEPARTMENT OF HIGHWAYS	
MOBILE OPERATION FOR DURABLE STRIPING CASE III	
STANDARD DRAWING NO. TTS-130-02	
SUBMITTED <i>B. Allen Wolf</i>	12-01-15 DATE
DIRECTOR OF HIGHWAY OPERATIONS	
APPROVED <i>[Signature]</i>	12-01-15 DATE
STATE HIGHWAY ENGINEER	



LEGEND

- ⊢ SIGN
- ⊠ TRUCK MOUNTED ATTENUATOR
- ⊞ SWEEPER/BLOWER
- ⊡ FLASHING ARROW PANEL

~ NOTES ~

1. OPERATE FLASHING ARROW PANEL IN CAUTION MODE. THE ARROW PANEL SHALL BE TYPE B (60"X30") OR LARGER.
 2. SIGNS 1, 2, 4, AND 5 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF FLUORESCENT ORANGE SHEETING. SIGN 3 SHALL HAVE A BLACK BORDER AND LEGEND ON A BACKGROUND OF REFLECTIVE WHITE SHEETING.
 3. ALL VEHICLES IN THE STRIPING TRAIN SHALL BE EQUIPPED WITH HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ON THE CAB.
 4. THE LAST TRAIL VEHICLE IN THE WORK TRAIN SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (T.M.A.) IF LANES ARE 10' WIDE OR GREATER.
 5. THE LEAD VEHICLE SHALL MAINTAIN VISUAL CONTACT WITH THE STRIPER WHENEVER POSSIBLE TO COORDINATE ON AND OFF THE ROAD MANEUVERS. THE WORK TRAIN SHALL BE REQUIRED TO PULL OFF THE ROADWAY PERIODICALLY TO ALLEVIATE TRAFFIC CONGESTION.
 6. TWO-WAY RADIO COMMUNICATION SHALL BE MAINTAINED BETWEEN ALL VEHICLES IN THE WORK TRAIN.
 7. THE SPACING BETWEEN VEHICLES IN THE WORK TRAIN SHOULD BE ADJUSTED, AS NEEDED, TO PROVIDE ADEQUATE SIGHT DISTANCE TO APPROACHING VEHICLES AND TO PROTECT THE FRESHLY APPLIED LINE.
 8. VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.
- BID ITEMS AND UNIT TO BID
REFER TO SECTION 112 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

DRAWING NOT TO SCALE

APPLICATION

THIS DRAWING APPLIES TO DURABLE STRIPING OPERATIONS ON TWO-LANE, TWO-WAY ROADWAYS INVOLVING THE PLACEMENT OF EITHER THE CENTERLINE ONLY OR A COMBINATION OF THE CENTERLINE AND EDGE LINE.

KENTUCKY
DEPARTMENT OF HIGHWAYS

MOBILE OPERATION
FOR DURABLE STRIPING
CASE IV

STANDARD DRAWING NO. TTS-135-02
 SUBMITTED *R. Allen Wolf* 12-01-15
DIRECTOR OF TRANSPORTATION OPERATIONS DATE
 APPROVED *[Signature]* 12-01-15
STATE HIGHWAY ENGINEER DATE