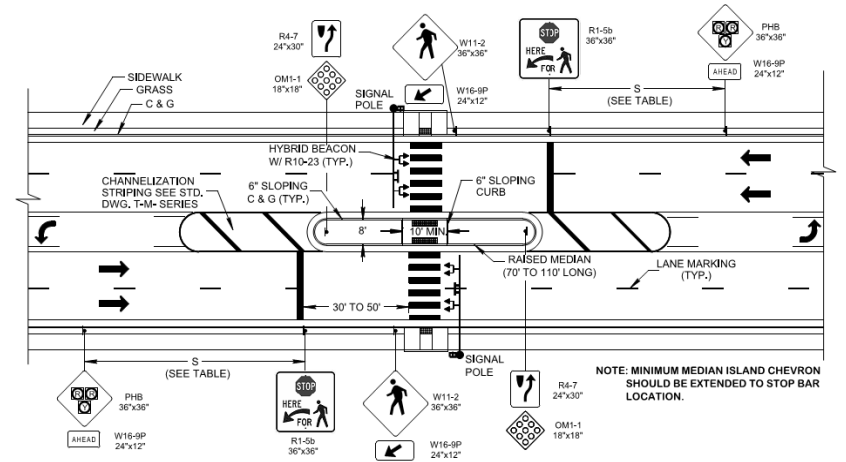




Crosswalk  
AT  
Martin Elementary

City of Crossville  
Engineering & Planning Department

7/20/2020 8:46:28 AM P:\StandardDrawDESIGN STANDARDS\Standards Drawings Library\Standard Roadway Drawings - CURRENT\In Progress\10-107.00 Design - Traffic Control\PI17170.01 Pavements, Markings IPT\M4B-20200408.dgn



**5 LANES WITH PEDESTRIAN HYBRID BEACON MID-BLOCK CROSSING**

**MINIMUM ADVANCE PLACEMENT OF PEDESTRIAN WARNING SIGNS**

POSTED SPEED	WARNING SIGNS MINIMUM ADVANCE PLACEMENT DISTANCE - S
20 MPH	100 FT
25 MPH	100 FT
30 MPH	100 FT
35 MPH	100 FT
40 MPH	125 FT
45 MPH	175 FT

**THE APPROPRIATE TAPER LENGTH (L)**

$$L = \frac{WS^2}{60}$$

40 MPH OR LESS

$$L = WS$$

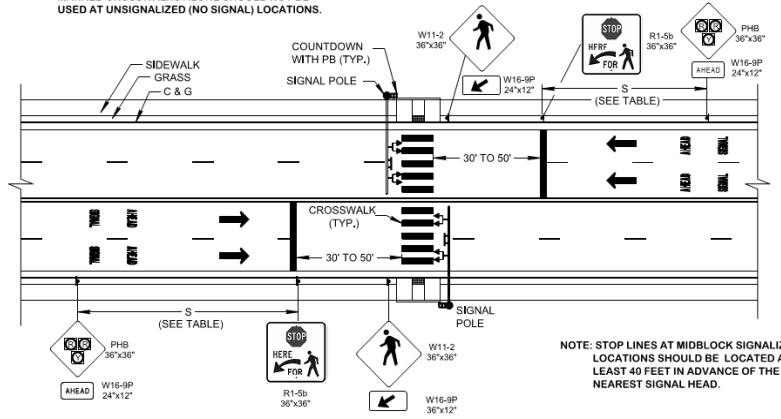
45 MPH OR MORE

WHERE:  
 L = TAPER LENGTH IN FEET  
 W = WIDTH OF OFFSET IN FEET  
 S = POSTED SPEED

**LEGEND**

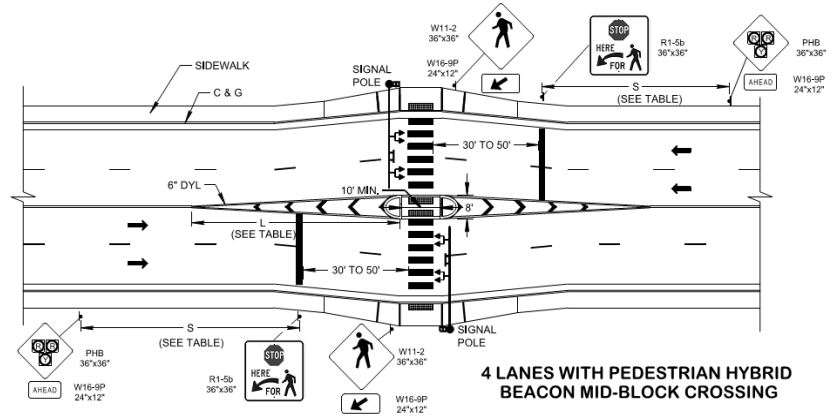
- PEDESTRIAN HYBRID BEACON
- GROUND MOUNT SIGN
- MAST ARM SIGNAL POLE
- COUNTDOWN PEDESTRIAN SIGNAL HEAD WITH PUSH BUTTON AND SIGN
- DETECTABLE WARNING SURFACE

**NOTE: WHERE THE SPEED LIMIT EXCEEDS 40 MPH, MARKED CROSOWALKS ALONE SHOULD NOT BE USED AT UNSIGNALIZED (NO SIGNAL) LOCATIONS.**



**4 LANES WITH PEDESTRIAN HYBRID BEACON MID-BLOCK CROSSING**

**NOTE: STOP LINES AT MIDBLOCK SIGNALIZED LOCATIONS SHOULD BE LOCATED AT LEAST 40 FEET IN ADVANCE OF THE NEAREST SIGNAL HEAD.**



**4 LANES WITH PEDESTRIAN HYBRID BEACON MID-BLOCK CROSSING**

**GENERAL NOTES**

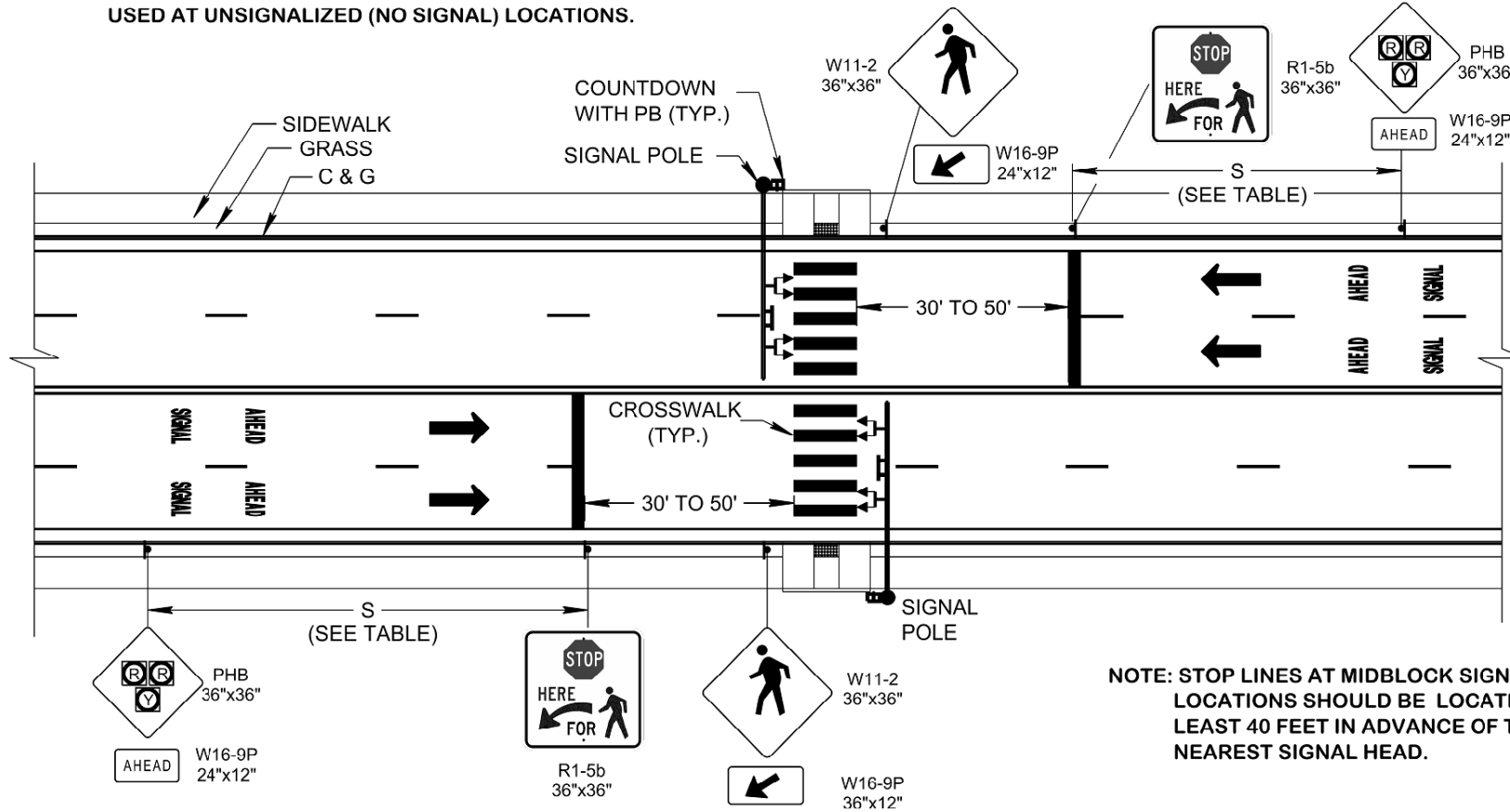
- (A) DETAILS SHOWN ON THIS STANDARD DRAWING APPLY TO THE CONSTRUCTION OR RECONSTRUCTION OF MID-BLOCK CROSSINGS AND MODIFICATION OF STREETS, CURBS, OR SIDEWALKS ASSOCIATED WITH IT. SEE TDOT-RDG FOR ADDITIONAL INFORMATION FOR SITE SELECTION, NEW CONSTRUCTION OR RECONSTRUCTION DURING PEDESTRIAN SAFETY INITIATIVE, SPOT SAFETY IMPROVEMENTS AT LOCATIONS MAX 45 MPH. OTHER LOCATIONS WILL NEED SITE SPECIFIC ANALYSIS.
- (B) NEW CONSTRUCTION A TRAFFIC ENGINEERING STUDY WILL HAVE TO BE CONDUCTED TO DETERMINE IF A MID-BLOCK CROSSING IS WARRANTED. MID-BLOCK CROSSINGS SHALL BE INSTALLED DURING RECONSTRUCTION PROJECTS AND REPAVING PROJECTS AT LOCATIONS WHERE EXISTING PEDESTRIAN SAFETY CONCERNED.
- (C) PEDESTRIAN IN CROSSWALK SIGNS (W11A-2) SHALL BE INSTALLED AT EACH END OF THE CROSSWALK LOCATION. THE SIGNS SHALL BE PLACED IN ADVANCE OF THE CROSSWALK ADJACENT TO THE TRAVEL LANE AND FACING THE DRIVER. REFER TO THE MUTCD FOR ADDITIONAL WARNING SIGNS, TYPE AND LOCATION.
- (C) FOR CURB RAMP, THE DETECTABLE WARNING SURFACE, PAVEMENT MARKINGS, AND CROSSWALK MARKING DETAILS, SEE STD. DWG. SERIES MM-CR AND MM-PM RESPECTIVELY. FOR MARKING STANDARDS AND CONCRETE CURB AND GUTTER SEE STD. DWG T-M-SERIES AND RP-V-C SERIES RESPECTIVELY.
- (D) FOR PEDESTRIAN SIGNAL PUSH BUTTONS, HAWK, RRFB AND PHB, SEE TDOT TRAFFIC DESIGN MANUAL, IF THE PEDESTRIAN CLEARANCE TIME IS SUFFICIENT ONLY TO CROSS FROM THE CURB OR SHOULDER TO A MEDIAN OF SUFFICIENT WIDTH FOR PEDESTRIANS TO WAIT AND THE SIGNALS ARE PEDESTRIAN ACTUATED, AN ADDITIONAL PEDESTRIAN DETECTOR SHALL BE PROVIDED IN THE MEDIAN.
- (E) STOP LINES SHOULD BE PLACED AT A SUFFICIENT DISTANCE (30' TO 50') FROM THE CROSSWALK TO ENSURE VISIBILITY IS PROVIDED FOR BOTH MOTORISTS AND PEDESTRIANS. STOP LINES AT MID-BLOCK SIGNALIZED LOCATIONS SHOULD BE PLACED AT LEAST 40 FEET IN ADVANCE OF THE NEAREST SIGNAL INDICATION.
- (F) STOP LINES SHALL CONSIST OF SOLID WHITE LINES EXTENDING ACROSS APPROACH LINES TO INDICATE THE POINT AT WHICH THE STOP IS INTENDED OR REQUIRED TO BE MADE. IF STOP LINES ARE USED AT A CROSSWALK THAT CROSSES AT AN UNCONTROLLED MULTILANE APPROACH, STOP HERE FOR PEDESTRIANS (R1-6 SERIES) SIGNS SHALL BE USED.
- (I) THE PLACEMENT OF MID-BLOCK SIGNALS, THE PRIMARY SIGNALIZED TREATMENT THAT SHOULD BE CONSIDERED AT MID-BLOCK OR NON-INTERSECTION CROSSINGS IS THE HIGH INTENSITY ACTIVATED CROSSWALK (HAWK) PEDESTRIAN HYBRID BEACON (PHB). A HAWK PEDESTRIAN HYBRID BEACON SHOULD BE EXAMINED WHERE THE PPH EXCEEDS 20 AND MOTOR VEHICULAR SPEEDS EXCEED 35 MPH.
- (J) ADDITIONAL DEVICE THAT MAY BE USED TO ASSIST PEDESTRIANS CROSSING IN A MARKED CROSSWALK AT AN UNSIGNALIZED INTERSECTION IS A RECTANGULAR RAPID FLASHING BEACON (RRFB). RRFBS ARE PARTICULARLY EFFECTIVE AT MULTILANE CROSSINGS WITH SPEED LIMITS LESS THAN 40 MPH. CONSIDER THE PHB INSTEAD OF RRFBS FOR ROADWAYS SPEED LIMITS ARE EQUAL TO OR GREATER THAN 40 MPH.
- (K) A MEDIAN SHOULD BE AT LEAST 8.0 FEET WIDE TO ALLOW THE PEDESTRIAN TO WAIT COMFORTABLY IN THE CENTER. IF THE DESIRED 8 FEET CANNOT BE ACHIEVED, USE A MINIMUM WIDTH OF 6 FEET. THE PEDESTRIAN CROSSWALK MEDIAN ISLAND ARE ADA-APPROVED RAMPS (1:12 GRADE) SHOULD BE USED. IT IS BEST TO PROVIDE A SLIGHT GRADE 2 PERCENT TO PERMIT WATER AND SILT TO DRAIN FROM THE AREA. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH RAMPS. INSTALL CATCH BASINS ON UPSTREAM SIDE OF RAMP FOR ROADS WITH GRADES LESS THAN 2%.
- (L) WHEN A PEDESTRIAN HYBRID BEACON IS USED, A CROSSWALK STOP ON RED (R10-23) SIGN SHALL BE MOUNTED ADJACENT TO A PEDESTRIAN HYBRID BEACON FACE ON EACH MAJOR STREET APPROACH, THE PEDESTRIAN HYBRID BEACON SHOULD BE INSTALLED AT LEAST 100 FEET FROM SIDE STREETS OR DRIVEWAYS THAT ARE CONTROLLED BY STOP OR YIELD SIGNS.
- (M) PARKING AND OTHER SIGHT OBSTRUCTIONS SHOULD BE PROHIBITED FOR AT LEAST 100 FEET IN ADVANCE OF AND AT LEAST 20 FEET BEYOND THE MARKED CROSSWALK, OR SITE ACCOMMODATIONS SHOULD BE MADE THROUGH CURB EXTENSIONS OR OTHER TECHNIQUES TO PROVIDE ADEQUATE SIGHT DISTANCE. THE INSTALLATION SHOULD INCLUDE SUITABLE STANDARD SIGNS AND PAVEMENT MARKINGS.
- (N) STREETLIGHTS SHOULD BE INSTALL AT THE CROSSWALK ON BOTH SIDES ROAD TO IMPROVE PEDESTRIAN COMFORT, SECURITY, AND SAFETY DURING DARK AND BAD WEATHER CONDITIONS. FLUORESCENT YELLOW-GREEN SIGNS PROVIDE SUPERIOR VISIBILITY AND ARE EASILY NOTICEABLE IN DAYLIGHT AND DARK CONDITIONS. USE FLUORESCENT YELLOW-GREEN SIGNS FOR PEDESTRIAN AND BICYCLE WARNING AND KEEP PEDESTRIANS AND DRIVERS SAFE.
- (O) MIDBLOCK CROSSWALKS SHOULD BE LOCATED AT LEAST 100 FEET FROM THE NEAREST SIDE STREET OR DRIVEWAY SO THAT DRIVERS TURNING ONTO THE MAJOR STREET HAVE A CHANCE TO NOTICE PEDESTRIANS AND PROPERLY YIELD TO PEDESTRIANS WHO ARE CROSSING THE STREET.
- (P) PAYMENT
 

702-01,	CONCRETE CURB/RP,	PER C.Y.
702-03,	CONCRETE COMBINED CURB AND GUTTER/PER,	PER C.Y.
716-02.03,	PLASTIC PAVEMENT MARKING (CROSSWALK),	PER L.F.
716-02.04,	PLASTIC PAVEMENT MARKING (CHANNELIZATION STRIPING),	PER S.Y.
716-02.05,	PAVEMENT MARKING (STOP LINE),	PER L.F.
713-15.40,	SIGN INSTALLATION (DESCRIPTION),	PER L.S.
730-26.01,	PEDESTRIAN SIGNAL DISPLAY,	PER EACH.

STATE OF TENNESSEE  
 STANDARD DRAWING  
 DEPARTMENT OF TRANSPORTATION  
**STANDARD SIGNALIZED MID-BLOCK CROSSING**



NOTE: WHERE THE SPEED LIMIT EXCEEDS 40 MPH,  
 MARKED CROSSWALKS ALONE SHOULD NOT BE  
 USED AT UNSIGNALIZED (NO SIGNAL) LOCATIONS.



NOTE: STOP LINES AT MIDBLOCK SIGNALIZED  
 LOCATIONS SHOULD BE LOCATED AT  
 AT LEAST 40 FEET IN ADVANCE OF THE  
 NEAREST SIGNAL HEAD.

### 4 LANES WITH PEDESTRIAN HYBRID BEACON MID-BLOCK CROSSING

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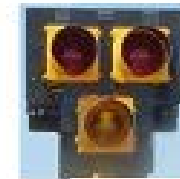
# Pedestrian Hybrid Beacon



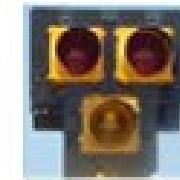
# Pedestrian Hybrid Beacons (PHB)



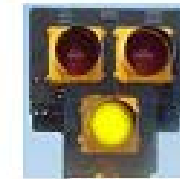
CRF: Vehicle/Pedestrian 55%



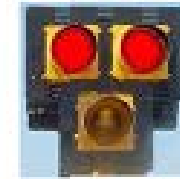
1  
Blank for  
drivers



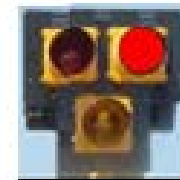
2  
Flashing  
yellow



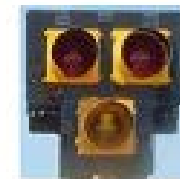
3  
Steady yellow



4  
Steady red



5  
Wig-Wag



Return  
to 1



# Education Campaign

**HOW TO USE THE PEDESTRIAN HYBRID BEACON**



**DRIVERS**

SEE THIS	DO THIS
	<b>GO!</b>
<b>FLASHING</b> 	<b>SLOW DOWN</b> (Pedestrian has activated the push button)
	Prepare to <b>STOP</b>
	<b>STOP!</b> For Pedestrian
<b>FLASHING</b> 	<b>STOP!</b> Proceed with Caution if Clear



