Strategic Routes to be Swept Twice a Year - 2 cycles

County	Route	Beginning of Route	End of Route	Corridor Miles	
Durham	I-40	Orange County Line	Wake County Line	12.8	
Durham	I-540	I-40	Wake County Line	0.6	
Durham	I-85	Orange County Line	Granville County Line	13.7	
Durham	US 70	Wake County Line	I-85	7.4	
Durham	NC 147	I-40	I-85	12.4	
Durham	US 15/501	I-40	I-85	6.5	
Wake	I-40	Durham County Line	SR 1319 (Jones Franklin)	10.8	
Wake	I-40	SR 1319 (Jones Franklin)	I-440 - Exit 301	7.7	currently under construction
Wzke	I-40	I-440 - Exit 301	Johnston County Line	9	
Wake	I-440	I-40	US 64 Bypass/US 264	13.8	
Wake	I-440	US 64 Bypass/US 264	I-40	2.8	currently under construction
Wake	I-540	Durham County Line	US 64 Bypass	24.7	
Wake	US 1	Chatham County Line	I-40	16.4	
Wake	US 1	I-440	Franklin County Line	15.6	
Wake	US 64	I-440	Franklin County Line	19.7	
Wake	US 264	US 64	Johnston County Line	3.3	
Wake	US 70	Beg of Divided Highway S of I-540	Durham County Line	3	
Wake	SR 1728 (Wade Ave)	I-40	I-440	3.1	
				183.3	

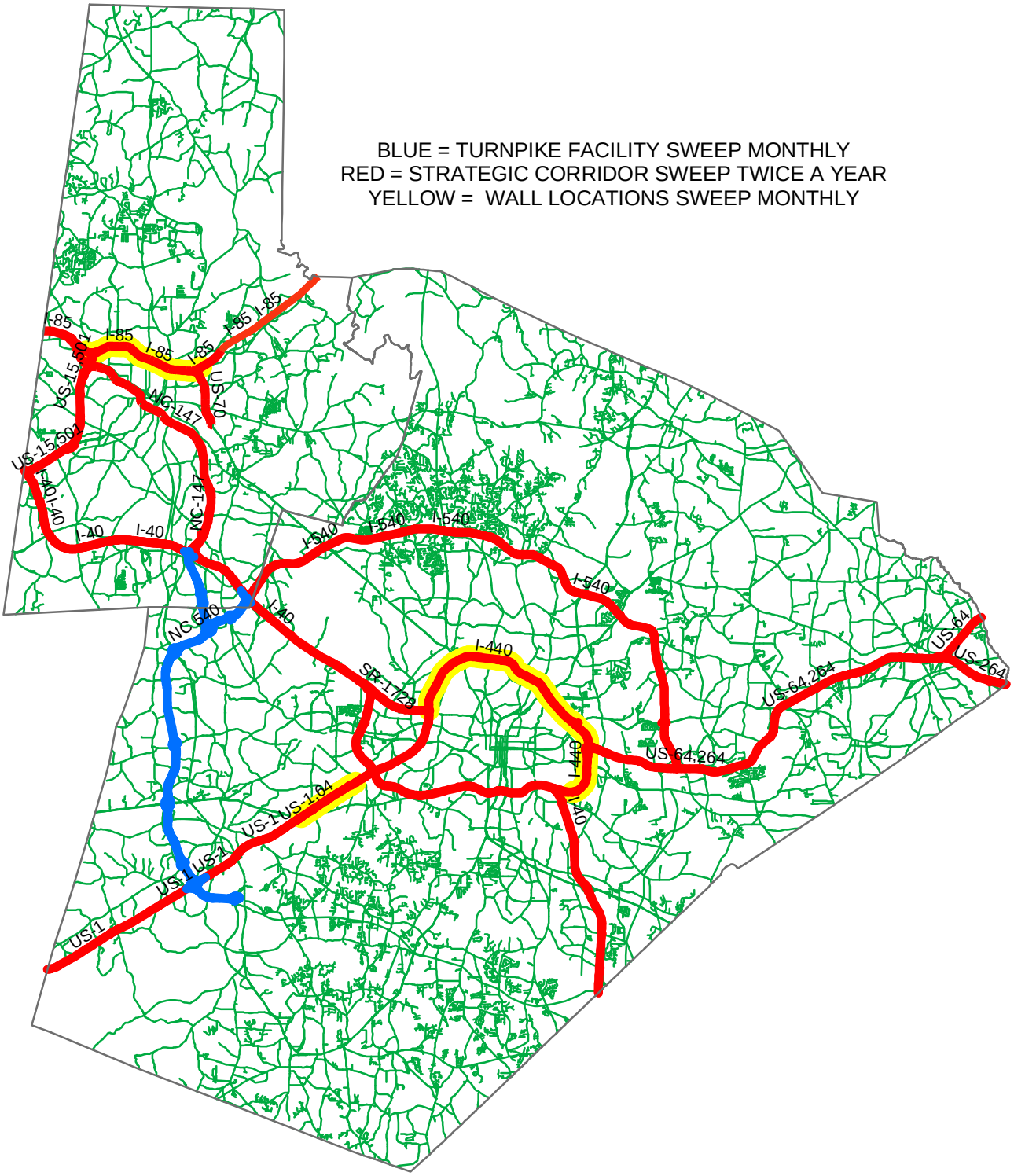
Additional Strategic Areas to be Swept Once a Month - 10 cycles

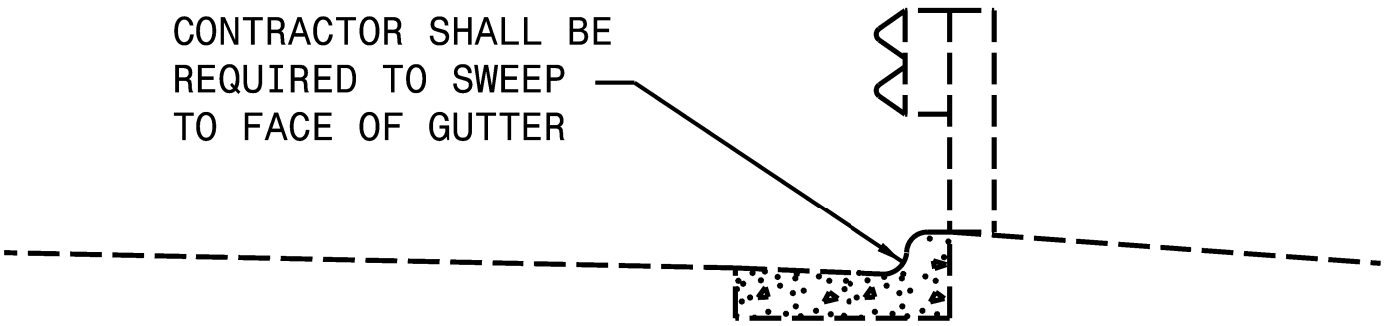
Durham	I-85	Cole Mill Road	Midland Terrace	5.3
Wake	I-440	SR 1728 (Wade Ave)	I-40	13.4
Wake	US 1	Walnut St	Tryon Road/US 64 West	3.1
				21.8

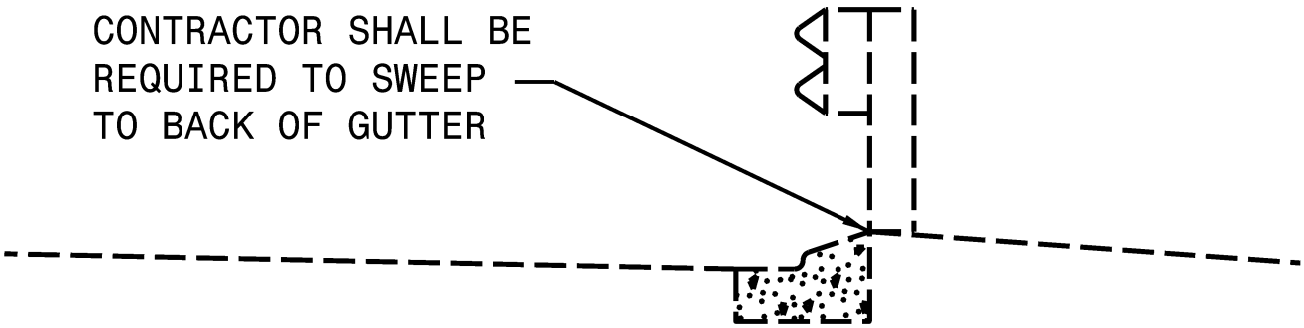
Turnpike Routes to be Swept Once a Month - 12 cycles

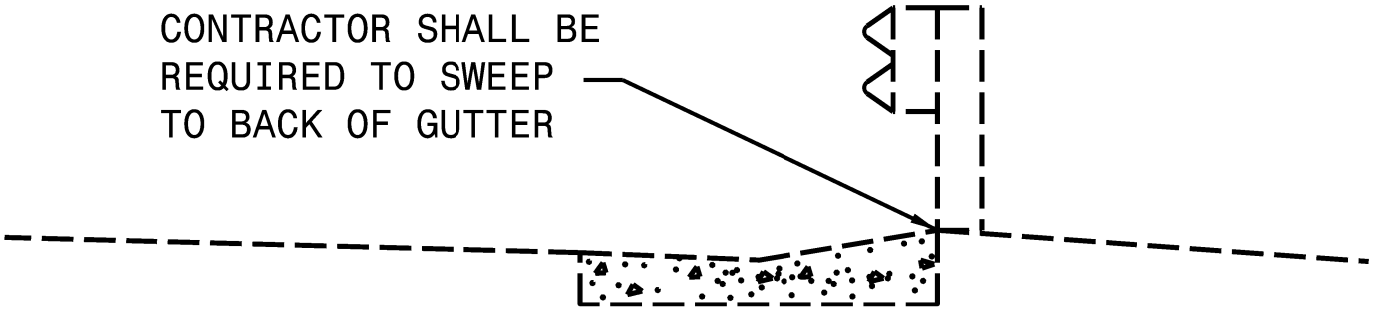
Durham	NC 147	Wake County Line	I-40	2.4
Wake	NC 147	I-540	Durham County Line	1.0
Durham	I-540	I-40	Wake County Line	0.5
Wake	I-540	Durham County Line	NC 55	3.5
Wake	I-540	NC 55	US 64	6.6
Wake	I-540	US 64	NC 55 Bypass	6.0
				20

BLUE = TURNPIKE FACILITY SWEEP MONTHLY
RED = STRATEGIC CORRIDOR SWEEP TWICE A YEAR
YELLOW = WALL LOCATIONS SWEEP MONTHLY









DETAIL SHOWING SWEEPING LIMITS ON VARIOUS TYPES OF CURB AND GUTTER WITH GUARDRAIL

TYPICAL INTERCHANGE CONFIGURATION SHOWING AREAS TO BE INCLUDED IN MAINLINE SWEEPING

CONTRACTOR TO SWEEP ALL LOOPS, RAMPS, FLYOVERS, COLLECTOR-DISTRIBUTORS, ETC. ALONG DESIGNATED ROUTES

Contractor will be Responsible for Y-Line Sweeping in the Area between Ramps, etc.

Additional Y-Line Sweeping beyond Gantries on Turnpike Facility will be Required

Approx. y-line distances at turnpike interchanges:

NC 147 & I-40 - 4000'

NC 147 & Davis Drive - 1600'

NC 540 & NC 55 - 2300'

NC 540 & US 64 - 3300'

NC 540 & US 1 - 6000'

NC 147 & Hobson Road - 1300'

NC 540 & NC 54 - 2200'

NC 540 & Greenlevel West - 1800'

NC 540 & Old US 1 - 2400'

NC 540 & NC 55 Bypass - 2000'

GENERAL NOTES

1- THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
   A. TRUCK MOUNTED SIGNS
   B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
   C. GROUND MOUNTED ADVANCE WARNING SIGNS
   D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS)

2- ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII OR HIGHER SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.

3- SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW BOARD AND/OR LIGHTBAR.

4- GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND TO BOTTOM OF SIGN.

5- SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.

6- WHEN TRAVELING FROM ONE SIDE OF A BRIDGE TO ANOTHER, BOTH SWEEPER VEHICLE AND TMA MUST WAIT FOR A BREAK IN TRAFFIC AND MOVE OUT INTO THE TRAVELWAY SIMULTANEOUSLY TO GET TO THE OTHER SIDE.

7- TOTAL DISTANCE BETWEEN FIRST AND LAST VEHICLE IN CARAVAN SHOULD NOT EXCEED ONE (1) MILE IN LENGTH.

8- SIGN W21-5bL "LEFT SHOULDER CLOSED AHEAD" OR W21-5bR "RIGHT SHOULDER CLOSED AHEAD" SHOULD BE PLACED ON BACK OF PROTECTION VEHICLE APPROPRIATELY IN MULTILANE DIVIDED TRAFFIC SO VEHICLES APPROACHING FROM REAR ARE NOTIFIED OF OPERATION.

9- RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.

10- USE OF A LIGHT SYSTEM ON ALL VEHICLES IS REQUIRED (REFER TO ROADWAY STANDARD DRAWING 1165.01, SHEET 1 OF 1).

11- USE "CAUTION SHOULDER WORK" SIGN ON REAR OF SWEEPER.

12- IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.

13- IF USING GROUND MOUNTED ADVANCE WARNING SIGNS OR STATIONARY CMS, THE TOTAL DISTANCE BETWEEN THE FIRST ADVANCE WARNING SIGN OR CMS AND SWEEPER VEHICLE SHOULD NOT EXCEED FIVE (5) MILES AND SIGN W21-5SP SHOULD READ 'SHOULDER WORK NEXT 5 MILES'.

LEGEND

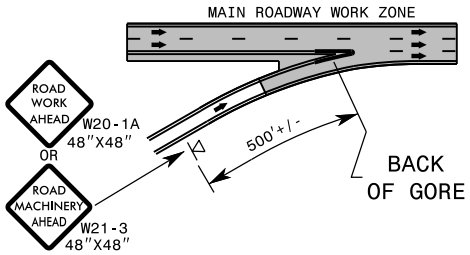
PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.

DIRECTION OF TRAFFIC FLOW

SWEEPING VEHICLE

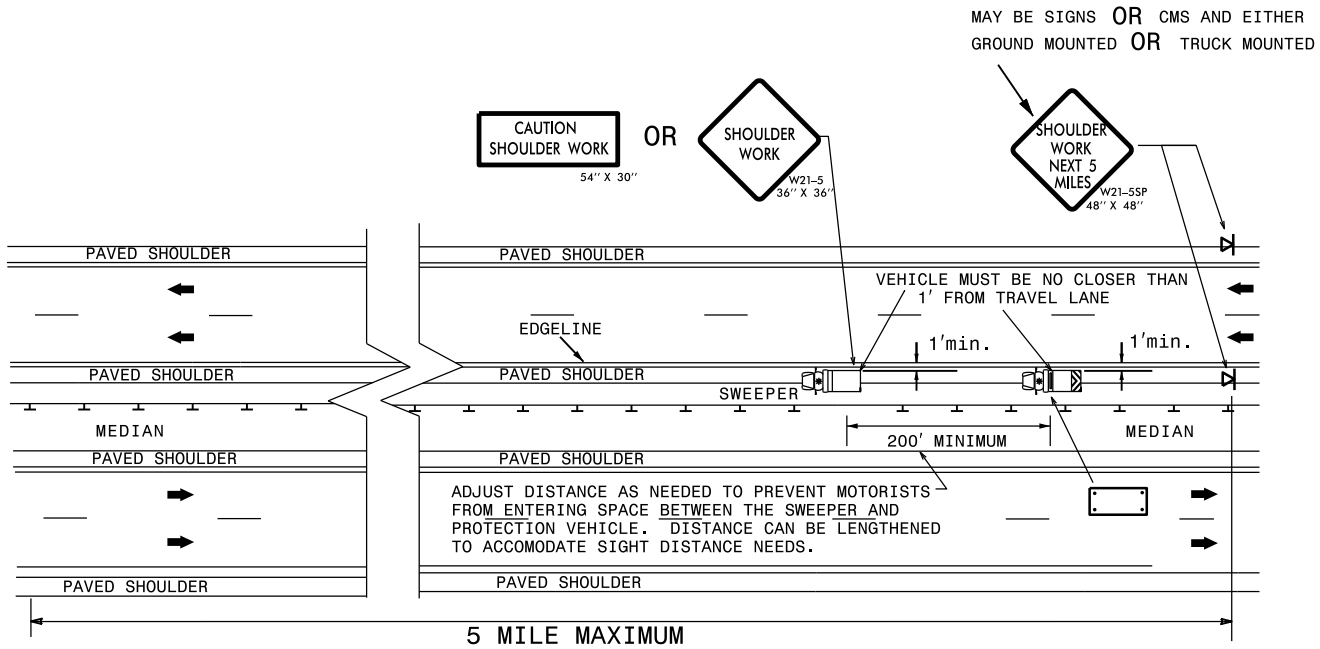
PROTECTION (SHADOW) VEHICLE WITH TRUCK MOUNTED ATTENUATOR (TMA). TMA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.

FLASHING ARROW BOARD, TYPE "C" (96" X 48" MIN.), "CAUTION MODE"



ENTRANCE RAMPS

ADVANCE WARNING SIGNS SHOULD BE INSTALLED AT INTERSECTIONS PER DRAWING 4.



SHOULDER SWEEPING OPERATION

MULTILANE DIVIDED FACILITIES

LOCATION: TIRE OF SWEEPER VEHICLE & TMA NO CLOSER THAN ONE (1) FOOT FROM EDGELINE (MEDIAN OR SHOULDER)

DRAWING 1 OF 4
IMPLEMENTATION DATE: 11/05/01
REVISED: 06/06/12

GENERAL NOTES

1- THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
   A. TRUCK MOUNTED SIGNS
   B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
   C. GROUND MOUNTED ADVANCE WARNING SIGNS
   D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS)

2- ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII OR HIGHER SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.

3- SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW BOARD AND/OR LIGHTBAR.

4- GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND TO BOTTOM OF SIGN.

5- SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.

6- TOTAL DISTANCE BETWEEN FIRST AND LAST VEHICLE IN CARAVAN SHOULD NOT EXCEED ONE (1) MILE IN LENGTH.

7- SIGN W20-5L "LEFT LANE CLOSED" SHOULD BE PLACED ON BACK OF PROTECTION VEHICLE AND SIGN W20-5L "LEFT LANE CLOSED AHEAD" ON BACK OF ADVANCE WARNING VEHICLE IN MULTILANE DIVIDED TRAFFIC SO VEHICLES APPROACHING FROM REAR ARE NOTIFIED OF OPERATION.

8- RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.

9- USE OF A LIGHT SYSTEM ON ALL VEHICLES IS REQUIRED (REFER TO ROADWAY STANDARD DRAWING 1165.01, SHEET 1 OF 1).

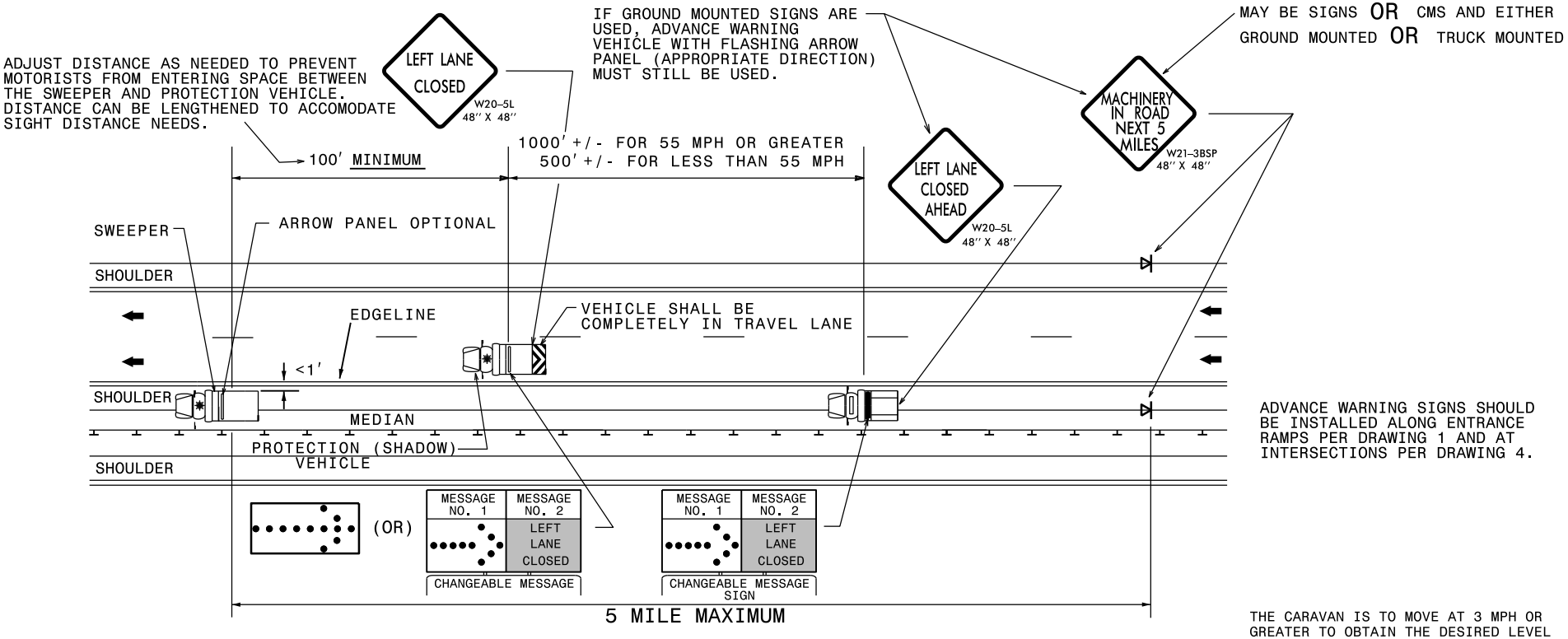
10- USE OF CMS's ARE REQUIRED WITH ADVANCE WARNING VEHICLES.

11- IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.

12- IF USING GROUND MOUNTED ADVANCE WARNING SIGNS OR STATIONARY CMS, THE TOTAL DISTANCE BETWEEN THE FIRST ADVANCE WARNING SIGN OR CMS AND SWEEPER VEHICLE SHOULD NOT EXCEED FIVE (5) MILES AND SIGN W21-3BSP SHOULD READ 'MACHINERY IN ROAD NEXT 5 MILES'.

LEGEND

- PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
- DIRECTION OF TRAFFIC FLOW
- SWEEPING VEHICLE
- PROTECTION (SHADOW) VEHICLE WITH TRUCK MOUNTED ATTENUATOR (TMA). TMA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
- ADVANCE WARNING VEHICLE i.e. PICKUP TRUCK WITH MOUNTED SIGN
- FLASHING ARROW BOARD, TYPE "C" (96" X 48" MIN.), APPROPRIATE DIRECTION INDICATED



ADVANCE WARNING SIGNS SHOULD BE INSTALLED ALONG ENTRANCE RAMPS PER DRAWING 1 AND AT INTERSECTIONS PER DRAWING 4.

THE CARAVAN IS TO MOVE AT 3 MPH OR GREATER TO OBTAIN THE DESIRED LEVEL OF SAFETY FOR THE MOVING OPERATION. IF AT ANYTIME A VEHICLE STOPS DURING THE OPERATION, THE REMAINDER OF THE CARAVAN SHALL CONTINUE MOVING AND THE SWEEPING VEHICLE SHALL RESUME WORK OPERATIONS WITHIN 60 SECONDS. OTHERWISE, ALL VEHICLES ARE TO BE REMOVED FROM THE TRAVEL LANE AND THE OPERATION RESET.

SHOULDER SWEEPING OPERATION

MULTILANE DIVIDED FACILITIES
IN AREAS WITH LIMITED SHOULDER AND GUARDRAIL

LOCATION: TIRE OF SWEEPER VEHICLE CLOSER THAN ONE (1) FOOT TO EDGELINE (MEDIAN OR SHOULDER)

DRAWING 2 OF 4
IMPLEMENTATION DATE: 11/05/01
REVISED: 06/06/12

GENERAL NOTES

1- THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
   A. TRUCK MOUNTED SIGNS
   B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
   C. GROUND MOUNTED ADVANCE WARNING SIGNS
   D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS)

2- ALL ADVANCE WARNING SIGNS MUST BE 48″ X 48″ WITH FLUORESCENT ORANGE TYPE VII OR HIGHER SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48″ X 48″ SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.

3- SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW BOARD AND/OR LIGHTBAR.

4- GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND TO BOTTOM OF SIGN.

5- SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.

6- TOTAL DISTANCE BETWEEN FIRST AND LAST VEHICLE IN CARAVAN SHOULD NOT EXCEED ONE (1) MILE IN LENGTH.

7- SIGN W20-5L "LEFT LANE CLOSED" SHOULD BE PLACED ON BACK OF PROTECTION VEHICLES IN MULTILANE DIVIDED TRAFFIC SO VEHICLES APPROACHING FROM REAR ARE NOTIFIED OF OPERATION.

8- RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.

9- USE OF A LIGHT SYSTEM ON ALL VEHICLES IS REQUIRED (REFER TO ROADWAY STANDARD DRAWING 1165.01, SHEET 1 OF 1).

10- USE OF CMS's ARE REQUIRED WITH ADVANCE WARNING VEHICLES.

11- IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.

12- IF USING GROUND MOUNTED ADVANCE WARNING SIGNS OR STATIONARY CMS, THE TOTAL DISTANCE BETWEEN THE FIRST ADVANCE WARNING SIGN OR CMS AND SWEEPER VEHICLE SHOULD NOT EXCEED FIVE (5) MILES AND SIGN W21-3BSP SHOULD READ 'MACHINERY IN ROAD NEXT 5 MILES'.

LEGEND

PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.

DIRECTION OF TRAFFIC FLOW

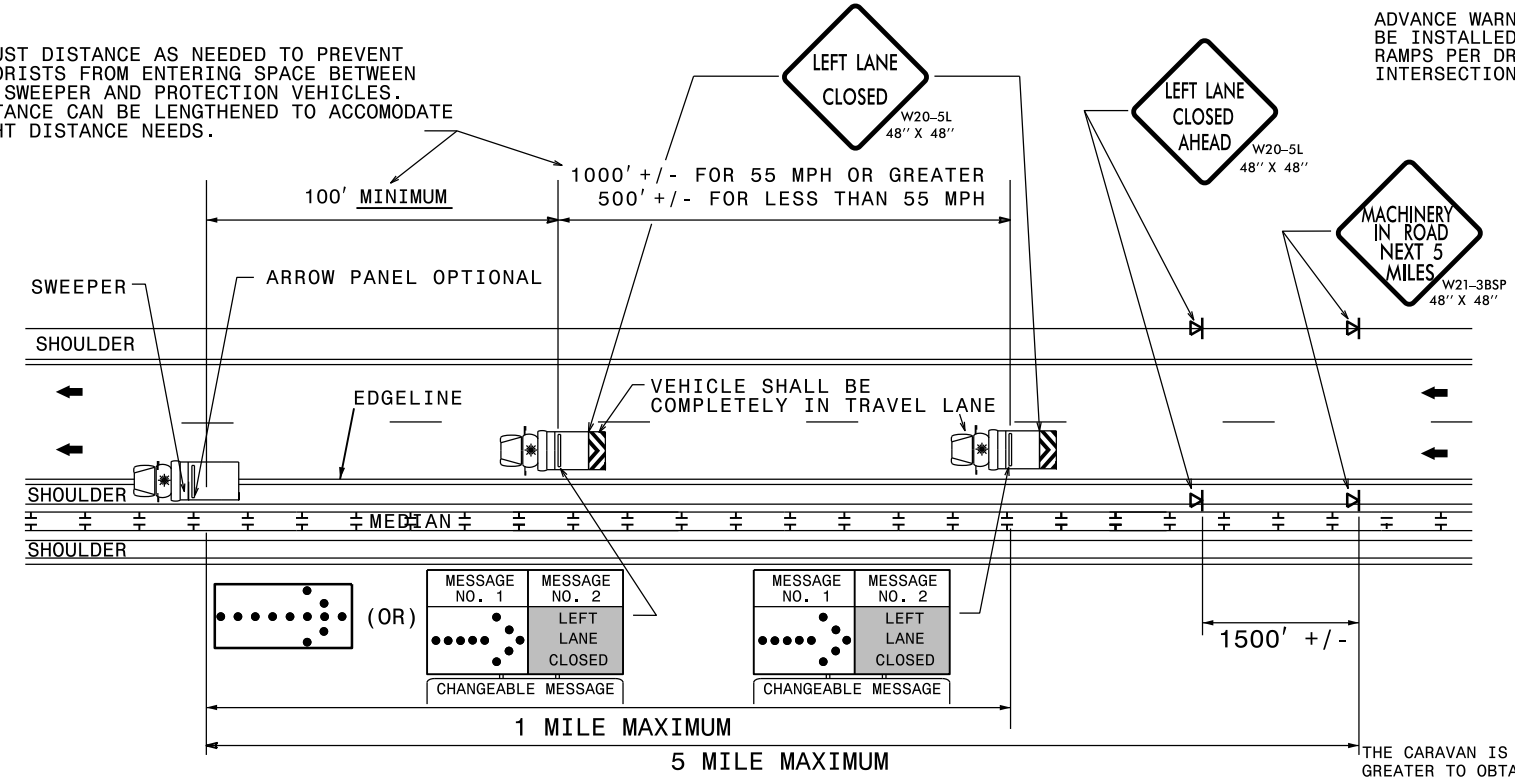
SWEEPING VEHICLE

PROTECTION VEHICLE WITH TRUCK MOUNTED ATTENUATOR (TMA). TMA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.

FLASHING ARROW BOARD, TYPE "C" (96″ X 48″ MIN.), APPROPRIATE DIRECTION INDICATED

ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE SWEEPER AND PROTECTION VEHICLES. DISTANCE CAN BE LENGTHENED TO ACCOMODATE SIGHT DISTANCE NEEDS.

ADVANCE WARNING SIGNS SHOULD BE INSTALLED ALONG ENTRANCE RAMPS PER DRAWING 1 AND AT INTERSECTIONS PER DRAWING 4.



THE CARAVAN IS TO MOVE AT 3 MPH OR GREATER TO OBTAIN THE DESIRED LEVEL OF SAFETY FOR THE MOVING OPERATION. IF AT ANYTIME A VEHICLE STOPS DURING THE OPERATION, THE REMAINDER OF THE CARAVAN SHALL CONTINUE MOVING AND THE SWEEPING VEHICLE SHALL RESUME WORK OPERATIONS WITHIN 60 SECONDS. OTHERWISE, ALL VEHICLES ARE TO BE REMOVED FROM THE TRAVEL LANE AND THE OPERATION RESET.

SHOULDER SWEEPING OPERATION

MULTILANE DIVIDED FACILITIES IN AREAS WITH SHOULDER WIDTHS THAT DO NOT ACCOMMODATE VEHICLES

LOCATION: SWEEPER VEHICLE IN TRAVEL LANE (MEDIAN OR SHOULDER)

DRAWING 3 OF 4
IMPLEMENTATION DATE: 11/05/01
REVISED: 06/06/12

GENERAL NOTES

1- THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
   A. TRUCK MOUNTED SIGNS
   B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
   C. GROUND MOUNTED ADVANCE WARNING SIGNS
   D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS)

2- ALL ADVANCE WARNING SIGNS MUST BE 48″ X 48″ WITH FLUORESCENT ORANGE TYPE VII OR HIGHER SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48″ X 48″ SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.

3- SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW BOARD AND/OR LIGHTBAR.

4- GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND TO BOTTOM OF SIGN.

5- SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.

6- ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMODATE SIGHT DISTANCE NEEDS.

7- WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH. ROUND UP MILEAGE TO NEXT WHOLE MILE.

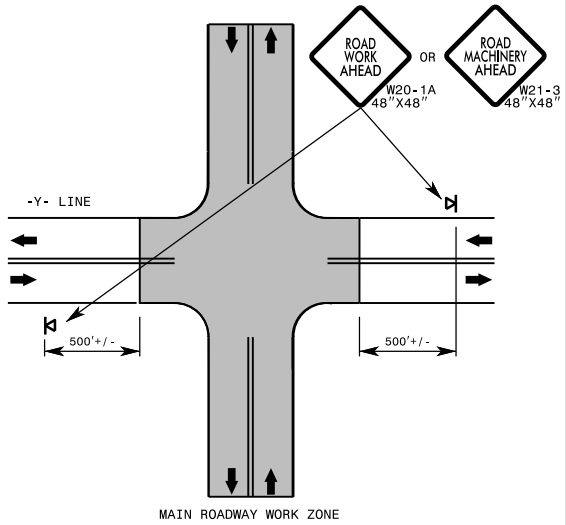
8- RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.

9- USE OF A LIGHT SYSTEM ON ALL VEHICLES IS REQUIRED (REFER TO ROADWAY STANDARD DRAWING 1165.01, SHEET 1 OF 1).

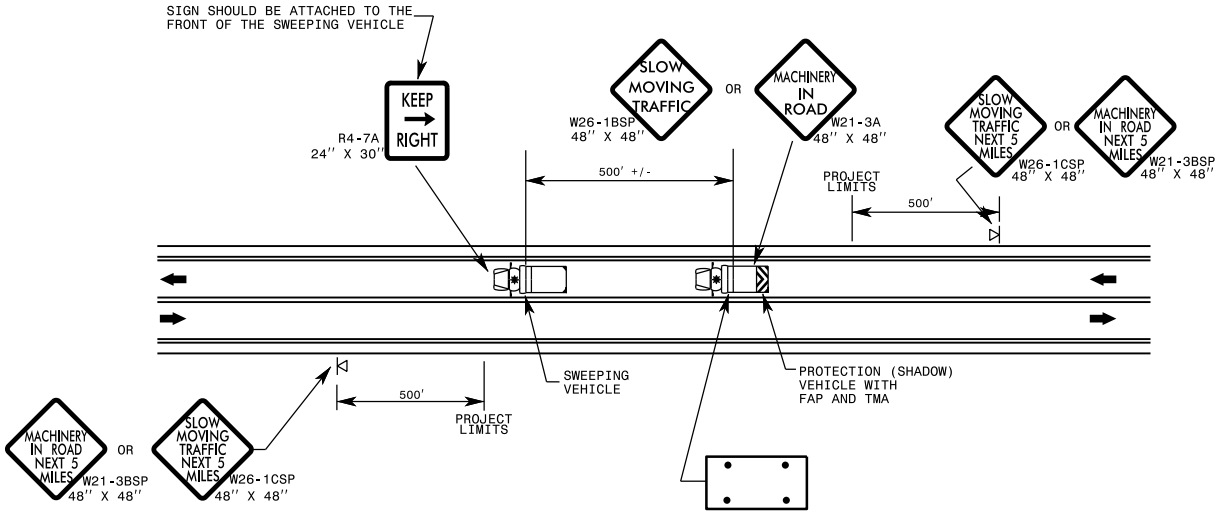
10- IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.

LEGEND

- PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
- DIRECTION OF TRAFFIC FLOW
- SWEEPING VEHICLE
- PROTECTION VEHICLE WITH TRUCK MOUNTED ATTENUATOR (TMA). TMA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
- FLASHING ARROW BOARD, TYPE "C" (96″ X 48″ MIN.), "CAUTION MODE"



-Y- LINES



-L- LINES

SHOULDER SWEEPING OPERATION

TWO-LANE TWO-WAY ROADWAYS

LOCATION: SWEEPER VEHICLE IN TRAVEL LANE (MEDIAN OR SHOULDER)

DRAWING 4 OF 4
IMPLEMENTATION DATE: 11/05/01
REVISED: 06/06/12