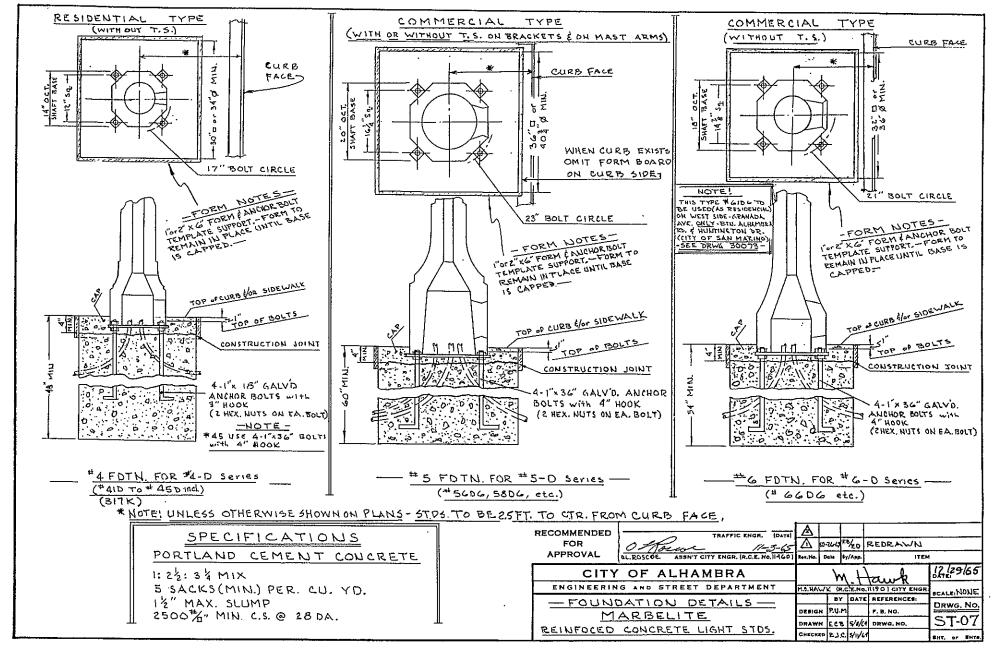
## STANDARD DRAWING INDEX TRAFFIC AND LIGHTING

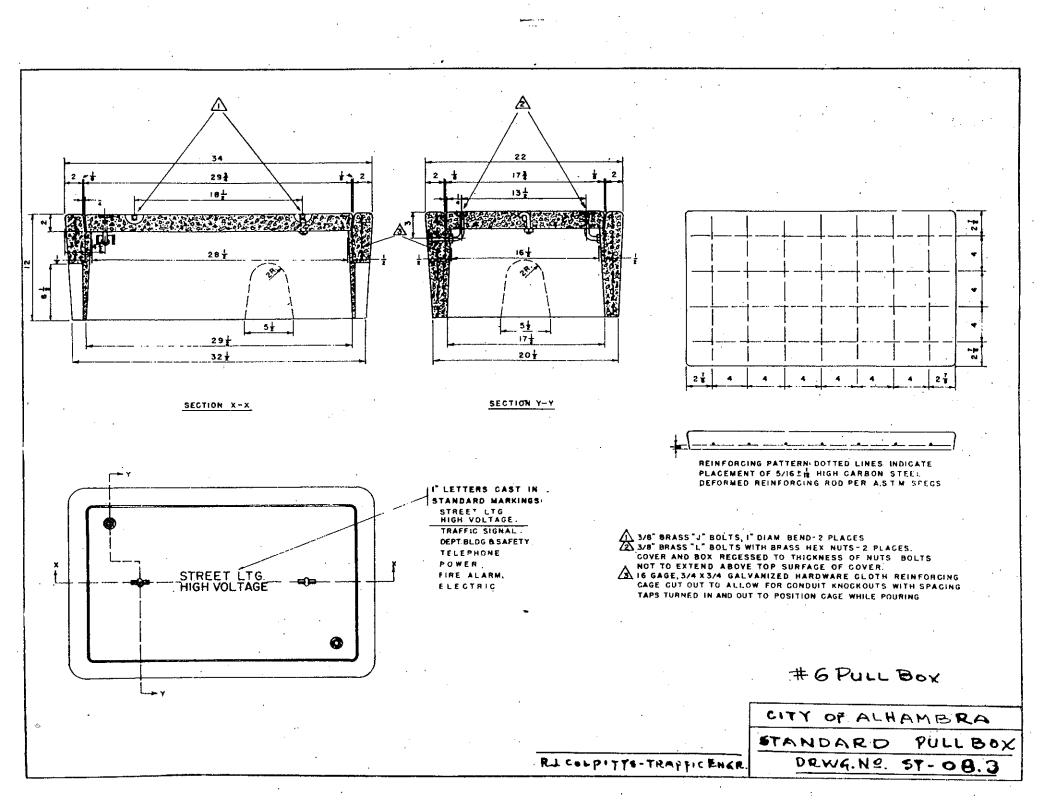
<u>New No.</u>	Title	Old No.	Prev.	Orig.	No.
ST-01	Standard Signal Symbols	ST-01			
ST-07	Foundation Details - Marbelite Re- inforced concrete Light Standards	ST-04			
ST-08.2	Lighting Pullbox - #5	ST-08.2			
ST-08.3	Lighting Pullbox - #6				
ST-09	Foundation Details - Steel Poles				
ST-10	Foundation Details - Traffic Signal Controllers				
ST-11	General Notes - Traffic Signal Standards				
ST-12	Foundation Details - Steel Poles	<b>;</b> ·			
ST-13	Standard Feedpoint Mounting for Underground Service Streetlighting Circuit				
ST-14	Outdoor Pole Mount (Electrical Meter, T.B. & Breakers) typical installation				
ST-15	Typical Standard Light Installation - A.R.A. Area				
ST-16	Foundation Detail 35' Davit Pole - 9' Arm			, e <sup>ge</sup> .	
ST-17	Pedestal Service Point - Typical Installation for Utility Pole Drops				
ST-18	Underground Electrical Service within Public Right-of-Way			o. dison	Cal.
ST-19	Steel Davit Standard				
ST-20	Curb Address Number Specification				
ST-21	Street Banner Specification				

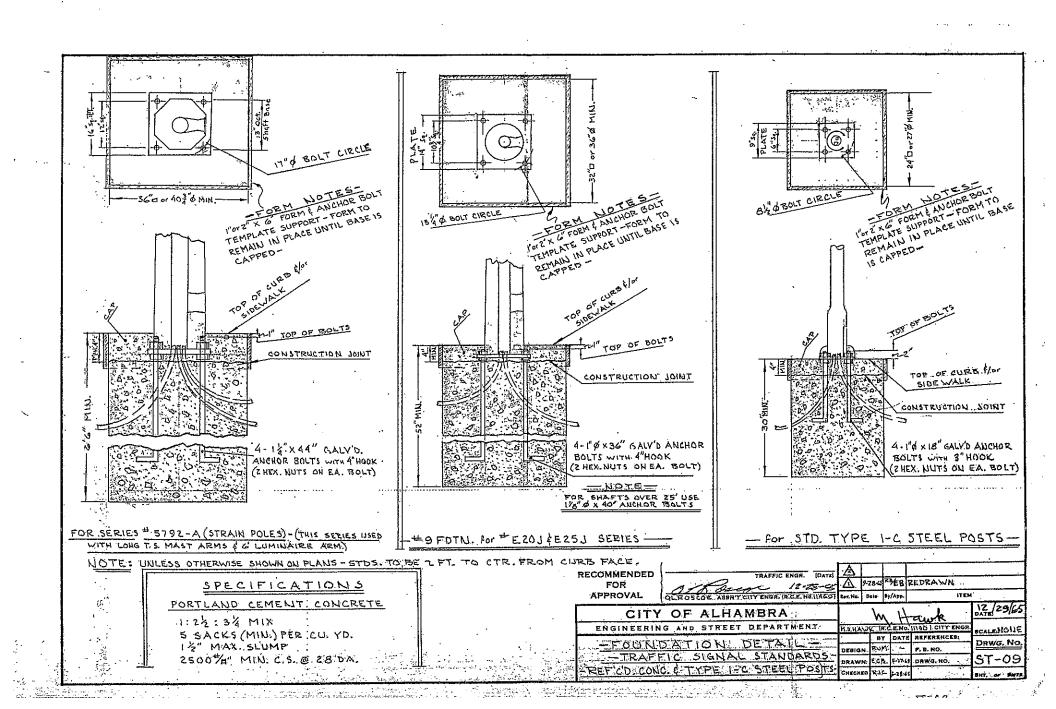
# STANDARD SIGNAL SYMBOLS

(	PROPOSED	EXISTING	Annual Section 1 to the Control of t	Administration of the Control of the
			SIGNAL CONDUIT	
	,	<u> </u>	OVERHEAD CABLE	
		20	TRAFFIC SIGNAL (EAC	CH ARROW ONE FACE)
	<del></del>	<b>€</b> ○+O	SIGNAL WITH BACKPL	ATE
	<b>♦ ~</b> •	1-0	SIGNAL WITH GREEN	ARROW
ř	Ţ <b>o</b>	₹	MAST ARM SIGNAL	•
	= - Car	<b>v</b> = <b>2°2°</b> =	SIGNAL WITH LIGHTS (LETTER INDICATES	LOUVERED LIGHT LOUVERED)
-	-W-4-0	△**0	PEDESTRIAN SIGNAL,	RED - GREEN
企	<u> </u>	□	PEDESTRIAN SIGNAL,	NEON-("WALK"-"DON'T WALK")
		<u> </u>	MAST ARM SIGNAL A	ND ELECTROLIER
Ì	.)))(**********************************	· ¥0	ELECTROLIER, PENDA	ANT TYPE
	F	₽	FIRE HYDRANT	
		$\Xi$	SIGNAL CONTROLLER	
4		EFR <b>O</b>	NON-DIRECTIONAL PR	RESSURE DETECTOR
4	na.	GEER <b>S</b> DIR.	DIRECTIONAL PRESSU	RE DETECTOR
			PULL BOX	
	查	Š	SIGNAL CONTROLLER	WITH RADIO CONTROL
	Ŭ	Ä	ELECTROLIER, UPRIGH	T TYPE
Δ	<b>\( \rightarrow</b>	<del>-</del>	POWER POLE	A 2-HAMICORIO CORLECTES SYMBOLS  BEVINS DATE BY AND LITEM
	01	<b>®</b>	MAN HOLE	CITY OF ALHAMBRA
-		CA.	CATCH BASIN	ENGINEERING & STREET DEPT. STANDARDSIGNAL SYMBOLS
,	PPB	ppb	PED PUSH BUTTON	R.J.COLPITTS. R.G.BEZZANT, TRAFFIC ENGR. CITY EVER
				DRAWN BY APPROVED BY: DATE MESTER FLE NC



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### (THE CONTRACTOR SHALL CONFORM TO ALL GENERAL NOTES UNLESS NOT APPLICABLE)

#### A. CONDUIT

- Service and detector conduit shall be 1 inch, interconnect 1½ inch, traffic signal conduit shall be 2 inch, and lighting conduit shall be 1½ inch.
   (California Standard Specification, Section 86 unless otherwise specified.)
- 2. Conduit shall be installed 18" minimum below curb grade in sidewalk areas and 30" minimum below grade or finished surface in all other areas, except that conduit installed within curbed dividing strips constructed on existing pavement may be laid on and secured to the pavement.
- 3. Conduit runs parallel to curbs may be placed adjacent to back of curb, except where it conflicts with existing facilities.
- 4. Conduit terminating in standards and pedestals shall extend approximately 2" above finished top of foundation and shall slope toward the handhole.

#### B. CONDUCTORS

- 1. Signal neutral shall be a separate #10 A.W.G., or larger, conductor.
- A band or bands shall be attached near the end of each conductor showing:
   a. Circuit and Phase. (May be omitted if clearly shown by color coding.)
  - b. Destination.
- Neutral conductors may be spliced in pull boxes.
- 4. Underground conductors to signals shall have no splices.
- 5. Connection to each terminal of a pedestrian push button shall be by a single conductor. Splices shall be made in nearest pull box.
- 6. Three feet of slack shall be provided in each conductor in each pull box and 1 foot in each signal pole.
- 7. Where existing conductors are to be re-used, the color coding must conform to California Standard Specifications, Section 86.
- 8. Conductors between ballasts or transformers and luminaires shall be #10 A.W.G., 600 Volt.

#### C. PULL BOXES

- 1. Pull boxes shall be No. 5. Not more than five (5) 2 inch conduits shall be installed in one pull box.
- Pull boxes shown in the vicinity of curbs shall be placed adjacent to back of curb, except when it conflicts with existing facilities.

#### D. POLES

- 1. All standard locations shall be laid out by the City of Alhambra to insure proper location.
- Standard foundations shall be installed, with rigid forms where necessary, true to existing or future grade and poured to within four inches of grade, upper four inches to be grouted in after pole has been set and leveled.
- 3. Where terminal compartments and/or pole plates are bolted to steel posts, they shall be bolted with galvanized thru-bolts.

#### . SIGNALS

- 1. All traffic signal heads shall be backplated.
- Vehicular and pedestrian signal mountings shall be oriented to provide maximum horizontal clearance to adjacent roadway.

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FOR TRAFF	IC SIGNALS & STREET LIGHTING	DRAWN		DRWG. NO.	ST-11
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#### E. SIGNALS (CONTINUED)

- 3. Where existing signal heads are to be re-used, contractor shall furnish framework necessary to remount indications as shown on the plans.
- 4. All traffic signal heads, 8-inch and 12-inch shall have square doors.
- 5. All mast arm mounted signals shall be 12-inch heads with MAS mounting.

#### F. PEDESTRIAN SIGNALS & PUSH BUTTONS

- 1. All pedestrian signals shall be of the new grid-neon "Walk-Don't Walk" type.
- 2. Two-color pedestrian signal heads shall be wired to indicate red during corresponding vehicle yellow and red interval, and green during vehicle green interval.
- 3. All "Don't Walk" "Walk" indications shall flash "Don't Walk" during the pedestrian protection period.
- 4. Color coding for wiring to pedestrian signals shall be as specified for corresponding vehicular green and red indications.

#### G. VEHICLE DETECTORS

- 1. Separate conductors, other than neutral, shall be run from each detector element to controller.
- 2. Detector position dimensions refer to contact unit, sensor unit or edges of wire loop, whichever apply.
- 3. All detector equipment shall be installed in accordance with manufacturer's recommendations.

#### H. INTERCONNECT

Directly interconnected traffic signal systems shall be electrically isolated from each other through the use of relays.

#### I. MATERIALS AND EQUIPMENT

All materials and equipment, unless otherwise specifically designated on the plans and in the specifications to be relocated and/or re-used, shall be new, and shall be, including all work, subject to inspection and approval of the City: .: Engineer or his duly-authorized representative.

#### J. SALVAGED MATERIAL

All salvaged material shall be tagged, inventoried, and delivered to the Alhambra City Yards Signal Yard, '900 South New Avenue, in good condition and shall be considered within the lump sum for doing the work.

#### K. SERVICE CONNECTIONS

The City of Alhambra will make arrangements for power service to the location shown on the plans. The connection work by the power company will be arranged for by the City of Alhambra. The contractor shall furnish and install all necessary conduit and wiring to the points of hookup and shall have personnel at the site capable of assisting in the hookup and checking the circuit. The contractor shall notify the City Engineer at the time of the start of construction as to when he estimates service will be required and then approximately forty-eight (48) hours prior to actual need.

#### L. GUARANTEE

The contractor shall guarantee all portions of the various installations against defective materials and workmanship for a period of one (1) year from the date of completion of the contract. Damage due to acts of God and/or sabotage and/or

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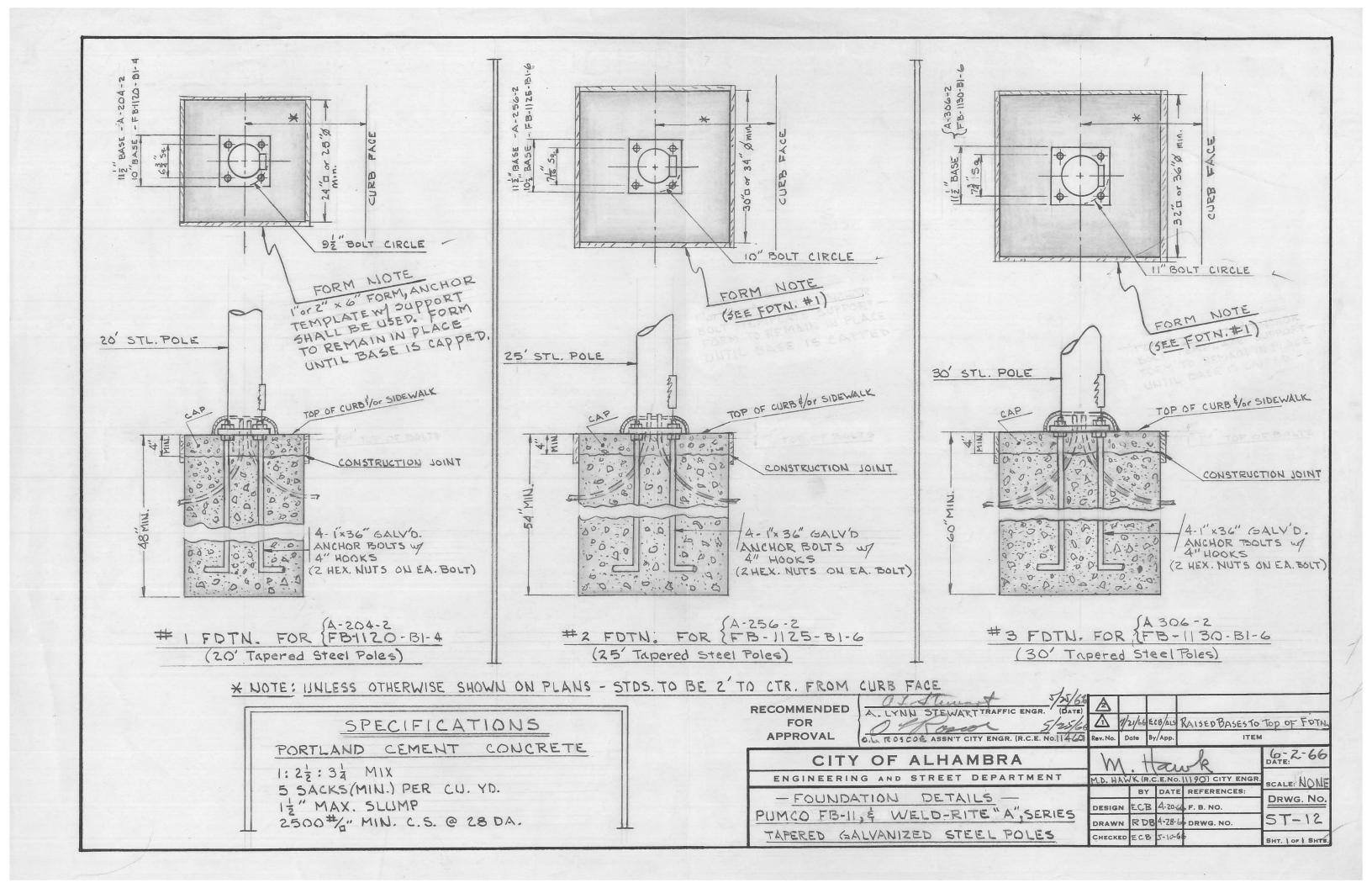
#### L. GUARANTEE (CONTINUED)

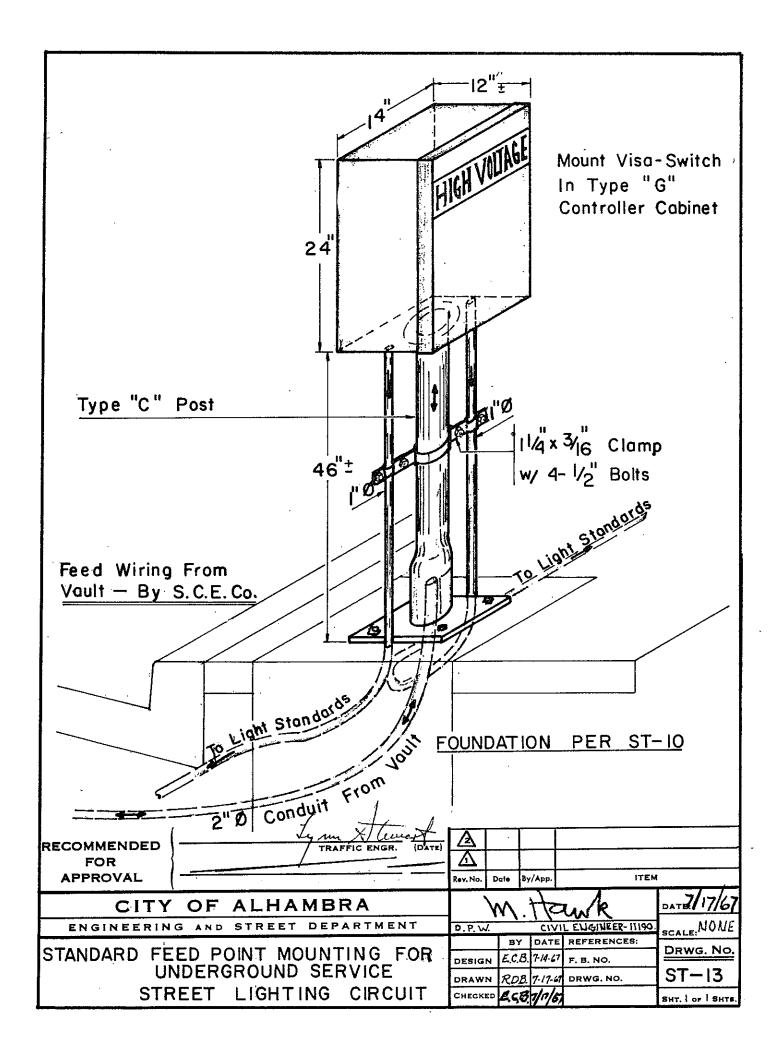
vandalism are specifically execpted from the guarantee.

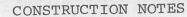
When defective materials and/or workmanship are discovered requiring repairs and/or replacement to be made under this guarantee, all such work shall be done by the contractor at his own expense within five (5) days after written notice is given him by the City. Should the contractor fail to repair and/or replace such defective material or correct defective workmanship within five (5) days thereafter, the City of Alhambra may make the necessary repair and/or replacement and charge the contractor with the actual cost of labor and materials. In emergencies demanding immediate attention, the City of Alhambra shall have the right to repair and charge the cost of repairing the defect to the contractor with the actual cost of all labor and material required.

The contractor shall arrange to have his Faithful Performance Bond run for a period of one (1) year after date of completion of the contract to cover his guarantee as set forth above.

RECOMMENDED FOR APPROVAL	TRAFFIC ENGR. (DATE)  ASSN'T CITY ENGR. (R.C.E. No. )	Rev. No.	Date	Ву/Арр.	ITEN	1
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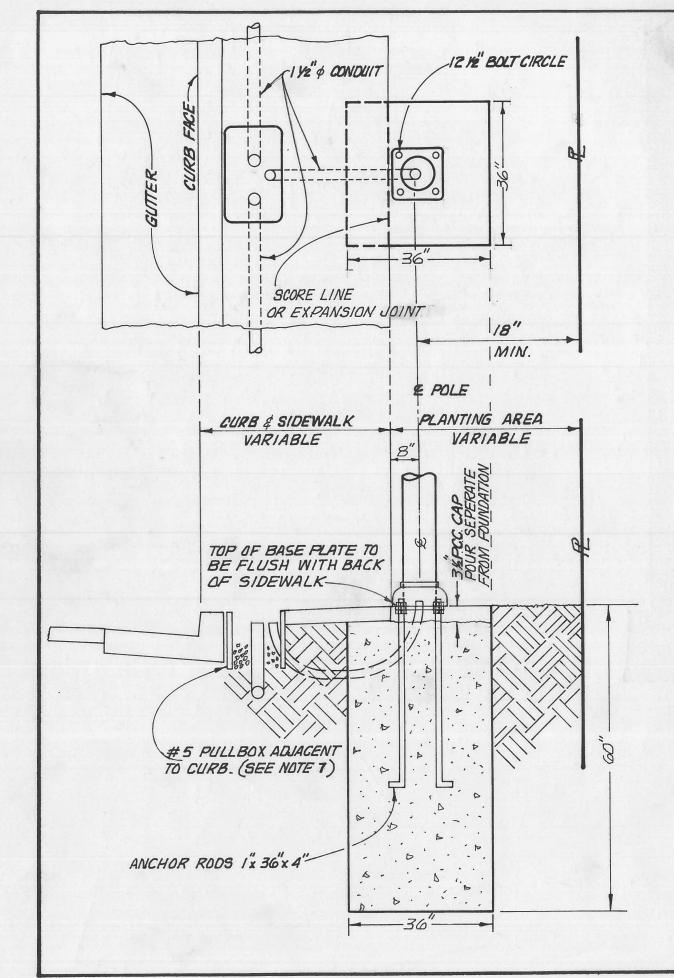




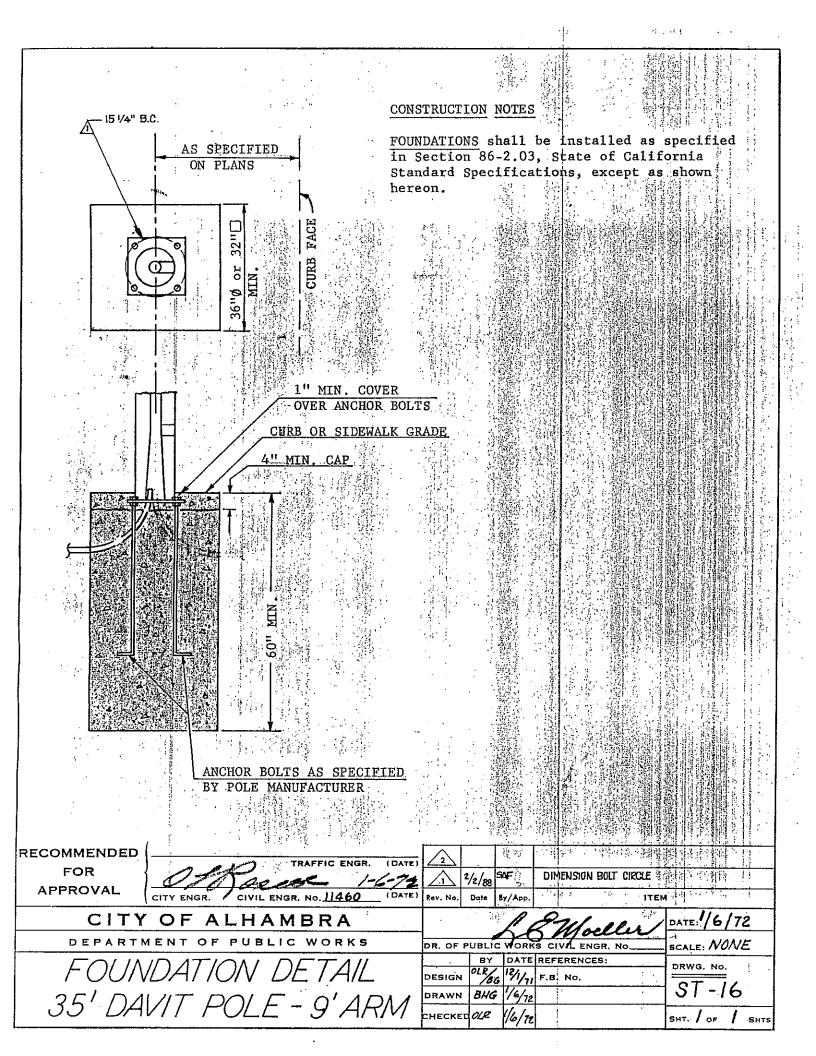
- 1 All electrical work shall conform to applicable portions of Section 86, Cal-Trans Standard Specifications, latest available edition, unless otherwise specified. Appurtenant work, concrete, etc. shall conform to Standard Specifications for Public Works Construction (Green Book), latest available edition.
- 2 Concrete for foundation shall be Class 560-C-3250, per section 201-1.1.2, SSPWC.
- 3 Street light standard shall be fabricated from a single tapered galvanized steel tube and shall provide a 35 foot mounting height, measured from the base plate of the pole. The pole shall be a davit type, with a 5 foot minimum radius bend, and providing an 8 foot arm measured from the centerline of the vertical shaft.

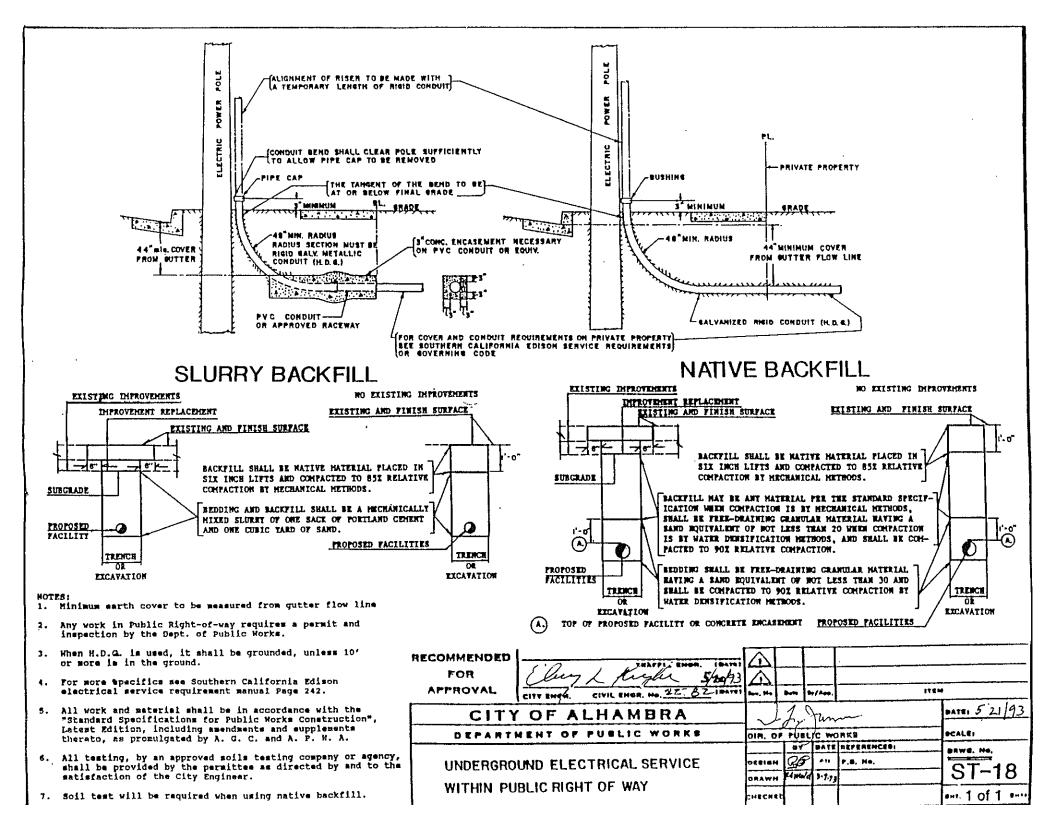
  Pole shall be similar to PUMCO Cat. No. LD10049H or AMERON Cat. No. J 358 with 12½" bolt circle and anchor rod cover.
- 4 Luminaire shall be 200W, 240V, High pressure Sodium Vapor, G.E. Cat. No. C724N980, Unicorn Electrical Products Cat. No. UCB-V3-200 PH or approved equal.

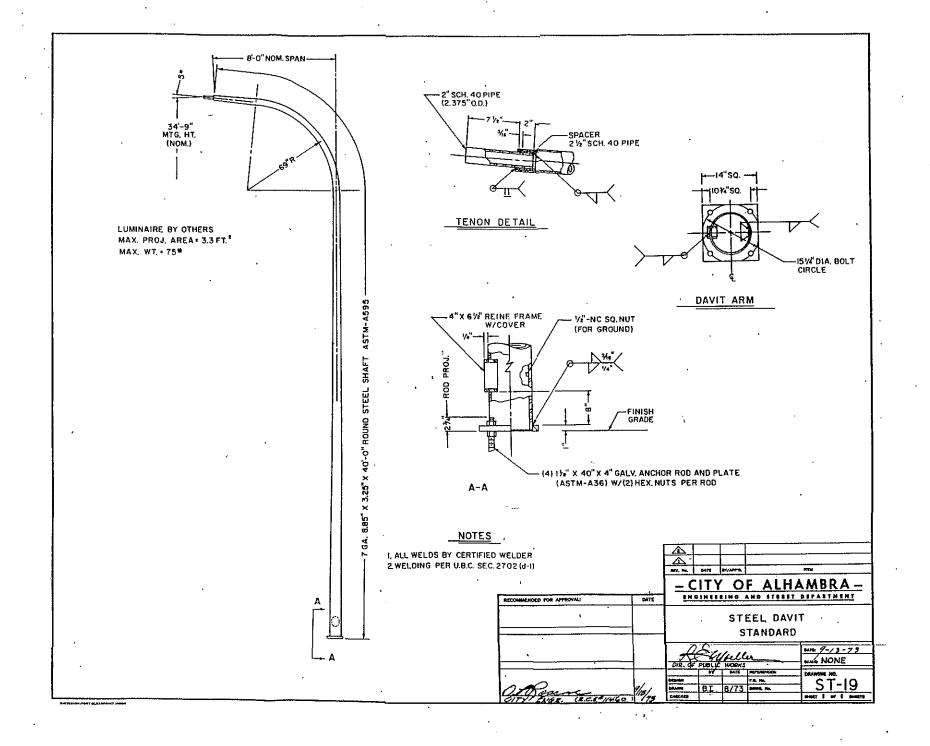
  Each luminaire shall be equipped with a photoelectric control, conforming to Sec. 86-6.07, Type IV control. Socket setting shall provide M-S-III Distribution.
- 5 Conductors between pullboxes shall be #8 AWG copper, unless otherwise specified.
  Conductors between pullboxes and luminaire shall be #10 AWG.
  Fused splice connectors shall be used in each pullbox adjacent to luminaire in accordance with Sec. 86-2.095.
  Fuse shall be 5 amp rating unless otherwise shown.
- 6 Conduit shall be rigid metallic conforming to Sec. 86-2.05A(1) and shall be bonded and grounded per Sec. 86-2.10.
- 7 Pullbox shall be No. 5, with cover clearly marked "STREET LIGHTING".
  Alternate pullbox locations shall be used when shown on plans or directed to do so by inspector.

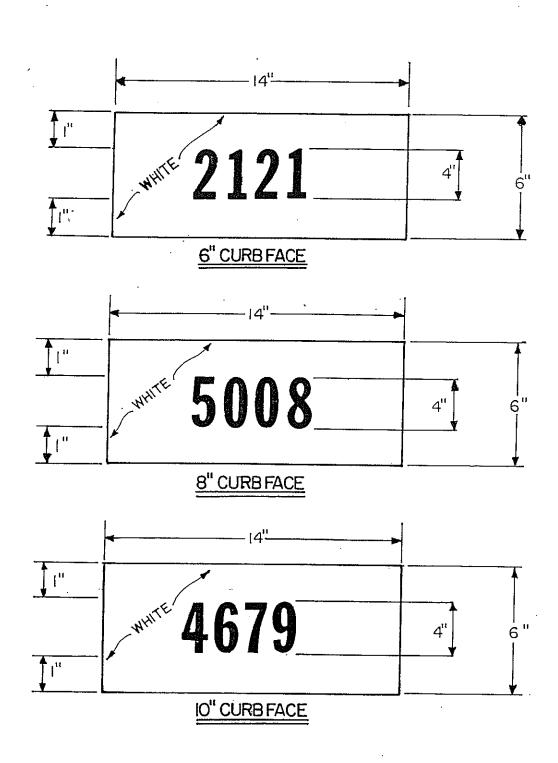


3 4-10-84 J.V.H. REVISED STD. DRAWING RECOMMENDED 4-19-77 J. V. H. RELOCATE PULL BOX ADJACENT TO BACK OF CUR /2 TRAFFIC ENGR. , (DATE) 60" WAS 54" FOR 6/25/84 12-13-72 E.P.W. APPROVAL CIVIL ENGR. No. 22397 (DATE) Date DATE: 4-10-84 CITY OF ALHAMBRA DEPARTMENT OF PUBLIC WORKS SCALE: N.T.S. DIR. OF PUBLIC WORKS BY DATE REFERENCES DRWG. No. TYPICAL STREET LIGHT DESIGN B.H.6 9/1/7/ F.B. No. ST-15 L.AT 4/4/20 Old ST-15 DRAWN INSTALLATION - A.R.A. CHECKEDUVH SHT. / OF / SHT









RECOMMENDED TRAFFIC ENGR. (DATE) FOR **APPROVAL** CITY ENGR. CIVIL ENGR. No. By/App. ITEM CITY OF ALHAMBRA DATE: 3-29-91 DEPARTMENT OF PUBLIC WORKS PUBLIC WORKS SCALE: NTS DATE REFERENCES: DRWG. No. **CURB ADDRESS NUMBER** LAT 3/15/9/ F.B. NO. ST-20 3/15/9/ **SPECIFICATIONS** SHT. | OF 4 SHTS

#### CITY OF ALHAMBRA

#### CURB ADDRESS NUMBER SPECIFICATIONS

#### FORMAT AND SIZE

A white field with black numbers shall be painted on the curb at each address. The field shall be 14" (fourteen inches) long and 6" (six inches) in height. The field shall be reflectorized by clear glass spherical beads, applied with force against the field paint while it is still tacky, and the beads must be firmly bonded to the paint upon drying.

The numbers shall be 2" (two inches) in width and 4" (four inches) in height. The numbers shall be centered in the field with a 1" (one inch) space between each. There shall be a 1" (one inch) border at the top and bottom, and a minimum  $1\ 1/2$ " (one and one half inch) borders at both ends of the address numbers.

#### LOCATION

The numbers are to be located so that the tops of all numbers are 1" (one inch) below the top of curb. The numbers shall be parallel with the top of the curb and the axis of each number shall be perpendicular to the top of the curb.

On all interior lots: The address number shall be painted on the curb face a distance of 3" (three inches) from the beginning of the curb transition for the driveway. The side of the driveway on which the numbers shall be painted will vary and may be determined by which side of the lot the driveway is on. However, if the driveway is to the rear of the lot, the number will be painted directly in line with the front entrance to the house or business.

On corner lots: The address number will be painted on the front of the lot only. If the driveway entrance is located on the front of the lot, then the aforementioned pattern will be followed. However, if the driveway is on the side or to the rear of the lot, the number will be painted directly in line with the front entrance to the house or business.

On lots with more than one address: The field shall be located in the same position as indicated by the pattern, but will be 30" (thirty inches) in length. The lowest number will be located on

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#### LOCATION (cont.)

the left of the field with the required border spaces, the highest number will be located on the right side of the field with the required border spaces. A 2" (two inch) hyphen (-) must be centered between the two numbers.

#### <u>APPLICATION</u>

Prior to commencement of work the method of application shall be approved by the Traffic Engineering Supervisor or his/her designee.

#### REMOVAL OF OLD NUMBERS

If the existing numbers are painted on the curb face in the specified location, then the new number shall be painted over the existing number.

If the existing numbers are painted on the curb face but not in the aforementioned location, the old number is to be removed. The method may vary, but no method may be employed that would in any way damage the existing curb.

#### PAINT

The paint to be used for the field shall be white, luminous, with directional reflexivity not less than 80% relative to magnesium oxide.

The pigment of the paint shall not be less than 52% nor greater than 58% of the total composition of the product. The vehicle of the paint shall not be less than 42% nor greater than 48% of the total composition of the product. The vehicle shall contain not less than 39% non-volatile materials.

The paint shall have a viscosity in Krebs Units, as determined in the Krebs-Stormer Viscosimeter (ASTM D-562-55), within a range of 74 to 84.

The paint shall have a 30-minute drying time when applied at an 0.008 inch film thickness.

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#### PAINT (cont.)

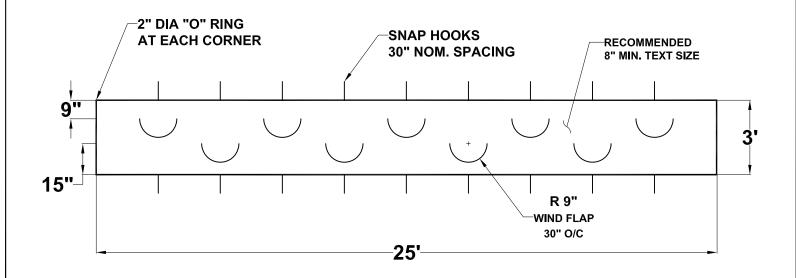
The paint shall meet flexibility, bleeding, dilution, hiding power, settling and stability tests; both Federal and Los Angeles County methods of testing. The paint shall be properly ground by mill grinding to a uniform consistency, with the pigments and vehicle mixed to a smooth paste. The pigments shall not settle excessively nor cake in the containers, and shall be readily broken up with a paddle to a consistency ready for spray application. The materials shall be free from all deleterious material and defects and imperfections that might affect the serviceability of the finished product.

The paint shall show inherent capabilities for retention of glass spheres, and shall be suitable for application to Portland Cement Concrete without bleeding or other discoloration. The paint shall dry with a tough, flexible, adherent film which will not crack, chip, peel, discolor, or excessively fade with exposure.

The paint for numbers shall be black in color, waterproof, and flat in finish.

Glass beads shall conform to California Department of Transportation (CALTRANS) State Specification No. 8010-51J-22 Type II.

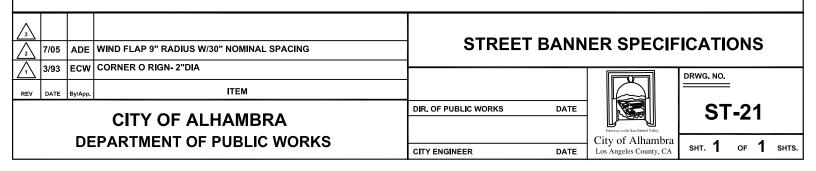
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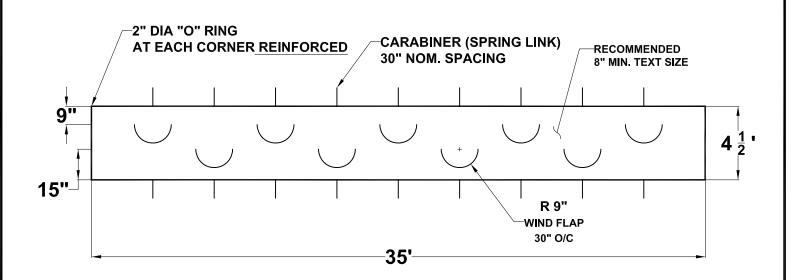


## STREET BANNER SPECIFICATIONS

Street banners are to be 3' x 25' in size. The banner shall have "O" rings (at each corner) and carabiners (Spring Link)  $4\frac{9}{16}$ "along the top and bottom, using a 30" nominal spacing. The banner shall have two rows of 9" radius wind flaps, using a 30" nominal spacing. Banner material shall be heavy vinyl or canvas.

**RECOMENDATION:** The City of Alhambra recommends 8" minimum text size for adequate visibility.





## STREET BANNER SPECIFICATIONS

Street banners are to be  $4\frac{1}{2}$ ' x 35' in size. The banner shall have "O" rings and carabiners (Spring Link)  $\frac{5}{16}$ " x  $3\frac{1}{4}$ " along the top and bottom, using a 30" nominal spacing. The banner shall have two rows of 9" radius wind flaps, using a 30" nominal spacing. Banner material shall be heavy vinyl or canvas.

**RECOMENDATION:** The City of Alhambra recommends 8" minimum text size for adequate visibility.

$\frac{\sqrt{2}}{2}$	WIND FLAP 9" RADIUS W/30" NOMINAL SPACING CORNER O RIGN- 2"DIA	STREET E	3ANN	ER SPECIF	ICATIONS
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