# LOCAL & COLLECTOR STREET NAME SIGNS





30"X8" EXAMPLE (CO-NAMED STREET)

36"X8" EXAMPLE

NOTES:

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1. SIGN WIDTHS VARY ACCORDINGLY:

- STREET NAMES OF 5 LETTERS OR LESS (i.e. Cedar Ave) SHALL USE A 24" WIDE SIGN.
- STREET NAMES OF 6-9 LETTERS (i.e. Avenue K) AND ALL NUMBERED STREETS (i.e. 10th St West) SHALL USE A 30" WIDE SIGN.
- STREET NAMES OF 10 OR MORE LETTERS AND ALPHA-NUMERIC NAMES (i.e. Avenue K-8) SHALL USE A 36" WIDE SIGN.

SIGNS SHALL BE 0.125" THICK ALUMINUM WITH A HEIGHT OF 8" AND 0.75" RADIUS CUT CORNERS. LETTERING SHALL BE THE "GRIFFON SEMIBOLD" FONT (AVAILABLE FROM CITY ENGINEERING) AND SHALL CONSIST OF A 4" TALL INITIAL LETTER FOLLOWED BY 3.4" TALL LETTERS. MODIFY THE TEXT WIDTH RATIO SO THAT THE TOTAL WIDTH OF TEXT IS 16" FOR A 24" SIGN, 22" FOR A 30" SIGN, AND 28" FOR A 36" SIGN. WIDTH RATIO SHALL NOT EXCEED 100%.

- SIGNS SHALL BE PRINTED ON WHITE H.I.P SHEETING WHICH MEETS OR EXCEEDS AASHTO M268 RETROREFLECTIVITY STANDARDS (MIN. 500 CD/FC/FT<sup>2</sup> @ -4° ENTRANCE ANGLE & 240 CD/FC/FT<sup>2</sup> @ +30° ENTRANCE ANGLE WITH OBSERVATION ANGLE OF 0.1°).
- 3. SIGNS SHALL BE LAMINATED WITH FLUOROPOLYMER (1.7 2.7 MM THICK) ANTI-GRAFFITI FILM WHICH ALLOWS FOR UNIFORM DAYTIME AND NIGHTTIME VISUAL APPEARANCE.
- 4. SIGNS SHALL INCLUDE A 4" TALL CITY SEAL (4C) CENTERED 1" FROM LEFT EDGE (0.75" IF CO-NAMED). GRAPHIC AVAILABLE FROM CITY ENGINEERING.
- 5. SIGN SHALL HAVE A 0.2" THICK BLACK BORDER INSET 0.25" FROM EDGE OF SIGN,
- 6. FOR CO-NAMED STREETS (i.e. Columbia Way/Avenue M) THE PRIMARY NAME (i.e. Columbia Way) SHALL CONSIST OF AN INITIAL 2.5" TALL LETTER FOLLOWED BY 2.13" TALL LETTERS . THE SECONDARY NAME (i.e. Avenue M) SHALL CONSIST OF AN INITIAL 1.5" TALL LETTER FOLLOWED BY 1.28" TALL LETTERS, IN PARENTHESES, AND CENTERED UNDER THE PRIMARY NAME. THE WIDTH OF THE PRIMARY NAME TEXT SHALL BE 16", 22", OR 28" (DEPENDING ON THE SIGN WIDTH). THE SECONDARY NAME SHALL USE THE SAME TEXT WIDTH RATIO.
- 7. BLOCK NUMBERS SHALL BE 2" X 7" IN THE "GRIFFON SEMIBOLD" FONT. IF BLOCK NUMBERS CONTAIN A LETTER (i.e. E or W) THERE SHALL BE A SPACE BETWEEN NUMBERS AND LETTERS. BLOCK NUMBERS SHALL BE MOUNTED BELOW THE STREET NAME SIGN ON A SEPARATE, 0.125" THICK, ALUMINUM SIGN WITH 0.75" RADIUS CUT CORNERS. BLOCK NUMBER SIGNS SHALL BE 9"X4" AND SHALL ADHERE TO NOTES 2,3, AND 5 (ABOVE).

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## ARTERIAL STREET NAME SIGNS



36"X12" EXAMPLE

COLUMBIA WAY (Avenue M)



36"X12" EXAMPLE (CO-NAMED STREET)

#### OTHER STREET SIGNS (SPEED LIMIT GREATER THAN 25 MPH):

- 1. SIGN WIDTHS VARY ACCORDINGLY
  - STREET NAMES OF 5 LETTERS OR LESS (i.e. Cedar Ave) SHALL USE A 30" WIDE SIGN.
  - STREET NAMES OF 6-9 LETTERS (i.e. Avenue K) AND ALL NUMBERED STREETS (i.e. 10th St West) SHALL USE A 36" WIDE SIGN.
  - STREET NAMES OF 10 OR MORE LETTERS AND ALPHA-NUMERIC NAMES (i.e. Avenue K-8) SHALL USE A 42" WIDE SIGN.

SIGNS SHALL BE 0.125" THICK ALUMINUM WITH A HEIGHT OF 12" AND 0.75" RADIUS CUT CORNERS. LETTERING SHALL BE THE "GRIFFON SEMIBOLD" FONT (AVAILABLE FROM CITY ENGINEERING) AND SHALL CONSIST OF AN 8" TALL INITIAL LETTER FOLLOWED BY 6.8" TALL LETTERS. MODIFY THE TEXT WIDTH RATIO SO THAT THE TOTAL WIDTH OF TEXT IS 18" FOR A 30" SIGN, 24" FOR A 36" SIGN, AND 30" FOR A 42" SIGN. WIDTH RATIO SHALL NOT EXCEED 100%.

- SIGNS SHALL BE PRINTED ON WHITE H.I.P SHEETING WHICH MEETS OR EXCEEDS AASHTO M268 RETROREFLECTIVITY STANDARDS (MIN. 500 CD/FC/FT<sup>2</sup> @ -4° ENTRANCE ANGLE & 240 CD/FC/FT<sup>2</sup> @ +30° ENTRANCE ANGLE WITH OBSERVATION ANGLE OF 0.1°).
- 3. SIGNS SHALL BE LAMINATED WITH FLUOROPOLYMER (1.7 2.7 MM THICK) ANTI-GRAFFITI FILM WHICH ALLOWS FOR UNIFORM DAYTIME AND NIGHTTIME VISUAL APPEARANCE.
- 4. SIGNS SHALL INCLUDE AN 8" TALL CITY SEAL (4C) CENTERED 1.5" FROM LEFT EDGE (1" IF CO-NAMED). GRAPHIC AVAILABLE FROM CITY ENGINEERING.
- 5. SIGN SHALL HAVE A 0.2" THICK BLACK BORDER INSET 0.25" FROM EDGE OF SIGN,
- 6. FOR CO-NAMED STREETS (i.e. Columbia Way/Avenue M) THE PRIMARY NAME (i.e. Columbia Way) SHALL CONSIST OF AN INITIAL 5" TALL LETTER FOLLOWED BY 4.24" TALL LETTERS. THE SECONDARY NAME (i.e. Avenue M) SHALL CONSIST OF AN INITIAL 3" TALL LETTER FOLLOWED BY 2.55" TALL LETTERS, IN PARENTHESES, AND CENTERED UNDER THE PRIMARY NAME. THE WIDTH OF THE PRIMARY NAME TEXT SHALL BE 18", 24", OR 30" (DEPENDING ON THE SIGN WIDTH). THE SECONDARY NAME SHALL USE THE SAME TEXT WIDTH RATIO.
- 7. BLOCK NUMBERS SHALL BE 2" X 7" IN THE "GRIFFON SEMIBOLD" FONT. IF BLOCK NUMBERS CONTAIN A LETTER (i.e. E or W) THERE SHALL BE A SPACE BETWEEN NUMBERS AND LETTERS. BLOCK NUMBERS SHALL BE MOUNTED BELOW THE STREET NAME SIGN ON A SEPARATE, 0.125" THICK, ALUMINUM SIGN WITH 0.75" RADIUS CUT CORNERS. BLOCK NUMBER SIGNS SHALL BE 9"X4" AND SHALL ADHERE TO NOTES 2,3, AND 5 (ABOVE).

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SUBMITTED: <u> <u> </u> </u>	DEVELOPMENT SERVICES DEPARTMENT STANDARD PLAN		
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### OVERHEAD STREET NAME SIGNS (SG SIGNS)





96"X19" EXAMPLE

NOTES:

96"X19" EXAMPLE (CO-NAMED STREET)

- 1. SIGN SHALL BE 0.125" THICK ALUMINUM, 96" WIDE, AND 19" TALL.
- 2. SIGN SHALL BE PRINTED ON 96" x 18" (LEAVING 1" OF BARE METAL AT THE TOP) WHITE H.I.P SHEETING WHICH MEETS OR EXCEEDS AASHTO M268 RETROREFLECTIVITY STANDARDS (MIN. 500 CD/FC/FT<sup>2</sup> @ -4° ENTRANCE ANGLE & 240 CD/FC/FT<sup>2</sup> @ +30° ENTRANCE ANGLE WITH OBSERVATION ANGLE OF 0.1%).
- 3. SIGNS SHALL BE COATED WITH A CLEAR ACRYLIC UV PROTECTIVE OVERLAY WITH A MINIMUM THICKNESS OF 4 mm WHICH ALLOWS FOR UNIFORM DAYTIME AND NIGHTTIME VISUAL APPEARANCE.
- 4. 12" TALL CITY OF LANCASTER, CA SEAL (4C) (AVAILABLE FROM CITY ENGINEERING 661-723-6047) SHALL BE CENTERED 2" FROM LEFT EDGE OF SIGN.
- 5. SIGN SHALL HAVE A 0.25" THICK BORDER INSET 0.5" FROM EDGE OF SIGN.
- 6. STREET NAME & TYPE (i.e. Lancaster Blvd) SHALL BE CENTERED BETWEEN THE CITY SEAL AND RIGHT BORDER, PRINTED IN BLACK "GRIFFON BOLD" FONT (AVAILABLE FROM CITY ENGINEERING), AND SHALL CONSIST OF A 12" TALL INITIAL LETTER FOLLOWED BY 10.2" TALL LETTERS. MODIFY THE WIDTH RATIO SO THAT THE TOTAL WIDTH OF TEXT IS 80" UNLESS NOTE 7 OR 8 APPLIES.
- 7. FOR STREET NAMES THAT ARE 5 LETTERS OR LESS (i.e. Fern Ave) MODIFY THE WIDTH RATIO SO THAT THE TOTAL WIDTH OF TEXT IS 60".
- 8. CO-NAMED STREETS (i.e. Columbia Way/Avenue M) SHALL CONSIST OF THE PRIMARY NAME (i.e. Columbia Way) CENTERED ABOVE THE SECONDARY NAME (i.e. Avenue M). THE PRIMARY NAME SHALL CONSIST OF AN 8" TALL INITIAL LETTER FOLLOWED BY 6.8" TALL LETTERS. MODIFY WIDTH RATIO SO THAT THE TOTAL WIDTH OF TEXT IS 80" OR 60" IF 5 LETTERS OR LESS. THE SECONDARY NAME SHALL BE INSIDE PARENTHESES AND CENTERED UNDERNEATH THE PRIMARY NAME. THE SECONDARY NAME SHALL CONSIST OF A 4" TALL INITIAL LETTER FOLLOWED BY 3.4" TALL LETTERS (USE THE SAME WIDTH RATIO AS PRIMARY NAME).
- 9. A 1" X 1" ANGLE SUPPORT SHALL BE AFFIXED TO THE TOP EDGE OF SIGNS ALONG THE BARE METAL STRIP WITH THE PROTRUSION AT THE BOTTOM OF THE SUPPORT USING 5 EA. 5/16" 18 X 3/4" SERRATED HEX FLANGE SCREW, 5/16" 18 USS GR 8 NYLON INSERT NUT, AND 5/16" SAE GR 5 FLATWASHER.
- 10. SIGNS SHALL BE AFFIXED TO THE MAST ARM OF THE TRAFFIC SIGNAL POLE ABOVE THE RIGHT-MOST TRAFFIC LANE USING 2 BRACKET ASSEMBLIES. THESE ASSEMBLIES SHALL CONSIST OF A HINGED BRACKET SECURED TO A SOLID ALUMINUM ARM (2.5" WIDE, 3/8" THICK, VARIABLE LENGTH) SECURED TO A HINGED BRACKET SECURED TO THE SIGN ALONG THE ANGLE SUPPORT (SEE NOTE 9).
- 11. EACH ASSEMBLY IN NOTE 10 SHALL BE SECURED TO THE MAST ARM WITH A MINIMUM OF 2 STAINLESS STEEL BANDING STRAPS (5/8" EACH).
- 12. ALL HINGED BRACKETS SHALL BE SPRING LOADED SUCH THAT THEY RETURN THE SIGN TO NEUTRAL POSITION.

13. EACH SIGN SHALL BE FURTHER SECURED WITH A 1/8" BRAIDED STEEL SAFETY CABLE AT EACH END (TOTAL			
OF 2 CABLES PER SIGN) RUN THROUGH THE TOP EDGE OF THE SIGN AT THE ANGLE SUPPORT AND AROUND THE MAST ARM IN A LOOSE "FIGURE 8".	CITY OF LANCASTER		
SUBMITTED: <u> <u> </u> <u> </u> <u> </u> <u> </u></u>	DEVELOPMENT S DEPARTME	ERVICES	
APPROVED		LAN	
LIFECTOR OF DEVELOPMENT SERVICES DATE	STREET NAME SIGN	PWT-1	4/4









#### NOTES:

- 1. POSTS FOR POST-MOUNTED SIGN PANELS SHALL BE 12 GAUGE, PERFORATED 2" TELESPAR SQUARE TUBING. POST ANCHOR SHALL BE A TWO-PIECE BREAKAWAY ANCHOR AND SLEEVE SET FOR SQUARE TUBING. DRIVE RIVETS SHALL BE USED TO CONNECT THE SIGN SUPPORT TO THE SLEEVE AND THE SIGN PANEL TO THE SUPPORT. DRIVE RIVETS SHALL BE "UNISTRUT" PART NO. TLXDR3878, OR APPROVED EQUAL. BACK BRACING SUPPORTS SHALL BE USED FOR SIGNS THAT ARE 30" OR LARGER.
- 2. SIGN DETAILS SHALL BE PER THE LATEST STATE OF CALIFORNIA MUTCD AND THE CITY SPECIAL PROVISIONS.
- 3. UNISTRUTS SHALL BE 2" X 120" OR 2" X 144" DEPENDING ON THE SIZE OF SIGN.
- 4. UNISTRUTS SHALL BE INSTALLED PLUMB AT OR SLIGHTLY ABOVE GRADE.
- 5. UNISTRUTS SHALL BE FASTENED TO THE ANCHOR (2.25" X 30") AND THE SLEEVE (2.5" X 18") USING 4 EA 3/8" DRIVE PIN ZINC RIVETS.
- 6. IN UNPAVED AREAS, THE ANCHOR AND SLEEVE MAY BE DRIVEN DIRECTLY INTO APPROPRIATELY COMPACTED SOIL.
- 7. IN PAVED AREAS, SUCH AS SIDEWALKS, A 4" DIAMETER HOLE SHALL BE CORED THROUGH THE PAVEMENT WITH THE ANCHOR AND SLEEVE DRIVEN THROUGH THE CORED HOLE. THE HOLE SHALL NOT BE FILLED WITH ANY FORM OF EPOXY OR OTHER FILLER.
- 8. ANCHOR AND SLEEVE SHALL BE DRIVEN TO A DEPTH WHICH LEAVES NOT MORE THAN 4" OF EACH PIECE EXPOSED ABOVE GRADE. ANCHOR AND SLEEVE SHALL BE AS FLUSH AT TOP WITH EACH OTHER AS POSSIBLE ALLOWING FOR DRIVE PIN RIVETS TO PASS THROUGH BOTH.
- 9. DRIVE PIN RIVETS SHOULD BE FASTENED FACING TRAFFIC.
- 10. MINIMUM LATERAL CLEARANCE FROM CURB FACE TO SIGN SHALL BE 24". 12" LATERAL CLEARANCE ALLOWED WHEN NECESSARY TO PROVIDE ADA COMPLIANT PATH OF TRAVEL FOR PEDESTRIANS.

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SUBMITTED: <u>10/4/19</u> CITY ENGINEER DATE	DEVELOPMENT SERVICES DEPARTMENT STANDARD PLAN		
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NOTES:				
1. SPEED CUSHIONS SHALL BE INSTALLED ONLY WHEN AUTHORIZED BY THE CITY ENGINEER OR T ENGINEER. LOS ANGELES COUNTY FIRE PREVENTION SHALL APPROVE LOCATIONS OF THE PRO SPEED CUSHIONS PRIOR TO INSTALLATION. INSTALLATION SHALL CONFORM TO THE LATEST CI LANCASTER AND CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES STANDARDS.	RAFFIC POSED IY OF			
2. SPEED CUSHIONS SHALL NOT BE PLACED OVER MANHOLES, MAINTENANCE COVERS, ETC.				
3. EDGE OF SPEED CUSHIONS SHOULD BE 5' OR MORE FROM EDGE OF DRIVEWAY OR CATCH BASI	N.			
4. EXACT LOCATION OF SPEED CUSHIONS AND SIGN LOCATIONS SHALL BE DETERMINED BY THE CITY OF LANCASTER TRAFFIC ENGINEERING DIVISION.				
<ol> <li>AC PAVEMENT REPLACEMENT SHALL BE FROM EP TO EP. AC PAVEMENT JOINTS SHALL BE ACCOMPLISHED BY GRINDING AND FILLING A 1" X 24" CUT UNLESS OTHERWISE NOTED.</li> </ol>				
6. ACCEPTABLE TOLERANCE FOR 3" HEIGHT OF SPEED CUSHIONS IS ± 1/4". CITY OF LANCASTEF	R			
SUBMITTED: DEVELOPMENT SERVICES	6			
CITY ENGINEER DATE DEPARTMENT				
DIRECTOR OF DEVELOPMENT SERVICES 127 19 SPEED CUSHION PWT-9	1/2			

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#### GENERAL NOTES:

- 1. Construction of bulb-outs at any location within the City of Lancaster shall be determined by the City Engineer and approved by the Development Services Department.
- 2. Bulb-out shall be constructed with flat textured stamped Portland Cement Concrete (PCC), pattern shall be rustic slate 12" x 12". The requirement of flat textured stamped PCC on proposed bulb-outs for private improvements in Development Engineering may be substituted with landscape requirements as determined by the City Engineer and approved by the Development Services Department.
- 3. Positive drainage must be maintained within the curb and gutter and around the bulb-outs at all times. (See City of Lancaster Engineering and Design Guidelines - Policies and Procedures). Installation of parkway drain/storm drain system may be required as determined by the City Engineer and approved by the Development Services Department.
- 4. Landscape requirements, including tree placement if necessary, shall be determined by the City Engineer and approved by the Development Services Department.
- 5. ADA concrete curb ramps shall be per current Standard Plans for Public Works Construction (SPPWC) standards, equipped with 4' x 3' detectable warning system.
- 6. Driveway placement adjacent to bulb-outs shall be at location determined by the City Engineer and approved by the Development Services Department.
- 7. Continental crosswalk per current Caltrans standards shall be used for pavement markings near schools, uncontrolled intersections and on high pedestrian locations. Proper signing placement shall be per current City of Lancaster Standard.
- 8. Placement of street light near bulb-out location shall be perpendicular to the street centerline.

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SUBMITTED BY: Julio Julio	1-22-18	CITY OF LANCASTER DEPARTMENT OF DEVELOPMENT SERVICES STANDARD PLAN		5
APPROVED BY:				
DIRECTOR OF DEVELOPMENT SERVICES	01/22/18		PWT-10	16/16
	BATE	EFF: 01/10/2018		

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### To be inserted in PART D of the Specifications:

#### Solar-Powered Rectangular Rapid Flash Beacons (RRFB) System

Contractor shall construct Solar-Powered RRFB System per PWT-11 City standard, per details and locations as shown on the plans and specifications. All materials and workmanship shall conform to the latest Standard Plans for Public Works Construction (SPPWC), the General Provisions, these specifications and the Manufacturer Specifications (see Manufacturer's specifications in Appendix; Contractor is also responsible for obtaining installation guidelines and instructions and specifications from the Manufacturer and verifying all items/parts and hardware needed to completely install Solar-Powered RRFB Systems and poles).

### Flashing Beacons Requirements and Operation

RRFB shall consist of two rapidly and alternately flashing yellow indications equipped with LED array based pulsing light sources. When activated, the two yellow indications in each RRFB shall flash in a rapidly alternating "wig-wag" flashing sequence. The light intensity of the yellow indications shall meet the minimum specifications of Society of Automotive Engineers (SAE) standard J595 Class I.

Each RRFB indication shall be approximately 7 inches wide by approximately 3 inches high. The two RRFB indications shall be aligned horizontally and with a minimum space between the two indications of approximately 7 inches. The outside edges of the RRFB indications including the powder coated aluminum housing, shall not project beyond the outside edges of the 12" x 24" W16-7 sign. Mounting hardware shall be stainless steel for 4" or 4  $\frac{1}{2}$ " O.D. pole.

The RRFB shall be dark until pedestrian actuation with a pedestrian push button and shall cease operation at a predetermined time from the initial pedestrian actuation. The duration of the predetermined time of operation of the RRFBs shall be based on the CA MUTCD procedure for timing of pedestrian clearance times for pedestrian signals.

#### Solar assisted battery powered system

Solar panel shall be installed in a way that it is exposed to the sun at all times and is not shaded by trees, building or any other similar things. Solar panel shall be approximately 25  $\frac{3}{4}$ " high by approximately 25  $\frac{1}{4}$ " wide and around 1  $\frac{1}{2}$ " thick in measurement. Housing shall be NEMA 4X rated fiberglass or aluminum cabinet with lockable clasps. Articulating aluminum mount shall rotate and pivot to adjust from 40° to 60° and shall fit 4" or 4  $\frac{1}{2}$ " O.D. pole. Solar panel shall have a maximum power of 55 watts. Sealed gel battery shall have a nominal voltage of 12V. The dimensions of the battery shall not exceed 7  $\frac{3}{4}$ "L x 6  $\frac{3}{4}$ "w x 7"H. Solar panel and control circuit shall meet the IP-67 NEMA rating.

#### <u>Pole</u>

Pole shall be schedule 40, heavy duty aluminum material equipped with 42" anchor bolts and pedestal base for concrete installation. Length of the pole can vary from 13' or 15' depending upon the specific project requirements and/or location of where the pole will be installed. Mounting of sign, solar panel, RRFB and control cabinet assembly to the pole shall be per the manufacturer's installation guidelines and instructions.

### Pedestal Base

The aluminum pedestal base shall have a typical measurement of approximately 14" wide by approximately 15 ½" high, it shall fit to mount to a concrete base with four galvanized steel anchor bolts and secured around the 4" or 4.5" O.D. base of the pole. The base underside shall have integrated anchor bolt guide to endure proper anchor bolt placement. The pedestal base shall be installed on a level surface and shall have a removable square aluminum door of approximately 8"x 8" in nominal size to provide access opening to the base interior for cable splicing and anchor bolt attachment. For break-away requirements, the pedestal base shall be FHWA certified and meets or exceeds AASHTO standard (American Association of State and Highway Transportation).

### Pedestrian Push Button

Pedestrian push button shall be ADA and MUTCD compliant. The body material of the pedestrian push button shall be aluminum and powder coated while the button material shall be stainless steel. When pressed for activation, the operating force or pressure shall not exceed 2.00 lbs. maximum, the typical operating voltage shall be 12-36V AC/DC and operating temperature is from -30°F to 165°F. The pedestrian push button shall have switch operating life of greater than 300 million operations to activate the flashing beacons.

#### Control Cabinet Assembly

The control cabinet assembly shall consist of the charge controller, circuit flasher, battery, countdown timer and wireless communication system. The dimensions for the aluminum cabinet that will house the system shall be approximately 15" high by 12" wide and 11" in depth.

The solar charge controller shall function to control the charge and discharge of the battery. It shall provide temperature compensated charging so that the rate of charge is controlled for both temperature and state of charge to prevent damage to the battery from an overcharge condition or low voltage condition. The charge controller shall have a manual disconnection switch that will allow end user to electrically disconnect the battery from the system.

The circuit flasher shall control the rapid wig-wag flashing sequence of the yellow indications. *See Flashing Beacons Requirements and Operation above.* 

The countdown timer shall be multi-function, multi-range, DC timer with DPDT relay output and LED status indicator. The timer shall operate upon activation to control the flash duration of the RRFB and shall provide seven field selectable ranges of timing from 0.1s to 100h activation duration. Each time a pedestrian pushes the button, the countdown timer shall reset to the start of the delay time, thus allowing the beacons to flash for a full cycle for each initiation. Dial setting shall be adjustable for the end user to give pedestrians the necessary crossing time.

The wireless communication system shall have an operating frequency of 900MHZ equipped with blinkerbeam radio.

### **Payment**

Payment for Solar-Powered RRFB System shall be per the lump sum price as shown on the Bid Schedule. Payment shall include all items not separately identified for payment in the Special Provisions and also include all labor, equipment, tools, materials, incidentals and appurtenances necessary to construct Solar-Powered RRFB System complete in place and in accordance with the Plans, Standard Specifications, these specifications and the Manufacturer's specifications.

Payment for any asphalt or concrete saw-cutting and removals shall be covered under the Clearing, Grubbing and Removals bid item.