



8400 LAGUNA PALMS WAY • ELK GROVE, CALIFORNIA 95758
TEL: 916.683.7111 • FAX: 916.691.2001 • www.elkgrovecity.org

PUBLIC WORKS DEPARTMENT

Modification of or Addition to Improvement Standards and Details

Modification Number: 090905-1

Effective Date of Change: September 16, 2005

Modification:

1. **Add standard details ST-11 through ST-19, Street Lights – Zone 2**
2. **Add standard details ST-20 through ST-27, Street Lights (both Zone 1 and Zone 2 facilities)**

All Zone 2 street lights shall be City-furnished with installation by project's contractor. Orders shall be paid for and initiated prior to approval of street lighting plan and/or encroachment permit.

Effect of Modification:

Adds a decorative light standard for use in Zone 2. Zone 2 is the area bounded to the north by Elk Grove Boulevard (inclusive) and to the east and west by Highway 99 and Bruceville Road, respectively. Additionally, modifies County standards regarding the location of street lighting and details for the design and installation of the street lighting system. The City will be the owner and provide all inspection and maintenance of all street lighting within the City effective October 1, 2005.

Request for Modification Initiated By:

Don Crawford

Date

Modification Reviewed for Conformity and Consistency to Standards:

Janet B. B. B.

Manager – Development Engineering

9/22/05

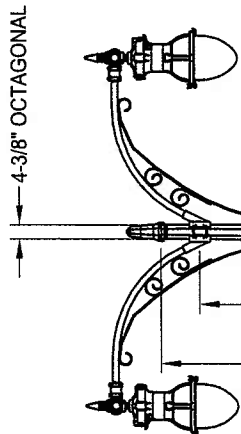
Date

Modification to Improvement Standards Approved:

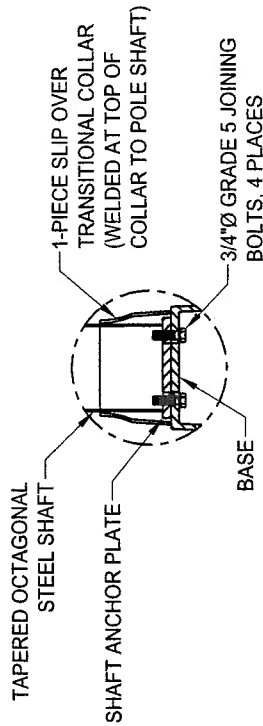
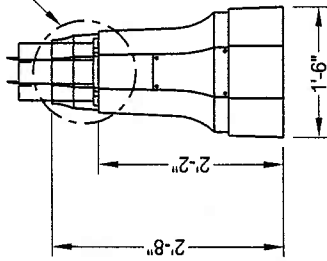
Don Lee

City Engineer

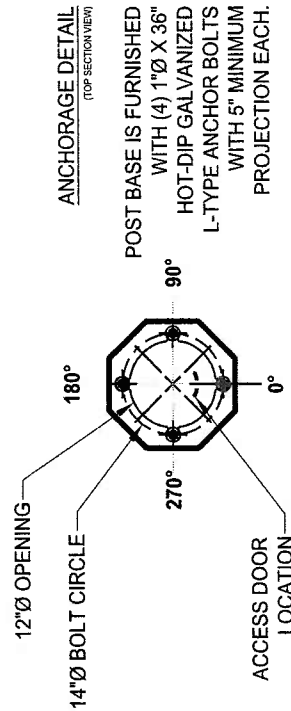
Date



SEE DETAIL A
FOR SHAFT MOUNTING

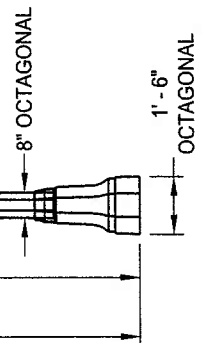


DETAIL A



ANCHORAGE DETAIL
(TOP SECTION VIEW)

POST BASE IS FURNISHED WITH (4) 1"Ø X 36" HOT-DIP GALVANIZED L-TYPE ANCHOR BOLTS WITH 5" MINIMUM PROJECTION EACH.



SPECIFICATIONS

POST BASE

THE BASE SHALL BE CAST IRON CONSTRUCTION WITH A TAPERED AND STEPPED OCTAGONAL PATTERN. A 1-PIECE SLIP OVER TRANSITION COLLAR COVERS THE BASE OF THE SHAFT. A DOOR IS LOCATED IN THE BASE FOR ANCHORAGE AND WIRING ACCESS. A GROUND SCREW (5/8") SHALL BE PROVIDED INSIDE THE BASE, OPPOSITE THE ACCESS DOOR.

POST SHAFT

THE POST SHAFT SHALL BE 11-GAUGE STEEL WITH A STEEL PLATE FOR MOUNTING TO THE BASE. THE OCTAGONAL SHAFT TAPERS FROM 8" (FLAT TO FLAT) AT THE BOTTOM TO 4-3/8" AT THE TOP, WITH A DECORATIVE OCTAGONAL FINIAL.

CROSSARM

THE CLAMP ON CROSSARM SHALL BE ALUMINUM PIPE CONSTRUCTION WITH FLAT BAR SCROLLS AND 1-1/2" X 1/2" FLAT BAR CLAMP-ON BRACE. ARMS SHALL HAVE A 2" PIPE SLEEVE FOR LUMINAIRE MOUNTING. THE CROSSARM MEASURES 52" FROM POST TO LUMINAIRE CENTERS. A LUMINAIRE LEVELING FITTER SHALL BE MOUNTED TO THE END OF THE PIPE ARM FOR LUMINAIRE MOUNTING.

FINISH

THE POST SHALL BE SHIPPED FINISHED WITH A STANDARD HOLOPHANE BLACK POWDER COAT FINISH.

NOTE

ALL HARDWARE STAINLESS STEEL. ALL EXTERIOR HARDWARE TAMPER RESISTANT. BASE AND SHAFT TO BE SHIPPED AS A ONE-PIECE UNIT.

ALL LIGHTING SHALL BE CITY FURNISHED. CONTRACTOR SHALL PURCHASE FROM CITY AND CONSTRUCT FOUNDATIONS AND INSTALL.

APPROVED BY:

Paul J. Dan
CITY ENGINEER



DRAWING NUMBER

ST - 11

CITY OF ELK GROVE - PUBLIC WORKS

**STREET LIGHTS - ZONE 2
MEDIAN LOCATION (DUAL ARM)**

9/9/2005 NOT TO SCALE

REVISION BY APPROVED DATE

REVISION	BY	APPROVED	DATE

SPECIFICATIONS

POST BASE

THE BASE SHALL BE CAST IRON CONSTRUCTION WITH A TAPERED AND STEPPED OCTAGONAL PATTERN. A 1-PIECE SLIP OVER TRANSITION COLLAR COVERS THE BASE OF THE SHAFT. A DOOR IS LOCATED IN THE BASE FOR ANCHORAGE AND WIRING ACCESS. A GROUND SCREW (5/8") SHALL BE PROVIDED INSIDE THE BASE, OPPOSITE THE ACCESS DOOR.

POST SHAFT

THE POST SHAFT SHALL BE 11-GAUGE STEEL WITH A STEEL PLATE FOR MOUNTING TO THE BASE. THE OCTAGONAL SHAFT TAPERS FROM 8" (FLAT TO FLAT) AT THE BOTTOM TO 4-3/8" AT THE TOP, WITH A DECORATIVE OCTAGONAL FINIAL.

CROSSARM

THE CLAMP ON CROSSARM SHALL BE ALUMINUM PIPE CONSTRUCTION WITH FLAT BAR SCROLLS AND 1-1/2" X 1/2" FLAT BAR CLAMP-ON BRACE. ARMS SHALL HAVE A 2" PIPE SLEEVE FOR LUMINAIRE MOUNTING. THE CROSSARM MEASURES 52" FROM POST TO LUMINAIRE CENTERS. A LUMINAIRE LEVELING FITTER SHALL BE MOUNTED TO THE END OF THE PIPE ARM FOR LUMINAIRE MOUNTING.

FINISH

THE POST SHALL BE SHIPPED FINISHED WITH A STANDARD HOLLOPHANE BLACK POWDER COAT FINISH.

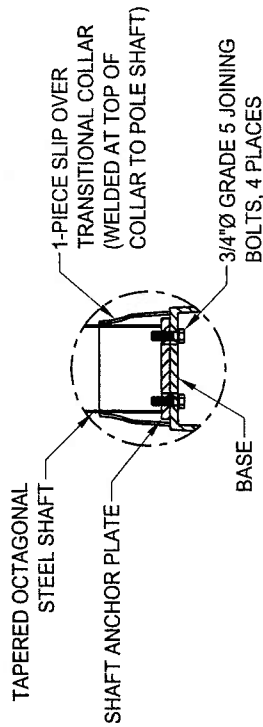
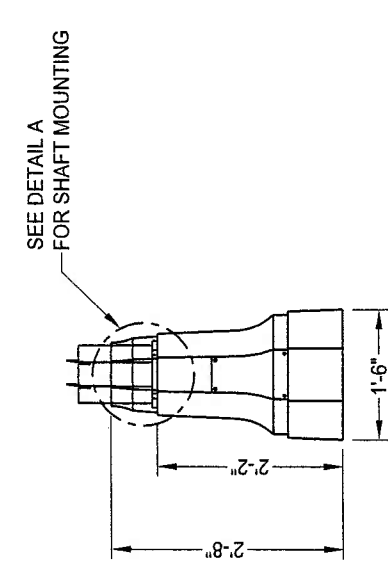
NOTE

ALL HARDWARE STAINLESS STEEL. ALL EXTERIOR HARDWARE TAMPER RESISTANT. BASE AND SHAFT TO BE SHIPPED AS A ONE-PIECE UNIT.

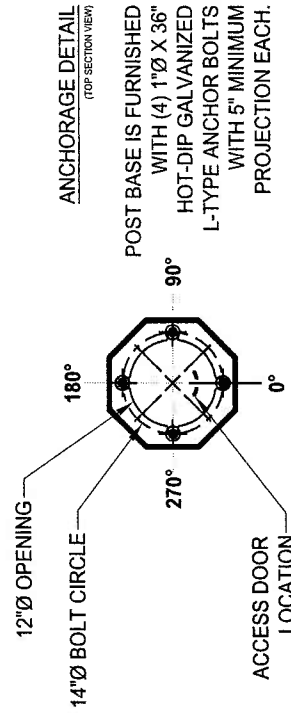
ALL LIGHTING SHALL BE CITY FURNISHED. CONTRACTOR SHALL PURCHASE FROM CITY AND CONSTRUCT FOUNDATIONS AND INSTALL.

DESCRIPTION

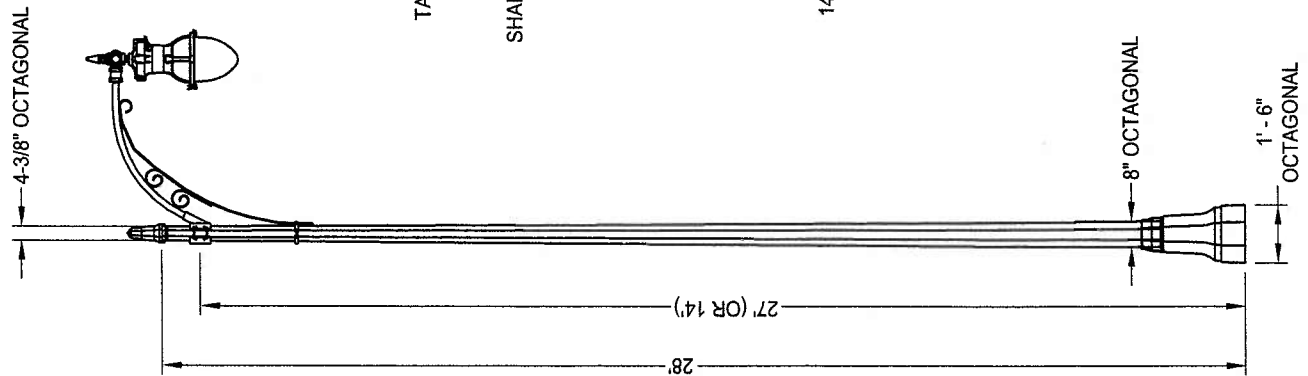
THE ESPLANADE LUMINAIRE IS STYLED TO REPLICATE THE "TEARDROP" LUMINAIRES THAT LIGHTED BOULEVARDS IN THE FIRST HALF OF THIS CENTURY. DESIGNED FOR LIGHT CONTROL AND EASE OF INSTALLATION AND MAINTENANCE, THE ESPLANADE HAS A PRECISION OPTICAL SYSTEM FOR TRUE STREET LIGHTING PERFORMANCE.
FOR COMPLETE LUMINAIRE SPECIFICATIONS, SEE STANDARD DETAIL ST - 14 AND ST - 15.



DETAIL A



ANCHORAGE DETAIL
(TOP SECTION VIEW)



APPROVED BY:
Rout 2 June
CITY ENGINEER



DRAWING NUMBER

ST - 12

CITY OF ELK GROVE - PUBLIC WORKS

STREET LIGHTS - ZONE 2
ARTERIAL (REDUCED MEDIAN) AND COLLECTOR
STREET LIGHT POLE

9/9/2005 NOT TO SCALE

REVISION	BY	APPROVED	DATE

SPECIFICATIONS

POST DESCRIPTION

THE LIGHTING POST SHALL BE ALL ALUMINUM, ONE-PIECE CONSTRUCTION, WITH A CLASSIC FLUTED BASE DESIGN. THE SHAFT SHALL BE Ø4" SMOOTH. THE POST SHALL BE SHIPPED WITH A STANDARD HALOPHANE BLACK POWDER COAT FINISH.

MATERIALS

THE BASE SHALL BE HEAVY WALL, CAST ALUMINUM PRODUCED FROM CERTIFIED ASTM 356.1 INGOT PER ASTM B-179-95A OR ASTM B26-95. THE STRAIGHT SHAFTS SHALL BE EXTRUDED FROM ALUMINUM, ASTM 6061 ALLOY, HEAT TREATED TO A T6 TEMPER. ALL HARDWARE SHALL BE TAMPER RESISTANT STAINLESS STEEL. ANCHOR BOLTS TO BE COMPLETELY HOT DIP GALVANIZED.

CONSTRUCTION

THE SHAFT SHALL BE DOUBLE WELDED TO THE BASE CASTING AND SHIPPED AS ONE PIECE FOR MAXIMUM STRUCTURAL INTEGRITY. THE SHAFT SHALL BE CIRCUMFERENTIALLY WELDED INSIDE THE BASE CASTING AT THE TOP OF THE ACCESS DOOR, AND EXTERNALLY WHERE THE SHAFT EXITS THE BASE. ALL EXPOSED WELDS BELOW 8' SHALL BE GROUND SMOOTH. ALL WELDING SHALL BE PER ANSII/AWS D1.2-90. ALL WELDERS SHALL BE CERTIFIED PER SECTION 5 OF ANSII/AWS D1.2-90.

DIMENSIONS

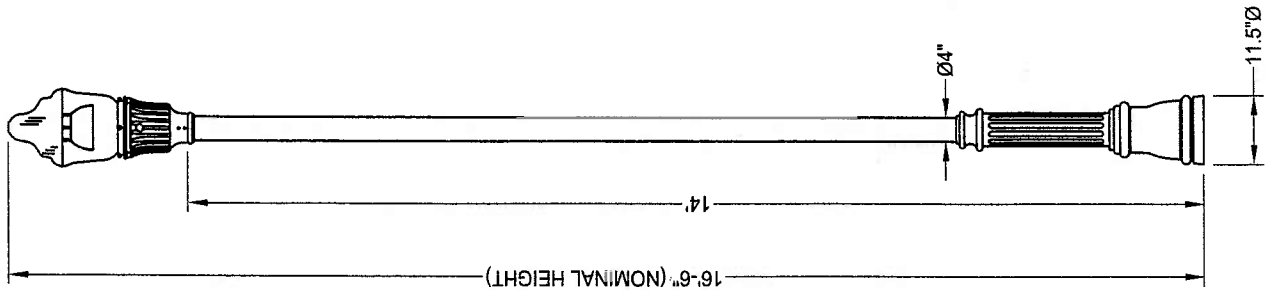
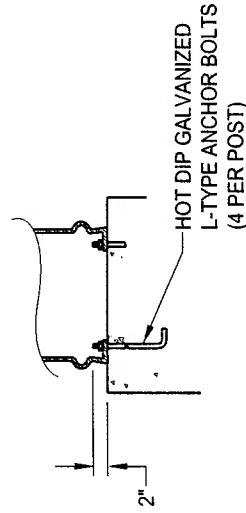
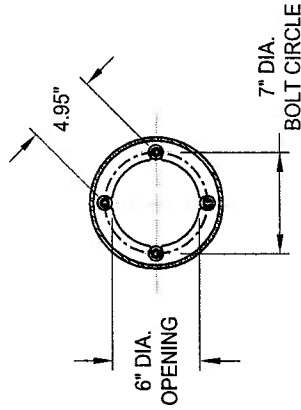
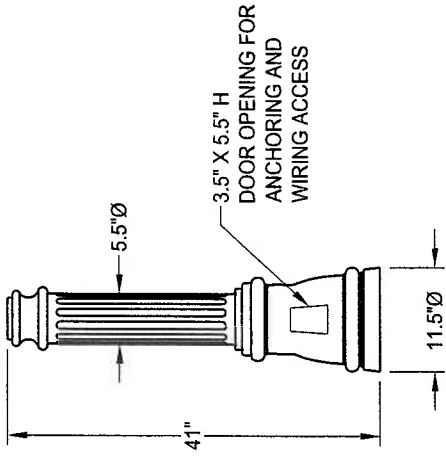
THE POST SHALL BE 14' IN HEIGHT WITH AN 11-1/2" DIAMETER BASE. THE SHAFT DIAMETER SHALL BE 4". AT THE TOP OF THE POST, AN INTEGRAL 3" O.D. TENON WITH A TRANSITIONAL DONUT SHALL BE PROVIDED FOR LUMINAIRE MOUNTING.

INSTALLATION

THE POST SHALL BE PROVIDED WITH FOUR, HOT DIP GALVANIZED L-TYPE ANCHOR BOLTS TO BE INSTALLED ON AN 8" DIAMETER BOLT CIRCLE. A DOOR SHALL BE PROVIDED IN THE BASE FOR ANCHORAGE AND WIRING ACCESS. A GROUNDING SCREW (5/8") SHALL BE PROVIDED INSIDE THE BASE OPPOSITE THE DOOR.

NOTE

ALL LIGHTING SHALL BE CITY FURNISHED. THE CONTRACTOR SHALL PURCHASE FROM CITY AND CONSTRUCT FOUNDATIONS AND INSTALL.



9/19/2005	NOT TO SCALE		
REVISION	BY	APPROVED	DATE

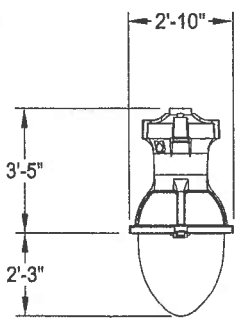
CITY OF ELK GROVE - PUBLIC WORKS

STREET LIGHTS - ZONE 2
PEDESTRIAN TRAILS AND RESIDENTIAL STREETS

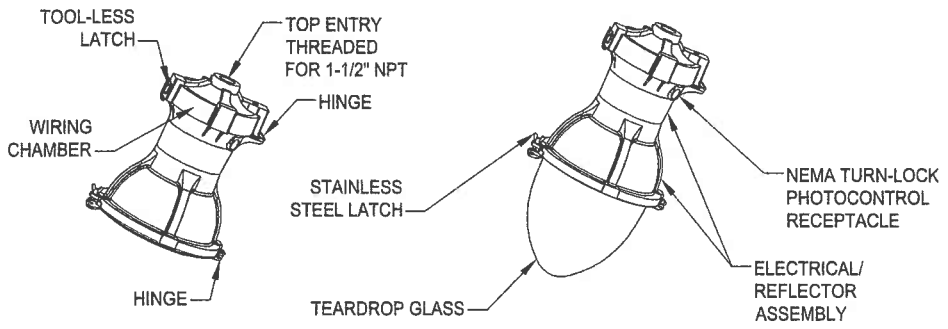
APPROVED BY:
[Signature]
CITY ENGINEER

DRAWING NUMBER
ST - 13





MAXIMUM EFFECTIVE PROJECTED AREA - 2.37 FT²
MAXIMUM WEIGHT - 66 LBS



COVER TYPE	BALLAST TYPE	VOLTAGE	HOUSING COLOR	OPTICS
ESU =	(MOGUL BASE)	12 = 120 VOLT	BLACK	4 = TEARDROP ASYMMETRIC (OPTIONS)
ESPLANADE	100HP = 100W HPS			6 = SAG CLEAR SYMMETRIC
UTILITY	15AHP = 150W 55V HPS			7 = SAG CLEAR ASYMMETRIC
	250HP = 250 W HPS			

OPTIONS
 DS = DEEP SKIRT
 SS = SHALLOW SKIRT
 PS = PROTECTED STARTER (HPS ONLY)
 R = TURN-LOCK PHOTOCONTROL RECEPTACLE (REQUIRED)

SPECIFICATIONS

DESCRIPTION

THE ESPLANADE LUMINAIRE IS STYLED TO REPLICATE THE "TEARDROP" LUMINAIRES THAT LIGHTED BOULEVARDS IN THE FIRST HALF OF THIS CENTURY. DESIGNED FOR LIGHT CONTROL AND EASE OF INSTALLATION AND MAINTENANCE, THE ESPLANADE HAS A PRECISION OPTICAL SYSTEM FOR TRUE STREET LIGHTING PERFORMANCE.

WIRING CHAMBER

THE WIRING CHAMBER HAS A 1-1/2 INCH, GASKETED, NPT THREADED ENTRY FOR PENDANT MOUNTING. A STAINLESS STEEL SET SCREW LOCKS THE UNIT IN POSITION. A THREE STATION TERMINAL BLOCK WILL ACCEPT #14 THROUGH #2 WIRES AND IS PREWIRED TO ONE HALF OF THE PLUG ASSEMBLY THAT CONNECTS TO THE REMOVABLE ELECTRICAL MODULE.

ELECTRICAL / REFLECTOR ASSEMBLY

THE ELECTRICAL / REFLECTOR ASSEMBLY HINGES DOWN FROM THE WIRING CHAMBER FOR EASE IN WIRING AND TO FACILITATE THE REMOVAL OF THE ELECTRICAL MODULE. THE ASSEMBLY IS SECURED IN PLACE BY A STAINLESS STEEL LATCH. THE UNITIZED ELECTRICAL MODULE CONSISTS OF THE BALLAST MOUNTED TO AN ALUMINUM PLATE THAT IS EASILY REMOVED BY LOOSENING TWO SCREWS IN KEYHOLE SLOTS. THE DISCONNECT PLUG CONNECTS THE BALLAST TO THE TERMINAL BLOCK IN THE WIRING CHAMBER. THE SOCKET IS STREET LIGHTING GRADE WITH NICKEL PLATED LAMP GRIP SHELL, CENTER CONTACT BACKED BY A COILED SPRING AND GLAZED PORCELAIN BODY. THE ANODIZED AND BRIGHTENED REFLECTOR IS FORMED WITH FLUTES TO CONTROL VOLTAGE RISE IN THE LAMP AND TO WORK IN CONJUNCTION WITH THE REFRACTOR TO PROVIDE THE DESIRED DISTRIBUTION OF LIGHT.

REFRACTOR / DOOR ASSEMBLY

THE CAST ALUMINUM DOOR CRADLES A TEARDROP OR SAG SHAPED, THERMAL RESISTANT BOROSILICATE GLASS REFRACTOR THAT CONTROLS THE LIGHT TO PROVIDE AN I.E.S. SYMMETRIC OR ASYMMETRIC CUT OFF DISTRIBUTION. THE COMBINATION OF REFLECTOR, REFRACTOR AND VERTICAL BURNING LAMP MAXIMIZE EFFICIENCY AND UNIFORMITY OF ILLUMINATION WHILE CONTROLLING LUMINAIRE BRIGHTNESS. THE REFRACTOR ASSEMBLY AND DECORATIVE SKIRT (WHEN APPLICABLE) ASSEMBLY HINGES FROM THE ELECTRICAL / REFLECTOR ASSEMBLY AND IS LATCHED BY A STAINLESS STEEL, CAPTIVE, WING NUT ASSEMBLY.

BALLAST


(REFER TO BALLAST DATA SHEET FOR SPECIFIC OPERATING CHARACTERISTICS)
 150 WATT AND BELOW 120 VOLT HIGH PRESSURE SODIUM (HPS) BALLASTS ARE HIGH POWER FACTOR REACTOR TYPE. ALL OTHER 150 WATT AND BELOW ARE HIGH POWER FACTOR AUTOTRANSFORMER TYPE. 250 AND 400 WATT HPS BALLASTS ARE LEAD TYPE.
 ALL METAL HALIDE (MH) BALLASTS ARE PEAK LEAD AUTOTRANSFORMER TYPE.

FINISH / MATERIAL

THE LUMINAIRE IS FINISHED WITH POLYESTER POWDER PAINT APPLIED AFTER A SEVEN STAGE PRETREATMENT PROCESS TO INSURE MAXIMUM DURABILITY. ALL CASTINGS UTILIZE ALLOY #356 ALUMINUM FOR MAXIMUM CORROSION RESISTANCE AND ALL EXPOSED HARDWARE IS STAINLESS STEEL.

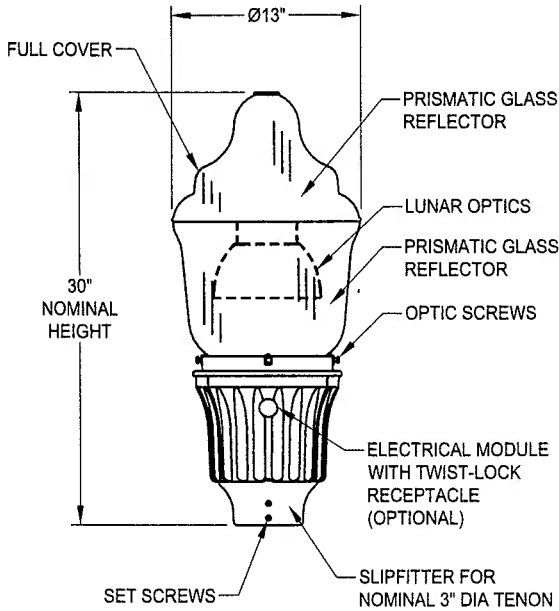
CUL/U.L. LISTING

CUL/U.L. LISTING SUITABLE FOR WET LOCATIONS AT 40 DEGREES C.

9/13/2005		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: <i>Robert Lee</i> CITY ENGINEER	
REVISION	BY	APPROVED	DATE	STREET LIGHTS - ZONE 2 ARTERIAL - MEDIAN & SIDE MOUNTED STREET LIGHT FIXTURE		 DRAWING NUMBER ST- 14	

UTILITY GRANVILLE® SERIES LUMINAIRE WITH LUNAR OPTICS™

MAXIMUM WEIGHT - 48 LBS.
MAXIMUM EFFECTIVE PROJECTED AREA - 1.38 S.F.



BALLAST TYPE (MOGUL BASE)

100HP = 100W HPS
15AHP = 150W 55V HPS

VOLTAGE

12 = 120 VOLT

HOUSING COLOR

B = BLACK

OPTICAL TYPE

6 = IES TYPE II DIST. WITH LUNAR OPTICS (IES) CUTOFF

7 = IES TYPE III DIST. WITH LUNAR OPTICS (IES) CUTOFF

8 = IES TYPE V DIST. WITH LUNAR OPTICS (IES) CUTOFF

NO DECORATIVE

FINIAL

N = NONE

TRIM FINISH

B = BLACK

OPTIONS

P = PROTECTED STARTER FOR HPS UNITS ONLY

H = PHOTOCONTROL RECEPTACLE (REQUIRED)

T = BOTH NEMA TWIST-LOCK RECEPTACLE AND PROTECTED STARTER TOGETHER (HPS UNITS ONLY)

FCVRX - FULL DECORATIVE ALUMINUM TOP COVER (FOR X INSERT B, Z, N, G, OR A COLOR)

MCVRX - MAYFIELD ALUMINUM TOP COVER (COVERS 2/3) (FOR X INSERT B, Z, N, G, OR A COLOR)

ACCESSORIES

GV1ASDXX = INTERNAL SHIELD, XX = 90, 120 OR 180 DEGREES OF HOUSE SIDE CUT-OFF

GVBANDX = AN OPTIONAL DECORATIVE BAND KIT ADDED TO GLASS ASSEMBLY. FIELD INSTALLED (FOR X INSERT B, Z, N, OR A)

SPECIFICATIONS

GENERAL DESCRIPTION

THE UTILITY GRANVILLE IS DESIGNED FOR EASE OF MAINTENANCE WITH THE PLUG-IN ELECTRICAL MODULE COMMON TO EACH OF THE LUMINAIRES IN HOLOPHANE'S UTILITY LUMINAIRE SERIES. THE TRADITIONAL ACORN SHAPED LUMINAIRE, WHILE REMINISCENT OF THE 1920'S, CONTAINS A PRECISION OPTICAL SYSTEM THAT MAXIMIZES POST SPACINGS WHILE MAINTAINING UNIFORM ILLUMINATION.

OPTICAL SYSTEM

THE OPTICAL SYSTEM CONSISTS OF A PRECISELY MOLDED THERMAL RESISTANT BOROSILICATE GLASS REFRACTOR AND TOP REFLECTOR. THE GLASS TOP REFLECTOR REDIRECTS OVER 50% OF THE UPWARD LIGHT INTO THE CONTROLLING REFRACTOR WHILE ALLOWING A SOFT UPLIGHT COMPONENT TO DEFINE THE TRADITIONAL ACORN SHAPE OF THE LUMINAIRE. TWO DECORATIVE ALUMINUM COVERS ARE AVAILABLE. THE LOWER REFRACTOR USES PRECISELY MOLDED PRISMS TO MAXIMIZE POLE SPACINGS WHILE MAINTAINING UNIFORM ILLUMINANCE. THREE REFRACTORS ARE AVAILABLE, DESIGNED FOR I.E.S. TYPE II, III, AND V DISTRIBUTIONS. THE LUNAR OPTICS ASSEMBLY (IES CUTOFF) IS STANDARD. IT CONSISTS OF AN ALUMINUM PLATE AND ANODIZED, HYDROFORMED REFLECTOR DESIGNED TO RESTRICT INTENSITY AT THE CRITICAL ANGLE.

LUMINAIRE HOUSING

THE LUMINAIRE HOUSING, CAST OF ALUMINUM, PROVIDES AN ENCLOSURE FOR THE PLUG-IN ELECTRICAL MODULE. FOUR UNIQUELY DESIGNED STAINLESS STEEL SPRING CLIPS ENCLOSED IN A CLEAR POLYVINYL CHLORIDE SLEEVE AND ADJUSTED BY HEX HEAD 1/4-20 BOLTS SECURELY CRADLE THE PRISMATIC GLASS REFRACTOR. THE NICKEL PLATED LAMP GRIP SOCKET AND THREE STATION INCOMING LINE TERMINAL BLOCK ARE PREWIRED TO A FIVE CONDUCTOR RECEPTACLE FOR EASE IN CONNECTION THE ELECTRICAL MODULE. THE SLIPFITTER WILL ACCEPT A 3" BY 2-7/8" TO 3-1/8" O.D. TENON.

LUMINAIRE HOUSING / DOOR

CAST OF ALUMINUM, THE HOUSING / DOOR IS REMOVABLE WITHOUT THE USE OF TOOLS AND IS RETAINED BY A NONCONDUCTIVE LANYARD. FOR UNITS WITH AN E.E.I.-N.E.M.A. TWIST LOCK PHOTOCELL RECEPTACLE, THE DOOR CONTAINS AN ACRYLIC "WINDOW" TO ALLOW LIGHT TO REACH THE CELL.

ELECTRICAL MODULE

THE BALLAST COMPONENTS ARE MOUNTED ON A STEEL PLATE THAT IS REMOVABLE WITHOUT THE USE OF TOOLS. A MATCHING FIVE CONDUCTOR PLUG CONNECTS TO THE RECEPTACLE IN THE LUMINAIRE HOUSING TO COMPLETE THE WIRING. WHERE A STARTING AID IS REQUIRED, IT IS PROVIDED WITH A SEPARATE PLUG-IN CONNECTOR AND CAN BE REPLACED WITHOUT THE USE OF TOOLS. FOR PHOTOELECTRIC OPERATION, THE ELECTRICAL MODULE IS PROVIDED WITH AN E.E.I.-N.E.M.A. TWIST LOCK PHOTOCELL RECEPTACLE.

BALLASTS

(REFER TO BALLAST DATA SHEET FOR SPECIFIC OPERATION CHARACTERISTICS)


50 WATT 120 VOLT HIGH PRESSURE SODIUM (HPS) BALLASTS ARE HIGH POWER FACTOR REACTOR TYPE. ALL OTHER HPS BALLAST ARE HIGH POWER FACTOR AUTOTRANSFORMER TYPE.

FINISH

THE LUMINAIRE IS FINISHED WITH POLYESTER POWDER PAINT APPLIED AFTER A SEVEN STAGE PRETREATMENT PRECESS TO INSURE MAXIMUM DURABILITY.

UL LISTING

THE LUMINAIRE IS UL LISTED AS SUITABLE FOR WET LOCATIONS AT A MAXIMUM 40 DEGREES C AMBIENT TEMPERATURE.

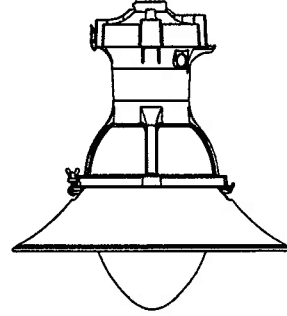
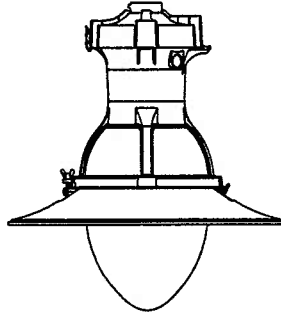
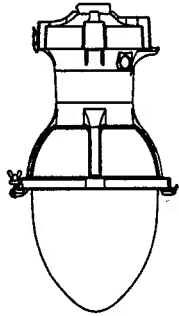
9/12/2005		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:  CITY ENGINEER	
REVISION	BY	APPROVED	DATE	STREET LIGHTS - ZONE 2 PEDESTRIAN AND LOCAL COLLECTOR ROADWAY STREET LIGHT FIXTURE		DRAWING NUMBER	
						ST - 15	

STANDARD

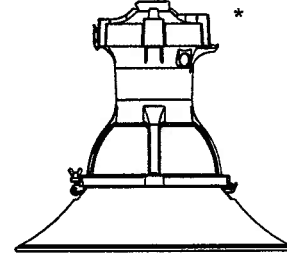
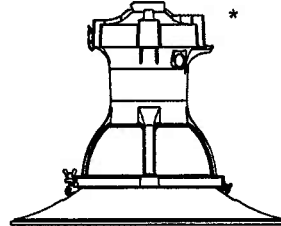
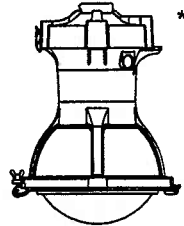
SHALLOW SKIRT*

DEEP SKIRT*

TEARDROP GLASS
ASYMMETRIC

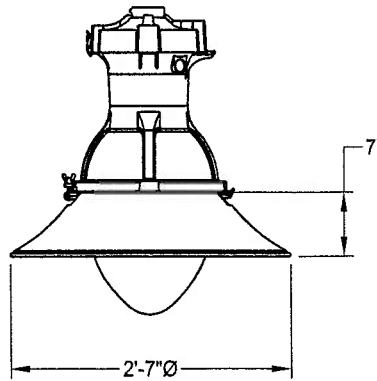
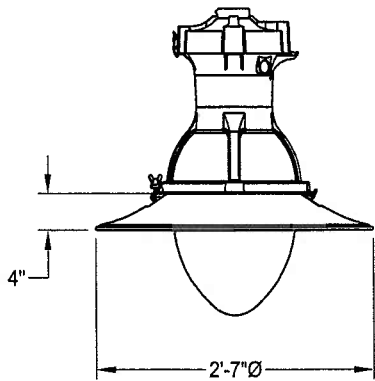


SAG GLASS
SYMMETRIC



*OPTIONAL UPON WRITTEN APPROVAL OF PLANNING DIRECTOR AND CITY ENGINEER

SKIRT DIMENSIONS (OPTIONAL)



9/13/2005		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**STREET LIGHTS - ZONE 2
FIXTURE OPTIONS**

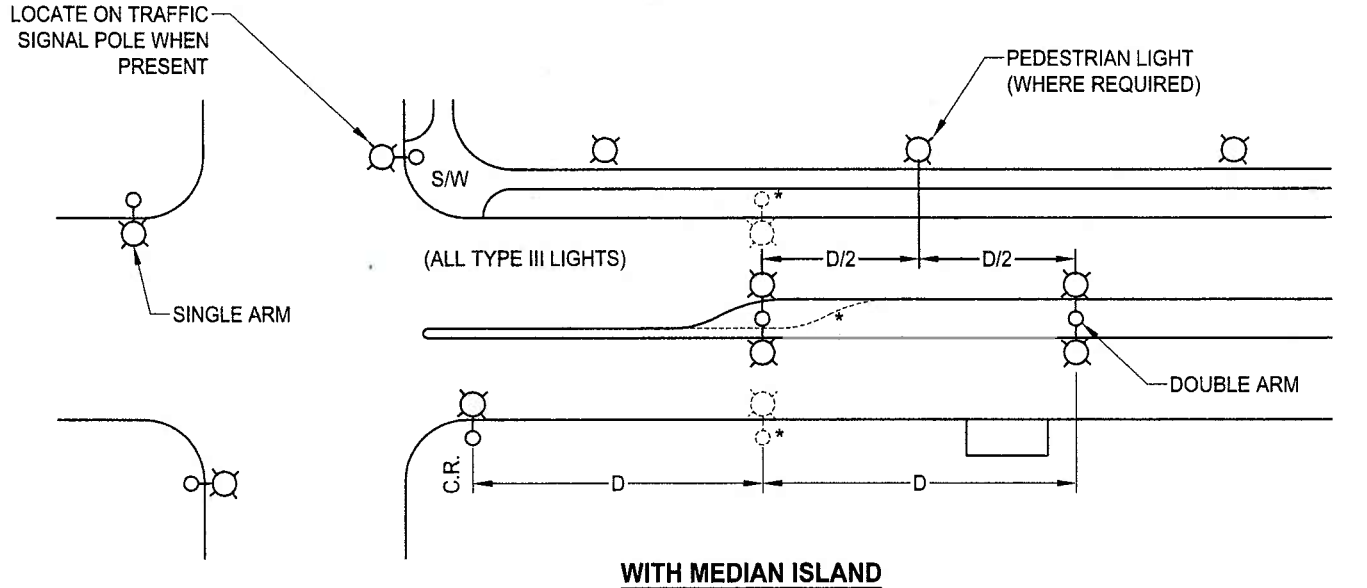
APPROVED BY:
Paul J. Lee
CITY ENGINEER



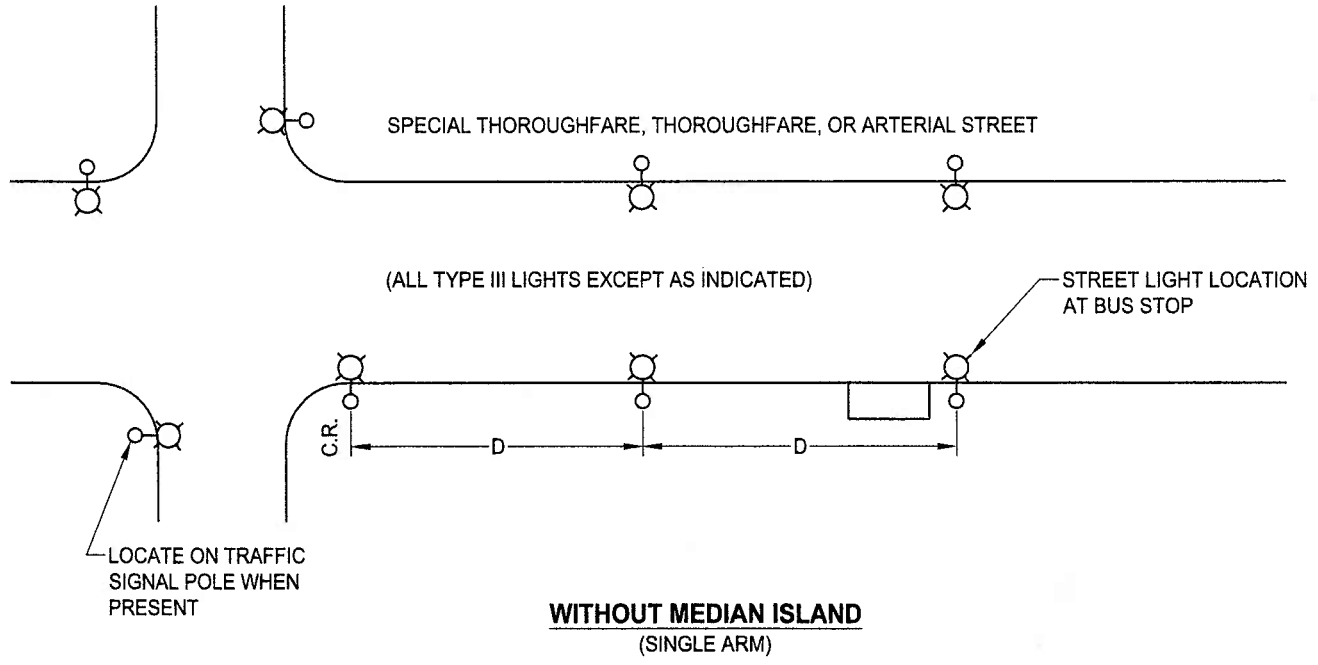
DRAWING NUMBER

ST - 16

STREET LIGHT PLACEMENT ON SPECIAL THOROUGHFARE, THOROUGHFARE, & ARTERIAL STREETS (INCLUDES COLLECTORS WITH MEDIAN)

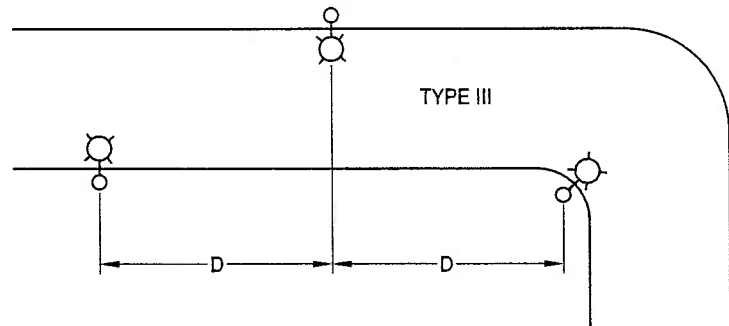
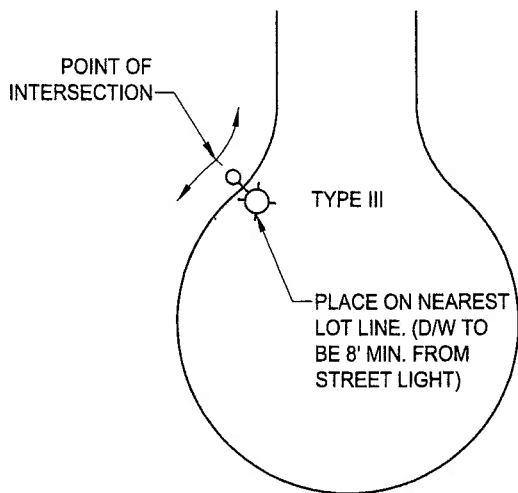
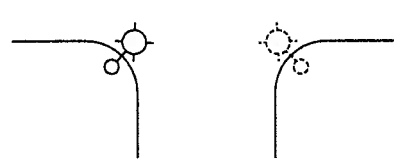
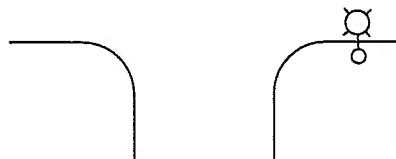
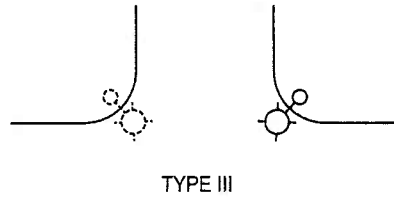
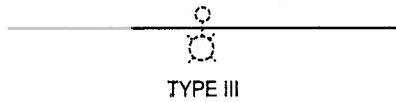


*SEE STANDARD DRAWING ST - 19 FOR DISTANCE "D"



09/13/2005		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: 	
				STREET LIGHTS - ZONE 2		CITY ENGINEER	
				TYPICAL LOCATIONS THOROUGHFARES AND ARTERIALS (INCLUDES COLLECTORS WITH MEDIANS)		DRAWING NUMBER	
						ST - 17	

STREET LIGHT PLACEMENT ON MAJOR COLLECTOR, COLLECTOR (NO MEDIAN), & RESIDENTIAL STREETS



*SEE STANDARD DRAWING ST - 19 FOR DISTANCE "D"

9/13/2005		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: CITY ENGINEER	
REVISION	BY	APPROVED	DATE	STREET LIGHTS - ZONE 2 TYPICAL LOCATIONS COLLECTOR AND LOCAL RESIDENTIAL		DRAWING NUMBER ST - 18	

STREET CLASSIFICATION	NUMBER OF LANE	TYPE STREET LIGHT	STANDARD POLE HEIGHT	HIGH PRESSURE SODIUM LAMP WATTAGE	MEDIAN	NO MEDIAN (SINGLE ARM) (BOTH SIDES)
SPECIAL THOROUGHFARE	8	DUAL ARM	28'	250	160	160
THOROUGHFARE	6	DUAL ARM	28'	250	160	160
ARTERIAL	2 - 4	DUAL ARM	28'	250	180	180
SPACING (BOTH SIDES) (FEET)						
COLLECTOR	2, 3	SINGLE ARM**	28'	150	180	180
	2, 3	ACORN*	14'	150	150	150
	2	SINGLE ARM**	14'	100	80	80
	2	ACORN**	14'	100	80	80
LOCAL RESIDENTIAL	2	ACORN	14'	100	180	180
	2	SINGLE ARM	14'	100	180	180
PASEO, BIKE TRAILS, AND SEPARATED PEDESTRIAN PATHS	-	ACORN	14'	100	120	120
PEDESTRIAN PATHS ON 4 - 8 LANE STREETS	-	ACORN	14'	100'	160 - 180***	160 - 180***

1. LAMP WATTAGE SHOWN IS FOR HIGH PRESSURE SODIUM LAMP ONLY.

* BOTH SIDES OF STREET, NO ALTERNATING (2 PER LOCATION). NOT FOR USE ON STREETS LONGER THAN 800 FEET.

** SINGLE, ALTERNATING SPACING.

*** MATCH STREET SPACING. LOCATE HALFWAY BETWEEN STREET LIGHT LOCATIONS.

9/13/2005	NOT TO SCALE
REVISION BY	APPROVED DATE

CITY OF ELK GROVE - PUBLIC WORKS

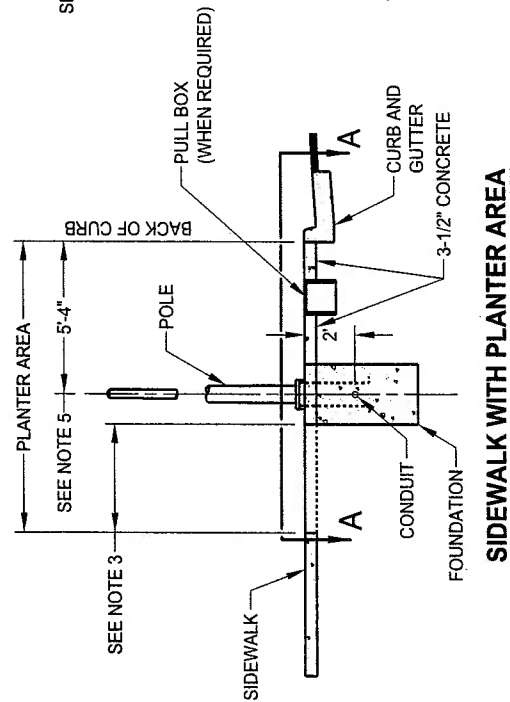
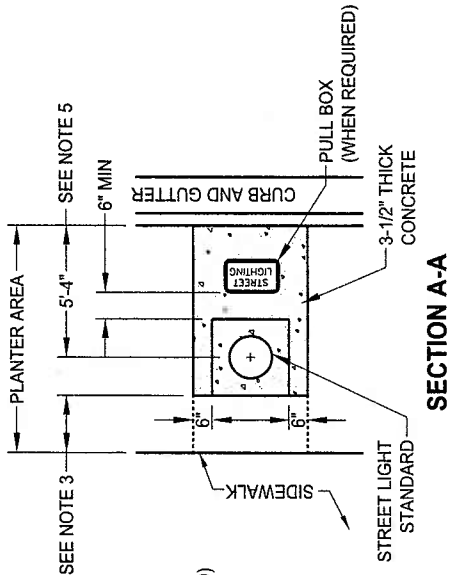
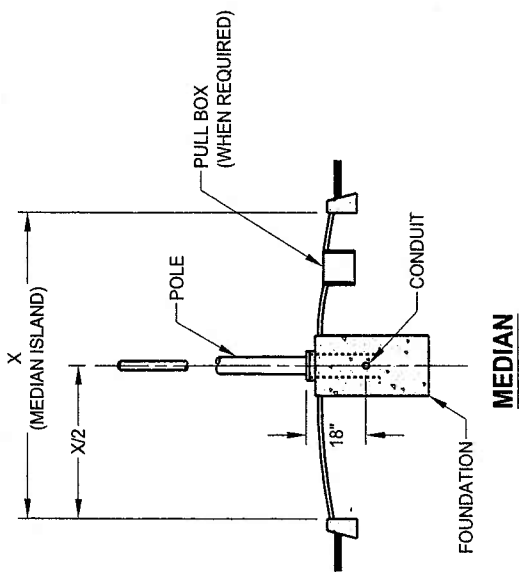
STREET LIGHTS - ZONE 2
POLE SPACING GUIDE

APPROVED BY:
[Signature]
CITY ENGINEER



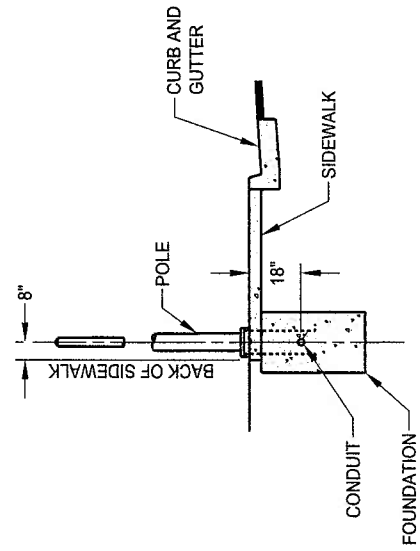
DRAWING NUMBER

ST - 19

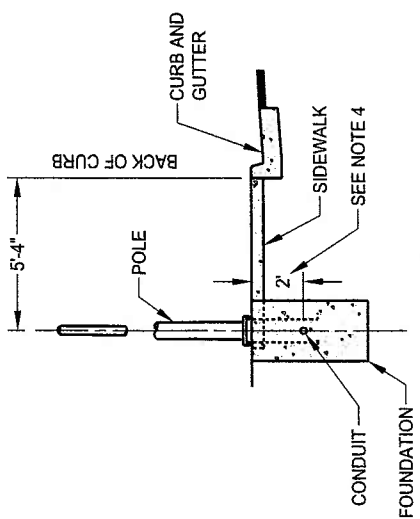


NOTES

1. BACKFILL FOR CONDUIT TRENCH LOCATED UNDER CURB, GUTTER & SIDEWALK AND IN UNIMPROVED AREAS SHALL BE COMPACTED TO 90% RELATIVE COMPACTION. BACKFILL FOR CONDUIT TRENCH LOCATED IN PAVEMENT SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
2. LANDSCAPING IN THE AREA OF THE STREET LIGHT STANDARD TO MATCH BASE ELEVATION AND HAVE A MINIMUM OF 12" OF CLEARANCE FROM THE BASE.
3. IF THIS LENGTH IS 12" OR LESS, PLACE 3-1/2" THICK CONCRETE FROM STREET LIGHT BASE TO EDGE OF SIDEWALK. WIDTH TO MATCH CONCRETE AROUND STREET LIGHT FOUNDATION.
4. IF CONDUIT IS LOCATED BENEATH THE SIDEWALK, IT MAY BE PLACED AT 18" DEPTH INSTEAD OF 2".
5. IF THE PLANTER AREA IS LESS THAN 6' WIDE, THEN PLACE STREET LIGHT SO THAT THE BASE PLATE ALIGNS WITH THE EDGE OF SIDEWALK. TOP OF FOUNDATION TO MATCH SIDEWALK GRADE.



OVER 6' SIDEWALK



4' TO 6' SIDEWALK

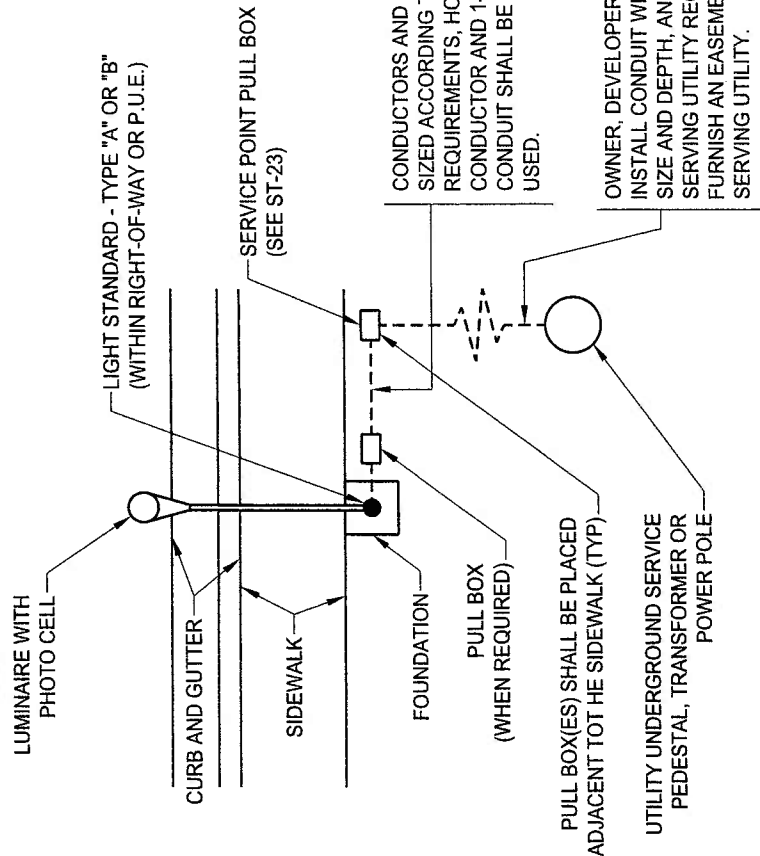
9/13/2005		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS	
REVISION	BY	APPROVED	DATE	<p>STREET LIGHTS - ZONE 1 AND ZONE 2 BASE LOCATION FOR STREET LIGHT</p>	

APPROVED BY:

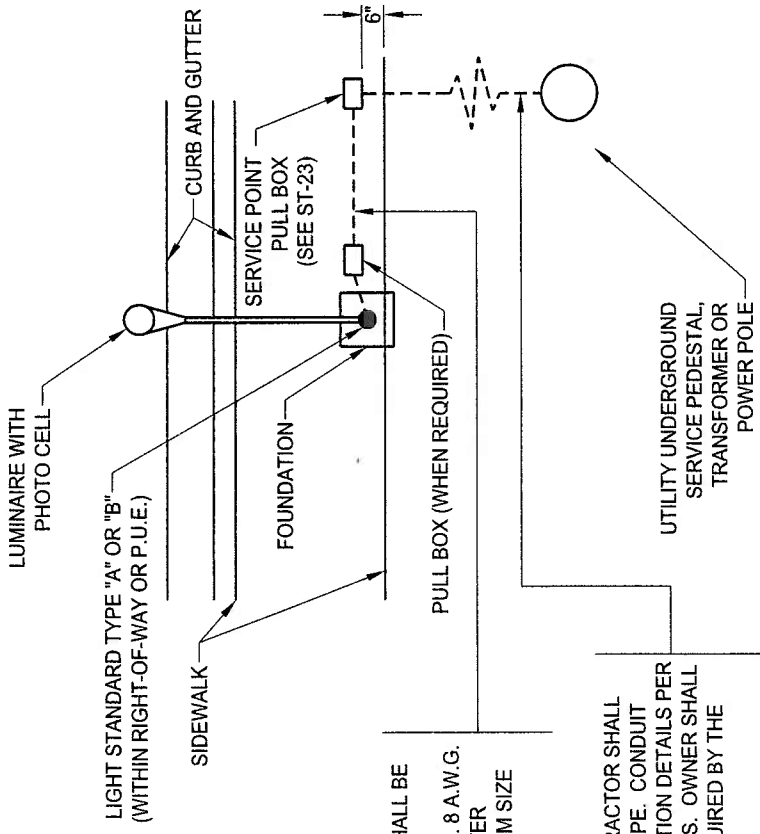
 CITY ENGINEER



DRAWING NUMBER
ST - 20



RESIDENTIAL SERVICE



COMMERCIAL SERVICE

NOTES:

1. ALL CITY OWNED FACILITIES SHALL BE WITHIN RIGHT-OF-WAY (RW) OR PUBLIC UTILITY EASEMENT (PUE).
2. SEE STANDARD DRAWING ST - 23 FOR SERVICE POINT PULL BOX DETAILS AND WIRING DIAGRAM.
3. SEE STANDARD DRAWING ST - 24 FOR PULL BOX DETAILS.
4. SEE STANDARD DRAWINGS ST - 26 AND ST - 27 FOR STREET LIGHT AND INSTALLATION DETAILS.
5. THE SERVICING UTILITY WILL INSTALL AND MAINTAIN CONDUCTORS FROM THEIR UNDERGROUND SERVICE PEDESTAL, TRANSFORMER, OR POWER POLE TO THE SERVICE POINT PULL BOX.

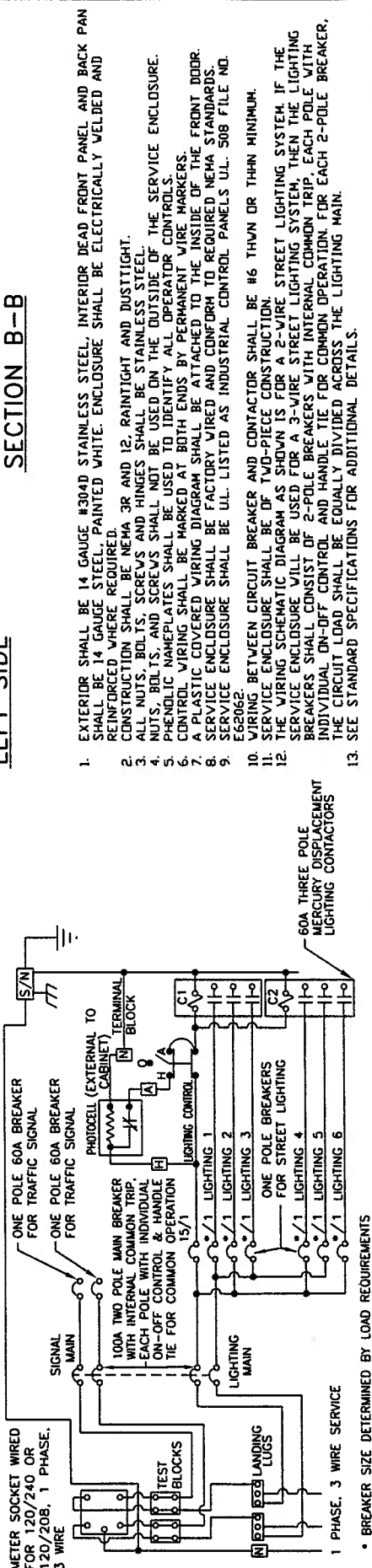
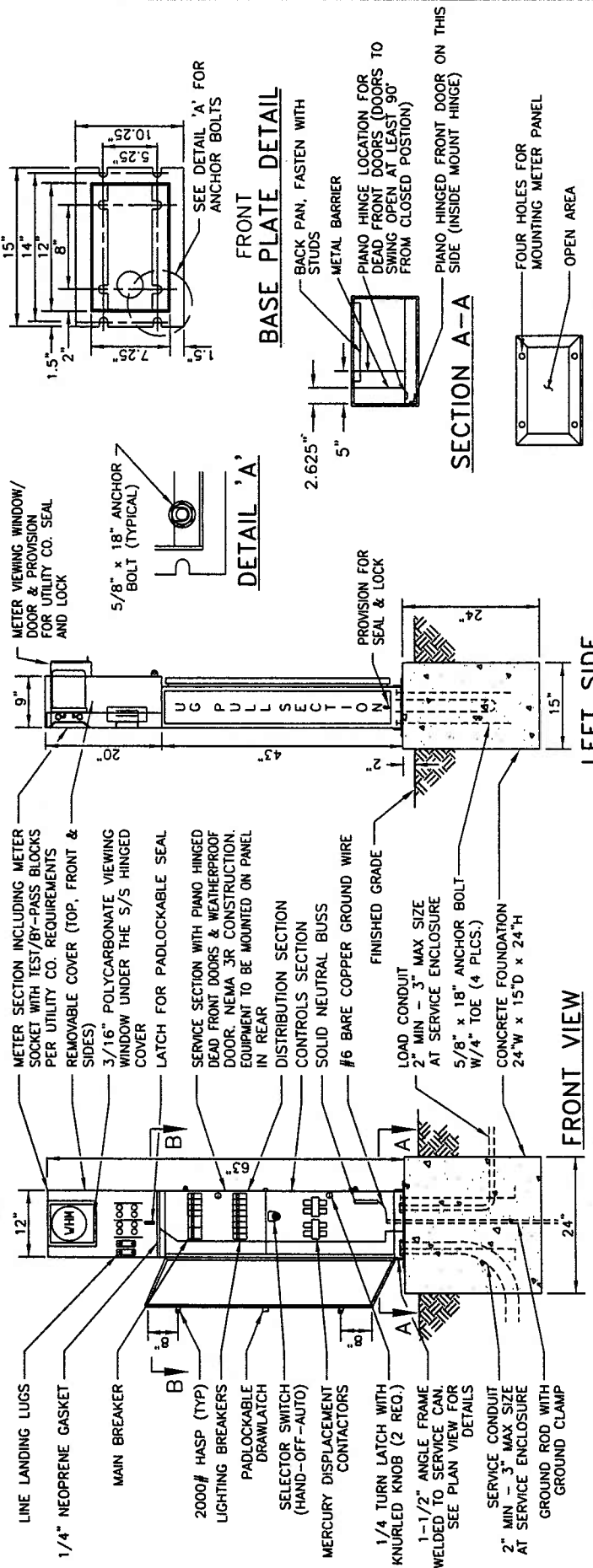
9/13/2005	NOT TO SCALE		
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

STREET LIGHTS - ZONE 1 AND ZONE 2
DIRECT SERVICE INSTALLATION TO STREET LIGHTING STANDARD

APPROVED BY: *[Signature]*
CITY ENGINEER

DRAWING NUMBER
ST - 21



9/13/2005 NOT TO SCALE

REVISION	BY	APPROVED	DATE

METERED SERVICE WIRING SCHEMATIC DIAGRAM

* BREAKER SIZE DETERMINED BY LOAD REQUIREMENTS (30 AMP MINIMUM)

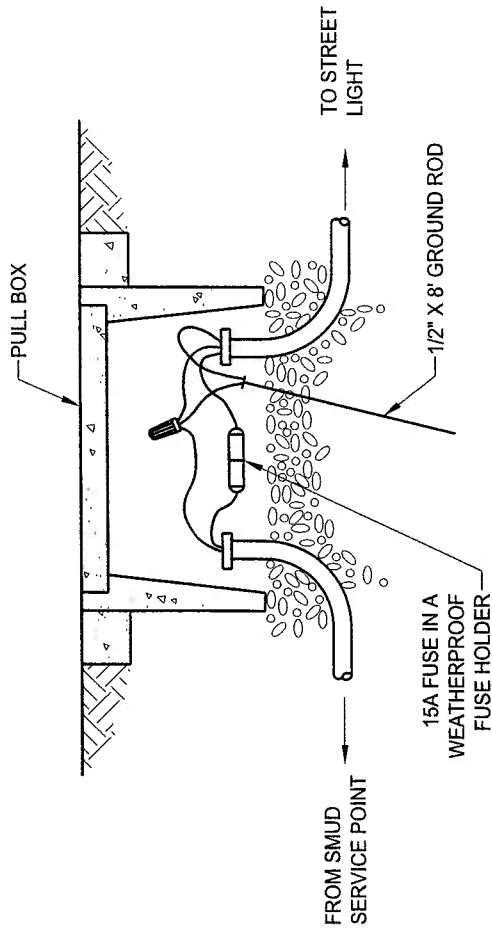
CITY OF ELK GROVE - PUBLIC WORKS

METERED SERVICE ENCLOSURE (CAN) (120/208V, 120/240V)

APPROVED BY: *[Signature]*
CITY ENGINEER

DRAWING NUMBER
ST - 22

- EXTERIOR SHALL BE 14 GAUGE #304D STAINLESS STEEL, INTERIOR DEAD FRONT PANEL AND BACK PAN SHALL BE 14 GAUGE STEEL, PAINTED WHITE. ENCLOSURE SHALL BE ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
- CONSTRUCTION SHALL BE NEMA 3R AND 12, RAIN TIGHT AND DUST TIGHT.
- ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.
- NUTS, BOLTS AND SCREWS SHALL NOT BE USED ON THE OUTSIDE OF THE SERVICE ENCLOSURE. PHENOLIC NAMEPLATES SHALL BE USED TO IDENTIFY ALL OPERATOR CONTROLS.
- CONTROL WIRING SHALL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
- A PLASTIC COVERED WIRING DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
- SERVICE ENCLOSURE SHALL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS. E62062.
- SERVICE ENCLOSURE SHALL BE U.L. LISTED AS INDUSTRIAL CONTROL PANELS U.L. 508 FILE NO. E62062.
- WIRING BETWEEN CIRCUIT BREAKER AND CONTACTOR SHALL BE #6 THWN OR THHN MINIMUM.
- SERVICE ENCLOSURE SHALL BE OF TWO-PIECE CONSTRUCTION.
- THE WIRING SCHEMATIC DIAGRAM AS SHOWN IS FOR A 2-WIRE STREET LIGHTING SYSTEM. IF THE BREAKERS SHALL CONSIST OF 2-POLE BREAKERS WITH INTERNAL COMMON TRIP, EACH POLE WITH INDIVIDUAL ON-OFF CONTROL AND HANDLE TIE FOR COMMON OPERATION. FOR EACH 2-POLE BREAKER, THE CIRCUIT LOAD SHALL BE EQUALLY DIVIDED ACROSS THE LIGHTING MAIN.
- SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.

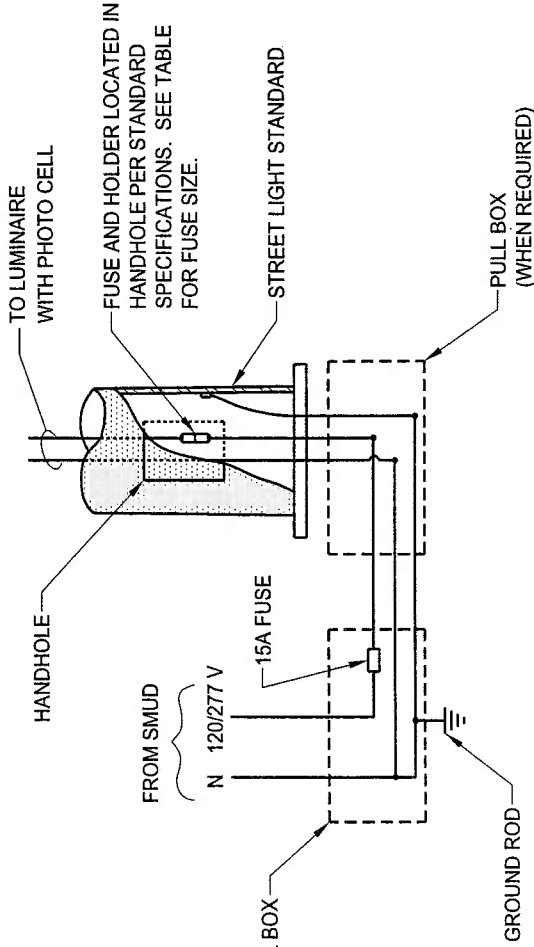


SERVICE POINT PULL BOX DETAILS

LAMP WATTAGE	FUSE SIZE
200 WATT OR LESS	6 AMP
250 WATT- 400 WATT	10 AMP

NOTES:

1. FUSE SHALL BE A MIDGET FERRULE TYPE. RATED AT 600 VOLTS.
2. ATTACH GROUND CONDUCTOR TO THE ELECTROLIER.
3. ALL PULL BOXES SHALL HAVE PROVISIONS FOR LOCKING.



WIRING DIAGRAM

9/13/2005	NOT TO SCALE		
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

STREET LIGHTS - ZONE 1 AND ZONE 2
 DETAILS FOR DIRECT SERVICE INSTALLATION
 STREET LIGHTING POWER

APPROVED BY:
[Signature]
 CITY ENGINEER

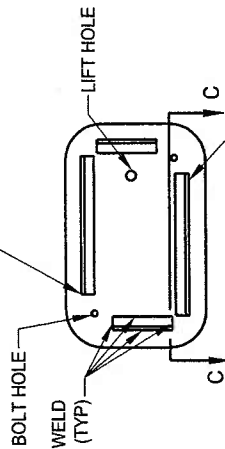


DRAWING NUMBER
ST - 23

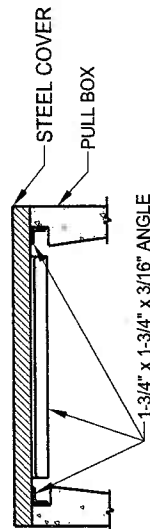
NOTES:

- STEEL COVER SHALL HAVE EMBOSSED NON-SKID PATTERN.
- STEEL REINFORCING SHALL BE AS REGULARLY USED IN THE STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
- PULL BOX COVERS SHALL BE MARKED AS DESCRIBED IN NOTE 6 ON STANDARD DRAWING ST-24. MARKING SHALL BE APPLIED TO EACH COVER PRIOR TO GALVANIZING BY BEAD WELDING THE LETTERS ON THE COVERS. THE LETTERS SHALL BE RAISED AT LEAST 3/32 INCH.
- BONDING JUMPER FOR COVER SHALL BE A MIN. OF 36" LONG. WHEN NON-METALLIC CONDUIT IS USED, THE BONDING JUMPER FOR THE COVER SHALL BE SPLICED TO THE BOND WIRE IN THE CONDUITS. WHEN THE USE OF METALLIC CONDUIT IS SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS, THE BONDING JUMPER FOR THE COVER SHALL BE CONNECTED TO THE CONDUIT GROUND BUSHING, AND THE CONDUITS SHALL BE BONDED TOGETHER WITH GROUND BUSHINGS AND A BONDING JUMPER.
- CONDUITS SHALL ENTER AT BOTTOM OF PULL BOX AS SHOWN IN THE DRAWING.

1-3/4" x 1-3/4" x 3/16" ANGLE WELDED ALONG THE ENTIRE PERIMETER OF COVER EXCEPT AT RADIUS CORNERS AND BOLT HOLES. 1-3/4" FLAT SURFACE SHALL BE WELDED TO COVER WITH A CONTINUOUS WELD ON ALL FOUR EDGES.



THIS 1-3/4" FLAT SURFACE TO BE AGAINST INSIDE EDGE OF PULL BOX OPENING (TYP)



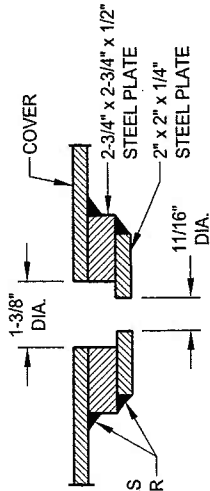
SECTION C-C

COVER DETAIL

REINFORCED CONCRETE BOX

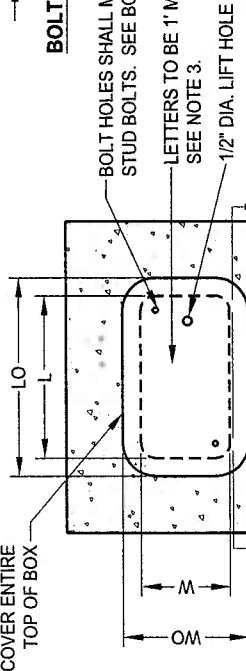
PULL BOX No.	MIN ** THICKNESS	MIN. DEPTH BOX AND EXTENSION	LO	WO	L	W
3-1/2	1"	NO EXTENSION	20"	14"	15-1/2"±	10"±
5	1"	22"	28"	18"	23"±	13-1/2"±
5A	1"	22"	25-1/4"	15-3/4"	21"±	10-1/2"±

** EXCLUDING CONDUIT WEB



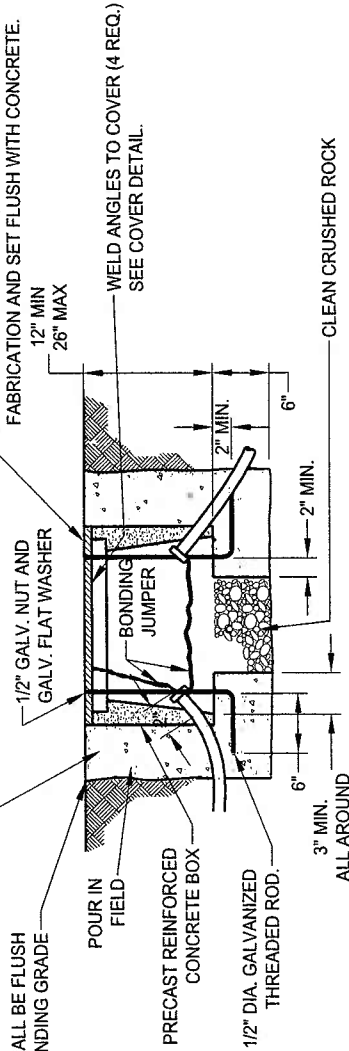
BOLT HOLE DETAIL

BOLT HOLES SHALL MATCH STANDARD STUD BOLTS. SEE BOLT HOLE DETAIL. LETTERS TO BE 1" MIN. TO 3" MAX. HIGH. SEE NOTE 3.



TOP VIEW

1/4" STEEL PLATE COVER, GALVANIZED AFTER FABRICATION AND SET FLUSH WITH CONCRETE. 12" MIN 26" MAX



SECTION B-B

CITY OF ELK GROVE - PUBLIC WORKS

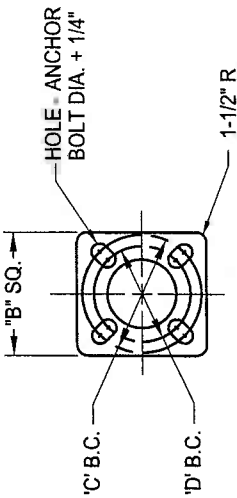
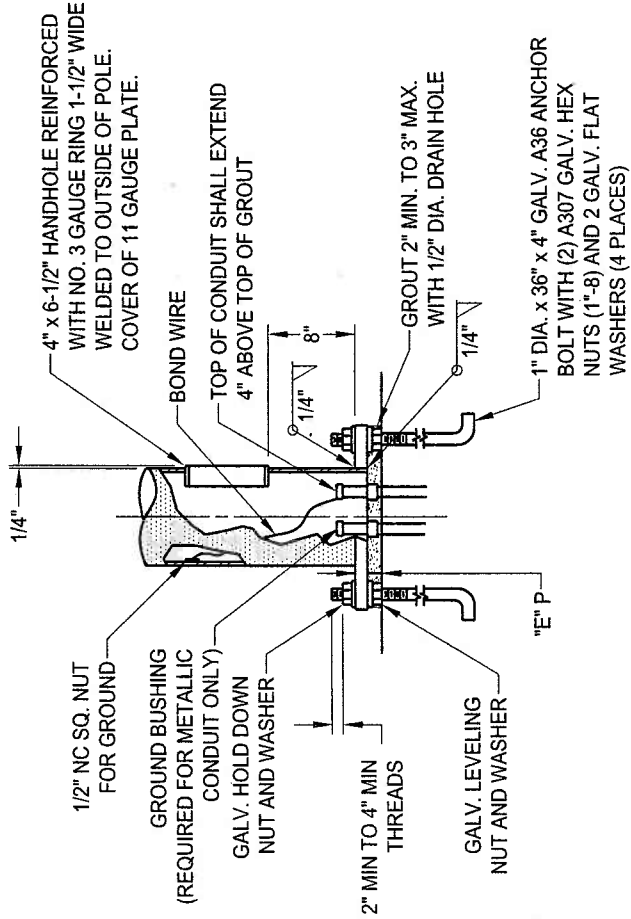
**STREET LIGHTS - ZONE 1 AND ZONE 2
TRAFFIC RATED PULL BOX WITH STEEL TRAFFIC
COVER**

APPROVED BY: *Robert Johnson*
CITY ENGINEER

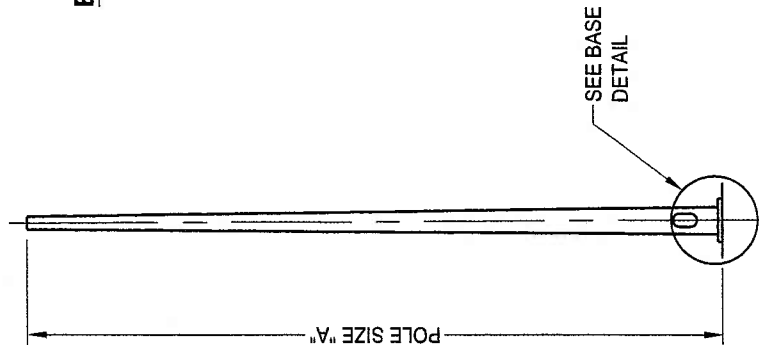


DRAWING NUMBER

ST-25



BASE DETAILS



FOUNDATION DIMENSIONS		
	SQUARE	ROUND
'B' SERIES	2' x 2' x 4'	30" x 3'-6"

'B' SERIES								
POLE DATA			BASE PLATE DATA					
'A'	TOP OD	MIN	MAX	'B'	'C'	'D'	'E'	ANCHOR BOLTS
20'-0"	2-7/8"	5.61"	5.85"	10"	9-1/2"	9"	1"	1" x 36" x 4"

NOTES:

- STANDARD SHALL BE INSTALLED SO HANDHOLE FACES THE STREET.
- FOR USE IN ALL IN-FILL PROJECTS EAST OF HIGHWAY 99 OR NORTH OF ELK GROVE BLVD WEST OF HIGHWAY 99 (ZONE 1).

"B" SERIES

9/14/2005	NOT TO SCALE
REVISION	DATE
BY	APPROVED

CITY OF ELK GROVE - PUBLIC WORKS

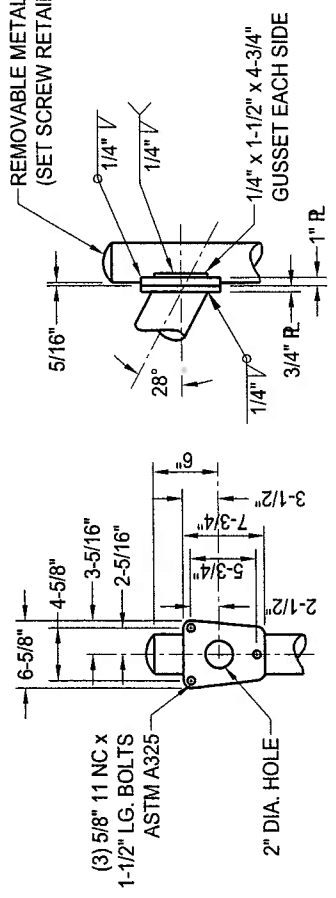
STREET LIGHTS - ZONE 1
TYPE "B" STREET LIGHT STANDARD

APPROVED BY:
[Signature]
CITY ENGINEER

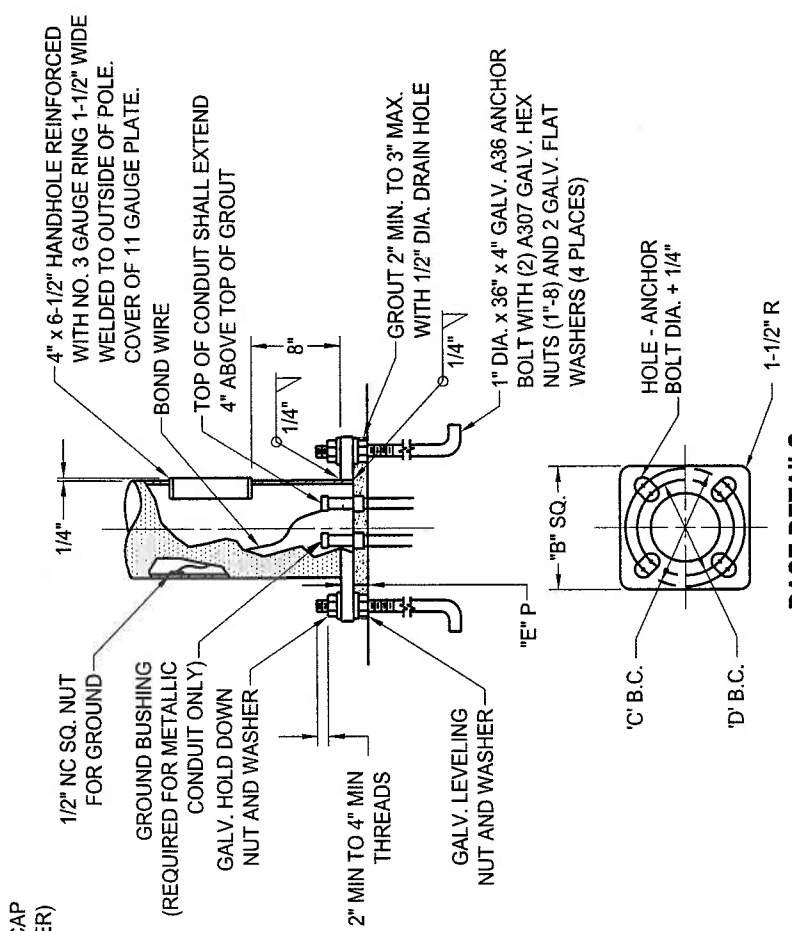
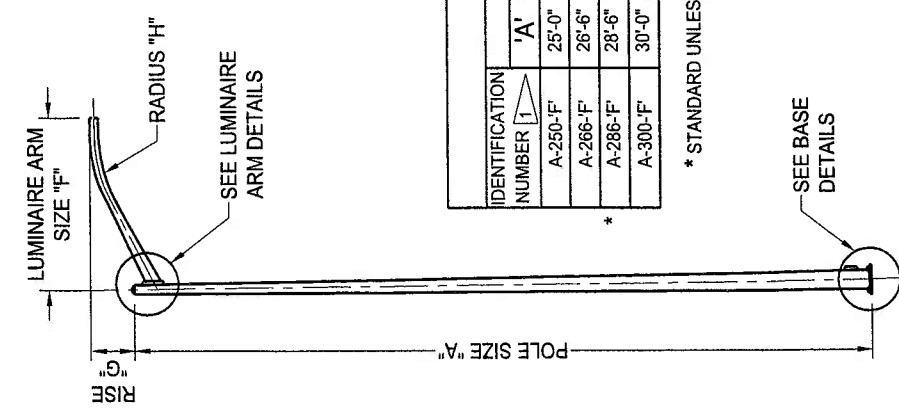
DRAWING NUMBER

ST - 26





LUMINAIRE ARM DETAILS



BASE DETAILS

NOTES:

1. 'A' SERIES NUMBERING PROCEDURE
POLE SIZE 'A'
SERIES A-286-8
LUMINAIRE ARM SIZE 'F'
(STANDARD UNLESS OTHERWISE SPECIFIED)
2. STANDARD SHALL BE INSTALLED SO HANDHOLE FACES THE STREET.

FOUNDATION DIMENSIONS

'A' SERIES	SQUARE	ROUND
	26" x 26" x 5'	30" x 66"

LUMINAIRE ARM DATA

'F'	END OD	BASE OD	GA	'G'	'H'
6'-0"	2-3/8"	3-3/8"	10	1'-6"	7'-5"
8'-0"	2-3/8"	3-11/16"	10	2'-3"	7'-5"
10'-0"	2-3/8"	3-7/8"	10	2'-6"	13'-3"
12'-0"	2-3/8"	4-5/16"	10	3'-9"	13'-3"
15'-0"	2-3/8"	4-3/4"	10	4'-3"	13'-3"
18'-0"	2-3/8"	4-3/4"	10	5'-3"	13'-3"

'A' SERIES

IDENTIFICATION NUMBER	POLE DATA		BASE PLATE DATA				ANCHOR BOLTS		
	'A'	TOP OD	BASE OD	GA	'B'	'C'		'D'	'E'
A-250-F	25'-0"	3-7/8"	7-5/16"	10	12"	11-1/2"	11"	1"	1" x 36" x 4"
A-266-F	26'-6"	3-7/8"	7-1/2"	10	12"	11-1/2"	11"	1"	1" x 36" x 4"
A-286-F	28'-6"	3-7/8"	7-3/4"	10	12"	11-1/2"	11"	1"	1" x 36" x 4"
A-300-F	30'-0"	3-7/8"	8"	10	12"	11-1/2"	11"	1"	1" x 36" x 4"

* STANDARD UNLESS OTHERWISE SPECIFIED

SEE BASE DETAILS

'A' SERIES

CITY OF ELK GROVE - PUBLIC WORKS

STREET LIGHTS - ZONE 1
TYPE "A": STREET LIGHT STANDARD

APPROVED BY:
Paul J. Deane
CITY ENGINEER



DRAWING NUMBER

ST - 27