FHWA REG NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	SHEETS
7	KANSAS	87N-0196-01	2001	37	55

TRAFFIC CONTROL NOTES

1. CHANNELIZING DEVICES: "DEVICES" INCLUDES BUT IS NOT LIMITED TO BARRICADES, BARRIERS, CONES, DRUMS AND VERTICAL PANELS.
   (A) THE MAXIMUM SPACING BETWEEN DEVICES IN THE TAPER SHOULD NOT EXCEED A DISTANCE IN METERS EQUAL TO 0.3 TIMES THE SPEED LIMIT (IN MPH) PRIOR TO WORK.
   (B) THE SPACING BETWEEN DEVICES IN THE WORK ZONE SHOULD NOT EXCEED A DISTANCE IN METERS OF 0.6 TIMES THE POSTED SPEED (MPH).
   (C) WHERE EXISTING CONDITIONS WARRANT, THE ENGINEER MAY REQUIRE A DECREASE IN THE SPACING STIPULATED ABOVE. WHEN TRAFFIC CONTROL IS BID LUMP SUM, ADDITIONAL DEVICES AND WARNING LIGHTS WILL BE PAID FOR AS EXTRA WORK.
   (D) TRAFFIC CONES MAY BE UTILIZED AS CHANNELIZING DEVICES FOR DAY-TIME TRAFFIC CONTROL OPERATIONS. THE ENGINEER MAY REQUIRE THAT CONES BE SUPPLEMENTED BY OTHER TRAFFIC CONTROL DEVICES IN CERTAIN SITUATIONS SUCH AS OPEN TRENCHES.

2. COVERING OF SIGNS NOT IN USE:
   WHEN NO WORK IS IN PROGRESS NOR IS ANY EXPECTED TO BE FOR AN EXTENDED PERIOD OF TIME, AND THE ROADWAY IS UNRESTRICTED TO THE TRAVELING PUBLIC, TRAFFIC CONTROL SIGNS SHALL BE REMOVED OR COMPLETELY COVERED WITH ADEQUATE OPAQUE WATERPROOF MATERIAL. TAPE SHALL NOT BE APPLIED TO THE FACE OF A SIGN.

3. CLEAR ZONE:
   WHENEVER PRACTICAL, ALL CONSTRUCTION EQUIPMENT, MATERIALS, AND DEBRIS SHALL BE STORED OUT OF THE CLEAR ZONE. WHERE THIS CANNOT BE ACHIEVED, THE CONTRACTOR SHALL PLACE APPROPRIATE SIGNS AND/OR BARRICADES AS DESIGNATED BY THE ENGINEER. TRAFFIC CONTROL DEVICES NEEDED FOR THIS CONDITION SHALL BE CONSIDERED SUBSIDIARY TO TRAFFIC CONTROL BID ITEM.

4. MAINTENANCE:
   THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC CONTROL SIGNS AND DEVICES IN THEIR PROPER POSITION AND CLEAN AND/OR REPLACE ANY DAMAGED OR ILLEGIBLE SIGN OR DEVICE AS DIRECTED BY THE ENGINEER.

5. TAPER FORMULAS:
   $L = WS$ FOR SPEEDS OF 45 MPH OR MORE
   $L = WS^2/60$ FOR SPEEDS OF 40 MPH OR LESS
   WHERE: L = MINIMUM LENGTH OF TAPER IN METERS
   S = NUMERICAL VALUE OF POSTED SPEED PRIOR TO WORK IN MPH
   W = WIDTH OF OFFSET IN METERS

6. PAVEMENT MARKINGS:
   (A) TYPE I TAPE IS TO BE APPLIED TO A FINAL SURFACE AS A TEMPORARY MARKING WHEN THE PATTERN OF THE PERMANENT MARKINGS WILL BE DIFFERENT THAN THE TEMPORARY MARKING.
   TYPE II TAPE IS TO BE APPLIED TO A TEMPORARY SURFACE THAT IS TO BE REMOVED OR COVERED BY FUTURE CONSTRUCTION. TYPE II TAPE IS ALSO TO BE APPLIED TO A FINAL SURFACE WHERE IT IS KNOWN THERE WILL BE PERMANENT MARKINGS PLACED IN THE SAME PATTERN AS THE TEMPORARY TYPE II TAPE.
   (B) ALL CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED AND ALL TRANSITION TAPERS, CROSSOVERS, AND EDGE LINES ALONG CHANNELIZING DEVICES SHALL BE MARKED WITH SOLID 100 mm WIDE PAVEMENT MARKING TAPE WHEN THE WORK WILL OCCUPY A LOCATION MORE THAN THREE DAYS.

7. TEMPORARY AND POST MOUNTED SIGNS:
   TRAFFIC CONTROL PLANS THAT ARE ANTICIPATED TO REMAIN IN PLACE DURING DAYLIGHT HOURS ONLY ARE CONSIDERED "TEMPORARY". TEMPORARY SIGNS SHALL BE MOUNTED AT A MINIMUM HEIGHT OF 300 mm. TRAFFIC CONTROL PLANS OF LONGER DURATION WILL REQUIRE THAT ALL SIGNS BE POST MOUNTED AT A MINIMUM HEIGHT OF 2.1 m.

8. EXISTING SIGNS:
   IF EXISTING SIGNS THAT ARE TO REMAIN (OR THAT ARE TO BE REMOVED AND RESET) INTERFERE WITH CONSTRUCTION WORK, THE CONTRACTOR SHALL REMOVE, STORE, AND RESET THE SIGNS. DAMAGED SIGNS TO BE REPLACED WITH NEW SIGNS. THIS SHALL BE SUBSIDIARY TO TRAFFIC CONTROL BID ITEM.

9. CONFLICTING SIGNS:
   ALL PERMANENT AND TEMPORARY SIGNING WHICH IS IN CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE REMOVED OR COVERED.

10. MINIMUM LANE WIDTHS:
    LANE WIDTHS SHALL BE A MINIMUM OF 3.4 m (MEASURED BETWEEN CENTERLINES OF PAVEMENT MARKINGS), OR AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. A LANE WIDTH LESS THAN 3.4 m MAY REQUIRE RESTRICTED ROADWAY WIDTH SIGNING.

11. BARRICADES:
    TYPE III BARRICADES PLACED ACROSS A ROADWAY SHALL BE SUITABLY DISTRIBUTED ACROSS THE ROADWAY TO EFFECTIVELY CLOSE THE ROADWAY. WHERE PROVISION IS MADE FOR ACCESS BY AUTHORIZED VEHICLES, THE BARRICADES SHALL CLOSE THE ROAD AT THE END OF THE WORK DAY. WHEN ACCESS MUST BE ALLOWED FOR LOCAL TRAFFIC, THE TYPE III BARRICADES SHOULD BE STAGGERED.

RECOMMENDED CONSTRUCTION SEQUENCE AND TRAFFIC HANDLING

PHASE	HANDLING OF TRAFFIC	MAJOR CONSTRUCTION ITEMS	REMARKS
1	Two-way traffic on Rock. No left turns allowed off of Rock and Central.	Install traffic control signs, signals and devices. Remove existing medians and place temporary asphalt for driving surface.	Contractor to remove medians and place temporary asphalt between 9:00 AM and 4:00 PM.
2	Two-way traffic on West side of Rock. Two-way traffic on North side of Central. No left turns allowed off of Rock and Central.	Construct SE Quadrant at Rock/Central Intersection. East side of Rock will be constructed. Modify existing median East of Rock.	Contractor will maintain access to properties. Paving operations at entrances will be phased to allow continued points of access. Contractor must insure that adequate protection is maintained for all open excavation. Cross road pipe installations shall be available for traffic at the end of the work day. Flowable Fill mix design may be modified to produce acceptable strengths for this reduced time constraint.
3	Two-way traffic on West side of Rock. Two-way traffic on South side of Central. No left turns allowed off of Rock and Central.	East side of Rock will continued to be constructed. Construct NE Quadrant at Rock/Central Intersection. Construct Storm Water Sewer and Water Main to the extent possible and allow traffic through Construction.	
4	Two-way traffic on East side of Rock. Two-way traffic on South side of Central.	Complete remaining Water Main and Storm Water Sewer. Construct NW Quadrant at Rock/Central Intersection. West side of Rock will be constructed. Contractor shall "focus" on North end between Sta. 5+260 & Sta. 5+491.94 in order to eliminate the one lane South bound at the North end and open to two lanes South bound as soon as possible.	Contractor will maintain access to properties. Paving operations at entrances will be phased to allow continued points of access. Contractor must insure that adequate protection is maintained for all open excavation. Cross road pipe installations shall be available for traffic at the end of the work day. Flowable Fill mix design may be modified to produce acceptable strengths for this reduced time constraint. Contractor to modify traffic control, during mill & overlay, to one lane South bound and open back up to 2 lanes South bound if substantial time elapse between milling & overlaying.
5	Two-way traffic on East side of Rock. Two-way traffic on North side of Central.	Construct SW Quadrant at Rock/Central Intersection. West side of Rock will continue to be constructed. Modify existing median West of Rock. Mill & overlay designated areas.	
6	Two-way traffic on Rock & Central. No left turns allowed off of Rock. All lanes open on Central.	Construct Non-mountable medians.	

NOTE: All work required for traffic control shall be bid as "Traffic Control".

SIGN SPACING (IN METERS):

	A	B	C
URBAN (40 MPH OR LOWER)	60	60	60
URBAN (45 MPH OR HIGHER)	115	115	115
RURAL	150	150	150
EXPRESSWAY/FREEWAY	300	525	800

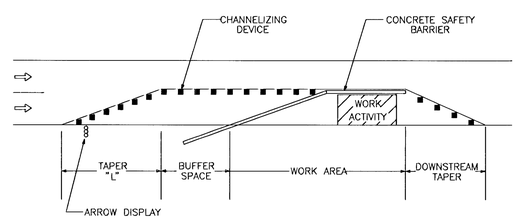
IN NO CASE SHALL THE SPACING BETWEEN SIGNS BE LESS THAN 30 m.

BUFFER SPACE:

SPEED (MPH)	20	25	30	35	40	45	50	55	60	65	70
LENGTH (m)	10	15	25	35	50	65	85	100	125	150	175

NEITHER WORK ACTIVITY NOR STORAGE OF EQUIPMENT, VEHICLES, OR MATERIAL SHOULD OCCUR IN THE BUFFER SPACE. WHEN A PROTECTION VEHICLE IS PLACED IN ADVANCE OF THE WORK SPACE, ONLY THE SPACE UPSTREAM OF THE VEHICLE CONSTITUTES THE BUFFER SPACE.

IF TEMPORARY CONCRETE SAFETY BARRIER IS USED TO SEPARATE APPROACHING TRAFFIC FROM THE WORK ACTIVITY, THE BARRIER SHALL BE CONSIDERED PART OF THE WORK AREA. A FULL LANE WIDTH SHOULD BE AVAILABLE THROUGHOUT THE LENGTH OF THE BUFFER SPACE. FOR EXAMPLE:



CONSTRUCTION SEQUENCE NOTES

All signs and pavement markings conflicting with this traffic control shall be covered or removed as directed by the Engineer.

As the various construction activities progress, certain situations may arise which will preclude adhering to the original construction sequence or which in the opinion of the Contractor, would readily adapt themselves to a more efficient phasing operation. Should this occur, the Contractor may submit to the Engineer on alternative plan for approval.

Two-way traffic will be maintained on Central and Rock.

Contractor shall maintain existing drainage system nearly as possible during construction, or supplement the existing system with ditches and temporary pipes. Temporary pipes shall be removed or filled with grout before final construction.

KANSAS DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING SUMMARY AND TRAFFIC CONTROL

PROJ. NO. 87N-0196-01 SEDGWICK CO.

MKEC ENGINEERING CONSULTANTS, INC.
WICHITA, KANSAS

DESIGNED BY:	ASH	CHECKED BY:	GJA
DRAWN BY:	DAG	DATE: APRIL 2001	SHEET 37 OF 55

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