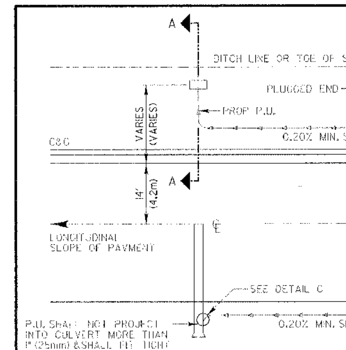
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2605 J233	02-00170-09-CH	LAKE	66	66

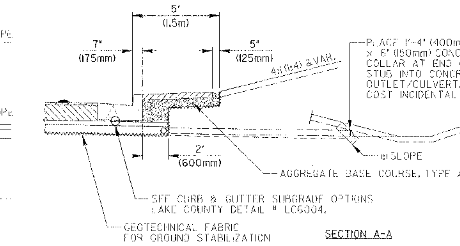
LAKE COUNTY STANDARDS

FED. ROAD DIST. NO. 5 | ILLINOIS | PROJECT CMM-8003(207)

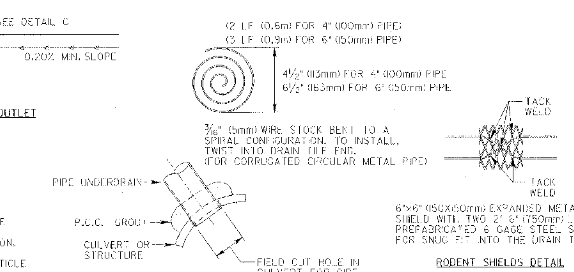
CONTRACT NO. 83837



TYPICAL PIPE UNDERDRAIN OUTLET



SECTION A-A



RODENT SHIELDS DETAIL (ALTERNATES)

DETAIL C

GENERAL NOTES

ALL WORK TO BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF THE STANDARD SPECIFICATIONS EXCEPT AS MODIFIED HEREON.

IN ADDITION TO THE REQUIREMENTS OF ARTICLE 601.08 OF THE STANDARD SPECIFICATIONS, THE CONTRACT UNIT PRICE PER FOOT (METER) FOR PIPE UNDERDRAINS 4" (100mm) SHALL INCLUDE THE COST FOR FURNISHING AND PLACING THE RODENT SHIELD.

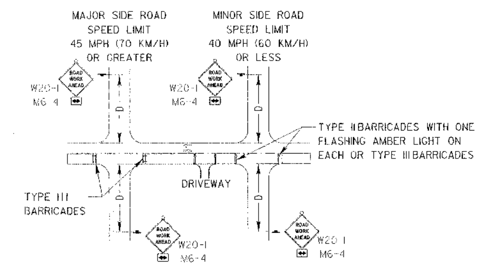
THE REMOVABLE RODENT SHIELD SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH ONE OF THE CONFIGURATIONS SHOWN. THE SHIELD SHALL BE FABRICATED FROM STEEL WIRE OR EXPANDED METAL AS DETAILED ABOVE AND SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M-111. OTHER SUBMITTED DESIGNS FOR A REMOVABLE RODENT SHIELD WILL BE ALLOWED WITH THE APPROVAL OF THE ENGINEER.

NOT TO SCALE

REVISIONS	DATE
DUAL DIMENSIONS	03/20/02
DEL. TY A (SPEC) & PU (MOD)	04/25/02

LakeCounty Division of Transportation — APPROVED BY: C. A. WIESNER — DATE: SEPT. 8, 1999

SUB-SURFACE DRAINS — LC6010



1. For a side road with a speed limit of 40 mph (60 km/h) or less, the closed portion of the main route shall be protected by blocking with Type I or Type II barricades, 1/3 of the cross section of the closed portion of the roadway.

2. For a side road with a speed limit of 45 mph (70 km/h) or greater, the closed portion of the main route shall be protected by blocking with Type II barricades, 1/2 of the cross section of the closed portion of the roadway.

3. All W20-1 'ROADWORK AHEAD' signs shall be 48" x 48" (1.2m x 1.2m) with fluorescent orange reflective sheeting with an amber Type A flashing light mounted on the sign.

4. When the side road lies between the beginning of the mainline signing and the work zone, a M6-Single Headed Arrow shall be used in lieu of the M6-4 Double Headed Arrow.

5. For a lane closure on a side road or driveway, use the applicable portions of the appropriate Highway Standard or Traffic Control Detail. The spacing of the signs and barricades shall be adjusted for field conditions as directed by the engineer. The directional arrow shall be covered or removed when no longer consistent with the side road lane closure.

6. Advance warning signs shall be omitted on driveways unless otherwise noted.

7. The traffic control and protection for side roads and intersections shall be included in the contract unit lump sum price for 'TRAFFIC CONTROL AND PROTECTION.'

ADVANCE WARNING SIGN SPACING TABLE POSTED SPEED	DISTANCE BETWEEN SIGNS (D)
40 MPH OR LESS	200'
45 MPH OR GREATER	350'
55 MPH	500'

ADVANCE WARNING SIGN SPACING TABLE - METRIC POSTED SPEED	DISTANCE BETWEEN SIGNS (D)
60 km/h OR LESS	60m
70-80 km/h	105m
90 km/h	150m

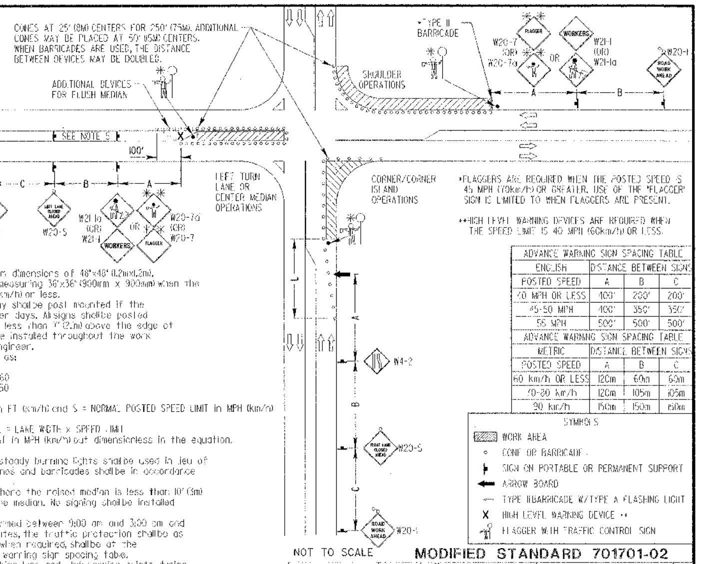
NOT TO SCALE

MODIFIED DISTRICT ONE SIDE ROAD DETAIL

REVISIONS	DATE	REVISIONS	DATE
DUAL DIMENSIONS	03/27/02	REMOVED FLAGS-JPS	3/14/97
		SPACING REV.-JPS	1/29/98
		REVISED BARRICADES, DIST CHART AND ADDED DETAIL NO.-JPS	3/10/99
		SCALE, FONT, SIZE -- CNW	12/14/99

LakeCounty Division of Transportation — APPROVED BY: ANTHONY KHAWAJA — DATE: DEC 14, 1995

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES, HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE AND UTILITY OPERATIONS — TRAFFIC CONTROL AND PROTECTION FOR SIDEROADS, INTERSECTIONS AND DRIVEWAYS — WHERE, AT ANY TIME, ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE PAVEMENT DURING SHOULDER OPERATIONS OR WHERE CONSTRUCTION REQUIRES LANE CLOSURES. — LC7003



GENERAL NOTES:

1. All warning signs shall have minimum dimensions of 48"x48" (1.2mx1.2m). The engineer may approve signs measuring 36"x36" (900mm x 900mm) when the posted speed limit is 30 mph (50 km/h) or less.
2. All signs not on the traveled way shall be post mounted if the closure time exceeds four calendar days. All signs shall be posted with the bottom of the sign not less than 7' (2.1m) above the edge of pavement. 'NO PARKING' signs shall be installed throughout the work area at the discretion of the engineer.
3. The distance 'L' shall be defined as:

SPEED	FORMULA
40 mph or less	$L = (WS^2)/60$
(60 km/h) or less	$L = (WS^2)/150$

Where W = WIDTH OF CLOSURE in FT (m/h) and S = NORMAL POSTED SPEED LIMIT in MPH (km/h)

45 mph (70km/h) or greater, L = LANE WIDTH x SPEED LIMIT
LANE WIDTH in FT (m); SPEED LIMIT in MPH (km/h) but dimensionless in the equation.

4. Type II barricades with type C steady burning lights shall be used in lieu of cones for night operations. All cones and barricades shall be in accordance with Standard 702001.
5. For raised median operations, where the raised median is less than 10' (3m) signing shall not be installed on the median. No signing shall be installed on any painted median.
6. If the work operation is performed between 9:00 am and 3:00 pm and the work does not exceed 15 minutes, the traffic protection shall be as shown for Standard 701301. Signs, when required, shall be at the spacing specified in the advance warning sign spacing table.
7. If the work area is in the parking lane and the parking exists during work hours, a 'ROAD WORK AHEAD' sign shall be installed in advance of work area at the spacing specified in the Advance Warning Sign Spacing Table and the area protected with cones or barricades.
8. Type A flashing lights shall be used on each approach in advance of the work area during hours of darkness and installed above the first two sign in each series and the high level warning devices.
9. Longitudinal dimensions may be adjusted to fit field conditions.
10. Form BT 725 is required.

ADVANCE WARNING SIGN SPACING TABLE			
ENGLISH	DISTANCE BETWEEN SIGNS		
POSTED SPEED	A	B	C
40 MPH OR LESS	400'	200'	200'
45-50 MPH	400'	350'	350'
55 MPH	500'	500'	500'
METRIC	DISTANCE BETWEEN SIGNS		
POSTED SPEED	A	B	C
60 km/h OR LESS	120m	60m	60m
70-80 km/h	120m	105m	105m
90 km/h	150m	150m	150m

SYMBOLS

- WORK AREA
- CONE OR BARRICADE
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- ARROW BOARD
- TYPE II BARRICADE W/TYPE A FLASHING LIGHT
- X HIGH LEVEL WARNING DEVICE **
- FLAGGER WITH TRAFFIC CONTROL SIGN

NOT TO SCALE

MODIFIED STANDARD 701701-02

REVISIONS	DATE
REMOVED FLAGS-JPS	3/14/97
SPACING REV.-JPS	1/29/98
TYPE II BARRICADES-JPS	12/7/98
REVISED DIST. CHART ADDED STAND. NO.-JPS	3/10/99
SCALE, FONT, SIZE--CNW	12/13/99
DUAL DIMENSIONS	03/22/02

LakeCounty Division of Transportation — APPROVED BY: ANTHONY KHAWAJA — DATE: DEC 14, 1995

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE — MULTILANE INTERSECTION WITH LEFT TURN LANES, CORNER ISLANDS AND 3 m (10 ft.) NON-TRAVERSABLE MEDIAN OR PAINTED CENTER TURN LANE, DAY OR NIGHT OPERATIONS — WHERE, AT ANY TIME, ANY VEHICLE EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE PAVEMENT DURING SHOULDER OPERATIONS, OR WHERE CONSTRUCTION REQUIRES LANE CLOSURES. — LC7001

GENERAL NOTES:

1. All warning signs shall have minimum dimensions of 48" x 48" (1.2m x 1.2m).

2. All signs not on the traveled way shall be post mounted if the closure time exceeds four calendar days. All signs shall be posted with the bottom of the sign not less than 7' (2.1m) above the edge of pavement. 'NO PARKING' signs shall be installed throughout the work area at the discretion of the engineer.

3. The distance 'L' shall be defined as:

SPEED	FORMULA
40 mph or less	$L = (WS^2)/60$
(60 km/h) or less	$L = (WS^2)/150$

where W = Width of Closure in FEET (meters) and S = Normal Posted Speed Limit in MPH (km/h)

45 mph (70 km/h) or greater, L = LANE WIDTH x SPEED LIMIT
Lane Width in FEET (meters);
Speed Limit in MPH (km/h).

4. Type I barricades with Type C steady burning lights shall be used in lieu of cones for night operations. All cones and barricades shall be in accordance with Standard 702001.

5. Type A flashing lights shall be used on each approach in advance of the work area during hours of darkness and installed above the first two signs in each series and the high level warning devices.

6. If the work operation is performed between 9:00 am and 3:00 pm and the work does not exceed 15 minutes, the traffic protection shall be as shown for Standard 701301. Signs, when required, shall be at the spacing specified in the Advance Warning Sign Spacing Table.

7. If the work area is in the parking lane and the parking exists during work hours, a 'ROAD WORK AHEAD' sign shall be installed in advance of work area at the spacing specified in the Advance Warning Sign Spacing Table and the area protected with cones or barricades.

8. Longitudinal dimensions may be adjusted to fit field conditions.

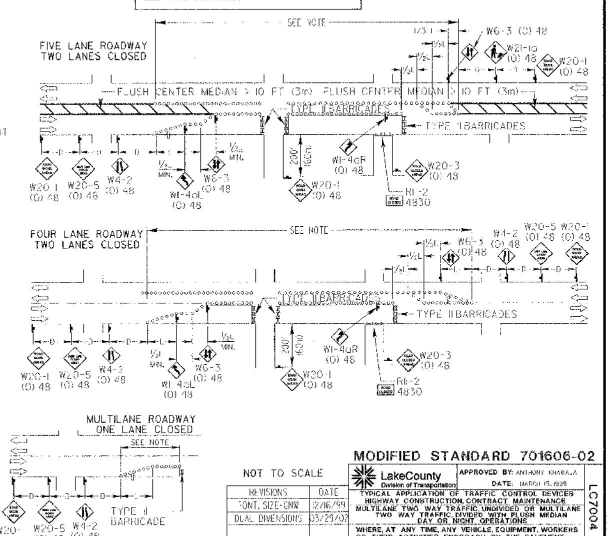
10. Form BT 725 is required.

NOTE:
CONES AT 25' (8M) CENTERS FOR 250' (75M). ADDITIONAL CONES MAY BE PLACED AT 50' (15M) CENTERS. WHEN BARRICADES ARE USED, THE DISTANCE BETWEEN DEVICES MAY BE DOUBLED.

SYMBOLS

- WORK AREA
- CONE OR BARRICADE
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- ARROW BOARD
- TYPE II BARRICADE
- TYPE III BARRICADE

ADVANCE WARNING SIGN SPACING TABLE POSTED SPEED	DISTANCE BETWEEN SIGNS (D)	ADVANCE WARNING SIGN SPACING TABLE - METRIC POSTED SPEED	DISTANCE BETWEEN SIGNS (D)
40 MPH OR LESS	200'	60 km/h OR LESS	60m
45-50 MPH	350'	70-80 km/h	105m
55 MPH	500'	90 km/h	150m



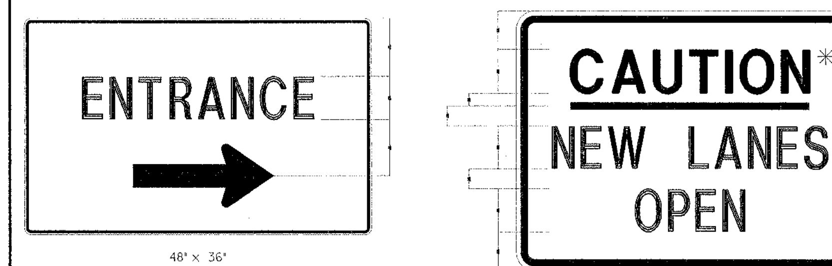
NOT TO SCALE

MODIFIED STANDARD 701606-02

REVISIONS	DATE
FONT, SIZE-CNW	12/16/99
DUAL DIMENSIONS	03/29/02

LakeCounty Division of Transportation — APPROVED BY: ANTHONY KHAWAJA — DATE: MARCH 15, 1999

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE — MULTILANE TWO WAY TRAFFIC, UNDIVIDED OR MULTILANE TWO WAY TRAFFIC, DIVIDED WITH FLUSH MEDIAN DAY OR NIGHT OPERATIONS — WHERE, AT ANY TIME, ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE PAVEMENT REQUIRING CLOSURE OF ONE OR MORE TRAFFIC LANES — LC7004



48" x 36"
WHITE ON GREEN
REFLECTIVE BACKGROUND
1" BORDER WITH 5/8" INSET
LETTER SIZE 6C

48" X 36"
BLACK ON FLUORESCENT ORANGE
REFLECTIVE BACKGROUND
1" BORDER WITH 5/8" INSET
LETTER SIZE 6D
*LETTER SIZE 6E BOLD

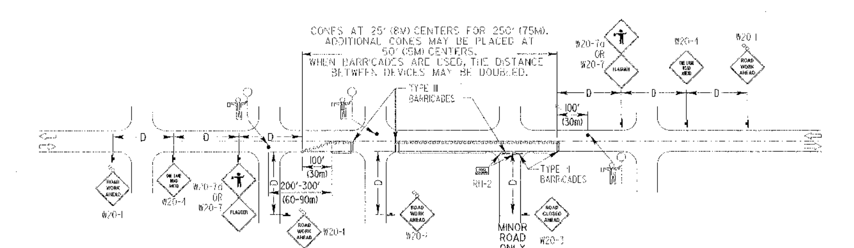
TEMPORARY CONSTRUCTION INFORMATION SIGNING NOTES:

1. The entrance signs shall be mounted back to back on the near right side of the roadway where the entrance is located and the arrow on the entrance sign shall indicate the side of the roadway where the entrance is located.
2. Temporary construction information signs shall be post mounted 7' (2.1m) above the near edge of pavemenmt and shall be a minimum of 6' (1.8 m) beyond the edge of the nearest traveled lane, or as directed by the engineer.
3. The retroreflective sign face shall be a minimum of type "A" material.
4. The temporary construction information signs shall be removed or relocated when the engineer determines the signs to be no longer necessary.
5. Existing traffic control signs and messages that are in conflict with the proposed maintenance of traffic shall be covered or modified with temporary overlay as shown in the plans and/or as directed by the engineer.
6. Install additional temporary sign panel assemblies as shown in the plans and/or directed by the engineer.

REVISIONS	DATE
NEW SIGNS, NEW TEXT	01/09/03

LakeCounty Division of Transportation — APPROVED BY: ANK — DATE: 01/09/03

TEMPORARY CONSTRUCTION INFORMATION SIGNS — LC7007



GENERAL NOTES

1. All warning signs shall have minimum dimensions of 48"x48" (1.2M x 1.2M). The engineer may approve signs measuring 36"x36" (900MM x 900MM) when the posted speed limit is 30 mph (50km/h) or less.

2. All signs not on the traveled way shall be post mounted if the closure time exceeds four calendar days. All signs shall be posted with the bottom of the sign not less than 7' (2.1M) above the edge of pavement. 'NO PARKING' signs shall be installed throughout the work area at the discretion of the engineer.

3. The flagger shall be in sight of each other or in direct communication at all times. When no work is being performed, the flaggers will not be required. If the flaggers are not present, the flagger sign shall be removed, covered or turned away from traffic.

4. Barricades with Type C steady burning lights shall be used in lieu of cones for night operation. All cones and barricades shall be in accordance with Standard 702001.

5. When necessary, additional flaggers shall be positioned so as to regulate side street traffic.

6. Construction operations shall be confined to one lane, leaving the opposite lane open to traffic.

7. If the work operation is performed between 9:00 am and 3:00 pm and the work does not exceed 15 minutes, the traffic protection shall be as shown for Standard 701301. Signs, when required, shall be at the spacing specified in the Advance Warning Sign Spacing Table.

8. If the work area is in the parking lane and the parking exists during work hours, a 'ROAD WORK AHEAD' sign shall be installed in advance of the work area at the spacing specified in the Advance Warning Sign Spacing Table and the area protected with cones or barricades.

9. Type A flashing lights shall be used on each approach in advance of the work area during hours of darkness and installed above the first two signs in each series and the high level warning devices.

10. Longitudinal dimensions may be adjusted to fit field conditions.

11. The location of the construction warning signs shall be determined by the speed limit posted on the road or street on which the construction warning signs are installed.

12. Form BT 725 is required.

SYMBOLS

- WORK AREA
- CONE OR BARRICADE
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- ARROW BOARD
- TYPE II BARRICADE W/TYPE A FLASHING LIGHT
- FLAGGER WITH TRAFFIC CONTROL SIGN

ADVANCE WARNING SIGN SPACING TABLE POSTED SPEED	DISTANCE BETWEEN SIGNS (D)
40 MPH OR LESS	200'
45-50 MPH	350'
55 MPH	500'

ADVANCE WARNING SIGN SPACING TABLE - METRIC POSTED SPEED	DISTANCE BETWEEN SIGNS (D)
60 km/h OR LESS	60m
70-80 km/h	105m
90 km/h	150m

NOT TO SCALE

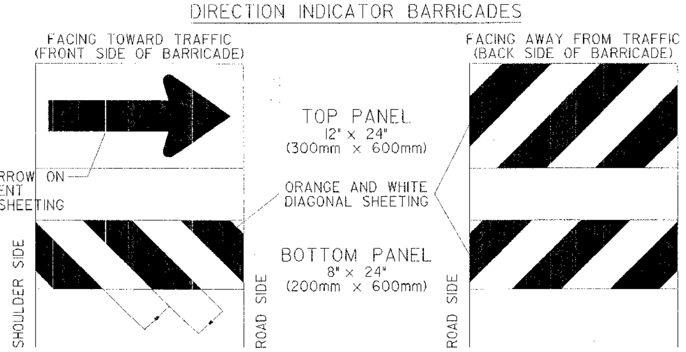
MODIFIED STANDARD 701501-02

REVISIONS	DATE
NEW SPEC.-JPS	1/1/97
REMOVED FLAGS-JPS	3/14/97
SPACING REV.-JPS	1/29/98
TYPE II BARRICADES-JPS	12/7/98
REVISED DIST. CHART ADDED STAND. NO.-JPS	3/10/99
SCALE, FONT, SIZE--CNW	12/14/99
DUAL DIMENSIONS	03/25/02

LakeCounty Division of Transportation — APPROVED BY: ANTHONY KHAWAJA — DATE: DEC 14, 1995

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE AND UTILITY OPERATIONS — TWO LANE, TWO WAY, UNDIVIDED, LANE CLOSURE DAY OR NIGHT OPERATIONS — WHERE, AT ANY TIME, ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE PAVEMENT DURING SHOULDER OPERATIONS, OR WHERE CONSTRUCTION REQUIRES LANE CLOSURES. — LC7002

DIRECTION INDICATOR BARRICADES



GENERAL NOTES

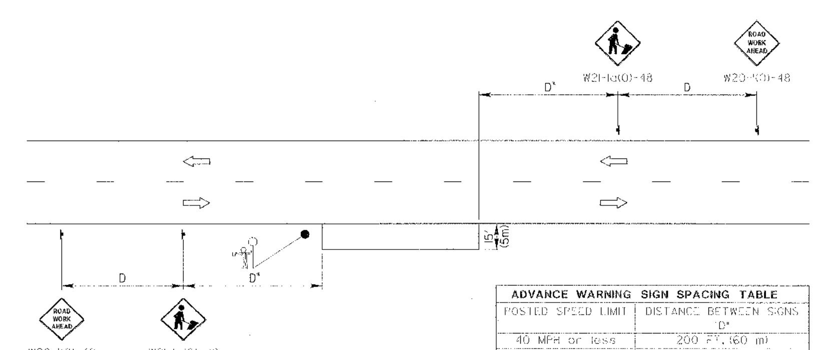
1) Direction Indicator Barricades shall be constructed from non-metallic Type II barricades meeting the requirements of Article 702.03 (e) of the Standard Specifications.
2) The Direction Indicator Barricades shall be equipped with Type C steady burning lights if used to channelize traffic during the hours of darkness.
3) The reflective sheeting for the top panel shall be Type AZ fluorescent orange. The diagonal panels shall have orange and white Type A or better reflective sheeting.

ARROW DETAIL

REVISIONS	DATE
DUAL DIMENSIONS	4/15/02

LakeCounty Division of Transportation — APPROVED BY: ANTHONY KHAWAJA — DATE: JAN. 27, 2000

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE — DIRECTION INDICATOR BARRICADES — LC7006



ADVANCE WARNING SIGN SPACING TABLE	
POSTED SPEED LIMIT	DISTANCE BETWEEN SIGNS "D"
40 MPH or less	200 FT. (60 m)
45-50 MPH	350 FT. (105 m)
55 MPH	500 FT. (150 m)

GENERAL NOTES

This special detail is used at any time, any vehicle, equipment, workers or their activities require a stationary, intermittent or continous moving operation within 15 feet (5 m) of the traffic lane, where the average speed is 1mph (2 km) or less.

*Minimum distance "D" is shown in the Advance Warning Sign Spacing Table. If the work is a moving operation, the maximum distance "D" may be extended to 1/2 the length required for one normal working day's operation or 4 miles (6.4 km), whichever is less.

If the work operation does not exceed 60 minutes, traffic control may be in accordance with I.D.O.T. Highway Standard 701301.

SYMBOLS

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN WHEN REQUIRED

MODIFIED STANDARD 701011

REVISIONS	DATE

LakeCounty Division of Transportation — APPROVED BY: A. KHAWAJA — DATE: 01/20/2003

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE AND UTILITY OPERATIONS — TWO LANE, TWO WAY, OFF-ROAD OPERATIONS DAY ONLY OPERATIONS — LC7008